Arch Therapeutics, Inc.
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ARCH THERAPEUTICS, INC.

PROSPECTUS

Up to 45,600,000 Shares of Common Stock

This prospectus relates to the offering and resale by the selling securityholders of Arch Therapeutics, Inc. named herein of up to 45,600,000 shares of common stock, par value $0.001 per share. These shares include 11,400,000 issued and outstanding shares of common stock, 11,400,000 shares of common stock currently underlying Series A warrants, 11,400,000 shares of common stock currently underlying Series B warrants and 11,400,000 shares of common stock currently underlying Series C warrants, all issued and sold in a private placement offering completed in February 4, 2014 (the "Private Placement Financing"). The common stock sold in the Private Placement Financing was sold at a purchase price of $0.25 per share, and the related warrants authorize the holders thereof to purchase shares of common stock at an exercise price of $0.30 per share for the Series A warrants, which are exercisable immediately upon issuance and expire five years thereafter; $0.35 per share for the Series B warrants, which are exercisable immediately upon issuance and expire on the earlier of 12 months thereafter or six months after the registration for resale of all shares underlying the warrants issued in the Private Placement Financing; and $0.40 per share for the Series C warrants, which are exercisable immediately upon issuance and expire on the earlier of 18 months thereafter and nine months after the registration for resale of all shares underlying the warrants issued in the Private Placement Financing, all as further described in this prospectus.

The selling securityholders may sell the shares of common stock to be registered hereby from time to time on any national securities exchange or quotation service on which the securities may be listed or quoted at the time of sale, in the over-the-counter market, in one or more transactions otherwise than on these exchanges or systems or in the over-the-counter market, such as privately negotiated transactions, or using a combination of these methods, and at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale, or at negotiated prices. See the disclosure under the heading "Plan of Distribution" in this prospectus for more information.

We will not receive any proceeds from the resale of common stock by the selling securityholders.

Our common stock is traded on the QB tier of the OTC Marketplace (“OTCQB”) under the symbol “ARTH”. On June 26, 2014, the closing price of our common stock was $0.22 per share.

We originally offered and sold the securities issued in the Private Placement Financing under an exemption from the registration requirements of the Securities Act of 1933, as amended (the “Securities Act”), pursuant to Section 4(a)(2) thereof and Rule 506 of Regulation D promulgated thereunder.

Investing in our common stock involves a high degree of risk. Before making any investment in our common stock, you should read and carefully consider the risks described in this prospectus under “Risk Factors” beginning on page 10 of this prospectus.

You should rely only on the information contained in this prospectus or any prospectus supplement or amendment thereto. We have not authorized anyone to provide you with different information.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

This prospectus is dated July 2, 2014

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About This Prospectus

You should rely only on the information that we have provided or incorporated by reference in this prospectus, any applicable prospectus supplement and any related free writing prospectus that we may authorize to be provided to you. We have not authorized anyone to provide you with different information. No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in this prospectus, any applicable prospectus supplement or any related free writing prospectus that we may authorize to be provided to you. You must not rely on any unauthorized information or representation. This prospectus is an offer to sell only the securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. You should assume that the information in this prospectus, any applicable prospectus supplement or any related free writing prospectus is accurate only as of the date on the front of the document and that any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus, any applicable prospectus supplement or any related free writing prospectus, or any sale of a security registered under the registration statement of which this prospectus is a part.

This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below under the heading “Where You Can Find More Information.”

As used in this prospectus, unless the context indicates or otherwise requires, the “Company”, “we”, “us”, and “our” refer to Arch Therapeutics, Inc., a Nevada corporation, and its consolidated subsidiary, and the term “ABS” refers to Arch Biosurgery, Inc., a private Massachusetts corporation that, through a reverse merger acquisition completed on June 26, 2013, has become our wholly owned subsidiary.

On May 24, 2013, we effected a forward stock split, by way of a stock dividend, of our issued and outstanding shares of common stock at a ratio of 11 shares to each one issued and outstanding share. Unless the context indicates or otherwise requires, all share numbers and share price data included in this prospectus have been adjusted to give effect to that stock split.

We have pending trademark applications for AC5 Surgical Hemostatic Device™, AC5™, Crystal Clear Surgery™, NanoDrape™ and NanoBioBarrier™. All other trademarks, trade names and service marks included in this prospectus are the property of their respective owners.

SUMMARY

This summary does not contain all of the information that should be considered before investing in our common stock. Investors should read the entire prospectus carefully, including the more detailed information regarding our business, the risks of purchasing our common stock discussed in this prospectus under “Risk Factors” beginning on page 10 of this prospectus and our consolidated financial statements and the accompanying notes beginning on page F-1 of this prospectus.

Our Company

We are a life science medical device company in the development stage with limited operations to date. We aim to develop products that make surgery and interventional care faster and safer by using a novel approach that stops bleeding (referenced as “hemostasis”), controls leaking (referenced as “sealant”), and provides other advantages during surgery and trauma care. Our core technology is based on a self-assembling peptide solution that creates a physical, mechanical barrier, which could be applied to seal organs or wounds that are leaking blood and other fluids. We believe our technology could support an innovative platform of potential products in the field of stasis and barrier applications. Our lead product candidate, AC5 Surgical Hemostatic Device™ (which we sometimes refer to as “AC5™”), is designed to achieve hemostasis in minimally invasive and open surgical procedures, and we hope to develop other hemostatic or sealant product candidates in the future based on our self-assembling peptide technology platform. Our plan and business model is to develop products that apply that core technology to use with human bodily fluids and connective tissues.

AC5 is designed to be a biocompatible synthetic peptide comprising naturally occurring amino acids. When applied to a wound, AC5 intercalates into the interstices of the connective tissue where it self-assembles into a physical, mechanical structure that provides a barrier to leaking substances, such as blood. AC5 is designed for direct application as either a liquid or a spray, which we believe will make it user-friendly and able to conform to irregular wound geometry. Additionally, AC5 is not sticky or glue-like, which we believe will enhance its utility in the setting of minimally invasive and laparoscopic surgeries. Further, AC5 is transparent, which should make it easier for surgeons or other healthcare providers to maintain a clear field of vision during a surgical procedure and prophylactically stop bleeding as it starts, which we call Crystal Clear Surgery™.

We currently have no products that have obtained marketing approval in any jurisdiction, we have not generated revenues since inception and do not expect to do so in the foreseeable future due to the early stage nature of our current product candidates, we had net losses for the year ended September 30, 2013 and for the six months ended March 31, 2014 of $1,853,791 and $9,188,596, respectively, and we had an accumulated deficit as of March 31, 2014 of $13,820,467. To date, we have financed our operations primarily through funding received from private placement equity offerings, such as the Private Placement Financing, and under a loan agreement. We have devoted much of our operations to date to the development of our core technology, including selecting our lead product composition, conducting initial safety and other related tests, generating scale-up, reproducibility and manufacturing and formulation methods, and developing and protecting the intellectual property rights underlying our technology platform.

For more information regarding our business, see the disclosure under the headings “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Business” included elsewhere in this prospectus. For a description of certain risks related to our business, see the disclosure under the heading “Risk Factors” beginning on page 10 of this prospectus.

Private Placement Financing

On January 30, 2014, we entered into a securities purchase agreement (the “Securities Purchase Agreement”) with nine accredited investors providing for our issuance and sale to such investors, in a private placement, of an aggregate of 11,400,000 shares of our common stock at a purchase price of $0.25 per share and three series of warrants, the Series A warrants, the Series B warrants and the Series C warrants, to purchase up to an aggregate of 34,200,000 shares of our common stock (collectively, the “Warrants”), for aggregate gross proceeds to us of $2.85 million (the “Private Placement Financing”). The Private Placement Financing closed on February 4, 2014.

Upon the closing of the Private Placement Financing, we issued to each investor therein a Series A warrant, a Series B warrant and a Series C warrant, each to purchase up to a number of shares of our common stock equal to 100% of the shares of common stock purchased by such investor in the Private Placement Financing. The Series A warrants have an exercise price of $0.30 per share, are exercisable immediately upon their issuance and have a term of exercise equal to five years after their issuance date. The Series B warrants have an exercise price of $0.35 per share, are exercisable immediately upon their issuance and have a term of exercise equal to the shorter of 12 months after their issuance date and six months after the first date on which the resale of all Registrable Securities (as defined in the Securities Purchase Agreement) is covered by one or more effective registration statements. The Series C warrants have an exercise price of $0.40 per share, are exercisable immediately upon their issuance and have a term of exercise equal to the shorter of 18 months after their issuance date and nine months after the first date on which the resale of all Registrable Securities (as defined in the Securities Purchase Agreement) is covered by one or more effective registration statements. The number of shares of our common stock into which each of the Warrants is exercisable and the exercise price therefor are subject to adjustment as set forth in the Warrants, including, without limitation, adjustments in the event of certain subsequent issuances and sales of shares of our common stock (or securities convertible or exercisable into shares of our common stock) at a price per share lower than the then-effective exercise price of the Warrants, in which case the per share exercise price of the Warrants will be adjusted to equal such lower price per share and the number of shares issuable upon exercise of the Warrants will be adjusted accordingly so that the aggregate exercise price upon full exercise of the Warrants immediately before and immediately after such per share exercise price adjustment are equal, as well as customary adjustments in the event of stock dividends and splits, subsequent rights offerings and pro rata distributions to our common stockholders. The Warrants also provide that they shall not be exercisable in the event and to the extent that the exercise thereof would result in the holder of the Warrant or any of its affiliates beneficially owning more than 4.9% of our common stock.

Our existing stockholders will experience dilution upon any exercise of the Warrants issued in the Private Placement Financing. Such Warrants are currently exercisable for an aggregate of 34,200,000 shares of our common stock, which, assuming no adjustments to and the full exercise of the Warrants and no other issuances of our common stock, would equal approximately 32% of our then-issued and outstanding common stock.

Also upon the closing of the Private Placement Financing, we entered into a registration rights agreement (the “Registration Rights Agreement”) with the investors in such financing pursuant to which we became obligated to file with the Securities and Exchange Commission (the “SEC”) one or more registration statements to register for resale under the Securities Act the shares of common stock issued in and underlying the Warrants issued in the Private Placement Financing. As a result, we are registering for resale under this registration statement an aggregate of 45,600,000 shares of common stock, representing the 11,400,000 shares issued at the closing of the Private Placement and the 34,200,000 shares underlying the Warrants. Pursuant to our filing of this registration statement, we are in compliance with such filing obligation under the Registration Rights Agreement. Our failure to satisfy certain other deadlines with respect to this registration statement, including with respect to the effectiveness hereof on or before July 4, 2014, and certain other requirements set forth in the Registration Rights Agreement may require us to pay monetary penalties to the investors in the Private Placement Financing. Additionally, we may be required in the future to amend this registration statement or to file a new registration statement in order to register additional shares of our common stock for resale by the investors in the Private Placement Financing to account for adjustments, if any, to the number of shares underlying the Warrants as provided therein and as described above. Because the Warrants are subject to anti-dilution and other adjustments and permit, in certain circumstances, the “cashless” exercise thereof, the number of shares that will actually be issuable upon any exercise thereof may be more or less than the number of shares being offered by this prospectus. In the event of any such adjustment to the number of shares issuable upon exercise of the Warrants, the provisions of the Registration Rights Agreement would obligate us to register for resale any additional shares of our common stock that may then be issuable upon exercise of the Warrants.

Under the Registration Rights Agreement, subject to exception in certain circumstances, we have agreed to keep this registration statement effective until the earlier of the date on which all shares of common stock to be registered hereunder have been sold or may be sold without restriction pursuant to Rule 144 promulgated under the Securities Act (“Rule 144”). If there is not, at any time during the period required by the Registration Rights Agreement, an effective registration statement covering the resale of any of the shares issued in or issuable upon exercise of the Warrants issued in the Private Placement Financing, then the selling securityholders (i) will have “piggyback” registration rights with respect to any such shares that are not eligible for resale pursuant to Rule 144 in connection with any other registration statement we determine to file that would permit the inclusion of those shares, and (ii) will be entitled to exercise their Warrants on a “cashless exercise” or “net exercise” basis during the period when the shares issuable upon exercise of such Warrants are not so registered.

The terms of the Securities Purchase Agreement entered in the Private Placement Financing provide that, among other things: until the 90-day anniversary of the first date on which all the Registrable Securities (as defined in the Securities Purchase Agreement) are covered by one or more effective registration statements, we may not offer, sell or issue any securities, except for equity awards granted to service providers and securities issued in connection with certain types of strategic transactions; until the six-month anniversary of the first date on which all the Registrable Securities (as defined in the Securities Purchase Agreement) are covered by one or more effective registration statements, the investors in the Private Placement Financing shall have certain notice and participation rights with respect to offers and sales of securities that we may pursue; and until the earlier of the 12-month anniversary of the first date on which all the Registrable Securities (as defined in the Securities Purchase Agreement) are covered by one or more effective registration statements and the date on which the investors in the Private Placement Financing have sold all such Registrable Securities, we may not effect or enter into an agreement for the issuance and sale of securities at a future-determined price or with a conversion or exercise price that varies with the trading price of our common stock or is subject to reset following the date of such issuance. In addition, the Securities Purchase Agreement contains provisions that would obligate us to make certain payments to the investors thereunder if we or our transfer agent were to fail to timely remove certain restrictive legends from certificates representing the shares of common stock being offered hereby following the eligibility of such shares for resale under this registration statement or Rule 144.

On the date of our entry into the Securities Purchase Agreement, the Series A warrants and Series B warrants had an exercise price lower than the market value of our common stock, which closed at $0.38 on the OTCQB on such date, resulting in an aggregate discount to the market price of our common stock of $912,000 for the Series A warrants and $342,000 for the Series B warrants as of such date. The Series C warrants were issued with an exercise price higher than the market value of our common stock on the date of our entry into the Securities Purchase Agreement, and therefore did not have any discount to the market price of our common stock as of such date. The tables below indicate the total possible discount to the market price of our common stock as of January 30, 2014 for the shares of our common stock underlying the Series A warrants and the Series B warrants, as well as similar information for the Series C warrants. The last trading price of our common stock on the OTCQB on February 4, 2014, the date of the closing of the Private Placement Financing, was $0.30. As a result, as of such date, there was no discount to the market price of our common stock for any of the Warrants. Additionally, all of the Warrants have an exercise price that is higher than the closing price of our common stock on June 26, 2014, which closed at $0.22 on such date.

<u>Series A Warrants</u>

Market price per share of our common stock on January 30, 2014, the date of the Securities Purchase Agreement:	$0.38
Exercise price per share of the Series A warrants on the date of issuance and as of the date of this prospectus:	$0.30
Total possible shares of common stock underlying the Series A warrants on the date of issuance and as of the date of this prospectus:	11,400,000
Aggregate market price of all shares of common stock underlying the Series A warrants, based on the market price of our common stock on January 30, 2014:	$4,332,000
Aggregate exercise price of all shares of common stock underlying the Series A warrants, based on the exercise price on the date of issuance and as of the date of this prospectus:	$3,420,000
Total possible discount of the exercise price of the Series A warrants to the market price of our common stock as of January 30, 2014:	$912,000

<u>Series B Warrants</u>

Market price per share of our common stock on January 30, 2014, the date of the Securities Purchase Agreement:	$0.38
Exercise price per share of the Series B warrants on the date of issuance and as of the date of this prospectus:	$0.35

Total possible shares of common stock underlying the Series B warrants on the date of issuance and as of the date of this prospectus:	11,400,000
Aggregate market price of all shares of common stock underlying the Series B warrants, based on the market price of our common stock on January 30, 2014:	$4,332,000
Aggregate exercise price of all shares of common stock underlying the Series B warrants, based on the exercise price on the date of issuance and as of the date of this prospectus:	$3,990,000
Total possible discount of the exercise price of the Series B warrants to the market price of our common stock as of January 30, 2014:	$342,000

Series C Warrants

Market price per share of our common stock on January 30, 2014, the date of the Securities Purchase Agreement:	$0.38
Exercise price per share of the Series B warrants on the date of issuance and as of the date of this prospectus:	$0.40
Total possible shares of common stock underlying the Series C warrants on the date of issuance and as of the date of this prospectus:	11,400,000
Aggregate market price of all shares of common stock underlying the Series C warrants, based on the market price of our common stock on January 30, 2014:	$4,332,000
Aggregate exercise price of all shares of common stock underlying the Series C warrants, based on the exercise price on the date of issuance and as of the date of this prospectus:	$4,560,000

We did not engage any underwriter or placement agent in connection with the Private Placement Financing. We also have made no payments, in cash or equity, to any of the selling securityholders in connection with this offering, except that we have reimbursed, or have agreed to reimburse, Cranshire Capital Master Fund, Ltd. ("Cranshire Master Fund"), one of the selling securityholders named herein, an aggregate cash amount of up to $35,000 for costs and expenses incurred by it or its affiliates in connection with the transactions contemplated by the Private Placement Financing and the registration of the securities issued in the Private Placement Financing.

After deducting for the expense reimbursement to Cranshire Master Fund, the net proceeds to us from the Private Placement Financing were approximately $2.815 million. The table below describes in more detail these costs associated with the Private Placement Financing:

Gross proceeds of the Private Placement Financing:	$2,850,000	(1)
Total potential payment to Cranshire Master Fund as expense reimbursement:	$35,000	(2)
Resulting net proceeds to the Company:	$2,815,000	(3)
Total possible profit to be realized by the selling securityholders as a result of any exercise discounts underlying the Series A warrants and the Series B warrants:	$1,254,000	(4)

(1) Does not include the potential gross proceeds payable to us upon exercise of the Warrants issued in the Private Placement Financing, which would equal approximately $11,970,000 if all of the Warrants were exercised on a cash basis on the date of this prospectus.

(2) This amount includes $25,000 that was withheld from the purchase price paid to us by Cranshire Master Fund for the securities it purchased in the Private Placement Financing, and up to $10,000 that we have agreed to pay to Cranshire Master Fund as additional expense reimbursement. This amount does not include our fees and expenses associated with the Private Placement Financing, including our legal fees and registration fees, estimated to total $228,047. This amount also does not include additional payments that we may be required to make under certain circumstances but that are not currently determinable, including the following: (a) potential partial damages for failure to register and keep registered for the period specified in the Registration Rights Agreement the common stock issued in the Private Placement Financing or issuable upon exercise of the Warrants (in a cash amount equal to 1% of the price paid to us by each investor in the Private Placement Financing on the date of and on each 30-day anniversary of such failure until the cure thereof, with no quantitative cap to the aggregate amount of such payments (provided that no such payments will be owed, other than with respect to a suspension or delisting of our common stock from the OTCQB, with respect to any period during which an investor's Registrable Securities may all be sold without restriction under Rule 144)); (b) amounts payable if we or our transfer agent fails to timely remove certain restrictive legends from certificates representing shares of common stock issued in the Private Placement Financing or issuable upon exercise of the Warrants; and (c) payments in respect of claims for which we provide indemnification in the Securities Purchase Agreement and the Registration Rights Agreement. Although we intend to comply with the requirements of the Securities Purchase Agreement and the Registration Rights Agreement and do not currently expect to make any such payments, it is possible that such payments may be required.

(3) Calculated by subtracting the total possible and currently determinable cash payments to selling securityholders or their affiliates from the gross proceeds to us from the Private Placement Financing.

(4) Calculated by adding the total possible discount of the exercise prices of the Series A warrants and the Series B warrants to the market price of our common stock as of January 30, 2014, as reflected in the tables set forth above.

Corporate Information

We were incorporated under the laws of State of Nevada on September 16, 2009 as Almah, Inc. On May 10, 2013, we entered into an Agreement and Plan of Merger (the "Merger Agreement") with Arch Biosurgery, Inc. ("ABS") and Arch Acquisition Corporation, our wholly owned subsidiary formed for the purpose of the transaction, pursuant to which Arch Acquisition Corporation merged with and into ABS and ABS thereby became our wholly owned subsidiary (the "Merger"). The Merger closed on June 26, 2013. In contemplation of the Merger, we changed our name from Almah, Inc. to Arch Therapeutics, Inc. Our principal executive offices are located at 20 William St., Suite #270, Wellesley, Massachusetts 02481. The telephone number of our principal executive offices is (617) 475-5254. Our website address is http://www.archtherapeutics.com. We have not incorporated by reference into this prospectus the information on our website, and you should not consider it to be a part of this document.

ABS was incorporated under the laws of the Commonwealth of Massachusetts on March 6, 2006 as Clear Nano Solutions, Inc. On April 7, 2008, ABS changed its name to Arch Therapeutics, Inc., and on June 26, 2013, ABS changed its name from Arch Therapeutics, Inc. to Arch Biosurgery, Inc.

Prior to the completion of the Merger, we were a "shell company" under applicable rules of the SEC, and had no or nominal assets or operations. Upon the closing of the Merger, we abandoned our prior business plan and began pursuing, as our sole business, our current business as a life science medical device company.

The Offering

This prospectus relates to the resale from time to time by the selling securityholders identified in this prospectus of up to 45,600,000 shares of our common stock issued or underlying the Warrants issued in the Private Placement Financing. None of the shares to be registered hereby are being offered for sale by us.

Common stock outstanding prior to offering	72,076,487 (1)

Common stock offered by the selling securityholders	45,600,000 (2)
Common stock to be outstanding after the offering	106,276,487 (3)
Use of proceeds	We will not receive any proceeds from the sale of common stock offered by the selling securityholders under this prospectus.
OTCQB symbol	“ARTH”
Risk Factors	See “Risk Factors” beginning on page 10 and other information in this prospectus for a discussion of the factors you should consider before you decide to invest in our common stock and warrants.

(1) As of June 26, 2014. Includes 11,400,000 shares of our common stock issued to the selling securityholders in the Private Placement Financing. Includes 18,637,849 shares of common stock held by our affiliates.

(2) Consists of: (a) 11,400,000 issued and outstanding shares of common stock, and (b) an aggregate of 34,200,000 shares of common stock issuable as of the date hereof upon exercise of the Warrants.

(3) Assumes (a) no adjustment to the number of shares underlying the Warrants, and (b) the full exercise of the Warrants, which would result in the issuance of an aggregate of 34,200,000 shares of common stock. Excludes (a) any additional shares that may become issuable upon the exercise of the Warrants in the event of anti-dilution and other adjustments pursuant to the terms thereof, (b) 10,231,197 shares of common stock that are reserved for future issuance under our 2013 Stock Incentive Plan (the "2013 Plan"), of which 7,637,962 shares are subject to outstanding option awards granted under the 2013 Plan at exercise prices ranging from $0.19 to $0.40 per share and with a weighted average exercise price of $0.37 per share, and (c) 4,145,985 shares of common stock issuable upon the exercise of outstanding warrants issued in transactions unrelated to the Private Placement Financing, with exercise prices ranging from $0.274 to $0.75 per share, none of which are being registered pursuant to the registration statement of which this prospectus forms a part.

RISK FACTORS

Investment in our common stock involves a high degree of risk. You should carefully consider the following risk factors before making an investment decision. If any of the following risks and uncertainties actually occurs, our business, financial condition, and results of operations could be negatively impacted and you could lose all or part of your investment.

Risks Related to our Business

We have incurred significant losses since inception. We expect to continue to incur losses for the foreseeable future as we pursue our operations as a combined enterprise, and we may never generate revenue or achieve or maintain profitability.

We have incurred losses in each year since our inception and we expect that losses will continue to be incurred in the foreseeable future in the operation of our business. To date, we have financed our operations entirely through equity and debt investments by founders, other investors and third parties, and we expect to continue to rely on these sources of funding, to the extent available in the foreseeable future. Losses from operations have resulted principally from costs incurred in research and development programs and from general and administrative expenses, including significant costs associated with establishing and maintaining intellectual property rights, significant legal and accounting costs pertaining to the closing of the Merger and related regulatory filings, and personnel expenses. We have devoted substantially all of our time, money and efforts to date to the advancement of our technology and raising capital to support our business, and expect to continue to devote significant time, money and efforts to such activities going forward.

We expect to continue to incur significant expenses and we anticipate that those expenses and losses may increase in the foreseeable future as we seek to:

- develop our principal product candidate, AC5, including further development of the product's composition and conducting preclinical biocompatibility studies;
- raise capital needed to fund our operations;
- build and enhance investor relations and corporate communications capabilities;
- conduct clinical trials relating to AC5 and any other product candidate we seek to develop;
- attempt to gain regulatory approvals for any product candidate that successfully completes clinical trials;
- establish relationships with contract manufacturing partners, and invest in product and process development through such partners;
- maintain, expand and protect our intellectual property portfolio;

- advance additional candidates through our research and development pipeline;
- seek to commercialize selected product candidates for which we may obtain regulatory approval;
- hire additional regulatory, clinical, quality control, scientific, financial, and management consultants and personnel; and
- support and add operational, financial, accounting, facilities engineering and information systems consultants and personnel to further our operations.

To become and remain profitable, we must succeed in developing and eventually commercializing product candidates with significant market potential. This will require us to be successful in a number of challenging activities, including successfully completing preclinical testing and clinical trials of product candidates, obtaining regulatory approval for our product candidates and manufacturing, marketing and selling any products for which we may obtain regulatory approval. We are only in the preliminary stages of the earliest of those activities. We may never succeed in those activities and may never generate operating revenues or achieve profitability. Even if we do generate operating revenues sufficient to achieve profitability, we may not be able to sustain or increase profitability. Our failure to generate operating revenues or become and remain profitable would impair our ability to raise capital, expand our business or continue our operations, all of which would depress the price of our common stock. A decline in the prices of our common stock could cause our stockholders to lose all or a part of their investment in the Company.

There is substantial doubt about our ability to continue as a going concern.

We have not generated any revenue from operations since inception, and we have incurred substantial net losses to date. Further, our operating expenses will likely increase in the foreseeable future, as we seek to increase operations as a life sciences medical device company. Moreover, our cash position is vastly inadequate to support our business plans and substantial additional funding will be needed in order to pursue those plans, which include research and development of our primary product candidate, seeking regulatory approval for that product candidate, and pursuing its commercialization in the U.S., Europe and other markets. Those circumstances raise substantial doubt about our ability to continue as a going concern.

We will need substantial additional funding and may be unable to raise capital when needed, which would force us to delay, reduce or eliminate our product development programs or commercialization efforts and could cause our business to fail.

We are a development stage company with no commercial products. Our primary product candidate is in the process of being developed, and will require significant additional clinical development and additional investment before it could potentially be commercialized.

We believe that our current cash and cash equivalents on hand will be sufficient to meet our anticipated cash requirements through October 2014; however, based on our current operating expenses and working capital requirements, we do not currently believe our existing cash resources are sufficient to meet our anticipated needs for the next twelve months. In addition to the funds raised from our equity financings and debt financings, we will require additional financing to fund our planned future operations, including the continuation of our ongoing research and development efforts, seeking to license or acquire new assets, and researching and developing any potential patents, the related compounds and any further intellectual property that we may acquire. In addition, our plans may change and/or we may use our capital resources more rapidly than we currently anticipate. We presently expect that our expenses will increase in connection with our ongoing activities, particularly as we commence preclinical and clinical development for our lead product candidate, AC5, and that we will need to raise significant additional funds to continue operations. Our future capital requirements will depend on many factors, including:

- the scope, progress and results of our research and preclinical development activities;
- the scope, progress, results, costs, timing and outcomes of any clinical trials conducted for any of our product candidates;
- the timing of entering into, and the terms of, any collaboration agreements with third parties relating to any of our product candidates;
- the timing of and the costs involved in obtaining regulatory approvals for our product candidates;

- the costs of operating, expanding and enhancing our operations to support our clinical activities and, if our product candidates are approved, commercialization activities;
- the costs of maintaining, expanding and protecting our intellectual property portfolio, including potential litigation costs and liabilities;
- the costs associated with maintaining and expanding our product pipeline;
- the costs associated with expanding our geographic focus;
- operating revenues, if any, received from sales of our product candidates, if any are approved by the U.S. Food and Drug Administration ("FDA") or other applicable regulatory agencies;
- the cost associated with being a public company, including obligations to regulatory agencies, investor relations, and corporate communications;
- the costs of additional general and administrative personnel, including accounting and finance, legal and human resources employees; and
- operating revenues, if any, received from sales of our product candidates, if any are approved by the FDA or other applicable regulatory agencies.

As a result of these and other factors, we expect that we will need substantial additional funding in the future. We would likely seek such funding through public or private securities offerings, incurrence of indebtedness, or some combination of those sources. We may also seek funding through collaborative arrangements if we determine them to be necessary or appropriate, although these arrangements could require us to relinquish rights to our technology or product candidates and could result in our receipt of only a portion of any revenues associated with the partnered product. Additional funding may not be available from any of these sources when needed on acceptable terms, or at all. In addition, we are bound by certain contractual terms and obligations that may limit or otherwise impact our ability to raise additional funding in the near-term, including restrictions in our loan agreement on our ability to incur certain types of additional indebtedness and certain terms of the Private Placement Financing, including those discussed in the risk factors below. These restrictions and provisions could make it more challenging for us to raise capital through the incurrence of additional debt or through future equity issuances. Further, if we do raise capital through the sale of equity, or securities convertible into equity, the ownership of our then existing stockholders would be diluted, which dilution could be significant depending on the price at which we may be able to sell our securities. Also, if we raise additional capital through the incurrence of indebtedness, we may become subject to additional covenants restricting our business activities, and the holders of debt instruments may have rights and privileges senior to those of our equity investors. In addition, servicing the interest and principal repayment obligations under debt facilities could divert funds that would otherwise be available to support research and development, clinical or commercialization activities.

If we are unable to obtain adequate financing on a timely basis or on acceptable terms in the future, we would likely be required to delay, reduce or eliminate one or more of our product development activities, which could cause our business to fail.

The terms of the Private Placement Financing could impose additional challenges on our ability to raise funding in the future.

The Securities Purchase Agreement related to the Private Placement Financing imposes certain restrictions on our ability to issue equity or debt securities, including the following: until the 90-day anniversary of the first date on which all the Registrable Securities (as defined in the Securities Purchase Agreement) are covered by one or more effective registration statements, we may not offer, sell or issue any securities, except for equity awards granted to service providers and securities issued in connection with certain types of strategic transactions; until the six-month anniversary of the first date on which all the Registrable Securities (as defined in the Securities Purchase Agreement) are covered by one or more effective registration statements, the investors in the Private Placement Financing shall have certain notice and participation rights with respect to offers and sales of securities that we may pursue; and until the earlier of the 12-month anniversary of the first date on which all the Registrable Securities (as defined in the Securities Purchase Agreement) are covered by one or more effective registration statements and the date on which the investors in the Private Placement Financing have sold all such Registrable Securities, we may not effect or enter into an agreement for a VRT, where a "VRT" is a transaction in which we (i) issue convertible securities at (A) a conversion, exercise or exchange rate or other price that is based upon and/or varies with the trading prices of, or quotations for, the shares of our common stock at any time after the initial issuance of such convertible securities, or (B) with a conversion, exercise or exchange price that is subject to being reset at some future date after the initial issuance of such convertible securities or upon the occurrence of specified or contingent events directly or indirectly related to our business or the market for the common stock, other than pursuant to a customary "weighted average" anti-dilution provision or (ii) enter into any agreement whereby we or any subsidiary may sell securities at a future determined price. In addition, the Warrants contain certain anti-dilution protections that adjust downward the exercise price of the Warrants in the event we offer, sell and issue securities at a lower price per share than the then-effective per share exercise price of the Warrants, in which case the per share exercise price of the Warrants will be adjusted to equal such lower price per share and the number of shares issuable upon exercise of the Warrants will be adjusted accordingly so that the aggregate exercise price upon full exercise of the Warrants immediately before and immediately after such per share exercise price adjustment are equal. These provisions could make our securities less attractive to investors and could limit our ability to obtain adequate financing on a timely basis or on acceptable terms in the future, which could have significant harmful effects on our financial condition and business and could include substantial limitations on our ability to continue to conduct operations. Additionally, certain of these provisions, including the anti-dilution protections in the Warrants, could further dilute the ownership interests of our other current common stockholders.

Our current and any future debt facilities will require us to use our limited capital to repay amounts owed and may impose limitations on our operations, which could negatively affect our business plans.

On September 30, 2013, we entered into the Life Sciences Accelerator Funding Agreement (the "MLSC Loan Agreement") with the Massachusetts Life Sciences Center ("MLSC"), pursuant to which MLSC has provided us an unsecured subordinated loan in principal amount of $1,000,000 (such loan, the "MLSC Loan"). The MLSC Loan bears interest at a rate of 10% per annum, and will become fully due and payable on the earlier of (i) September 30, 2018, (ii) the occurrence of an event of default under the MLSC Loan Agreement, or (iii) the completion of a sale of substantially all of our assets, a change-of-control transaction or one or more financing transactions in which we receive net proceeds of $5,000,000 or more in a 12-month period. We will need substantial amounts of cash in order to repay the principal and interest owed under the MLSC Loan as it becomes due, which we may not have or be able to obtain. Any failure to make payments as required under the MLSC Loan Agreement would constitute an event of default, and could result in, among other things, MLSC's acceleration of all amounts due thereunder.

Further, the MLSC Loan Agreement restricts our use of the proceeds of the MLSC Loan to funding working capital requirements and/or the purchase of capital assets in the life sciences field, and we are expressly prohibited from using any such proceeds for any severance payment, investment in certain securities or payment for goods or services to a related party of the Company. Additionally, the MLSC Loan Agreement provides that, for so long as any of the MLSC Loan remains outstanding, our headquarters and at least a majority of our employees must be located in Massachusetts and we must not take certain actions without obtaining MLSC's prior consent, including without limitation paying dividends on our capital stock, redeeming any of our outstanding securities, and completing a sale of substantially all of our assets or a change-of-control transaction. Further, our failure to remain a "certified life sciences company" under the Massachusetts General Law would constitute an event of default under the MLSC Loan Agreement. Our ability to pursue our business plans during the term of the MLSC Loan may be severely limited as a result of those restrictions, which could cause our operations and financial condition to suffer.

In addition, the MLSC Loan agreement restricts our ability, without the prior written consent of MLSC, to incur certain types and amounts of additional indebtedness, including indebtedness senior or, in certain circumstances, equal to the MLSC Loan and any indebtedness to any of our stockholders or employees that is not expressly subordinated to the MLSC Loan. Our ability to finance our operations could be limited if, while the MLSC Loan is outstanding, the only source of capital available to us is prohibited by the restrictions set forth in the MLSC Loan Agreement, in which case we may be forced to curtail or eliminate some or all of our operations.

Our short operating history may hinder our ability to successfully meet our objectives.

We are a development stage company subject to the risks, uncertainties and difficulties frequently encountered by early-stage companies in evolving markets. Our operations to date have been primarily limited to organizing and staffing, developing and securing our technology and undertaking or funding preclinical studies of our lead product candidate. We have not demonstrated our ability to successfully complete large-scale, pivotal clinical trials, obtain regulatory approvals, manufacture a commercial scale product or arrange for a third party to do so on our behalf, or conduct sales and marketing activities necessary for successful product commercialization.

Because of our limited operating history, we have limited insight into trends that may emerge and affect our business, and errors may be made in developing an approach to address those trends and the other challenges faced by development stage companies. Failure to adequately respond to such trends and challenges could cause our business, results of operations and financial condition to suffer or fail. Further, our limited operating history may make it difficult for our stockholders to make any predictions about our likelihood of future success or viability.

If we are not able to attract and retain qualified management and scientific personnel, we may fail to develop our technologies and product candidates.

Our future success depends to a significant degree on the skills, experience and efforts of the principal members of our scientific and management personnel. These members include Dr. Terrence Norchi, MD, our President and Chief Executive Officer. The loss of Dr. Norchi or any of our other key personnel could harm our business and might significantly delay or prevent the achievement of research, development or business objectives. Further, our operation as a public company will require that we attract additional personnel to support the establishment of appropriate financial reporting and internal controls systems. Competition for personnel is intense. We may not be able to attract, retain and/or successfully integrate qualified scientific, financial and other management personnel, which could materially harm our business.

If we fail to properly manage any growth we may experience, our business could be adversely affected.

We anticipate increasing the scale of our operations as we seek to develop our product candidates, including hiring and training additional personnel and establishing appropriate systems for a company with larger operations. The management of any growth we may experience will depend, among other things, upon our ability to develop and improve our operational, financial and management controls, reporting systems and procedures. If we are unable to manage any growth effectively, our operations and financial condition could be adversely affected.

We have identified material weaknesses in our internal control over financial reporting, which could, if not remediated, result in material misstatements in our financial results.

Our management is responsible for establishing and maintaining adequate internal control over our financial reporting, as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934, as amended (the “Exchange Act”). As disclosed in Item 9A of Part II of our Annual Report originally filed on December 27, 2013 and amended on May 1, 2014 and in Item 4 of Part I of our Quarterly Report filed on May 15, 2014, management has identified material weaknesses in our disclosure controls and procedures and our internal control over financial reporting as of March 31, 2014. Additional material weaknesses have been identified in our internal control over financial reporting during our current fiscal quarter, which were identified by management in connection with restating our consolidated financial statements included in our most recently filed Annual Report. A material weakness in internal control over financial reporting is defined as a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our consolidated financial statements will not be prevented or detected on a timely basis. As a result of these material weaknesses, our management concluded in our latest annual assessment that our internal control over financial reporting was not effective as of September 30, 2013, based on criteria set forth by the Committee of Sponsoring Organization of the Treadway Commission in Internal Control—Integrated Framework.

Additional resources are needed to address our material weaknesses. We have developed proposed actions aimed at remediating the material weaknesses we have identified in our internal control over financial reporting, including our intention to hire a new Chief Financial Officer that is able to serve our Company on a full-time basis, which we have been pursuing by actively seeking candidates for such position. If our remedial measures are insufficient to address the material weaknesses we have identified, or if additional material weaknesses or significant deficiencies in our internal control are discovered or occur in the future, there may be an increased likelihood that our consolidated financial statements contain material misstatements. A restatement of our financial results could result in substantial costs to us for accounting and legal fees and could lead to litigation against us. In addition, even if we are successful in strengthening our controls and procedures, those controls and procedures may not be adequate to prevent or identify irregularities or errors or to facilitate the fair presentation of our consolidated financial statements. If we fail to achieve and maintain the adequacy of our internal controls in accordance with applicable standards, we would be unable to conclude that we have effective internal controls over financial reporting. If we cannot produce reliable financial reports, our business and financial condition could be harmed, investors could lose confidence in our reported financial information, and the market price of our stock could decline significantly. Moreover, our reputation with lenders, investors, securities analysts and others may be adversely affected.

We may become involved in litigation and administrative proceedings that may materially affect us.

From time to time, we may become involved in various legal proceedings relating to matters incidental to the ordinary course of our business, including commercial, employment, class action, whistleblower and other litigation and claims, and governmental and other regulatory investigations and proceedings. Such matters can be time-consuming, divert management's attention and resources and cause us to incur significant expenses. Furthermore, because litigation is inherently unpredictable, there can be no assurance that the results of any of these actions will not have a material adverse effect on our business, results of operations or financial condition.

We rely significantly on information technology and any failure, inadequacy, interruption or security lapse of that technology, including any cybersecurity incidents, could harm our ability to operate our business effectively.

We maintain sensitive data pertaining to our Company on our computer networks, including information about our research and development activities, our intellectual property and other proprietary business information. Our internal computer systems and those of third parties with which we contract may be vulnerable to damage from cyber-attacks, computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures, despite the implementation of security measures. System failures, accidents or security breaches could cause interruptions to our operations, including material disruption of our research and development activities, result in significant data losses or theft of our intellectual property or proprietary business information, and could require substantial expenditures to remedy. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data or applications or inappropriate disclosure of confidential or proprietary information, we could incur liability and our research and development programs could be delayed, any of which would harm our business and operations.

Risks Related to the Development and Commercialization of our Product Candidates

Our current business plan is dependent on the success of one product candidate.

Our business is currently focused almost entirely on the development and commercialization of one product candidate, AC5. Our reliance on one primary product candidate means that, if we are not able to obtain regulatory approvals and market acceptance of that product, our chances for success will be significantly reduced. We are also less likely to withstand competitive pressures if any of our competitors develops and obtains regulatory approval or certification for a similar product faster than we can or that is otherwise more attractive to the market than AC5. Our current dependence on one product candidate increases the risk that our business will fail if our development efforts for that product candidate experience delays or other obstacles or are otherwise not successful.

The Chemistry, Manufacturing and Control ("CMC") process may be challenging.

Because of the complexity of our lead product candidate, the CMC process may be difficult to complete successfully within the parameters required by the FDA or its foreign counterparts. Peptide formulation optimization is particularly challenging, and any delays could negatively impact our anticipated clinical trial and subsequent commercialization timeline. Furthermore, we have, and the third parties with which we may establish relationships may also have, limited experience with attempting to commercialize a self-assembling peptide as a medical device, which increases the risks associated with completing the CMC process successfully, on time, or within the projected budget. Failure to complete the CMC process successfully would impact our ability to start a clinical trial and could severely limit the long-term viability of our business.

Our principal product candidate is inherently risky because it is based on novel technologies.

We are subject to the risks of failure inherent in the development of products based on new technologies. The novel nature of AC5 creates significant challenges with respect to product development and optimization, engineering, manufacturing, scale-up, quality systems, pre-clinical *in vitro* and *in vivo* testing, government regulation and approval, third-party reimbursement and market acceptance. Our failure to overcome any one of those challenges could harm our operations, ability to commence and/or complete a clinical trial, and overall chances for success.

Compliance with governmental regulations regarding the treatment of animals used in research could increase our operating costs, which would adversely affect the commercialization of our technology.

The Animal Welfare Act ("AWA") is the federal law that covers the treatment of certain animals used in research. Currently, the AWA imposes a wide variety of specific regulations that govern the humane handling, care, treatment and transportation of certain animals by producers and users of research animals, most notably relating to personnel, facilities, sanitation, cage size, and feeding, watering and shipping conditions. Third parties with whom we contract are subject to registration, inspections and reporting requirements under the AWA. Furthermore, some states have their own regulations, including general anti-cruelty legislation, which establish certain standards in handling animals. Comparable rules, regulations, and or obligations exist in many foreign jurisdictions. If we or our contractors fail to comply with regulations concerning the treatment of animals used in research, we may be subject to fines and penalties and adverse publicity, and our operations could be adversely affected.

If the FDA or similar foreign agencies or intermediaries impose requirements or an alternative product classification more onerous than we anticipate, our business could be adversely affected.

The development plan for our lead product candidate is based on our anticipation of pursuing the medical device regulatory pathway. However, the FDA and other applicable foreign agencies will have authority to finally determine the regulatory route for our product candidates in their jurisdictions. If the FDA or similar foreign agencies or intermediaries deem our product to be a member of a category other than a medical device, such as a drug or biologic, or impose additional requirements on our pre-clinical and clinical development than we presently anticipate, financing needs would increase, the timeline for product approval would lengthen, the program complexity and resource requirements world increase, and the probability of successfully commercializing a product would decrease. Any or all of those circumstances would materially adversely affect our business.

If we are not able to secure and maintain relationships with third parties that are capable of conducting clinical trials on our product candidates, our product development efforts could be adversely impacted.

Our management has limited experience in conducting preclinical development activities and clinical trials. As a result, we have relied and will need to continue to rely on research institutions and other third party clinical investigators to conduct our preclinical and clinical trials. If we are unable to reach agreement with qualified research institutions and clinical investigators on acceptable terms, or if any resulting agreement is terminated prior to the completion of our clinical trials, then our product development efforts could be materially delayed or otherwise harmed. Further, our reliance on third parties to conduct our clinical trials will provide us with less control over the timing and cost of those trials and the ability to recruit suitable subjects to participate in the trials. Moreover, the FDA and other regulatory authorities require that we comply with standards, commonly referred to as good clinical practices ("GCP"), for conducting, recording and reporting the results of our preclinical development activities and our clinical trials, to assure that data and reported results are credible and accurate and that the rights, safety and confidentiality of trial participants are protected. Additionally, we and any third party contractor performing preclinical and clinical studies are subject to regulations governing the treatment of human and animal subjects in performing those studies. Our reliance on third parties that we do not control does not relieve us of those responsibilities and requirements. If those third parties do not successfully carry out their contractual duties, meet expected deadlines or conduct our preclinical development activities or clinical trials in accordance with regulatory requirements or stated protocols, we may not be able to obtain, or may be delayed in obtaining, regulatory approvals for our product candidates and will not be able to, or may be delayed in our efforts to, successfully commercialize our product candidates. Any of those circumstances would materially harm our business and prospects.

Any clinical trials that are planned or are conducted on our product candidates may not start or may fail.

Clinical trials are lengthy, complex and extremely expensive processes with uncertain expenditures and results and frequent failures. Any clinical trials that are planned or which commence for any of our product candidates could be delayed, limited or fail for a number of reasons, including if:

- the FDA or other regulatory authorities do not grant permission to proceed or place a trial on clinical hold due to safety concerns or other reasons;

- sufficient suitable subjects do not enroll or remain in our trials;
- we fail to produce necessary amounts of product candidate;
- subjects experience an unacceptable rate of efficacy of the product candidate;
- subjects experience an unacceptable rate or severity of adverse side effects, demonstrating a lack of safety of the product candidate;
- any portion of the trial or related studies produces negative or inconclusive results or other adverse events;
- reports from preclinical or clinical testing on similar technologies and products raise safety and/or efficacy concerns;
- third-party clinical investigators lose their licenses or permits necessary to perform our clinical trials, do not perform their clinical trials on their anticipated schedule or consistent with the clinical trial protocol, GCP or regulatory requirements, or other third parties do not perform data collection and analysis in a timely or accurate manner;
- inspections of clinical trial sites by the FDA or an institutional review board (“IRB”) or other applicable regulatory authorities find violations that require us to undertake corrective action, suspend or terminate one or more testing sites, or prohibit us from using some or all of the resulting data in support of our marketing applications with the FDA or other applicable agencies;
- manufacturing facilities of our third party manufacturers are ordered by the FDA or other government or regulatory authorities to temporarily or permanently shut down due to violations of current good manufacturing practices (“cGMP”) or other applicable requirements;
- third-party contractors become debarred or suspended or otherwise penalized by the FDA or other government or regulatory authorities for violations of regulatory requirements;
- the FDA or other regulatory authorities impose requirements on the design, structure or other features of the clinical trials for our product candidates that we and/or our third party contractors are unable to satisfy;
- one or more IRBs refuses to approve, suspends or terminates a trial at an investigational site, precludes enrollment of additional subjects, or withdraws its approval of the trial;
- the FDA or other regulatory authorities seek the advice of an advisory committee of physician and patient representatives that may view the risks of our product candidates as outweighing the benefits;
- the FDA or other regulatory authorities require us to expand the size and scope of the clinical trials, which we may not be able to do; or
- the FDA or other regulatory authorities impose prohibitive post-marketing restrictions on any of our product candidates that attains regulatory approval.

Any delay or failure of one or more of our clinical trials may occur at any stage of testing. Any such delay could cause our development costs to materially increase, and any such failure could significantly impair our business plans, which would materially harm our financial condition and operations.

We cannot market and sell any product candidate in the U.S. or in any other country or region if we fail to obtain the necessary regulatory approvals or certifications from applicable government agencies.

We cannot sell our product candidates in any country until regulatory agencies grant marketing approval or other required certifications. The process of obtaining such approval is lengthy, expensive and uncertain. If we are able to obtain such approvals for our lead product candidate or any other product candidate we may pursue, which we may never be able to do, it would likely be a process that takes many years to achieve.

To obtain marketing approvals in the U.S. for our product candidates, we must, among other requirements, complete carefully controlled and well-designed clinical trials sufficient to demonstrate to the FDA that the product candidate is safe and effective for each indication for which we seek approval. As described above, many factors could cause those trials to be delayed or to fail.

We believe that the pathway to marketing approval in the U.S. for our lead product candidate will likely require the process of FDA Premarket Approval (“PMA”) for the product, which is based on novel technologies and likely will be classified as a Class III medical device. This approval pathway can be lengthy and expensive, and is estimated to take from one to three years or longer from the time the PMA application is submitted to the FDA until approval is obtained, if approval can be obtained at all.

Similarly, to obtain approval to market our product candidates outside of the U.S., we will need to submit clinical data concerning our product candidates to and receive marketing approval or other required certifications from governmental or other agencies in those countries, which in certain countries includes approval of the price we intend to charge for a product. For instance, in order to obtain the certification needed to market our lead product candidate in the EU, we believe that we will need to obtain a CE mark for the product, which entails scrutiny by applicable regulatory agencies and bears some similarity to the PMA process, including completion of one or more successful clinical trials.

We may encounter delays or rejections if changes occur in regulatory agency policies, if difficulties arise within regulatory or related agencies such as, for instance, any delays in their review time, or if reports from preclinical and clinical testing on similar technology or products raise safety and/or efficacy concerns during the period in which we develop a product candidate or during the period required for review of any application for marketing approval or certification.

Any difficulties we encounter during the approval or certification process for any of our product candidates would have a substantial adverse impact on our operations and financial condition and could cause our business to fail.

Any product for which we obtain required regulatory approvals could be subject to post-approval regulation, and we may be subject to penalties if we fail to comply with such post-approval requirements.

Any product for which we are able to obtain marketing approval or other required certifications, and for which we are able to obtain approval of the manufacturing processes, post-approval clinical data, labeling, advertising and promotional activities for such product, will be subject to continual requirements of and review by the FDA and comparable foreign regulatory authorities, including through periodic inspections. These requirements include, without limitation, submissions of safety and other post-marketing information and reports, registration requirements, cGMP requirements relating to quality control, quality assurance and corresponding maintenance of records and documents. Maintaining compliance with any such regulations that may be applicable to us or our product candidates in the future would require significant time, attention and expense. Even if marketing approval of a product is granted, the approval may be subject to limitations on the indicated uses for which the product may be marketed or other conditions of approval, or may contain requirements for costly and time consuming post-marketing approval testing and surveillance to monitor the safety or efficacy of the product. Discovery after approval of previously unknown problems with any approved product candidate or related manufacturing processes, or failure to comply with regulatory requirements, may result in consequences to us such as:

- restrictions on the marketing or distribution of a product, including refusals to permit the import or export of the product;
- warning letters from governmental agencies;
- the requirement to include warning labels on the products;

- withdrawal or recall of the products from the market;
- refusal by the FDA or other regulatory agencies to approve pending applications or supplements to approved applications that we may submit;
- suspension of any ongoing clinical trials;
- fines, restitution or disgorgement of profits or revenue;
- suspension or withdrawal of marketing approvals or certifications; or
- civil or criminal penalties.

If any of our product candidates achieves required regulatory marketing approvals or certifications in the future, the subsequent occurrence of any such post-approval consequences would materially adversely affect our business and operations.

Current or future legislation may make it more difficult and costly for us to obtain marketing approval or other certifications of our product candidates.

In 2007, the Food and Drug Administration Amendments Act of 2007 (the “FDAAA”) was adopted. This legislation grants significant powers to the FDA, many of which are aimed at assuring the safety of medical products after approval. For example, the FDAAA grants the FDA authority to impose post-approval clinical study requirements, require safety-related changes to product labeling and require the adoption of complex risk management plans. Pursuant to the FDAAA, the FDA may require that a new product be used only by physicians with specialized training, only in specified health care settings, or only in conjunction with special patient testing and monitoring. The legislation also includes requirements for disclosing clinical study results to the public through a clinical study registry, and renewed requirements for conducting clinical studies to generate information on the use of products in pediatric patients. Under the FDAAA, companies that violate these laws are subject to substantial civil monetary penalties. The requirements and changes imposed by the FDAAA, or any other new legislation, regulations or policies that grant the FDA or other regulatory agencies additional authority that further complicates the process for obtaining marketing approval and/or further restricts or regulates post-marketing approval activities, could make it more difficult and more costly for us to obtain and maintain approval of any of our product candidates.

Public perception of ethical and social issues may limit or discourage the type of research we conduct.

Our clinical trials will involve human subjects, and we and third parties with whom we contract also conduct research involving animal subjects. Governmental authorities could, for public health or other purposes, limit the use of human or animal research or prohibit the practice of our technology. Further, ethical and other concerns about our or our third party contractors’ methods, particularly the use of human subjects in clinical trials or the use of animal testing, could delay our research and preclinical and clinical trials, which would adversely affect our business and financial condition.

Use of third parties to manufacture our product candidates may increase the risk that preclinical development, clinical development and potential commercialization of our product candidates could be delayed, prevented or impaired.

We have limited personnel with experience in medical device development and manufacturing, do not own or operate manufacturing facilities, and generally lack the resources and the capabilities to manufacture any of our product candidates on a clinical or commercial scale. We currently intend to outsource all or most of the clinical and, commercial manufacturing and packaging of our product candidates to third parties. However, we have not established long-term agreements with any third party manufacturers for the supply of any of our product candidates. There are a limited number of manufacturers that operate under cGMP regulations and that are capable of and willing to manufacture our lead product candidate utilizing the manufacturing methods that are required to produce that product candidate, and our product candidates will compete with other product candidates for access to qualified manufacturing facilities. If we have difficulty locating third party manufacturers to develop our product candidates for preclinical and clinical work, then our product development programs will experience delays and otherwise suffer. We may also be unable to enter into agreements for the commercial supply of products with third party manufacturers in the future, or may be unable to do so when needed or on acceptable terms. Any such events could materially harm our business.

Reliance on third party manufacturers entails risks to our business, including without limitation:

- the failure of the third party to maintain regulatory compliance, quality assurance, and general expertise in advanced manufacturing techniques and processes that may be necessary for the manufacture of our product candidates;
- limitations on supply availability resulting from capacity and scheduling constraints of the third parties;
- failure of the third party manufacturers to meet the demand for the product candidate, either from future customers or for preclinical or clinical trial needs;
- the possible breach of the manufacturing agreement by the third party; and
- the possible termination or non-renewal of the agreement by the third party at a time that is costly or inconvenient for us.

The failure of any of our contract manufacturers to maintain high manufacturing standards could result in harm to clinical trial participants or patients using the products. Such failure could also result in product liability claims, product recalls, product seizures or withdrawals, delays or failures in testing or delivery, cost overruns or other problems that could seriously harm our business or profitability. Further, our contract manufacturers will be required to adhere to FDA and other applicable regulations relating to manufacturing practices. Those regulations cover all aspects of the manufacturing, testing, quality control and recordkeeping relating to our product candidates and any products that we may commercialize in the future. The failure of our third party manufacturers to comply with applicable regulations could result in sanctions being imposed on us, including fines, injunctions, civil penalties, failure of regulatory authorities to grant marketing approval or other required certifications of our product candidates, delays, suspension or withdrawal of approvals, license revocation, seizures or recalls of product candidates, operating restrictions and criminal prosecutions, any of which could significantly and adversely affect our business, financial condition and operations.

Materials necessary to manufacture our product candidates may not be available on commercially reasonable terms, or at all, which may delay or otherwise hinder the development and commercialization of those product candidates.

We will rely on the manufacturers of our product candidates to purchase from third party suppliers the materials necessary to produce the compounds for preclinical and clinical studies, and may continue to rely on those suppliers for commercial distribution if we obtain marketing approval or other required certifications for any of our product candidates. The materials to produce our products may not be available when needed or on commercially reasonable terms, and the prices for such materials may be susceptible to fluctuations. We do not have any control over the process or timing of the acquisition of these materials by our manufacturers. Moreover, we currently do not have any agreements relating to the commercial production of any of these materials. If these materials cannot be obtained for our preclinical and clinical studies, product testing and potential regulatory approval of our product candidates would be delayed, which would significantly impact our ability to develop our product candidates and materially adversely affect our ability to meet our objectives and obtain operations success.

We may not be successful in maintaining or establishing collaborations, which could adversely affect our ability to develop and, if required regulatory approvals are obtained, commercialize, our product candidates.

We intend to collaborate with physicians, patient advocacy groups, foundations, government agencies, and/or other third parties to assist with the development of our product candidates. If required regulatory approvals are obtained for any of our product candidates, then we may consider entering into selective collaboration arrangements with medical technology, pharmaceutical or biotechnology companies and/or seek to establish strategic relationships with marketing partners for the development, sale, marketing and/or distribution of our products within or outside of the U.S. If we elect to seek collaborators in the future but are unable to reach agreements with suitable collaborators, then we may fail to meet our business objectives for the affected product or program. Moreover, collaboration arrangements are complex and time consuming to negotiate, document and implement, and we may not be successful in our efforts, if any, to establish and implement collaborations or other alternative arrangements. The terms of any collaborations or other arrangements that we establish may not be favorable to us, and the success of any such collaborations will depend heavily on the efforts and activities of our collaborators. Any failure to engage successful collaborators could cause delays in our product development and/or commercialization efforts, which could harm our financial condition and operational results.

We compete with other pharmaceutical and medical device companies, including companies that may develop products that make our product candidates less attractive or obsolete.

The medical device, pharmaceutical and biotechnology industries are highly competitive. If our product candidates become available for commercial sale, we will compete in that competitive marketplace. There are several products on the market or in development that could be competitors with our lead product candidate. While our management, which is familiar with these other products, believes that our lead product candidate could be safer and possibly more effective than those competitors, those beliefs may be wrong. Further, most of our competitors have greater resources or capabilities and greater experience in the development, approval and commercialization of medical devices or other products than we do. We may not be able to compete successfully against them. We also compete for funding with other companies in our industry that are focused on discovering and developing novel improvements in surgical bleeding prevention.

We anticipate that competition in our industry will increase. In addition, the healthcare industry is characterized by rapid technological change, resulting in new product introductions and other technological advancements. Our competitors may develop and market products that render our lead product candidate or any future product candidate we may seek to develop non-competitive or otherwise obsolete. Any such circumstances could cause our operations to suffer.

If we fail to generate market acceptance of our product candidates and establish programs to educate and train surgeons as to the distinctive characteristics of our product candidates, we will not be able to generate revenues on our product candidates.

Acceptance in the marketplace of our lead product candidate depends in part on our and our third party contractors' ability to establish programs for the training of surgeons in the proper usage of that product candidate, which will require significant expenditure of resources. Convincing surgeons to dedicate the time and energy necessary to properly train to use new products and techniques is challenging, and we may not be successful in those efforts. If surgeons are not properly trained, they may ineffectively use our product candidates. Such misuse could result in unsatisfactory patient outcomes, patient injury, negative publicity or lawsuits against us. Accordingly, even if our product candidates are superior to alternative treatments, our success will depend on our ability to gain and maintain market acceptance for those product candidates among certain select groups of the population and develop programs to effectively train them to use those products. If we fail to do so, we will not be able to generate revenue from product sales and our business, financial condition and results of operations will be adversely affected.

We face uncertainty related to pricing, reimbursement and healthcare reform, which could reduce our potential revenues.

If our product candidates are approved for commercialization, any sales will depend in part on the availability of coverage and reimbursement from third-party payors such as government insurance programs, including Medicare and Medicaid, private health insurers, health maintenance organizations and other healthcare related organizations. If our product candidates obtain marketing approval, pricing and reimbursement may be uncertain. Both the federal and state governments in the U.S. and foreign governments continue to propose and pass new legislation affecting coverage and reimbursement policies, which are designed to contain or reduce the cost of healthcare. Further, federal, state and foreign healthcare proposals and reforms could limit the prices that can be charged for the product candidates that we may develop, which may limit our commercial opportunity. Adoption of our product candidates by the medical community may be limited if doctors and hospitals do not receive adequate partial or full reimbursement for use of our products, if any are commercialized. In some foreign jurisdictions, marketing approval or allowance could be dependent upon pre-marketing price negotiations. As a result, any denial of private or government payor coverage or inadequate reimbursement for procedures performed using our products, before or upon commercialization, could harm our business and reduce our prospects for generating revenue.

In addition, the U.S. Congress recently adopted legislation regarding health insurance. As a result of this new legislation, substantial changes could be made to the current system for paying for healthcare in the U.S., including modifications to the existing system of private payors and government programs, such as Medicare, Medicaid and State Children's Health Insurance Program, creation of a government-sponsored healthcare insurance source, or some combination of those, as well as other changes. Restructuring the coverage of medical care in the U.S. could impact reimbursement for medical devices such as our product candidates. If reimbursement for our approved product candidates, if any, is substantially less than we expect, or rebate obligations associated with them are substantially increased, our business could be materially and adversely impacted.

The use of our product candidates in human subjects may expose us to product liability claims, and we may not be able to obtain adequate insurance or otherwise defend against any such claims.

We face an inherent risk of product liability claims and do not currently have product liability insurance coverage. We will need to obtain insurance coverage if and when we begin clinical trials and commercialization of any of our product candidates. We may not be able to obtain or maintain product liability insurance on acceptable terms with adequate coverage. If claims against us exceed any applicable insurance coverage we may obtain, then our business could be adversely impacted. Regardless of whether we would be ultimately successful in any product liability litigation, such litigation could consume substantial amounts of our financial and managerial resources, which could significantly harm our business.

Risks Related to our Intellectual Property

If we are unable to obtain and maintain protection for our intellectual property rights, the value of our technology and products will be adversely affected.

Our success will depend in large part on our ability to obtain and maintain protection in the U.S. and other countries for the intellectual property rights covering or incorporated into our technology and products. The ability to obtain patents covering technology in the field of medical devices generally is highly uncertain and involves complex legal, technical, scientific and factual questions. We may not be able to obtain and maintain patent protection relating to our technology or products. Even if issued, patents issued or licensed to us may be challenged, narrowed, invalidated, held to be unenforceable or circumvented, or determined not to cover our product candidates or our competitors' products, which could limit our ability to stop competitors from marketing identical or similar products. Further, we cannot be certain that we were the first to make the inventions claimed in the patents we own or license, or that protection of the inventions set forth in those patents was the first to be filed in the U.S. Third parties that have filed patents or patent applications covering similar technologies or processes may challenge our claim of sole right to use the intellectual property covered by the patents we own or exclusively license. Moreover, changes in applicable intellectual property laws or interpretations thereof in the U.S. and other countries may diminish the value of our intellectual property rights or narrow the scope of our patent protection. Any failure to obtain or maintain adequate protection for the intellectual property rights we use would materially harm our business, product development programs and prospects.

In addition, our proprietary information, trade secrets and know-how are important components of our intellectual property rights. We seek to protect our proprietary information, trade secrets, know-how and confidential information, in part, with confidentiality agreements with our employees, corporate partners, outside scientific collaborators, sponsored researchers, consultants and other advisors. We also have invention or patent assignment agreements with our employees and certain consultants and advisors. If our employees or consultants breach those agreements, we may not have adequate remedies for any of those breaches. In addition, our proprietary information, trade secrets and know-how may otherwise become known to or be independently developed by others. Enforcing a claim that a party illegally obtained and is using our proprietary information, trade secrets and know-how is difficult, expensive and time consuming, and the outcome is unpredictable. In addition, courts outside the U.S. may be less willing to protect trade secrets. Costly and time consuming litigation could be necessary to seek to enforce and determine the scope of our intellectual property rights, and failure to obtain or maintain protection thereof could adversely affect our competitive business position and results of operations.

If we lose certain intellectual property rights owned by third parties and licensed to us, our business could be materially harmed.

We have entered into certain in-license agreements with MIT and with certain other third parties, and may seek to enter into additional in-license agreements relating to other intellectual property rights in the future. To the extent we and our product candidates rely heavily on any such in-licensed intellectual property, we are subject to our and the counterparty's compliance with the terms of such agreements in order to maintain those rights. Presently, we, our lead product candidate and our business plans are dependent on the patent and other intellectual property rights that are licensed to us under our license agreement with MIT. Although that agreement has a durational term through the life of the licensed patents, it also imposes certain diligence, capital raising, and other obligations on us, our breach of which could permit MIT to terminate the agreement. Further, we are responsible for all patent prosecution and maintenance fees under that agreement, and a failure to pay such fees on a timely basis could also entitle MIT to terminate the agreement. Any failure by us to satisfy our obligations under our license agreement with MIT or any other dispute or other issue relating to that agreement could cause us to lose some or all of our rights to use certain intellectual property that is material to our business and our lead product candidate, which would materially harm our product development efforts and could cause our business to fail.

If we infringe or are alleged to infringe the intellectual property rights of third parties, our business and financial condition could suffer.

Our research, development and commercialization activities, as well as any product candidates or products resulting from those activities, may infringe or be accused of infringing a patent or other intellectual property under which we do not hold a license or other rights. Third parties may own or control those patents or other rights in the U.S. or abroad. The third parties that own or control those intellectual property rights could bring claims against us that would cause us to incur substantial time, expense, and diversion of management attention. If a patent or other intellectual property infringement suit were brought against us, we could be forced to stop or delay research, development, manufacturing or sales, if any, of the applicable product or product candidate that is the subject of the suit. In order to avoid or settle potential claims with respect to any of the patent or other intellectual property rights of third parties, we may choose or be required to seek a license from a third party and be required to pay license fees or royalties or both. Any such license may not be available on acceptable terms, or at all. Even if we or our future collaborators were able to obtain a license, the rights granted to us or them could be non-exclusive, which could result in our competitors gaining access to the same intellectual property rights and materially negatively affecting the commercialization potential of our planned products. Ultimately, we could be prevented from commercializing one or more product candidates, or be forced to cease some aspects of our business operations, if, as a result of actual or threatened infringement claims, we are unable to enter into licenses on acceptable terms or at all or otherwise settle such claims. Further, if any such claims were successful against us, we could be forced to pay substantial damages. Any of those results could significantly harm our business, prospects and operations.

Risks Related to the Merger and Ownership of our Common Stock

There is not now, and there may not ever be, an active market for our common stock, which trades in the over-the-counter market in low volumes and at volatile prices.

There currently is a limited market for our common stock. Although our common stock is quoted on the OTCQB, an over-the-counter quotation system, trading of our common stock is extremely limited and sporadic and generally at very low volumes. Further, the price at which our common stock may trade is volatile and we expect that it will continue to fluctuate significantly in response to various factors, many of which are beyond our control. The stock market in general, and securities of small-cap companies driven by novel technologies in particular, has experienced extreme price and volume fluctuations in recent years. Continued market fluctuations could result in further volatility in the price at which our common stock may trade, which could cause its value to decline. To the extent we seek to raise capital in the future through the issuance of equity, those efforts could be limited or hindered by low and/or volatile market prices for our common stock.

We do not now, and are not expected to in the foreseeable future, meet the initial listing standards of the Nasdaq Stock Market or any other national securities exchange. We presently anticipate that our common stock will continue to be quoted on the OTCQB or another over-the-counter quotation system. In those venues, our stockholders may find it difficult to obtain accurate quotations as to the market value of their shares of our common stock, and may find few buyers to purchase their stock and few market makers to support its price.

A more active market for our common stock may never develop. As a result, investors must bear the economic risk of holding their shares of our common stock for an indefinite period of time.

Our common stock is a "penny stock."

The SEC has adopted regulations that generally define "penny stock" as an equity security that has a market price of less than $5.00 per share, subject to specific exemptions. The market price of our common stock is, and is expected to continue to be in the near term, less than $5.00 per share and is therefore a "penny stock." Brokers and dealers effecting transactions in "penny stock" must disclose certain information concerning the transaction, obtain a written agreement from the purchaser and determine that the purchaser is reasonably suitable to purchase the securities. Those rules may restrict the ability of brokers or dealers to sell our common stock and may affect the ability of our stockholders to sell their shares of our common stock. In addition, if our common stock continues to be quoted on the OTCQB as we expect, then our stockholders may find it difficult to obtain accurate quotations for our stock, and may find few buyers to purchase our stock and few market makers to support its price.

If we issue additional shares in the future, including issuances of shares upon exercise of the Warrants, our existing stockholders will be diluted.

Our articles of incorporation authorize the issuance of up to 300,000,000 shares of common stock. Upon the closing of the Private Placement Financing, we issued an aggregate of 11,400,000 shares of our common stock, which equals approximately 16% of our currently issued and outstanding common stock. Upon the closing of the Private Placement Financing, we also issued Warrants to acquire up to an additional 34,200,000 shares of our common stock, which, assuming no adjustments to and the full exercise of the Warrants and no other issuances of our common stock, would equal approximately 32% of our then-issued and outstanding common stock. In addition to capital raising activities, other possible business and financial uses for our authorized common stock include, without limitation, future stock splits, acquiring other companies, businesses or products in exchange for shares of common stock, issuing shares of our common stock to partners in connection with strategic alliances, attracting and retaining employees by the issuance of additional securities under our various equity compensation plans, or other transactions and corporate purposes that our Board of Directors deems are in the Company's best interest. Additionally, shares of common stock could be used for anti-takeover purposes or to delay or prevent changes in control or management of the Company. We cannot provide assurances that any issuances of common stock will be consummated on favorable terms or at all, that they will enhance stockholder value, or that they will not adversely affect our business or the trading price of our common stock. The issuance of any such shares will reduce the book value per share and may contribute to a reduction in the market price of the outstanding shares of our common stock. If we issue any such additional shares, such issuance will reduce the proportionate ownership and voting power of all current shareholders. Further, such issuance may result in a change of control of our corporation.

Certain terms of the Warrants could result in additional dilution to our existing stockholders.

The number of shares of our common stock into which each of the Warrants issued in connection with the Private Placement Financing is exercisable and the exercise price therefor are subject to adjustment as set forth in the Warrants, including, without limitation, adjustment to the exercise price of the Warrants in the event of certain subsequent issuances and sales of shares of our common stock (or securities convertible or exercisable into shares of our common stock) at a price per share lower than the then-effective exercise price of the Warrants, in which case the per share exercise price of the Warrants will be adjusted to equal such lower price per share and the number of shares issuable upon exercise of the Warrants will be adjusted accordingly so that the aggregate exercise price upon full exercise of the Warrants immediately before and immediately after such per share exercise price adjustment are equal, as well as customary adjustments in the event of stock dividends and splits, subsequent rights offerings and pro rata distributions to our common stockholders. In the event any such adjustment is triggered, the Warrants could become exercisable for a greater number of shares of our common stock and thereby further dilute the ownership of our other stockholders if those Warrants are exercised. Depending on the terms of any subsequent issuance of securities or other circumstance that might trigger such an adjustment and the number of Warrants that are exercised, the amount of any such dilution could be significant.

Future sales of our common stock or rights to purchase common stock, or the perception that such sales could occur, could cause our stock price to fall.

After giving effect to the funds raised in the Private Placement Financing, we expect that significant additional capital will be needed in the near-term to continue our planned operations. To raise capital, we may sell common stock, convertible securities or other equity securities in one or more transactions at prices and in a manner we determine from time to time. Any such sales of our common stock by us or resales of our common stock by our existing stockholders could cause the market price of our common stock to decline.

Upon the effectiveness of the registration statement of which this prospectus forms a part, approximately 16% of our currently issued and outstanding common stock will become registered and freely tradable, and, assuming no adjustments to and the full exercise of the Warrants being registered hereby and no other issuances of our common stock, up to 32% of our then-issued and outstanding common stock would become registered and freely tradable. The sales of such shares in the market, or the perception that such sales could occur following the effectiveness of the registration statement of which this prospectus forms a part, could cause our stock price to fall. Additionally, pursuant to the 2013 Plan, we are authorized to grant equity awards to our employees, directors and consultants for up to an aggregate of 10,231,197 shares of our common stock, and there are additional currently outstanding warrants to acquire up to 4,145,985 shares of our common stock. Any future grants of options, warrants or other securities exercisable or convertible into our common stock, or the exercise or conversion of such shares, and any sales of such shares in the market, could have an adverse effect on the market price of our common stock.

FINRA sales practice requirements may limit a stockholder's ability to buy and sell our stock.

In addition to the "penny stock" rules described above, FINRA has adopted rules that require that, in recommending an investment to a customer, a broker-dealer must have reasonable grounds for believing that the investment is suitable for that customer. Prior to recommending speculative low priced securities to their non-institutional customers, broker-dealers must make reasonable efforts to obtain information about the customer's financial status, tax status, investment objectives and other information. Under interpretations of these rules, FINRA has indicated its belief that there is a high probability that speculative low priced securities will not be suitable for at least some customers. These FINRA requirements make it more difficult for broker-dealers to recommend that at least some of their customers buy our common stock, which may limit the ability of our stockholders to buy and sell our common stock and could have an adverse effect on the market for our shares.

There may be additional risks because we recently completed a reverse merger transaction.

Additional risks may exist because we recently completed a "reverse merger" transaction. Securities analysts of major brokerage firms may not provide coverage of the Company following the Merger because there may be little incentive to brokerage firms to recommend the purchase of our common stock. There may also be increased scrutiny by the SEC and other government agencies and holders of our securities due to the nature of the transaction, as there has been increased focus on transactions such as the Merger in recent years. Further, since the Company existed as a "shell company" under applicable rules of the SEC up until the closing of the Merger on June 26, 2013, there will be certain restrictions and limitations on the Company going forward relating to any potential future issuances of additional securities to raise funding and compliance with applicable SEC rules and regulations.

The Company may have material liabilities that were not discovered before the closing of the Merger.

The Company may have material liabilities that were not discovered before the consummation of the Merger. We could experience losses as a result of any such unasserted liabilities are eventually found to be incurred, which could materially harm our business and financial condition. Although the Merger Agreement contained customary representations and warranties from the Company concerning its assets, liabilities, financial condition and affairs, there may be limited or no recourse against the Company's prior owners or principals in the event those prove to be untrue. As a result, the stockholders of the Company bear risks relating to any such unknown or unasserted liabilities.

Certain of our directors and officers own a significant percentage of our capital stock as a result of the Merger and are able to exercise significant influence over the Company.

Certain of our directors and executive officers own a significant percentage of our outstanding capital stock. Dr. Terrence W. Norchi, our President, Chief Executive Officer and a director, and Dr. Avtar Dhillon, the Chairman of our Board of Directors, collectively hold or control approximately 25% of our outstanding shares of common stock. Accordingly, these members of our Board of Directors and management team have substantial voting power to approve matters requiring stockholder approval, including without limitation the election of directors, and have significant influence over our affairs. This concentration of ownership could have the effect of delaying or preventing a change in control of our Company, even if such a change in control would be beneficial to our stockholders.

The elimination of monetary liability against our directors and officers under Nevada law and the existence of indemnification rights held by our directors, officers and employees may result in substantial expenditures by us and may discourage lawsuits against our directors, officers and employees.

Our articles of incorporation eliminate the personal liability of our directors and officers to our Company and our stockholders for damages for breach of fiduciary duty as a director or officer to the extent permissible under Nevada law. Further, our amended and restated bylaws provide that we are obligated to indemnify any of our directors or officers to the fullest extent authorized by Nevada law and, subject to certain conditions, advance the expenses incurred by any director or officer in defending any action, suit or proceeding prior to its final disposition. Those indemnification obligations could result in our Company incurring substantial expenditures to cover the cost of settlement or damage awards against our directors or officers, which we may be unable to recoup. These provisions and resultant costs may also discourage us from bringing a lawsuit against any of our current or former directors or officers for breaches of their fiduciary duties, and may similarly discourage the filing of derivative litigation by our stockholders against our directors and officers even if such actions, if successful, might otherwise benefit us or our stockholders.

We are subject to the reporting requirements of federal securities laws, compliance with which involves significant time, expense and expertise.

We are a public reporting company in the U.S., and, accordingly, are subject to the information and reporting requirements of the Exchange Act and other federal securities laws, including the obligations imposed by the Sarbanes-Oxley Act. The costs associated with preparing and filing annual, quarterly and current reports, proxy statements and other information with the SEC in the ordinary course, as well as preparing and filing audited financial statements, have caused, and could continue to cause, our operational expenses to remain at higher levels or continue to increase.

Our present management team has only limited experience managing public companies. It will be time consuming, difficult and costly for our management team to acquire additional expertise and experience in operating a public company, and to develop and implement the internal controls and reporting procedures required by Sarbanes-Oxley and other applicable securities laws. We will need to hire additional financial reporting, internal controls, accounting and other finance staff in order to develop and implement appropriate internal controls and reporting procedures as required by applicable securities regulations for public companies, which we may not be able to do on a timely basis or at all.

Shares of our common stock that have not been registered under federal securities laws are subject to resale restrictions imposed by Rule 144, including those set forth in Rule 144(i) which apply to a former "shell company." In addition, any shares of our common stock that are held by affiliates, including any that are registered, will be subject to the resale restrictions of Rule 144.

Pursuant to Rule 144 under the Securities Act, a "shell company" is defined as a company that has no or nominal operations and either no or nominal assets; assets consisting solely of cash and cash equivalents; or assets consisting of any amount of cash and cash equivalents and nominal other assets. We were a shell company prior to the closing of the Merger, and as such, sales of our securities pursuant to Rule 144 are not permitted until at least 12 months have elapsed since June 26, 2013, the date on which our Current Report on Form 8-K, reflecting our status as a non-shell company, was filed with the SEC. Therefore, any outstanding restricted securities or any restricted securities we may sell in the future or issue to consultants or employees in consideration for services rendered or for any other purpose will have limited liquidity unless and until such securities are registered under the Securities Act and/or until at least June 26, 2014. Rule 144 also imposes other requirements on us and our stockholders that must be met in order to effect a sale thereunder. As a result, it will be more difficult for us to raise funding to support our operations through the sale of debt or equity securities unless we agree to register such securities under the Securities Act, which could cause us to expend significant additional time and cash resources and which we presently have no intention to pursue. Further, it may be more difficult for us to compensate our employees and consultants with our securities instead of cash. Our previous status as a shell company could also limit our use of our securities to pay for any acquisitions we may seek to pursue in the future (although none are currently planned), and could cause the value of our securities to decline. In addition, any shares held by affiliates, including shares received in any registered offering, will be subject to certain additional requirements in order to effect a sale of such shares under Rule 144.

We do not intend to pay cash dividends on our capital stock in the foreseeable future.

We have never declared or paid any dividends on our shares and do not anticipate paying any such dividends in the foreseeable future. Any future payment of cash dividends would depend on our financial condition, contractual restrictions, solvency tests imposed by applicable corporate laws, results of operations, anticipated cash requirements and other factors and will be at the discretion of our Board of Directors. Our stockholders should not expect that we will ever pay cash or other dividends on our outstanding capital stock.

We are at risk of securities class action litigation that could result in substantial costs and divert management's attention and resources.

In the past, securities class action litigation has been brought against companies following periods of volatility of its securities in the marketplace, particularly following a company's initial public offering. Due to the volatility of our stock price, we could be the target of securities litigation in the future. Securities litigation could result in substantial costs and divert management's attention and resources.

Forward-Looking Statements

This prospectus contains forward-looking statements that involve risks, uncertainties and assumptions. In some cases, you can identify forward-looking statements by terminology such as “if,” “will,” “may,” “might,” “will likely result,” “should,” “expect,” “plan,” “anticipate,” “believe,” “estimate,” “project,” “intend,” “goal,” “objective,” “predict,” “potential” or “continu negative of these terms or other comparable terminology. All statements made in this prospectus other than statements of historical fact are statements that could be deemed forward-looking statements, including without limitation statements about our business plan, our plan of operations and our need to obtain future financing. These statements are only predictions and involve known and unknown risks, uncertainties and other factors, including the risks in the section entitled “Risk Factors” and the risks set out below, any of which may cause our or our industry's actual results, levels of activity, performance or achievements to be materially different from any future results, levels of activity, performance or achievements expressed or implied by these forward-looking statements. These risks include, by way of example and not in limitation, risks related to:

- Our ability to continue as a going concern;

- Our ability to obtain financing necessary to operate our business;

- Our limited operating history;
- The results of our research and development activities, including uncertainties relating to the preclinical and clinical testing of our product candidates;
- The early stage of our primary product candidate presently under development;
- Our ability to develop, obtain required approvals for and commercialize our product candidates;
- Our ability to recruit and retain qualified personnel;
- Our ability to manage any future growth we may experience;
- Our ability to maintain and protect our intellectual property;
- Our dependence on third party manufacturers, suppliers, research organizations, testing laboratories and other potential collaborators;
- The size and growth of the potential markets for any of our approved product candidates, and the rate and degree of market acceptance of any of our approved product candidates;

- Our ability to successfully complete potential acquisitions and collaborative arrangements;

- Competition in our industry;

- General economic and business conditions; and

- Other factors discussed under the section entitled “Risk Factors”.

New risks emerge in our rapidly-changing industry from time to time. As a result, it is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business. If any such risks or uncertainties materialize or such assumptions prove incorrect, our results could differ materially from those expressed or implied by such forward-looking statements and assumptions. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity or performance. These forward-looking statements speak only as of the date of this prospectus. Except as required by applicable law, we do not intend to update any of these forward-looking statements.

Selling SECURITYholders

This prospectus covers the resale from time to time by the selling securityholders identified in the table below of up to an aggregate of 45,600,000 shares of our common stock, 11,400,000 of which were previously issued to the selling securityholders and 34,200,000 of which are issuable upon exercise of the Series A warrants, Series B warrants and Series C warrants. The shares of common stock being offered by the selling securityholders were issued in or are issuable upon exercise of the Warrants issued in the Private Placement Financing. For additional information regarding the issuance of the shares of common stock and the Warrants, see the description under “Summary—Private Placement Financing” in this prospectus.

We are registering the shares of common stock hereby pursuant to the terms of the Registration Rights Agreement among us and the holders of the common stock and Warrants issued in the Private Placement Financing, in order to permit the selling securityholders identified in the table below to offer the shares for resale from time to time. This prospectus covers the resale of the sum of (i) the shares of common stock issued to the selling securityholders in the Private Placement Financing and (ii) the maximum number of shares of common stock issuable upon exercise of the Warrants determined as if the Warrants were exercised in full (without regard to any limitations on exercise contained therein) as of the trading day immediately preceding the date this registration statement was initially filed with the SEC. We may be required in the future to amend this registration statement or to file a new registration statement in order to register additional shares of our common stock for resale by the investors in the Private Placement Financing to account for adjustments, if any, to the number of shares issuable upon exercise of the Warrants as provided therein and as described elsewhere in this prospectus. Because the Warrants are subject to anti-dilution and other adjustments and permit, in certain circumstances, the “cashless” exercise thereof, the number of shares that will actually be issuable upon any exercise thereof may be more or less than the number of shares being offered by this prospectus. In the event of any such adjustment to the number of shares issuable upon exercise of the Warrants, the provisions of the Registration Rights Agreement would obligate us to register for resale any additional shares of our common stock that may then be issuable upon exercise of the Warrants. The Warrants issued in the Private Placement Financing also provide that a selling securityholder may not exercise its Warrants to the extent (but only to the extent) such selling securityholder or any of its affiliates would beneficially own a number of shares of our common stock which would exceed 4.9%. The number of shares to be registered by this prospectus generally does not take into account any such ownership limitation.

The table below has been prepared based upon information furnished to us by the selling securityholders and, to our knowledge, is accurate as of the date of this prospectus. The selling securityholders may sell all, some or none of their shares in this offering. See the disclosure under the heading “Plan of Distribution” elsewhere in this prospectus. The selling securityholders identified in the table below may have sold, transferred or otherwise disposed of some or all of their shares since the date of this prospectus in transactions exempt from or not subject to the registration requirements of the Securities Act. Information concerning the selling securityholders may change from time to time and, if necessary, we will amend or supplement this prospectus accordingly and as required.

The table below lists the selling securityholders and other information regarding the beneficial ownership (as determined under Section 13(d) of the Exchange Act, and the rules and regulations thereunder) of our common stock by each of the selling securityholders. All columns in the table below that reflect beneficial ownership of our common stock (the third, fifth and sixth columns) are presented after taking into account the ownership limitation on exercise of the Warrants described above and in footnote (2) to the table below, such that shares issuable to the selling securityholders that would cause such holders (or any of their affiliates) to beneficially own more than such 4.9% ownership limitation have been excluded from all such columns. The second column of the table below, which lists the aggregate number of shares of common stock issued or issuable to the selling securityholders, including securities acquired in the Private Placement Financing and securities issued in transactions unrelated to the Private Placement Financing, if any, and the fourth column of the table below, which lists the shares of common stock being offered by the selling securityholders by this prospectus, are presented without taking into account such 4.9% ownership limitation on exercise of the Warrants.

Name of Selling Securityholder	Number of Shares of Common Stock Issued and Issuable (1)	Number of Shares of Common Stock Beneficially Owned Prior to this Offering (2)	Maximum Number of Shares of Common Stock to be Sold Pursuant to this Prospectus (3)	Number of Shares of Common Stock Beneficially Owned After This Offering (4)	Percentage of Shares of Common Stock Beneficially Owned After This Offering (5)	
Cranshire Capital Master Fund, Ltd. (6)	12,800,000	3,200,000	12,800,000	—	—	
Equitec Specialists, LLC (6)	3,200,000	800,000	3,200,000	—	—	
Anson Investments Master Fund, Ltd. (7)	8,000,000	3,603,824	8,000,000	—	—	
Capital Ventures International (8)	8,000,000	3,603,824	8,000,000	—	—	
Heng Hong Ltd (9)	8,400,000	3,603,824	8,400,000	—	—	
Punit Dhillon (10)	3,550,000	3,550,000	2,800,000	750,000	1.04	%
Ocean Creation Investments Limited (11)	800,000	800,000	800,000	—	—	
Ong Kim Kiat	800,000	800,000	800,000	—	—	
Karmdeep & Harpreet Bains	800,000	800,000	800,000	—	—	

(1) Reflects the total number of shares of common stock issued or issuable to each selling securityholder, including (a) all securities issued in the Private Placement Financing, all of which are being offered for resale by this prospectus, without regard to ownership limitations on the exercise of the Warrants as described in footnote (2) below, and (b) all other securities issued in transactions unrelated to the Private Placement Financing, if any, none of which are being offered for resale by this prospectus.

(2) Except as described in footnote (10) to this table, to our knowledge, none of the shares of common stock or Warrants issued to the selling securityholders in the Private Placement Financing have been sold or otherwise transferred prior to the date of this prospectus in transactions exempt from or not subject to the registration requirements of the Securities Act. The Warrants issued in the Private Placement Financing provide that a selling securityholder may not exercise its Warrants to the extent (but only to the extent) such selling securityholder or any of its affiliates would beneficially own a number of shares of our common stock which would exceed 4.9%. As a result, the number of shares of common stock reflected in this column as beneficially owned by each selling securityholder includes (a) the number of outstanding shares of common stock issued to such selling securityholder in the Private Placement Financing, (b) if any, the number of shares of common stock underlying

the Warrants issued to such selling securityholder that such selling securityholder has the right to acquire without it or any of its affiliates beneficially owning more than 4.9% of our currently outstanding common stock, based on 72,076,487 outstanding shares of our common stock as of June 26, 2014, and (c) if any, the number of shares of our common stock beneficially owned by such selling securityholder that were acquired in transactions unrelated to the Private Placement Financing.

(3) Includes all shares of common stock issued to the selling securityholders in the Private Placement Financing and all shares of common stock issuable as of the date of this prospectus upon exercise of the Warrants issued to the selling securityholders in the Private Placement Financing, without taking into account the ownership limitations set forth in the Warrants as described in footnote (2).

(4) Assumes that (a) all of the shares of common stock to be registered by the registration statement of which this prospectus is a part, including all issued and outstanding shares of common stock and all shares of common stock issuable upon exercise of the Warrants, are sold in this offering, and (b) the selling securityholders do not acquire additional shares of our common stock after the date of this prospectus and prior to completion of this offering.

(5) Percentage ownership for each selling securityholder is determined under Section 13(d) of the Exchange Act and is based on 72,076,487 outstanding shares of our common stock as of June 26, 2014.

(6) Cranshire Capital Advisors, LLC ("CCA") is the investment manager of Cranshire Master Fund and consequently has voting control and investment discretion over securities held by Cranshire Master Fund. Mitchell P. Kopin ("Mr. Kopin"), the president, the sole member and the sole member of the Board of Managers of CCA, has voting control over CCA. As a result, each of Mr. Kopin and CCA may be deemed to have beneficial ownership (as determined under Section 13(d) of the Exchange Act) of the securities held by Cranshire Master Fund which are covered hereunder.

CCA serves as the investment manager to a managed account for Equitec Specialists, LLC ("Equitec") and CCA has voting control and investment discretion over securities held in the managed account for Equitec. As described above, Mr. Kopin has voting control over CCA. As a result, each of Mr. Kopin and CCA may be deemed to have beneficial ownership (as determined under Section 13(d) of the Exchange Act) of the securities held by Equitec which are covered hereunder. Equitec is an affiliate of a broker-dealer. Equitec acquired the shares being registered hereunder in the ordinary course of business, and at the time of the acquisition of the shares and Warrants described herein, Equitec did not have any arrangements or understandings with any person to distribute such securities.

In the aggregate, Mr. Kopin and CCA may be deemed to have beneficial ownership (as determined under Section 13(d) of the Exchange Act) of (i) 3,200,000 shares of our common stock held by Cranshire Master Fund and (ii) 800,000 shares of our common stock held in such managed account by Equitec.

The information presented for Cranshire Master Fund and Equitec in all columns of this table other than the second and fourth columns excludes: (I) 9,600,000 shares of our common stock issuable upon exercise of Warrants held by Cranshire Master Fund (the "Master Fund Warrants") because each of the Master Fund Warrants contains ownership limitations as described in footnote (2), under which the holder thereof does not have the right to exercise the Master Fund Warrants to the extent (but only to the extent) that such exercise would result in beneficial ownership by the holder thereof or any of its affiliates of more than 4.9% of our common stock, and (II) 2,400,000 shares of our common stock issuable upon exercise of Warrants held in the managed account by Equitec (the "Equitec Warrants") because each of the Equitec Warrants contains ownership limitations as described in footnote (2), under which the holder thereof does not have the right to exercise the Equitec Warrants to the extent (but only to the extent) that such exercise would result in beneficial ownership by the holder thereof or any of its affiliates of more than 4.9% of our common stock. Without such ownership limitations, Mr. Kopin and CCA may be deemed to have beneficial ownership of 16,000,000 shares of our common stock.

(7) M5V Advisors Inc. and Frigate Ventures LP (“M5V” and “Frigate”, respectively), the Co-Investment Advisers of Anson Investments Master Fund LP (“Anson”), have voting and dispositive power over the securities held by Anson. Bruce Winson is the managing member of Admiralty Advisors LLC, which is the general partner of Frigate. Moez Kassam and Adam Spears are directors of M5V. Mr. Winson, Mr. Kassam and Mr. Spears each disclaim beneficial ownership of the securities held by Anson that are covered hereunder except to the extent of their pecuniary interest therein.

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The information presented for Anson in all columns of this table other than the second and fourth columns excludes 4,396,176 shares of our common stock issuable upon exercise of Warrants held by Anson because such Warrants contain ownership limitations as described in footnote (2), under which the holder thereof does not have the right to exercise the Warrants to the extent (but only to the extent) that such exercise would result in beneficial ownership by the holder thereof or any of its affiliates of more than 4.9% of our common stock. Without such ownership limitations, Anson, M5V, Frigate, Admiralty Advisors LLC and Messrs. Winson, Kassam and Spears may be deemed to have beneficial ownership of 8,000,000 shares of our common stock.

(8) Heights Capital Management, Inc., the authorized agent of Capital Ventures International, has discretionary authority to vote and dispose of the shares held by Capital Ventures International. Martin Kobinger, in his capacity as Investment Manager of Heights Capital Management, Inc., also has investment discretion and voting power over the shares held by Capital Ventures International. As a result, each of Heights Capital Management, Inc. and Mr. Kobinger may be deemed to have beneficial ownership (as determined under Section 13(d) of the Exchange Act) of the securities held by Capital Ventures International that are covered hereunder. Mr. Kobinger disclaims any such beneficial ownership of such securities.

The information presented for Capital Ventures International in all columns of this table other than the second and fourth columns excludes 4,396,176 shares of our common stock issuable upon exercise of Warrants held by Capital Ventures International because such Warrants contain ownership limitations as described in footnote (2), under which the holder thereof does not have the right to exercise the Warrants to the extent (but only to the extent) that such exercise would result in beneficial ownership by the holder thereof or any of its affiliates of more than 4.9% of our common stock. Without such ownership limitations, Capital Ventures International, Heights Capital Management, Inc. and Mr. Kobinger would be deemed to have beneficial ownership of 8,000,000 shares of our common stock.

Capital Ventures International is affiliated with one or more broker-dealers, none of which are currently expected to participate in the offering and resale pursuant to the prospectus contained in this registration statement of the shares held of record by Capital Ventures International. Capital Ventures International acquired the shares being registered hereunder in the ordinary course of business, and at the time of the acquisition of the shares and Warrants described herein, Capital Ventures International did not have any arrangements or understandings with any person to distribute such securities.

(9) Daniel MacMullin, in his capacity as the Managing Partner of Heng Hong Ltd, has investment discretion and voting power over the shares held by Heng Hong Ltd. As a result, Mr. MacMullin may be deemed to have beneficial ownership (as determined under Section 13(d) of the Exchange Act) of the securities held by Heng Hong Ltd that are covered hereunder. Mr. MacMullin disclaims any such beneficial ownership of such securities.

The information presented for Heng Hong Ltd in all columns of this table other than the second and fourth columns excludes 4,796,176 shares of our common stock issuable upon exercise of Warrants held by Heng Hong Ltd because such Warrants contain ownership limitations as described in footnote (2), under which the holder thereof does not have the right to exercise the Warrants to the extent (but only to the extent) that such exercise would result in beneficial ownership by the holder thereof or any of its affiliates of more than 4.9% of our common stock. Without such ownership limitations, Heng Hong Ltd and Mr. MacMullin would be deemed to have beneficial ownership of 8,400,000 shares of our common stock.

(10) Mr. Dhillon may be deemed to have beneficial ownership of the following: (a) (i) 700,000 shares of common stock issued and sold to 0903746 B.C. Ltd. in the Private Placement Financing, and (ii) 2,100,000 shares of common stock underlying Warrants issued to 0903746 B.C. Ltd. in the Private Placement Financing, all of which were transferred to Punit Dhillon on February 28, 2014 in a private party transfer exempt from the registration requirements of the Securities Act pursuant to the terms of a share transfer agreement, to which we were a party solely to consent to such transfer, (b) 500,000 shares of common stock held of record by Mr. Dhillon that were issued as consideration for his past service as an advisor to us, which consulting relationship is unrelated to the Private Placement Financing and which shares are not being registered by the registration statement of which this prospectus forms a part, and (c) 250,000 shares of common stock held of record by Ms. Narinder Dhillon, Mr. Dhillon's spouse, that were transferred to 0860056 B.C. Ltd. on June 19, 2013 as Dr. Avtar Dhillon's designee to receive a portion of the 10,000,000 shares required to be transferred to Dr. Dhillon (or his designees) as a condition to the closing of the Merger and were subsequently transferred to Ms. Dhillon, the sole shareholder of 0860056 B.C. Ltd., pursuant to a share dividend effected by 0860056 B.C. Ltd. on February 28, 2014, which transactions are unrelated to the Private Placement Financing and which shares are not being registered in the registration statement of which this prospectus forms a part. Mr. Dhillon may be deemed to beneficially own the shares of common stock held of record by Ms. Narinder Dhillon, and he disclaims any beneficial ownership of such securities except to the extent of his pecuniary interest therein. Mr. Dhillon is the nephew of Dr. Avtar Dhillon, the Chairman of our Board of Directors, and also serves as the President and Chief Executive Officer of a company for which Dr. Avtar Dhillon serves as a director.

(11) Norman Winata, in his capacity as the Managing Member of Ocean Creation Investments Limited, has investment discretion and voting power over the shares held by Ocean Creation Investments Limited. As a result, Mr. Winata may be deemed to have beneficial ownership (as determined under Section 13(d) of the Exchange Act) of the securities held by Ocean Creation Investments Limited that are covered hereunder. Mr. Winata disclaims any such beneficial ownership of such securities.

Except for the ownership of the common stock and Warrants issued in the Private Placement Financing and as otherwise described in the table above and this "Selling Securityholder" section, (a) we have not made, and are not required to make, any potential payments regarding the Private Placement Financing to any selling securityholder, any affiliate of a selling securityholder, or any person with whom any selling securityholder has a contractual relationship, and (b) none of the selling securityholders has, or has had within the past three years, any material relationship with us or any of our predecessors or affiliates. Additionally, none of the selling securityholders holds any of our securities, other than those issued in the Private Placement Financing, that have been registered under the Securities Act or that are entitled to registration rights thereunder. We have also been advised that none of the selling securityholders is a broker-dealer or an affiliate of a broker-dealer, other than Equitec Specialists, LLC and Capital Ventures International, each of which has informed us that it is an affiliate of a broker-dealer. We have also been advised by each of Anson and Capital Ventures International that each such selling securityholder has an existing short position in the Company's common stock as of the date of this prospectus. Anson has informed the Company that it entered a short position on each of February 28, 2014 and March 3, 2014, and Capital Ventures International has informed the Company that it entered a short position on each of February 4, 2014 and February 5, 2014. Each of Anson and Capital Ventures International has informed the Company that its short positions were entered after the public announcement of the Private Placement Financing and before the initial filing of this registration statement. Additionally, Cranshire Master Fund and Equitec have advised us that, although specific trading information (including short sales and short positions) of each such entity is confidential and proprietary information, it is the policy of each of Cranshire Master Fund and Equitec to comply with applicable laws related to short sales and applicable laws related to the registration requirements to the extent applicable to resales or other transfers of the securities acquired by each such entity in the Private Placement Transaction.

The holders of the Warrants issued in the Private Placement Financing have ongoing rights to exercise those Warrants. We have described the material terms of the Warrants elsewhere in this prospectus. In addition, the participants in the Private Placement Financing have ongoing registration rights related to the securities issued therein pursuant to the terms of the Registration Rights Agreement, which are described in more detail elsewhere in this prospectus.

We have made no payments, in cash or equity, to any of the selling securityholders in connection with this offering, except that we have reimbursed, or have agreed to reimburse, Cranshire Master Fund, one of the selling securityholders, an aggregate cash amount of up to $35,000 for costs and expenses incurred by it or its affiliates in connection with the transactions contemplated by the Private Placement Financing and the registration of the securities being registered hereby. Additionally, we may be required to make certain payments to the investors in the Private Placement Financing under certain circumstances in the future pursuant to the terms of the Securities Purchase Agreement and the Registration Rights Agreement. These potential future payments include the following: (a) potential partial damages for failure to register and keep registered for the period specified in the Registration Rights Agreement the common stock issued in the Private Placement Financing or issuable upon exercise of the Warrants (in a cash amount equal to 1% of the price paid to us by each investor in the Private Placement Financing on the date of and on each 30-day anniversary of such failure until the cure thereof, with no quantitative cap to the aggregate amount of such payments (provided that no such payments will be owed, other than with respect to a suspension or delisting of our common stock from the OTCQB, with respect to any period during which an investor's Registrable Securities may all be sold without restriction under Rule 144)); (b) amounts payable if we or our transfer agent fails to timely remove certain restrictive legends from certificates representing shares of common stock issued in the Private Placement Financing or issuable upon exercise of the Warrants; (c) the portion of the $35,000 expense reimbursement to Cranshire Master Fund that has not been paid as of the date of this prospectus; and (d) payments in respect of claims for which we provide indemnification in the Securities Purchase Agreement and the Registration Rights Agreement. Although we intend to comply with the requirements of the Securities Purchase Agreement and the Registration Rights Agreement and do not currently expect to make any such payments, it is possible that such payments may be required.

The Securities Purchase Agreement entered into in connection with the Private Placement Financing grants to the investors, until the six month anniversary of the first date on which all the Registrable Securities (as defined in the Securities Purchase Agreement) are covered by one or more effective registration statements, the right to participate in any financing by us through an issuance of any of our securities up to an amount equal to the pro rata portion of the investor's subscription amount in the Private Placement Financing, on the same pricing and other terms and conditions as such subsequent financing, provided that the aggregate participation by all such investors collectively shall not exceed 50% of the subsequent financing amount. The terms and conditions of such subsequent financing shall not include any provision that requires a participating investor to agree to any restrictions on its trading of any of the shares acquired in connection with the Private Placement Financing without such investor's consent.

Determination of Offering Price

The selling securityholders will determine at what price they may sell the shares of common stock offered by this prospectus, and such sales may be made at prevailing market prices, at prices related to the prevailing market price or at privately negotiated prices.

PLAN OF DISTRIBUTION

We are registering (i) the shares of common stock and (ii) the shares of common stock issuable upon exercise of the Warrants, in each case, issued to the selling securityholders in the Private Placement Financing, to permit the resale of these shares of common stock by the selling securityholders from time to time after the date of this prospectus. We will not receive any of the proceeds from the sale by the selling securityholders of the shares of common stock. We will bear all fees and expenses incident to our obligation to register the shares of common stock.

The selling securityholders may sell all or a portion of the shares of common stock held by them and offered hereby from time to time directly or through one or more underwriters, broker-dealers or agents. If the shares of common stock are sold through underwriters or broker-dealers, the selling securityholders will be responsible for underwriting discounts or commissions or agent's commissions. The shares of common stock may be sold in one or more transactions at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale or at negotiated prices. These sales may be effected in transactions, which may involve crosses or block transactions, pursuant to one or more of the following methods:

- on any national securities exchange or quotation service on which the securities may be listed or quoted at the time of sale;

- in the over-the-counter market;

- in transactions otherwise than on these exchanges or systems or in the over-the-counter market;

- through the writing or settlement of options, whether such options are listed on an options exchange or otherwise;
- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- short sales made after the date this registration statement is declared effective by the SEC that comply with the terms of the Securities Purchase Agreement;
- broker-dealers may agree with a selling securityholder to sell a specified number of such shares at a stipulated price per share;
- a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

The selling securityholders may also sell shares of common stock under Rule 144 promulgated under the Securities Act, if available, rather than under this prospectus. In addition, the selling securityholders may transfer the shares of common stock by other means not described in this prospectus. If the selling securityholders effect such transactions by selling shares of common stock to or through underwriters, broker-dealers or agents, such underwriters, broker-dealers or agents may receive commissions in the form of discounts, concessions or commissions from the selling securityholders or commissions from purchasers of the shares of common stock for whom they may act as agent or to whom they may sell as principal (which discounts, concessions or commissions as to particular underwriters, broker-dealers or agents may be in excess of those customary in the types of transactions involved but, except as set forth in a supplement to this prospectus to the extent required, in the case of an agency transaction will not be in excess of a customary brokerage commission in compliance with applicable FINRA rules and in no event shall any broker-dealer receive fees, commissions and markups that, in the aggregate, would exceed eight percent (8%)).

In connection with sales of the shares of common stock or otherwise, the selling securityholders may enter into hedging transactions with broker-dealers, which may in turn engage in short sales of the shares of common stock in the course of hedging in positions they assume. The selling securityholders may also sell shares of common stock short and deliver shares of common stock covered by this prospectus to close out short positions and to return borrowed shares in connection with such short sales. The selling securityholders may also loan or pledge shares of common stock to broker-dealers that in turn may sell such shares.

The selling securityholders may pledge or grant a security interest in some or all of the Warrants or shares of common stock owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the shares of common stock from time to time pursuant to this prospectus or any amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act amending, if necessary, the list of selling securityholders to include the pledgee, transferee or other successors in interest as selling securityholders under this prospectus. The selling securityholders also may transfer and donate the shares of common stock registered hereby in other circumstances as permitted by the Securities Purchase Agreement, the Registration Rights Agreement, the Warrants and all applicable law, in which case the transferees, donees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

To the extent required by the Securities Act and the rules and regulations thereunder, the selling securityholders and any broker-dealer participating in the distribution of the shares of common stock may be deemed to be "underwriters" within the meaning of the Securities Act. In such event, any commission paid, or any discounts or concessions allowed to, any such broker-dealer may be deemed to be underwriting commissions or discounts under the Securities Act. Selling securityholders who are deemed to be "underwriters" under the Securities Act (if any) will be subject to the prospectus delivery requirements of the Securities Act and may be subject to certain statutory liabilities of, including but not limited to, Sections 11, 12 and 17 of the Securities Act and Rule 10b-5 under the Exchange Act.

Each selling securityholder has informed us that it is not a registered broker-dealer and does not have any written or oral agreement or understanding, directly or indirectly, with any person to engage in a distribution of the common stock. Upon us being notified in writing by a selling securityholder that any material arrangement has been entered into with a broker-dealer for the distribution of common stock, a prospectus supplement, if required, will be distributed, which will set forth the aggregate amount of shares of common stock being distributed and the terms of the offering, including the name or names of any broker-dealers or agents, any discounts, commissions and other terms constituting compensation from the selling securityholders and any discounts, commissions or concessions allowed or re-allowed or paid to broker-dealers.

Under the securities laws of some states, the shares of common stock may be sold in such states only through registered or licensed brokers or dealers. In addition, in some states the shares of common stock may not be sold unless such shares have been registered or qualified for sale in such state or an exemption from registration or qualification is available and is complied with.

Each selling securityholder may sell all, some or none of the shares of common stock registered pursuant to the registration statement of which this prospectus forms a part. If sold under the registration statement of which this prospectus forms a part, the shares of common stock registered hereunder will be freely tradable in the hands of persons other than our affiliates that acquire such shares.

The selling securityholders and any other person participating in such distribution will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including, without limitation, to the extent applicable, Regulation M of the Exchange Act, which may limit the timing of purchases and sales of any of the shares of common stock by the selling securityholders and any other participating person. To the extent applicable, Regulation M may also restrict the ability of any person engaged in the distribution of the shares of common stock to engage in market-making activities with respect to the shares of common stock. All of the foregoing may affect the marketability of the shares of common stock and the ability of any person or entity to engage in market-making activities with respect to the shares of common stock.

We have agreed to keep this prospectus effective until the earlier of (i) the date on which the securities may be resold by the selling securityholders without registration and without regard to any volume or manner-of-sale limitations by reason of Rule 144, without the requirement for the Company to be in compliance with the current public information provisions under Rule 144 under the Securities Act or any other rule of similar effect or (ii) all of the securities have been sold pursuant to this prospectus or Rule 144 under the Securities Act or any other rule of similar effect. We have also agreed to pay all expenses, including reimbursement of up to $35,000 of costs and expenses incurred by Cranshire Master Fund or its affiliates, associated with the registration of the shares of common stock pursuant to the Registration Rights Agreement, estimated to be $228,047 in total, including, without limitation, SEC filing fees and expenses of compliance with state securities or "blue sky" laws; provided, however, a selling securityholder will pay all underwriting discounts and selling commissions, if any.

We have further agreed to indemnify or provide contribution to the selling securityholders with respect to certain liabilities, including some liabilities under the Securities Act, in accordance with the Registration Rights Agreement. Each selling securityholder, severally and not jointly, has agreed to indemnify or provide contribution to us with respect to certain civil liabilities, including liabilities under the Securities Act, that may arise from any written information furnished to us by the selling securityholder specifically for use in this prospectus, in accordance with the related Registration Rights Agreement.

Use of Proceeds

We will not receive proceeds from the sale of common stock under this prospectus. We will, however, receive approximately $11,970,000 from the selling securityholders if they exercise all of the Warrants on a cash basis (assuming, in each case, no adjustments are made to the exercise price or number of shares issuable upon exercise of the Warrants), which we expect we would use primarily for working capital purposes. We also expect we may use a portion of any such proceeds we may receive to satisfy our indebtedness to MLSC. Pursuant to the MLSC Loan Agreement, we must repay $1 million plus any unpaid accrued interest, accruing at a rate of 10% per annum, on the earlier of (a) the completion of a sale of substantially all of our assets, a change-of-control transaction or one or more financing transactions in which we receive net proceeds of $5,000,000 or more in a 12-month period, (b) the occurrence of an event of default by us under the MLSC Loan Agreement, or (c) September 30, 2018. Assuming repayment of the principal amount of the MLSC Loan on September 30, 2018, we anticipate paying an aggregate amount of $610,510 in accrued interest over the term of the MLSC Loan. We obtained the proceeds of the MLSC Loan on October 4, 2013 and have used, and expect to continue to use, such proceeds for working capital purposes.

The Warrant holders may exercise their Warrants at any time at their own discretion, if at all, in accordance with the terms thereof until their expiration, as further described under “Summary—Private Placement Financing” and “Description of Securities.” Additionally, if there is no effective registration statement registering the resale of the shares of common stock underlying any of the Warrants as of certain time periods (as provided in the Warrants), then the Warrant holders may choose to exercise such Warrants on a “cashless exercise” or “net exercise” basis. If they do so, we will not receive any proceeds from the exercise of the Warrants. As a result, we cannot plan on receiving any proceeds from the exercise of any of the Warrants, nor can we plan on any specific uses of any proceeds we may receive beyond the purposes described herein. We have agreed to bear the expenses (other than any underwriting discounts or commissions or agent’s commissions) in connection with the registration of the common stock being offered hereby by the selling securityholders.

DESCRIPTION OF SECURITIES

Authorized Capital Stock

Effective May 24, 2013, we amended our Articles of Incorporation to increase our authorized common stock from 75,000,000 shares to 300,000,000 shares. Other than our common stock, we have no other class or series of authorized capital stock.

Also on May 24, 2013, we effected a forward stock split, by way of a stock dividend, of our issued and outstanding shares of common stock at a ratio of 11 shares to each one issued and outstanding share. As a result, our outstanding common stock increased from 3,960,000 shares to 43,560,000 shares immediately following the forward stock split.

Common Stock Issued and Outstanding; Common Stock Registered Hereby

As of June 26, 2014 there were issued and outstanding 72,076,487 shares of common stock. Of our issued and outstanding shares of common stock, we are registering under the registration statement of which this prospectus forms a part the 11,400,000 shares of common stock issued and sold to investors in the Private Placement Financing.

Description of Common Stock

The holders of our common stock, par value $0.001 per share, are entitled to one vote per share on all matters submitted to a vote of our stockholders, including the election of directors. Our articles of incorporation do not provide for cumulative voting in the election of directors, and our amended and restated bylaws provide that directors are elected by a plurality vote of the votes cast and entitled to vote on the election of directors at any meeting for the election of directors at which a quorum is present. Matters other than the election of directors to be voted on by stockholders are generally approved if, at a duly convened stockholder meeting, the number of votes cast in favor of the action exceeds the number of votes cast in opposition to the action, unless a different vote for the action is required by applicable law, our articles of incorporation or our amended and restated bylaws. Applicable Nevada law requires any amendment to our articles of incorporation to be approved by stockholders holding shares entitling them to exercise at least a majority of the voting power of the Company. The holders of our common stock will be entitled to cash dividends as may be declared, if any, by our Board of Directors from funds available. Upon liquidation, dissolution or winding up of our Company, the holders of our common stock will be entitled to receive pro rata all assets available for distribution to the holders. All rights of our common stockholders described in this paragraph could be subject to any preferential voting, liquidation or other rights of any series of preferred stock that we may authorize and issue in the future. Our common stock is presently traded on the QB tier of the OTC Marketplace under the trading symbol “ARTH”.

Warrants and Options Issued and Outstanding

As of June 26, 2014 there were issued and outstanding:

- The Warrants issued to the investors in the Private Placement Financing to purchase up to an aggregate of 34,200,000 shares of common stock, all of which are being registered by the registration statement of which this prospectus forms a part and which include (i) Series A warrants to purchase 11,400,000 shares at an exercise price of $0.30 per share, (ii) Series B warrants to purchase 11,400,000 shares at an exercise price of $0.35 per share, and (iii) Series C warrants to purchase 11,400,000 shares at an exercise price of $0.40 per share;

- A warrant issued to MLSC in connection with the MLSC Loan Agreement to purchase up to 145,985 shares of common stock with an exercise price of $0.274 per share;

- The warrants issued in the initial and subsequent closings of the Coldstream Financing (as defined below) to purchase up to an aggregate of 4,000,000 shares of common stock with an exercise price of $0.75 per share;

- Options granted to employees, directors and consultants under the 2013 Plan to purchase up to an aggregate of 7,637,962 shares of common stock at exercise prices ranging from $0.19 to $0.40 per share and with a weighted average exercise price of $0.37.

Description of Warrants Whose Underlying Common Stock is Registered Hereby

Each of the investors participating in the Private Placement Financing was issued a Series A warrant, Series B warrant and a Series C warrant, each to purchase up to a number of shares of our common stock equal to 100% of the shares of common stock purchased by such investor in such financing. The Series A warrants have an exercise price of $0.30 per share, are exercisable immediately upon their issuance and have a term of exercise equal to five years after their issuance date. The Series B warrants have an exercise price of $0.35 per share, are exercisable immediately upon their issuance and have a term of exercise equal to the shorter of 12 months after their issuance date and six months after the first date on which the resale of all Registrable Securities (as defined in the Securities Purchase Agreement) is covered by one or more effective registration statements. The Series C warrants have an exercise price of $0.40 per share, are exercisable immediately upon their issuance and have a term of exercise equal to the shorter of 18 months after their issuance date and nine months after the first date on which the resale of all Registrable Securities (as defined in the Securities Purchase Agreement) is covered by one or more effective registration statements. The number of shares of our common stock into which each of the Warrants is exercisable and the exercise price therefor are subject to adjustment as set forth in the Warrants, including, without limitation, adjustment to the exercise price of the Warrants in the event of certain subsequent issuances and sales of shares of our common stock (or securities convertible or exercisable into shares of our common stock) at a price per share lower than the then-effective exercise price of the Warrants, in which case the per share exercise price of the Warrants will be adjusted to equal such lower price per share and the number of shares issuable upon exercise of the Warrants will be adjusted accordingly so that the aggregate exercise price upon full exercise of the Warrants immediately before and immediately after such per share exercise price adjustment are equal, as well as customary adjustments in the event of stock dividends and splits, subsequent rights offerings and pro rata distributions to our common stockholders. The Warrants also provide that they shall not be exercisable in the event and to the extent that the exercise thereof would result in the holder of the Warrant or any of its affiliates beneficially owning more than 4.9% of our common stock. In addition, if there is no effective registration statement registering the resale of the shares of common stock underlying any of the Warrants as of certain time periods (as provided in the Warrants), the Warrant holders may choose to exercise such Warrants on a "cashless exercise" or "net exercise" basis.

On the date of our entry into the Securities Purchase Agreement, the Series A warrants and Series B warrants had an exercise price lower than the market value of our common stock, which closed at $0.38 on the OTCQB, resulting in an aggregate discount to the market price of our common stock of $912,000 for the Series A warrants and $342,000 for the Series B warrants on that date. The Series C warrants were issued with an exercise price higher than the market value of our common stock on the date of our entry into the Securities Purchase Agreement, and therefore did not have any discount to the market price of our common stock as of such date. The tables below indicate the total possible discount to the market price of our common stock as of January 30, 2014 for the shares of our common stock underlying the Series A warrants and the Series B warrants, as well as similar information for the Series C warrants. The last trading price of our common stock on the OTCQB on February 4, 2014, the date of the closing of the Private Placement Financing, was $0.30. As a result, as of such date, there was no discount to the market price of our common stock for the Series A warrants, Series B warrants or Series C warrants. Additionally, all of the Warrants have an exercise price that is higher than the closing price of our common stock on June 26, 2014, which closed at $0.22 on such date.

Series A Warrants

Market price per share of our common stock on January 30, 2014, the date of the Securities Purchase Agreement:	$0.38
Exercise price per share of the Series A warrants on the date of issuance and as of the date of this prospectus:	$0.30
Total possible shares of common stock underlying the Series A warrants on the date of issuance and as of the date of this prospectus:	11,400,000
Aggregate market price of all shares of common stock underlying the Series A warrants, based on the market price of our common stock on January 30, 2014:	$4,332,000
Aggregate exercise price of all shares of common stock underlying the Series A warrants, based on the exercise price on the date of issuance and as of the date of this prospectus:	$3,420,000
Total possible discount of the exercise price of the Series A warrants to the market price of our common stock as of January 30, 2014:	$912,000

Series B Warrants

Market price per share of our common stock on January 30, 2014, the date of the Securities Purchase Agreement:	$0.38
Exercise price per share of the Series B warrants on the date of issuance and as of the date of this prospectus:	$0.35

Total possible shares of common stock underlying the Series B warrants on the date of issuance and as of the date of this prospectus:	11,400,000
Aggregate market price of all shares of common stock underlying the Series B warrants, based on the market price of our common stock on January 30, 2014:	$4,332,000
Aggregate exercise price of all shares of common stock underlying the Series B warrants, based on the exercise price on the date of issuance and as of the date of this prospectus:	$3,990,000
Total possible discount of the exercise price of the Series B warrants to the market price of our common stock as of January 30, 2014:	$342,000

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Series C Warrants

Market price per share of our common stock on January 30, 2014, the date of the Securities Purchase Agreement:	$0.38
Exercise price per share of the Series B warrants on the date of issuance and as of the date of this prospectus:	$0.40
Total possible shares of common stock underlying the Series C warrants on the date of issuance and as of the date of this prospectus:	11,400,000
Aggregate market price of all shares of common stock underlying the Series C warrants, based on the market price of our common stock on January 30, 2014:	$4,332,000
Aggregate exercise price of all shares of common stock underlying the Series C warrants, based on the exercise price on the date of issuance and as of the date of this prospectus:	$4,560,000

Description of Other Warrants

Warrants Issued in the Coldstream Financing

On April 19, 2013, we entered into a financing agreement with Coldstream Summit Ltd. (“Coldstream”) pursuant to which we agreed to issue and sell, and Coldstream agreed to purchase or assist in securing the purchase of, $2,000,000 worth of units at a price per share of $0.50 per unit (the “Coldstream Financing”) during the 12-month period following the closing of the Merger. Each such unit was to consist of (i) one share of common stock and (ii) one warrant to purchase one share of common stock. As of the date of this prospectus, we have issued to Coldstream and one or more foreign accredited investors all of the units to be issued and sold in the Coldstream Financing, resulting in our issuance of warrants to acquire up to an aggregate of 4,000,000 shares of our common stock. All of the warrants issued in the Coldstream Financing have an exercise price of $0.75 per share, are exercisable immediately, and have a term of exercise of 12 months following the date of their issuance. The shares issuable upon exercise of the warrants are subject to adjustment for stock splits, stock dividends, reclassifications, reorganizations or other changes of the outstanding securities of the Company.

Warrant Issued to MLSC

In connection with and as a condition of the MLSC Loan Agreement, on September 30, 2013, we issued to MLSC a warrant (the “MLSC Warrant”) to purchase 145,985 shares of our common stock at an exercise price of $0.274 per share. The MLSC Warrant has been issued as partial consideration for the funding provided under the MLSC Loan Agreement and for no separate consideration. The MLSC Warrant is exercisable immediately upon its issuance and expires on the earlier of September 30, 2023 and the completion of a sale of substantially all of our assets or a change-of-control transaction.

Registration Rights Agreement

On February 4, 2014, we entered into the Registration Rights Agreement with the investors in such financing pursuant to which we became obligated to file with the SEC one or more registration statements to register for resale under the Securities Act the shares of common stock issued in and underlying the Warrants issued in the Private Placement Financing. As a result, we are registering for resale under this registration statement an aggregate of 45,600,000 shares of common stock, representing the 11,400,000 shares issued at the closing of the Private Placement and the 34,200,000 shares underlying the Warrants. Pursuant to our filing of this registration statement, we are in compliance with such filing obligation under the Registration Rights Agreement. Our failure to satisfy certain other deadlines with respect to this registration statement, including with respect to the effectiveness hereof on or before July 4, 2014, and certain other requirements set forth in the Registration Rights Agreement may require us to pay monetary penalties to the investors in the Private Placement Financing. Additionally, we may be required in the future to amend this registration statement or to file a new registration statement in order to register additional shares of our common stock for resale by the investors in the Private Placement Financing to account for adjustments, if any, to the number of shares underlying the Warrants as provided therein and as described above. Because the Warrants are subject to anti-dilution and other adjustments and permit, in certain circumstances, the “cashless” exercise thereof, the number of shares that will actually be issuable upon any exercise thereof may be more or less than the number of shares being offered by this prospectus. In the event of any such adjustment to the number of shares issuable upon exercise of the Warrants, the provisions of the Registration Rights Agreement would obligate us to register for resale any additional shares of our common stock that may then be issuable upon exercise of the Warrants.

Under the Registration Rights Agreement, subject to exception in certain circumstances, we have agreed to keep this registration statement effective until the earlier of the date on which all shares of common stock to be registered hereunder have been sold or may be sold without restriction pursuant to Rule 144. If there is not, at any time during the period required by the Registration Rights Agreement, an effective registration statement covering the resale of any of the shares issued in or issuable upon exercise of the Warrants issued in the Private Placement Financing, then the selling securityholders (i) will have “piggyback” registration rights with respect to any such shares that are not eligible for resale pursuant to Rule 144 in connection with any other registration statement we determine to file that would permit the inclusion of those shares, and (ii) will be entitled to exercise their Warrants on a “cashless exercise” or “net exercise” basis during the period when the shares issuable upon exercise of such Warrants are not so registered.

Transfer Agent

The transfer agent for our common stock is Empire Stock Transfer. Our transfer agent’s address is 1859 Whitney Mesa Drive, Henderson, Nevada 89014.

Anti-Takeover Provisions of Nevada State Law

Some features of the Nevada Revised Statutes (“NRS”), which are further described below, may have the effect of deterring third parties from making takeover bids for control of us or may be used to hinder or delay a takeover bid. This would decrease the chance that our stockholders would realize a premium over market price for their shares of common stock as a result of a takeover bid.

Acquisition of Controlling Interest

The NRS contain provisions governing acquisition of a controlling interest of a Nevada corporation. These provisions provide generally that any person or entity that acquires a certain percentage of the outstanding voting shares of a Nevada corporation may be denied voting rights with respect to the acquired shares, unless certain criteria are satisfied. Our amended and restated bylaws provide that these provisions will not apply to us or to any existing or future stockholder or stockholders.

Combination with Interested Stockholder

The NRS contain provisions governing combinations of a Nevada corporation that has 200 or more stockholders of record with an "interested stockholder." These provisions only apply to a Nevada corporation that, at the time the potential acquirer became an interested stockholder, has a class or series of voting shares listed on a national securities exchange, or has a class or series of voting shares traded in an "organized market" and satisfies certain specified public float and stockholder levels. As we do not now meet those requirements, we do not believe that these provisions are currently applicable to us. However, to the extent they become applicable to us in the future, they may have the effect of delaying or making it more difficult to affect a change in control of the Company in the future.

A corporation affected by these provisions may not engage in a combination within two years after the interested stockholder acquires his, her or its shares unless the combination or purchase is approved by the board of directors before the interested stockholder acquired such shares. Generally, if approval is not obtained, then after the expiration of the two-year period, the business combination may be consummated with the approval of the board of directors before the person became an interested stockholder or a majority of the voting power held by disinterested stockholders, or if the consideration to be received per share by disinterested stockholders is at least equal to the highest of:

- the highest price per share paid by the interested stockholder within the three years immediately preceding the date of the announcement of the combination or within three years immediately before, or in, the transaction in which he, she or it became an interested stockholder, whichever is higher;
- the market value per share on the date of announcement of the combination or the date the person became an interested stockholder, whichever is higher; or
- if higher for the holders of preferred stock, the highest liquidation value of the preferred stock, if any.

Generally, these provisions define an interested stockholder as a person who is the beneficial owner, directly or indirectly of 10% or more of the voting power of the outstanding voting shares of a corporation, and define combination to include any merger or consolidation with an interested stockholder, or any sale, lease, exchange, mortgage, pledge, transfer or other disposition, in one transaction or a series of transactions with an interested stockholder of assets of the corporation:

- having an aggregate market value equal to 5% or more of the aggregate market value of the assets of the corporation;
- having an aggregate market value equal to 5% or more of the aggregate market value of all outstanding shares of the corporation; or
- representing 10% or more of the earning power or net income of the corporation.

Liability and Indemnification of Directors and Officers

The NRS empower us to indemnify our directors and officers against expenses relating to certain actions, suits or proceedings as provided for therein. In order for such indemnification to be available, the applicable director or officer must not have acted in a manner that constituted a breach of his or her fiduciary duties and involved intentional misconduct, fraud or a knowing violation of law, or must have acted in good faith and reasonably believed that his or her conduct was in, or not opposed to, our best interests. In the event of a criminal action, the applicable director or officer must not have had reasonable cause to believe his or her conduct was unlawful.

We have not entered into separate indemnification agreements with our directors and officers. Our amended and restated bylaws provide that we shall indemnify any director or officer to the fullest extent authorized by the laws of the State of Nevada. Our amended and restated bylaws further provide that we shall pay the expenses incurred by an officer or director (acting in his capacity as such) in defending any action, suit or proceeding in advance of the final disposition of such action, suit or proceeding, subject to the delivery to us by or on behalf of such director or officer of an undertaking to repay the amount of such expenses if it shall ultimately be determined that he or she is not entitled to be indemnified by us as authorized in our bylaws or otherwise.

The NRS further provide that a corporation may purchase and maintain insurance or make other financial arrangements on behalf of any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise for any liability asserted against him and liability and expenses incurred by him in his capacity as a director, officer, employee or agent, or arising out of his status as such, whether or not the corporation has the authority to indemnify him against such liability and expenses. We have secured a directors' and officers' liability insurance policy. We expect that we will continue to maintain such a policy.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted for our directors, officers and controlling persons pursuant to the foregoing provisions, or otherwise, we have been informed that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

MARKET PRICE OF AND DIVIDENDS ON COMMON STOCK AND RELATED MATTERS

Market Information

Our common stock is currently quoted on the OTCQB over-the-counter quotation system. Our common stock is currently quoted on the OTCQB and the over-the-counter bulletin board ("OTCBB") quotation systems. Our common stock began quotation on the OTCBB and the OTCQB on June 27, 2012 and since that date has been primarily traded on the OTCQB. There was no trading of our common stock on the OTCBB, OTCQB or any other over-the-counter market prior to January 2, 2013. Although our common stock is currently quoted on the OTCQB, there is a limited trading market for our common stock and there have been few trades in our common stock to date. Because our common stock is thinly traded, any reported sale prices may not be a true market-based valuation of our common stock.

The table below sets forth reported high and low closing bid quotations for our common stock for the fiscal quarters indicated as reported on the OTCQB. The quotations reflect inter-dealer prices, without retail mark-up, mark-down or commission and may not represent actual transactions.

	High	Low
Fiscal Year Ended September 30, 2012		
First Quarter ended December 31, 2011*	—	—
Second Quarter ended March 31, 2012*	—	—
Third Quarter ended June 30, 2012*	—	—
Fourth Quarter ended September 30, 2012*	—	—
Fiscal Year Ended September 30, 2013		
First Quarter ended December 31, 2012*	—	—
Second Quarter ended March 31, 2013*	—	—
Third Quarter ended June 30, 2013 #	$6.00	$0.54
Fourth Quarter ended September 30, 2013	$1.36	$0.31
Fiscal Year Ending September 30, 2014		
First Quarter ended December 31, 2013	$0.33	$0.16
Second Quarter ended March 31, 2014	$0.44	$0.29
Third Quarter ending June 30, 2014 (through June 26, 2014)	$0.34	$0.20

* There was no market for our common stock during this period.

There was no market for our common stock during portions of this period.

Holders

As of June 26, 2014, there were approximately 70 holders of record of our common stock.

Dividends

We have never declared or paid any cash dividends or distributions on our capital stock. We currently intend to retain our future earnings, if any, to support operations and to finance expansion and therefore, we do not anticipate paying any cash dividends on our common stock in the foreseeable future.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis should be read in conjunction with our consolidated financial statements and notes thereto included elsewhere in this prospectus. This discussion and analysis contains forward looking statements. We make forward-looking statements, as defined by the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995, and in some cases, you can identify these statements by forward-looking words such as "if," "will," "may," "might," "will likely result," "should," "expect," "plan," "anticipate," "believe," "estimate," "project," "intend," "goal," "objective," "predict," "potential" or "continue," or the negative of these terms and other comparable terminology. These forward-looking statements, which are based on various underlying assumptions and expectations and are subject to risks, uncertainties and other unknown factors, may include projections of our future financial performance based on our growth strategies and anticipated trends in our business. These statements are only predictions based on our current expectations and projections about future events that we believe to be reasonable. There are important factors that could cause our actual results, level of activity, performance or achievements to differ materially from the historical or future results, level of activity, performance or achievements expressed or implied by such forward-looking statements. These factors include, but are not limited to, those discussed under the caption "Risk Factors" in this prospectus. We undertake no duty to update any of these forward-looking statements after the date of filing of this prospectus to conform such forward-looking statements to actual results or revised expectations, except as otherwise required by law.

Corporate Overview

Arch Therapeutics, Inc. (as used in this discussion and analysis, unless otherwise indicated, "Company", "we", "us", "our", and "Arch" refer to Arch Therapeutics, Inc. and its consolidated subsidiary, Arch Biosurgery, Inc.) was incorporated under the laws of the State of Nevada on September 16, 2009 with the name "Almah, Inc." to pursue the business of distributing automobile spare parts online. Effective June 26, 2013, Arch completed a merger (the "Merger") with Arch Biosurgery, Inc. (formerly known as Arch Therapeutics, Inc.), a Massachusetts corporation ("ABS"), and Arch Acquisition Corporation ("Merger Sub"), Arch's wholly owned subsidiary formed for the purpose of the transaction, pursuant to which Merger Sub merged with and into ABS and ABS thereby became the wholly owned subsidiary of Arch. Prior to the completion of the Merger, Arch was a "shell company" under applicable rules of the Securities and Exchange Commission (the "SEC") and had no or nominal assets or operations. Upon its acquisition of ABS, Arch abandoned its prior business plan and changed its operations to the business of a life science medical device company. For financial reporting purposes, the Merger represents a "reverse merger" rather than a business combination and ABS is deemed to be the accounting acquirer in the transaction and the predecessor of Arch. Consequently, the assets, liabilities, deficit accumulated during the development stage and the historical operations that are reflected in the Company's consolidated financial statements are those of ABS. All share information has been restated to reflect the effects of the Merger. The Company's financial information has been consolidated with that of ABS after consummation of the Merger on June 26, 2013, and the historical financial statements of the Company before the Merger have been replaced with the historical financial statements of ABS before the Merger in this prospectus, and will be so replaced in all future filings with the SEC that require financial statements to be included.

ABS was incorporated under the laws of the Commonwealth of Massachusetts on March 6, 2006 as Clear Nano Solutions, Inc., changed its name to Arch Therapeutics, Inc. on April 7, 2008, and changed its name from Arch Therapeutics, Inc. to Arch Biosurgery, Inc. upon the closing of the Merger on June 26, 2013.

Liquidity

We are in the development stage and have generated no operating revenues to date and do not expect to do so in the foreseeable future due to the early stage nature of our current product candidates. We currently have no products that have obtained marketing approval in any jurisdiction, we have not generated revenues since inception, we had net losses for the year ended September 30, 2013 and for the six months ended March 31, 2014 of $1,853,791 and $9,188,596, respectively, and we had an accumulated deficit as of March 31, 2014 of $13,820,467. We are currently devoting substantially all of its efforts toward product research and development. As further discussed in "Liquidity and Capital Resources" below, we will need to raise substantial additional funds in order to continue operating our business.

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Business Overview

We are a life science medical device company in the development stage with limited operations to date. We aim to develop products that make surgery and interventional care faster and safer by using a novel approach that stops bleeding (referenced as “hemostasis”), controls leaking (referenced as “sealant”), and provides other advantages during surgery and trauma care. Our core technology is based on a self-assembling peptide solution that creates a physical, mechanical barrier, which could be applied to seal organs or wounds that are leaking blood and other fluids. We believe our technology could support an innovative platform of potential products in the field of stasis and barrier applications. Our lead product candidate, AC5 Surgical Hemostatic Device™ (which we sometimes refer to as “AC5”), is designed to achieve hemostasis in minimally invasive and open surgical procedures, and we hope to develop other hemostatic or sealant product candidates in the future based on our self-assembling peptide technology platform. Our plan and business model is to develop products that apply that core technology to use with human bodily fluids and connective tissues.

Our primary product candidate, AC5, relies on this technology and is designed to achieve hemostasis during surgical procedures. AC5 is designed to be a biocompatible synthetic peptide comprising naturally occurring amino acids. When applied to a wound, AC5 intercalates into the interstices of the connective tissue where it self-assembles into a physical, mechanical structure that provides a barrier to leaking substances, such as blood. We believe that the results of early data from preclinical animal tests have shown quick and effective hemostasis with the use of AC5 relative to other types of hemostatic agents. AC5 is designed for direct application as either a liquid or a spray, which we believe will make it user-friendly and able to conform to irregular wound geometry. Additionally, AC5 is not sticky or glue-like, which we believe will enhance its utility in the setting of minimally invasive and laparoscopic surgeries. Further, AC5 is transparent, which should make it easier for surgeons or other healthcare providers to maintain a clear field of vision during a surgical procedure and prophylactically stop bleeding as it starts, which we call Crystal Clear Surgery™.

We have devoted much of our operations to date to the development of our core technology, including selecting our lead product composition, conducting initial safety and other related tests, generating scale-up, reproducibility and manufacturing and formulation methods, and developing and protecting the intellectual property rights underlying our technology platform. Formulation optimization is an important part of peptide development. AC5 formulation optimization, which is done with extensive collaboration among our team and partners, is focused on optimizing traditional product parameters to target specifications covering performance, physical appearance, stability, and handling characteristics, among others. Arch intends to monitor formulation optimization closely, as success or failure in setting and realizing appropriate specifications may directly impact our anticipated clinical trial and subsequent commercialization timeline.

Our long-term business plan includes the following goals:

- conducting successful biocompatibility studies and, subsequently, clinical trials on AC5;
- obtaining regulatory approval or certification of AC5 in the European Union, the U.S., and other jurisdictions as we may determine;
- expanding our intellectual property portfolio;
- developing appropriate third party relationships to manufacture, distribute, market and otherwise commercialize AC5; and
- developing additional product candidates in the hemostatic and sealant field.

In furtherance of our long-term business goals, we expect to focus on the following activities during the next twelve months:

- expand our team during the second calendar quarter by hiring a Vice President of Research and Development Engineering, adding additional quality systems expertise, and hiring a full time Chief Financial Officer in order to meet the Company's growing needs, which we anticipate will require approximately $400,000 for salary and related expenses during calendar year 2014;

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- expand and enhance our intellectual property portfolio by filing new patent applications, obtaining allowances on currently filed patent applications, and adding to our trade secrets in self-assembly, manufacturing, analytical methods and formulation, which activities will be ongoing as we seek to expand our product candidate portfolio and which we anticipate will require approximately $250,000 during calendar year 2014;

- select a large scale manufacturing partner for scale-up and initiate production of product compliant with current good manufacturing practices (“cGMP”), which we anticipate will start in the third calendar quarter of 2014 and will require approximately $750,000 during the next twelve months;

- select a Notified Body for European regulatory pathway, confirm CE mark pathway plan for Europe, and participate in related regulatory meetings, which activities we anticipate will start during the second calendar quarter of 2014, continue throughout the balance of the year, and require approximately $200,000 during calendar year 2014. For a description of the CE mark pathway and European Notified Bodies, see “Business–Regulation by the FDA and Similar Foreign Agencies–Pre-Marketing Regulation in the EU”;

- identify and select additional pipeline candidates from self-assembling peptide platform for advancement into development, which activities will be ongoing as we seek to expand our product candidate portfolio and which we anticipate will require approximately $200,000 during calendar year 2014;

- conduct both informal and formal biocompatibility studies during the second and third calendar quarters of 2014, which we anticipate will require approximately $250,000 during calendar year 2014;

- develop initial clinical trial protocols, complete Clinical Investigational Plan with key opinion leaders and principal investigators and submit application to Ethics Committee, which activities we anticipate will occur during the second half of 2014 and require approximately $300,000 during calendar year 2014;

- commence a human clinical trial, the timeframe for which is dependent upon successful completion of certain manufacturing, regulatory, and biocompatibility activities. Based on current expectations, we estimate such a trial could be commenced as early as the fourth calendar quarter of 2014. We anticipate these activities will require approximately $1,000,000 over the course of the trial; and

- seek to raise additional funding when and as needed to support the milestones described above and our operations generally. The anticipated costs of our activities described above totals approximately $3.35 million over the next 12 months. The net proceeds to us of the Private Placement Financing, which totaled approximately $2.68 million, are being used, and are expected to continue to be used, to fund these activities. We will need to raise additional funds in the near term in order to support our business and the operational activities described above. See "Liquidity and Capital Resources" below for further information.

Recent Developments

Private Placement Financing

On January 30, 2014, we entered into a securities purchase agreement (the "Securities Purchase Agreement") with nine accredited investors providing for our issuance and sale to such investors, in a private placement, of an aggregate of 11,400,000 shares of our common stock at a purchase price of $0.25 per share and three series of warrants, the Series A warrants, the Series B warrants and the Series C warrants, to purchase up to an aggregate of 34,200,000 shares of our common stock (collectively, the "Warrants"), for aggregate gross proceeds to us of $2.85 million (the "Private Placement Financing"). We did not engage any underwriter or placement agent in connection with the Private Placement Financing. The Private Placement Financing closed on February 4, 2014.

Upon the closing of the Private Placement Financing, we issued to each investor therein a Series A warrant, a Series B warrant and a Series C warrant, each to purchase up to a number of shares of our common stock equal to 100% of the shares of common stock purchased by such investor in such financing. The Series A warrants have an exercise price of $0.30 per share, are exercisable immediately upon their issuance and have a term of exercise equal to five years after their issuance date. The Series B warrants have an exercise price of $0.35 per share, are exercisable immediately upon their issuance and have a term of exercise equal to the shorter of 12 months after their issuance date and six months after the effective date of the registration statement of which this prospectus forms a part. The Series C warrants have an exercise price of $0.40 per share, are exercisable immediately upon their issuance and have a term of exercise equal to the shorter of 18 months after their issuance date and nine months after the effective date of the registration statement of which this prospectus forms a part. The number of shares of the Company's common stock into which each of the Warrants is exercisable and the exercise price therefor are subject to adjustment as set forth in the Warrants, including, without limitation, adjustment to the exercise price of the Warrants in the event of certain subsequent issuances and sales of shares of the Company's common stock (or securities convertible or exercisable into shares of common stock) at a price per share lower than the then-effective exercise price of the Warrants, in which case the per share exercise price of the Warrants will be adjusted to equal such lower price per share and the number of shares issuable upon exercise of the Warrants will be adjusted accordingly so that the aggregate exercise price upon full exercise of the Warrants immediately before and immediately after such per share exercise price adjustment are equal, as well as customary adjustments in the event of stock dividends and splits, subsequent rights offerings and pro rata distributions to the Company's common stockholders. The Warrants also provide that they shall not be exercisable in the event and to the extent that the exercise thereof would result in the holder of the Warrant or any of its affiliates beneficially owning more than 4.9% of the Company's common stock. In addition, if there is no effective registration statement registering the resale of the shares of common stock underlying the Warrants as of certain time periods (as provided in the Warrants), the Warrant holders may choose to exercise such Warrants on a "cashless exercise" or "net exercise" basis.

Also upon the closing of the Private Placement Financing, we entered into a registration rights agreement (the "Registration Rights Agreement") with the investors in such financing pursuant to which we became obligated to file with the SEC one or more registration statements to register for resale under the Securities Act of 1933, as amended, the shares of common stock issued and underlying the Warrants issued in the Private Placement Financing. As of the date of this prospectus, we are in compliance with such filing obligation under the Registration Rights Agreement. Our failure to satisfy certain other deadlines with respect to this registration statement, including with respect to the effectiveness hereof on or before July 4, 2014, and certain other requirements set forth in the Registration Rights Agreement may require us to pay monetary penalties to the investors in the Private Placement Financing. Under the terms of the Registration Rights Agreement, we may be required in the future to amend this registration statement or to file a new registration statement in order to register additional shares of our common stock for resale by the investors in the Private Placement Financing to account for adjustments, if any, to the number of shares underlying the Warrants as provided therein and as described above.

We may be required to make certain payments to the investors in the Private Placement Financing under certain circumstances in the future pursuant to the terms of the Securities Purchase Agreement and the Registration Rights Agreement. These potential future payments include the following: (a) potential partial damages for failure to register and keep registered for the period specified in the Registration Rights Agreement the common stock issued in the Private Placement Financing or issuable upon exercise of the Warrants (in a cash amount equal to 1% of the price paid to us by each investor in the Private Placement Financing on the date of and on each 30-day anniversary of such failure until the cure thereof, with no quantitative cap to the aggregate amount of such payments (provided that no such payments will be owed, other than with respect to a suspension or delisting of our common stock from the OTCQB, with respect to any period during which an investor's Registrable Securities may all be sold without restriction under Rule 144)); (b) amounts payable if we or our transfer agent fails to timely remove certain restrictive legends from certificates representing shares of common stock issued in the Private Placement Financing or issuable upon exercise of the Warrants; (c) expense reimbursement for the lead investor in the Private Placement Financing that has not been paid as of the date of this prospectus; and (d) payments in respect of claims for which we provide indemnification in the Securities Purchase Agreement and the Registration Rights Agreement. Although we intend to comply with the requirements of the Securities Purchase Agreement and the Registration Rights Agreement and do not currently expect to make any such payments, it is possible that such payments may be required.

MLSC Loan Agreement and Warrant

On September 30, 2013, we entered into the Life Sciences Accelerator Funding Agreement (the “MLSC Loan Agreement”) with the Massachusetts Life Sciences Center (“MLSC”), pursuant to which MLSC agreed to provide us an unsecured subordinated loan, and we issued to MLSC a related promissory note, in principal amount of $1,000,000 (such loan, the “MLSC Loan”). We received the full amount of the MLSC Loan on October 4, 2013. The MLSC Loan bears interest at a rate of 10% per annum, and will become fully due and payable on the earlier of (i) September 30, 2018, (ii) the occurrence of an event of default under the MLSC Loan Agreement, or (iii) the completion of a sale of substantially all of our assets, a change-of-control transaction or one or more financing transactions in which we receive net proceeds of $5,000,000 or more in a 12-month period. We may, at our election and without penalty, repay the MLSC Loan in whole or in part at any time prior to its maturity date. Pursuant to the terms of the MLSC Loan Agreement, we may use the proceeds of the MLSC Loan solely to fund working capital requirements and/or the purchase of capital assets in the life sciences field, and we are expressly prohibited from using any such proceeds for any severance payment, investment in certain securities or payment for goods or services to a related party of the Company. The MLSC Loan Agreement also provides that, for so long as any of the MLSC Loan remains outstanding, our headquarters and at least a majority of our employees must be located in Massachusetts and we must not take certain actions without obtaining MLSC’s prior consent, including without limitation paying dividends on our capital stock, redeeming any of our outstanding securities, incurring certain types and amounts of additional indebtedness, and completing a sale of substantially all of our assets or a change-of-control transaction.

In connection with and as a condition of the MLSC Loan Agreement, on September 30, 2013, we issued to MLSC a warrant (the “MLSC Warrant”) to purchase 145,985 shares of our common stock at an exercise price of $0.274 per share. The MLSC Warrant has been issued as partial consideration for the funding provided under the MLSC Loan Agreement and for no separate consideration. The MLSC Warrant is exercisable immediately upon its issuance and expires on the earlier of September 30, 2023 and the completion of a sale of substantially all of our assets or a change-of-control transaction.

Coldstream Financing

On April 19, 2013, we entered into a financing agreement with Coldstream Summit Ltd. (“Coldstream”) pursuant to which we agreed to issue and sell, and Coldstream agreed to purchase or assist in securing the purchase of, $2,000,000 worth of units in a private offering within the 12-month period following the closing of the Merger (the “Coldstream Financing”). Each unit issued in the Coldstream Financing was sold at a price of $0.50 per share and consisted of (i) one share of common stock and (ii) one warrant to purchase one share of common stock at an exercise price of $0.75 per share and with a term of 12 months. On June 26, 2013, we issued and sold units consisting of 2,500,000 shares of common stock and warrants to purchase 2,500,000 shares of common stock in the Coldstream Financing to a foreign accredited investor, for aggregate gross proceeds of $1,250,000. On July 3, 2013, we issued and sold additional units consisting of 500,000 shares of common stock and warrants to purchase 500,000 shares of common stock to a foreign accredited investor for gross proceeds of $250,000. On August 30, 2013, we issued and sold additional units consisting of 1,000,000 shares of common stock and warrants to purchase 1,000,000 shares of common stock to a foreign accredited investor for gross proceeds of $500,000. Following such issuance and sale on August 30, 2013, Coldstream has satisfied its obligations in connection with the Coldstream Financing and we have received all aggregate gross proceeds thereunder, totaling $2,000,000.

Merger with ABS and Related Activities

On June 26, 2013, the Company completed the Merger with ABS, pursuant to which ABS became a wholly owned subsidiary of the Company. As a result of the acquisition of ABS, the Company has abandoned its prior business plan and has changed its operations to that of a life science medical device company. The Company is in the development stage and has generated no operating revenues to date. The Company is currently devoting substantially all of its efforts toward product research and development.

In contemplation of the Merger, effective May 24, 2013, the Company increased its authorized common stock from 75,000,000 shares to 300,000,000 shares and effected a forward stock split, by way of a stock dividend, of its issued and outstanding shares of common stock at a ratio of 11 shares to each one issued and outstanding share. Also in contemplation of the Merger, effective June 5, 2013, the Company changed its name from Almah, Inc. to Arch Therapeutics, Inc.

In connection with the Merger, our Board of Directors and management team has undergone significant changes in connection with the appointment of ABS's management team to similar roles with our Company. On April 23, 2013, our former President, Chief Executive Officer and sole director Joey Power resigned from all of his positions with the Company, and Dr. Terrence W. Norchi was appointed as our President and Chief Executive Officer and a member of our Board of Directors and Dr. Avtar Dhillon was appointed as an independent member of our Board of Directors. On June 26, 2013, Alan T. Barber was appointed as our Chief Financial Officer and Dr. Arthur L. Rosenthal was appointed as an independent member of our Board of Directors. On July 8, 2013, William Cotter was appointed as our Chief Operating Officer. All of those individuals held the same or similar positions with ABS prior to the completion of the Merger, with the exception of Mr. Cotter, who provided advisory services to ABS before the Merger.

Results of Operations

The period to period comparisons of our results of operations that follow are not necessarily indicative of future results.

Three Months Ended March 31, 2014 Compared to Three Months Ended March 31, 2013

	March 31, 2014 ($)	March 31, 2013 ($)	Increase (Decrease) ($)
Revenue	$-	$-	$-
Operating Expenses			
General and Administrative	808,483	117,649	690,834
Research and Development	487,090	9,240	477,850
(Loss) from Operations	(1,295,573)	(126,889)	1,168,684
Other income (expense)	(7,084,583)	(45,787)	7,038,796
Net income (loss)	$(8,380,156)	$(172,676)	$8,207,480

Revenue

We did not generate revenue in either of the three months ended March 31, 2014 or 2013.

General and Administrative Expense

We incurred general and administrative expenses during the three months ended March 31, 2014 in the amount of $808,483, compared to general and administrative expenses incurred during the three months ended March 31, 2013 in the amount of $117,649 (an increase of $690,834). General and administrative expenses during the three months ended March 31, 2014 primarily included legal and accounting fees, patent prosecution costs, payroll related expenses, stock-based compensation, director fees, compensation paid to investor relations consultants and office overhead. General and administrative expenses during the three months ended March 31, 2013 primarily included legal fees, patent prosecution costs, and office overhead. The increase in general and administrative expense period over period is primarily attributable to increased costs associated with legal fees, accounting fees and investor relations expenses, personnel costs and stock-based compensation expenses incurred in connection attracting and retaining key employees.

General and administrative expenses are generally expected to increase as a result of plans to ramp up operations as resources permit and requirements to comply with public company reporting and control obligations. We expect increased expenses related to plans to hire additional personnel and consultants and expected incurrence of additional legal fees.

Research and Development Expense

We incurred research and development expenses during the three months ended March 31, 2014 in the amount of $487,090 compared to research and development expenses incurred during the three months ended March 31, 2013 in the amount of $9,240 (an increase of $477,850). Research and development expenses primarily relate to our activities to develop our primary product candidate, and consist mostly of payroll related expenses, stock-based compensation and independent contractors expenses.

Research and development expenses are expected to increase as a result of plans to pursue additional preclinical and clinical studies as resources permit and otherwise relating to development of our primary product candidate.

Other Income (Expense)

We incurred total other expenses during the three months ended March 31, 2014 in the amount of $7,084,583, compared to total other expenses incurred during the three months ended March 31, 2013 in the amount of $45,787 (an increase of $7,038,796). Other expenses incurred during the three months ended March 31, 2014 were primarily interest accrued on debt and loss on the fair value of derivative liabilities in excess of proceeds as well as the adjustment to fair market value for said derivatives. Other expenses incurred during the three months ended March 31, 2013 were primarily interest accrued on debt. The increase in other expense between periods is attributable to the issuance of warrants partially offset by repayment of related party notes and cancellation of convertible notes in exchange for equity in connection with the Merger.

Six Months Ended March 31, 2014 Compared to Six Months Ended March 31, 2013

	March 31, 2014 ($)	March 31, 2013 ($)	Increase (Decrease) ($)
Revenue	$-	$-	$-
Operating Expenses			
General and Administrative	1,445,492	278,411	1,167,081
Research and Development	630,756	11,290	619,466
(Loss) from Operations	(2,076,248)	(289,701)	1,786,547
Other income (expense)	(7,112,348)	(88,192)	7,024,156
Net income (loss)	$(9,188,596)	$(377,893)	$8,810,703

Revenue

We did not generate revenue in any of the six months ended March 31, 2014 or 2013.

General and Administrative Expense

We incurred general and administrative expenses during the six months ended March 31, 2014 in the amount of $1,445,492, compared to general and administrative expenses incurred during the six months ended March 31, 2013 in the amount of $278,411 (an increase of $1,167,081). General and administrative expenses during the six months ended March 31, 2014 primarily included legal and accounting fees, payroll related expenses, stock based compensation, director fees, compensation paid to investor relations consultants and office overhead. General and administrative expenses during the six months ended March 31, 2013 primarily included legal fees, patent prosecution costs, and office overhead. The increase in general and administrative expense period over period is primarily attributable to increased costs associated with legal fees, accounting fees, stock-based compensation expenses, personnel additions, and investor relations expenses incurred in connection with being a public company.

General and administrative expenses are generally expected to increase as a result of plans to ramp up operations as resources permit and requirements to comply with public company reporting and control obligations. We expect increased expenses related to plans to hire additional personnel and consultants and expected incurrence of additional and accounting legal fees.

Research and Development Expense

We incurred research and development expenses during the six months ended March 31, 2014 in the amount of $630,756 compared to research and development expenses incurred during the six month period ended March 31, 2013 of $11,290 (an increase of $619,466). Research and development expenses primarily relate to our activities to develop our primary product candidate, and consist mostly of payroll related expenses, stock based compensation and fees paid to independent contractors.

Research and development expenses are expected to increase as a result of plans to pursue additional preclinical and clinical studies as resources permit and otherwise relating to development of our primary product candidate.

Other Income (Expense)

We incurred total other expenses during the six months ended March 31, 2014 in the amount of $7,112,348, compared to total other expenses incurred during the six months ended March 31, 2013 in the amount of $88,192 (an increase of $7,024,156). Other expenses incurred during the six months ended March 31, 2014 were primarily interest accrued on debt and loss on the fair value of derivative liabilities in excess of proceeds as well as the adjustment to fair market value for said derivatives. Other expenses incurred during the six months ended March 31, 2013 were primarily interest accrued on debt. The increase in other expense between periods is primarily attributable to the issuance of warrants partially offset by repayment of related party notes and cancellation of convertible notes in exchange for equity in connection with the Merger.

Year Ended September 30, 2013 Compared to Year Ended September 30, 2012

	September 30, 2013	September 30, 2012	Increase (Decrease)
Revenue	$ -	$ -	$ -
Operating Expenses			

General and Administrative	1,526,075	333,503	1,192,572
Research and Development	218,901	87,021	131,880
Loss from Operations	1,744,976	420,524	1,324,452
Other Expense	108,815	156,387	(47,572)
Net Loss	$1,853,791	$576,911	$1,276,880

Revenue

We did not generate any revenue in either of the years ended September 30, 2013 or 2012.

General and Administrative Expense

We incurred general and administrative expense during the year ended September 30, 2013 in the amount of $1,526,075, compared to general and administrative expense incurred during the year ended September 30, 2012 in the amount of $333,503 (an increase of $1,192,672). Our general and administrative expenses during those periods primarily included legal fees, patent prosecution costs, payroll related expenses, license maintenance fees, professional fees and office overhead. The increase in general and administrative expense period over period is primarily attributable to hiring additional administrative personnel and increased costs associated with legal and accounting fees incurred in connection with the Merger partially offset by a decrease in patent prosecution costs.

General and administrative expenses are generally expected to increase as a result of plans to ramp up operations and requirements to comply with public company reporting obligations. We also expect increased expenses related to plans to hire additional personnel and consultants and expected incurrence of additional legal fees.

Research and Development Expense

We incurred research and development expense during the year ended September 30, 2013 in the amount of $218,901, compared to research and development expense incurred during the year ended September 30, 2012 in the amount of $87,021 (an increase of $131,880). Our research and development expenses primarily relate to our activities to develop our primary product candidate, and are comprised of payroll related expenses, advisor fees and cost of materials. The increase in research and development expense between periods is primarily attributable to hiring additional research and development personnel and an increase in materials used in the development of our lead product candidate.

Research and development expenses are expected to increase as a result of plans to pursue additional preclinical and clinical studies and otherwise relating to development of our primary product candidate.

Other Expense

We incurred total other expenses during the year ended September 30, 2013 in the amount of $108,815 compared to total other expenses incurred during the year ended September 30, 2012 in the amount of $156,387 (a decrease of $47,572). Other expenses during those periods were primarily interest accrued on debt. The decrease in other expense between periods is attributable to suspension of interest accrual beyond April 30, 2013 in connection with the exchange of debt for equity in the Merger.

Liquidity and Capital Resources

Working Capital

As of March 31, 2014, total current assets were $2,662,202, compared to total current assets of $1,576,948 as of September 30, 2013 (an increase of $1,085,254). The increase was primarily due to our receipt of funding under the MLSC Loan totaling $1,000,000 and our receipt of Private Placement Financing totaling $2,850,000 less transaction costs incurred through March 31, 2014 of $134,597, partially offset by our payment of operating expenditures incurred during the period. Our total current assets as of March 31, 2014 were comprised of cash and prepaid expenses.

As of March 31, 2014, total current liabilities were $4,368,876, compared to total current liabilities of $455,609 as of September 30, 2013 (an increase of $3,913,267). The increase was primarily due to the establishment of the derivative liabilities resulting from the private placement financing. Our total current liabilities as of March 31, 2014 were comprised primarily of the aforementioned derivative liabilities, accounts payable and accrued expenses.

As a result, on March 31, 2014, we had negative working capital of $1,706,674, compared with positive working capital as of September 30, 2013 of $1,121,339.

Cash Flow

Our cash on-hand as of March 31, 2014 was $2,631,285, compared to cash on-hand as of September 30, 2013 of $557,319 (an increase of $2,073,966). The increase was primarily due to our receipt of funding under the MLSC Loan of $1,000,000 and our receipt of the proceeds from the Private Placement Financing of $2,850,000 less transaction costs incurred through March 31, 2014 of $134,597, partially offset by payment of operating expenditures during the period.

Cash Used in Operating Activities

Cash used in operating activities during the six months ended March 31, 2014 was $1,641,437, compared to cash used in operating activities during the six months ended March 31, 2013 of $266,258 (an increase of $1,375,179). The increase was primarily due to an increase in general and administrative expense attributable to increased costs associated with legal and accounting fees incurred in connection with being a public reporting entity and research and development expenses incurred in connection with activities to develop our primary product candidate partially offset by certain non-cash expenses and fair value adjustments.

Cash used in operating activities during the year ended September 30, 2013 was $1,434,620, compared to cash used in operating activities during the year ended September 30, 2012 of $254,636 (an increase of $1,179,984). The increase was primarily due to an increase in general and administrative expense attributable to increased costs associated with legal and accounting fees incurred in connection with the Merger and repayment of accrued interest on notes payable to our Chief Executive Officer, partially offset by a decrease in patent prosecution costs

Cash Used in Investing Activities

There was no cash used in investing activities during the six months ended March 31, 2014 or 2013, or during the years ended September 30, 2013 or 2012.

Cash Provided by Financing Activities

Cash provided by financing activities during the six months ended March 31, 2014 was $3,715,403 compared to cash provided by financing activities during the six months ended March 31, 2013 of $250,000 (an increase of $3,465,403). The increase in cash provided by financing activities during the six months ended March 31, 2014 was the result of our receipt of funding under the MLSC Loan, totaling $1,000,000 and our receipt of the proceeds of the Private Placement Financing, totaling $2,850,000 less transaction costs incurred though March 31, 2014 of $134,597 as compared to our receipt of $250,000 from issuance of convertible notes to existing investors during the six months ended March 31, 2013.

Cash provided by financing activities during the year ended September 30, 2013 was $1,974,800, compared to cash provided by financing activities during the year ended September 30, 2012 of $235,000 (an increase of $1,739,800). The increase in cash provided by financing activities was obtained from issuances of convertible promissory notes, which were exchanged for equity upon the closing of the Merger, and amounts received in the Coldstream Financing, reduced by the repayment of certain notes payable to our Chief Executive Officer.

Sources of Capital

Prior to the closing of the Merger, we had primarily funded our operations through the issuance of convertible debt and other promissory notes and related warrants, from which we received an aggregate of $1,985,000 in exchange for such issuances from inception through the closing of the Merger on June 26, 2013. All of such convertible notes and related warrants were cancelled in exchange for shares of our common stock in connection with the closing of the Merger. Subsequent to the Merger, we have funded our operations through equity financings, including the Private Placement Financing, for gross proceeds of $4,850,000 and the incurrence of indebtedness under the MLSC Loan Agreement for gross proceeds of $1,000,000. We have no contractual commitments for any further funding from any party.

We will not receive proceeds from the sale of common stock under this prospectus. However, we would receive approximately $11,970,000 from the selling securityholders if they exercise their Warrants in full on a cash basis (assuming, in each case, no adjustments are made to the exercise price or number of shares issuable upon exercise of the Warrants), which we expect we would use primarily for working capital purposes. We also expect we may use a portion of any such proceeds we may receive to satisfy our indebtedness to MLSC. Pursuant to the MLSC Loan Agreement, we must repay $1 million plus accrued interest on the earlier of (a) the completion of a sale of substantially all of our assets, a change-of-control transaction or one or more financing transactions in which we receive net proceeds of $5,000,000 or more in a 12-month period, (b) the occurrence of an event of default by us under the MLSC Loan Agreement, or (c) September 30, 2018. The Warrant holders may exercise their Warrants at any time at their own discretion, if at all, in accordance with the terms thereof until their expiration. Additionally, if there is no effective registration statement registering the resale of the shares of common stock underlying any of the Warrants as of certain time periods (as provided in the Warrants), then the Warrant holders may choose to exercise such Warrants on a "cashless exercise" or "net exercise" basis. If they do so, we will not receive any proceeds from the exercise of the Warrants. As a result, we cannot plan on receiving any proceeds from the exercise of any of the Warrants, nor can we plan on any specific uses of any proceeds we may receive beyond the purposes described herein.

Cash Requirements

As described above, we anticipate that our operating and other expenses will increase as we continue to implement our business plan and pursue our operational goals. We estimate that our aggregate operating expenses and working capital requirements for our fiscal year ending September 30, 2014 will be approximately $3,800,000 (inclusive of the six months ended March 31, 2014). After giving effect to the funds received in our recent equity financings, including the Private Placement Financing, and debt financings, including the MLSC Loan, we estimate we have sufficient funds to operate the business through October 2014. We will require additional financing to fund our planned future operations, including the continuation of our ongoing research and development efforts, seeking to license or acquire new assets, and researching and developing any potential patents, the related compounds and any further intellectual property that we may acquire. In addition, our estimates of the amount of cash necessary to operate our business may prove to be wrong, and we could spend our available financial resources much faster than we currently expect. Further, our estimates regarding our use of cash could change if we encounter unanticipated difficulties, in which case our current funds may not be sufficient to operate our business for the period we expect.

We do not have any commitments for future capital (including any future capital we could receive upon the exercise of the Warrants, if any). Significant additional financing will be required to fund our planned operations in the near term and in future periods, including research and development activities relating to our principal product candidate, seeking regulatory approval of that or any other product candidate we may choose to develop, commercializing any product candidate for which we are able to obtain regulatory approval or certification, seeking to license or acquire new assets or businesses, and maintaining our intellectual property rights and pursuing rights to new technologies. We do not presently have, nor do we expect in the near future to have, revenue to fund our business from our operations, and will need to obtain all of our necessary funding from external sources for the foreseeable future. We may not be able to obtain additional financing on commercially reasonable or acceptable terms when needed, or at all. We are bound by certain terms and obligations that may limit or otherwise impact our ability to raise additional funding in the near-term, including restrictive covenants in the MLSC Loan Agreement that limit our ability to incur certain types of additional indebtedness and certain terms of the Private Placement Financing that prohibit or limit us from effecting certain types of equity financings for specified periods of time or impose anti-dilution provisions that may cause dilution to the ownership interests of our current stockholders in the event of some equity financings. These restrictions and provisions could make it more challenging for us to raise capital through the incurrence of debt or through equity issuances. If we cannot raise the money that we need in order to continue to develop our business, we will be forced to delay, scale back or eliminate some or all of our proposed operations. If any of these were to occur, there is a substantial risk that our business would fail and our stockholders could lose all of their investments.

Since inception, we have funded our operations primarily through equity and debt financings and we expect to continue to seek to do so in the future. If we obtain additional financing by issuing equity securities, our existing stockholders' ownership will be diluted, which dilution could be increased if certain anti-dilution protections provided to the holders of the Warrants are triggered by any such equity issuance. Additionally, the terms of securities we may issue in future capital-raising transactions may be more favorable for our new investors. Further, newly issued securities may include preferences, superior voting rights and the issuance of warrants or other derivative securities, which may have additional dilutive effects. If we obtain additional financing by incurring debt, we may become subject to significant limitations and restrictions on our operations pursuant to the terms of any loan or credit agreement governing the debt, which would be in addition to those currently imposed by the MLSC Loan Agreement. Further, obtaining any loan, assuming a loan would be available when needed on acceptable terms, would increase our liabilities and future cash commitments. We may also seek funding from collaboration or licensing arrangements in the future, which may require that we relinquish potentially valuable rights to our product candidates or proprietary technologies or grant licenses on terms that are not favorable to us. Moreover, regardless of the manner in which we seek to raise capital, we may incur substantial costs in those pursuits, including investment banking fees, legal fees, accounting fees, printing and distribution expenses and other related costs.

Going Concern

From inception through March 31, 2014, we have not earned operating revenues from sales of products or services, and have recurring losses from operations. As of March 31, 2014, we had incurred a net loss of $13,820,467 since our inception. The continuation of our business as a going concern is dependent upon raising additional capital and eventually attaining and maintaining profitable operations. As of March 31, 2014, there is substantial doubt about our ability to continue as a going concern. The consolidated financial statements included in this prospectus do not include any adjustments that might be necessary should operations discontinue.

Critical Accounting Policies and Significant Judgments and Estimates

Pursuant to certain disclosure guidance issued by the SEC, the SEC defines “critical accounting policies” as those that require the application of management’s most difficult, subjective or complex judgments, often as a result of the need to make estimates about the effect of matters that are inherently uncertain and may change in subsequent periods. Our critical accounting policies that we anticipate will require the application of our most difficult, subjective or complex judgments are as follows:

Basis of Presentation — Development Stage Company

We have not earned any revenue from operations. Accordingly, our activities have been accounted for as those of a “Development Stage Company” as set forth in Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”) 915. Among the changes in disclosures required by ASC 915 are that our consolidated financial statements be identified as those of a development stage company, and that the consolidated statements of operations, changes in stockholders’ equity (deficit) and cash flows disclose activity since the date of our inception.

Use of Estimates

Management is required to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the dates of the consolidated financial statements and the reported amounts of revenue and expenses during the reporting periods. Actual results could differ from those estimates.

Impairment of Long-Lived Assets

Long-lived assets are reviewed for impairment when circumstances indicate the carrying value of an asset may not be recoverable in accordance with ASC 360, Property, Plant and Equipment. For assets that are to be held and used, impairment is recognized when the estimated undiscounted cash flows associated with the asset or group of assets is less than their carrying value. If impairment exists, an adjustment is made to write the asset down to its fair value, and a loss is recorded as the difference between the carrying value and fair value. Fair values are determined based on quoted market values, discounted cash flows or internal and external appraisals, as applicable. Assets to be disposed of are carried at the lower of carrying value or estimated net realizable value.

Convertible Debt

The Company records a discount to convertible notes for the intrinsic value of conversion options embedded in debt instruments based upon the differences between the fair value of the underlying preferred stock at the commitment date of the note transaction and the effective conversion price embedded in the note. Debt discounts under these arrangements are amortized to noncash interest expense using the effective interest rate method over the term of the related debt to their date of maturity. If a security or instrument becomes convertible only upon the occurrence of a future event outside the control of the Company, or, is convertible from inception, but contains conversion terms that change upon the occurrence of a future event, then any contingent beneficial conversion feature is measured and recognized when the triggering event occurs and contingency has been resolved.

Revenue

The Company recognizes revenue in accordance with ASC 605-28, the milestone method of revenue recognition for arrangements involving research or development or other performance obligations whereby a portion or all of the consideration is contingent upon achievement of milestone events. Under these provisions, arrangement consideration contingent upon achievement of a milestone is recognized by the Company in the period the milestone is met when the Company concludes that the milestone is substantive. Upon inception of each applicable arrangement, the Company assesses each milestone and the consideration payable upon achievement of each milestone and concludes that the milestone is substantive if all of the following criteria are met: (i) the consideration is commensurate with the Company's performance or the enhanced value of a delivered item which is a direct result of the Company's performance to achieve the milestone, (ii) the consideration relates to past performance and there are no refund rights or other penalties related to the consideration based on completion of future performance and (iii) the consideration is reasonable relative to all the deliverables and payment terms within the arrangement. The related consideration for milestones that are considered substantive is recognized in its entirety in the period which the milestone is met. For the period from inception (March 6, 2006) through September 30, 2013 the Company has not recorded any revenue for these types of activities.

Research and Development

The Company expenses internal and external research and development costs, including costs of funded research and development arrangements, in the period incurred. Research and development related income is recognized over the term of the related project under the proportional performance method based on costs incurred.

Accounting for Stock-Based Compensation

The Company accounts for employee stock-based compensation in accordance with the guidance of FASB ASC Topic 718, Compensation-Stock Compensation, which requires all stock-based payments to employees, including grants of employee stock options, to be recognized in the consolidated financial statements based on their fair values. The Company accounts for non-employee stock-based compensation in accordance with the guidance of FASB ASC Topic 505, Equity ("FASB ASC Topic 505"), which requires that companies recognize compensation expense based on the estimated fair value of options granted to non-employees over their vesting period, which is generally the period during which services are rendered by such non-employees. FASB ASC Topic 505 requires the Company to re-measure the fair value of stock options issued to non- employee at each reporting period during the vesting period or until services are complete.

In accordance with FASB ASC Topic 718, Compensation-Stock Compensation, the Company has elected to use the Black-Scholes option pricing model to determine the fair value of options granted and recognizes the compensation cost of stock-based awards on a straight-line basis over the vesting period of the award.

The determination of the fair value of stock-based payment awards utilizing the Black-Scholes model is affected by the fair value of the common stock and a number of other assumptions, including expected volatility, expected life, risk-free interest rate and expected dividends. The Company does not have a history of market prices of the common stock, and as such volatility is estimated in accordance with ASC 718-10-S99 Compensation-Stock Compensation ("ASC 718-10-S99"), using historical volatilities of similar public entities. The life term for awards and, therefore, uses simplified method for all "plain vanilla" options, as defined in ASC 718-10-S99 and the contractual term for all other employee and non-employee awards. The risk-free interest rate assumption is based on observed interest rates appropriate for the terms of our awards. The dividend yield assumption is based on history and the expectation of paying no dividends. Forfeitures are estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. Stock-based compensation expense, when recognized in the consolidated financial statements, is based on awards that are ultimately expected to vest.

Fair Value Measurements

The Company measures both financial and nonfinancial assets and liabilities in accordance with FASB ASC Topic 820, Fair Value Measurements and Disclosures, except those that are recognized or disclosed in the consolidated financial statements at fair value on a recurring basis. The standard created a fair value hierarchy which prioritizes the inputs to valuation techniques used to measure fair value into three broad levels as follows: Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities; Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly; and Level 3 inputs are unobservable inputs that reflect the Company's own assumptions about the assumptions market participants would use in pricing the asset or liability.

The Company's financial instruments include cash and cash equivalents. Because of their short maturity, the carrying amount of cash and cash equivalents are considered to approximate fair value.

Income Taxes

In accordance with FASB ASC 740, Income Taxes, we recognize deferred tax assets and liabilities for the expected future tax consequences or events that have been included in our consolidated financial statements and/or tax returns. Deferred tax assets and liabilities are based upon the differences between the consolidated financial statement carrying amounts and the tax bases of existing assets and liabilities and for loss and credit carryforwards using enacted tax rates expected to be in effect in the years in which the differences are expected to reverse. Deferred tax assets are reduced by a valuation allowance if it is more likely than not that some portion or all of the deferred tax asset will not be realized.

We provide reserves for potential payments of tax to various tax authorities related to uncertain tax positions when management determines that it is probable that a loss will be incurred related to these matters and the amount of the loss is reasonably determinable. We have no reserves related to uncertain tax positions as of March 31, 2014 and September 30, 2013.

Derivative Liabilities

The Company accounts for its warrants and other derivative financial instruments as either equity or liabilities based upon the characteristics and provisions of each instrument, in accordance with ASC 815, Derivatives and Hedging. Warrants classified as equity are recorded at fair value as of the date of issuance on the Company's consolidated balance sheets and no further adjustments to their valuation are made. Warrants classified as derivative liabilities and other derivative financial instruments that require separate accounting as liabilities are recorded on the Company's consolidated balance sheets at their fair value on the date of issuance and will be revalued on each subsequent balance sheet date until such instruments are exercised or expire, with any changes in the fair value between reporting periods recorded as other income or expense. Management estimates the fair value of these liabilities using option pricing models and assumptions that are based on the individual characteristics of the warrants or instruments on the valuation date, as well as assumptions for future financings, expected volatility, expected life, yield, and risk-free interest rate.

Recent Accounting Guidance

Accounting Standards Update (ASU) 2013-11, "Income Taxes (Topic 740) - Presentation of an Unrecognized Tax Benefit When a Net Operating Loss Carryforward, a Similar Tax Loss, or a Tax Credit Carryforward Exists" was issued by the FASB in July 2013. The amendments in this ASU are effective for fiscal years, and interim periods within those years, beginning after December 15, 2013. Early adoption is permitted. The amendments should be applied prospectively to all unrecognized tax benefits that exist at the effective date. Retrospective application is permitted. The adoption of this ASU has not had a material impact on the Company's consolidated financial statements.

In April, 2014, the FASB issued ASU 2014-08, "Reporting Discontinued Operations and Disclosures of Disposals of Components of an Entity", which in April 2014. The amendment in this update changes the criteria for reporting discontinued operations and requires additional disclosures about discontinued operations. ASU 2014-08 requires that an entity report as a discontinued operation only a disposal that represents a strategic shift in operations that has a major effect on its operations and financial results. ASU 2014-08 is effective for public business entities for annual periods, and interim periods within those annual periods, beginning on or after December 15, 2014. Early adoption is permitted, but only for a disposal (or classification as held for sale) that has not been reported in financial statements previously issued or made available for issuance. The ASU must be applied prospectively. The Company is currently assessing the impact of this guidance, but does not believe that it will have a material impact on its consolidated results of operations or financial position.

Off-Balance Sheet Arrangements

We have no significant off-balance sheet arrangements that have or are reasonably likely to have a current or future effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources that is material to stockholders.

our BUSINESS

The following discussion should be read in conjunction with our consolidated financial statements and the related notes and other financial information included in this prospectus.

Corporate Overview

We were incorporated under the laws of State of Nevada on September 16, 2009 as Almah, Inc. On May 10, 2013, we entered into an Agreement and Plan of Merger (the "Merger Agreement") with Arch Biosurgery, Inc. ("ABS") and Arch Acquisition Corporation, our wholly owned subsidiary formed for the purpose of the transaction, pursuant to which Arch Acquisition Corporation merged with and into ABS and ABS thereby became our wholly owned subsidiary (the "Merger"). The Merger closed on June 26, 2013. In contemplation of the Merger, effective May 24, 2013, we effected a forward stock split, by way of a stock dividend, of our issued and outstanding shares of common stock at a ratio of 11 shares to each one issued and outstanding share, and effective June 5, 2013, we changed our name from Almah, Inc. to Arch Therapeutics, Inc.

ABS was incorporated under the laws of the Commonwealth of Massachusetts on March 6, 2006 as Clear Nano Solutions, Inc. On April 7, 2008, ABS changed its name to Arch Therapeutics, Inc., and on June 26, 2013, ABS changed its name from Arch Therapeutics, Inc. to Arch Biosurgery, Inc.

Prior to the completion of the Merger, the Company was a "shell company" under applicable rules of the SEC, and had no or nominal assets or operations. Upon the closing of the Merger, we abandoned our prior business plan and are pursuing a business as a life science medical device company as our sole business.

Our Business

We are a life science medical device company in the development stage with limited operations to date. We aim to develop products that make surgery and interventional care faster and safer by using a novel approach to stop bleeding (referenced as "hemostasis"), control leaking (referenced as "sealant"), and provide other advantages during surgery and trauma care. Our core technology is based on a self-assembling peptide that creates a physical, mechanical barrier, which could be applied to seal organs or wounds that are leaking blood and other fluids. We believe our technology could support an innovative platform of potential products in the field of stasis and barrier applications. Our lead product candidate, AC5 Surgical Hemostatic Device™, is designed to achieve hemostasis in minimally invasive and open surgical procedures, and we hope to develop other product candidates in the future based on our technology platform aimed at stopping bleeding and sealing other leaking fluids during surgical and other procedures.

Our Core Technology

Our technology platform is based on self-assembling synthetic peptides. Our plan and business model is to develop products that apply that core technology for use with bodily fluids and tissues.

Our product candidate, AC5 Surgical Hemostatic Device, relies on this technology and is designed to achieve hemostasis during surgical procedures. We envision developing other product candidates in the future based on our core technology, examples of which could include, for instance, products for specialty surgery, burn and trauma care, wound care, military applications, and consumer care.

We have devoted much of our operations to date to the development of our core technology, including selecting our lead product composition, conducting initial safety and other related tests, generating scale-up, reproducibility and manufacturing methods, and developing and protecting the intellectual property rights underlying our technology platform. We have one key intellectual property licensor, the Massachusetts Institute of Technology ("MIT"), from which we license certain of our important intellectual property rights, and have made, and hope to continue to make, advances on our core technology to further refine and improve its use and functionality, further develop our intellectual property rights, and ultimately produce an expanded portfolio of potential product candidates.

AC5 Surgical Hemostatic Device

AC5 Surgical Hemostatic Device is designed to be a biocompatible synthetic peptide comprising naturally occurring amino acids. When applied to a wound, AC5 intercalates into the interstices of the connective tissue where it self-assembles into a physical, mechanical structure that provides a barrier to leaking substances, such as blood.

We believe that the results of early data from preclinical animal tests have shown quick and effective hemostasis with the use of AC5 relative to other types of hemostatic agents. AC5 is designed for direct application as either a liquid or a spray, which we believe will make it user-friendly and able to conform to irregular wound geometry. Additionally, AC5 is not sticky or glue-like, which we believe will enhance its utility in the setting of minimally invasive and laparoscopic surgeries. Further, AC5 is transparent, which should make it easier for surgeons or other healthcare providers to maintain a clear field of vision during a surgical procedure and prophylactically stop bleeding as it starts, which we call Crystal Clear Surgery™.

Completed Preclinical Development

We are in the early stages of our planned clinical program for AC5. We are focused on scale-up of selected manufacturing methods and formulation optimization. In parallel, we are conducting certain preclinical animal tests, while other planned preclinical animal tests will start after completion of the manufacturing scale-up and formulation optimization steps. We believe that peptide formulation optimization is particularly challenging, and any delays could negatively impact our anticipated clinical trial and subsequent commercialization timeline. In order to achieve the approvals and certifications we will need to market and sell AC5, significant additional testing, including conducting human clinical trials, will be required. A significant portion of the early preclinical animal experimentation conducted on our technology was performed by a co-founding inventor of certain of our technology, Dr. Rutledge Ellis-Behnke. Some of the significant findings from Dr. Ellis-Behnke's studies have been published. Additionally, through collaboration with the National University of Ireland system, preclinical animal and tissue experiments have been performed in Dublin and Cork, Ireland. We have also engaged, on a fee for service basis, private third party facilities in the United States to perform certain preclinical animal studies, which are sometimes conducted with assistance from our scientific team, and we continue to engage third parties for such services as needed and as appropriate.

In the preclinical animal tests conducted to date, AC5 has demonstrated improved average time to hemostasis ("TTH") when applied to animal brains, spinal cords and livers. Those studies have tested TTH when using AC5 during a range of surgical procedures compared to TTH when using a control substance, a saline control substance, a control peptide, and a cautery control substance during those same procedures. The results of those tests have shown a TTH of under 15 seconds when AC5 was applied, compared to a TTH ranging from 80 to 300 seconds when various control substances were applied, depending on the nature of the control substance and procedure performed. In tests to date, AC5 has also demonstrated biocompatibility and normal healing of tissue treated with the product. Further, animals whose liver, spleen, femoral artery, eye or brain was treated with AC5 have shown no ill-effects. We believe that the peptide degrades into the naturally occurring amino acids from which it was originally synthesized, which are molecules that already exist in large quantities in the human body.

Formulation optimization is an important part of peptide development. AC5 formulation optimization, which is done with extensive collaboration among our team and partners, is focused on optimizing product parameters to target specifications covering performance, physical appearance, stability, handling and other characteristics. We intend to monitor formulation optimization closely, as success or failure in both setting and realizing appropriate specifications may directly impact the success and timelines of our anticipated preclinical testing, clinical testing and subsequent commercialization.

Our current and planned near-term activities are focused on manufacturing scale-up, formulation optimization, and preclinical activities, as well as preparing for future clinical trials for AC5.

Development and Commercialization Strategy

Our present business model is to operate with a relatively small internal team of key personnel and engage third party service providers to conduct larger scale research, development and manufacturing activities. Our internal team collectively has a broad range of expertise and experience working with and managing third party vendors. This general approach enables us to utilize the services of third party entities that are experts in different aspects of our operations, while preserving capital and efficiencies by avoiding certain internal scale-up costs and duplication of resources.

Research and Development; Manufacturing

Use of Third Party Relationships

To date, we have engaged third party laboratory facilities run by experts in Europe and the U.S. to perform preclinical research and development activities. Those engagements have assisted in our development of our primary product candidate, as well as our generation of appropriate analytical methods, scale-up, and other procedures that we intend to use as a “blueprint” for a third party manufacturer to produce the product on a larger scale for purposes of further preclinical and clinical testing and ultimately, if required approvals are obtained, commercialization.

We have initiated the transition to traditional contract manufacturing and related organizations. We have commenced relationships with manufacturers operating with the cGMP required by applicable regulatory agencies, in order to scale up and produce clinical formulation material to be used for final preclinical testing and clinical trials.

Manufacturing Methods

We believe that the manufacturing methods used for a product, including the type and source of ingredients and the burden of waste byproduct elimination, are important determinants of its opportunity for profitability. Industry is keenly aware of the downsides of technologies that rely on expensive biotechnology techniques and facilities for manufacture, onerous and expensive programs to eliminate complex materials, or ingredients that are sourced from the complicated process of human or other animal plasma separation, since those products typically are expensive, burdensome to produce, and at greater risk for failing regulatory oversight.

The manufacturing methods that we envision using to produce AC5 and other potential future product candidates rely on synthetic organic chemistry. Although use of those methods will likely require that we engage a manufacturer that can employ certain expertise with the technology, skill and know-how involved with those methods, the required manufacturing equipment to use those methods is widely available. Furthermore, improvements in relevant synthetic manufacturing techniques in the past several years have reduced their complexity and cost, while increasing large scale cGMP capacity. In addition, as a result of increased demand for amino acids over the past decade, the cost of obtaining amino acid raw materials has decreased. Moreover, our planned product candidates, including AC5, will be synthesized of naturally occurring ingredients that are not sourced from humans or other animals, but do exist in humans in their natural state. That type of ingredient may be more likely to be categorized as “generally recognized as safe”, or “GRAS”, by the FDA, and may convey a lower risk of adverse effects.

We believe that our pursued manufacturing methods and ingredients will make our choice of third party manufacturers important, as we will need to select service providers possessing sufficient expertise in synthetic organic chemistry manufacturing, but that the relative lack of expensive equipment, technology and materials required and the naturally occurring ingredients used in the manufacturing process will provide a benefit.

Regulatory

Medical Device Classification

Although the FDA and other regulatory authorities or related bodies will finally determine the classification of AC5, we believe that our primary product candidate meets the criteria for a medical device. Generally, a product is a medical device if it requires neither metabolic nor chemical activity to achieve the desired effect. Furthermore, generally a medical device can achieve its desired effects without requiring a body (animal/human), whereas a drug or a biologic requires a body in order to operate. The AC5 mechanism of assembly into a barrier can occur outside of a body and is consistent with the medical device definition.

Medical devices in the European Union (“EU”) and the U.S. are classified along a spectrum. We anticipate that AC5 will be a Class III medical device in these jurisdictions, subject to the process for obtaining a CE mark in the EU and the premarketing authorization process in the U.S. While the Class III status is a higher-level classification than for devices not comprised of novel materials and involves additional procedure and regulatory scrutiny of the product candidate to obtain approvals, it provides less regulatory ambiguity.

Biocompatibility Tests and Clinical Trials

Before initiating any human clinical trials, we will need to assess the biocompatibility of AC5. Standard required tests to assess biocompatibility, as set forth in ISO 10993 issued by the International Organization for Standardization, include:

- in vitro cytotoxicity;
- in vitro blood compatibility;
- in vitro Ames assay (mutagenic activity);
- irritation/intracutaneous reactivity;
- sensitization (allergenic reaction);
- implantation (performed on devices that contact the body’s interior);

- pyrogenicity (causing fever or inflammation);
- systemic toxicity; and
- in vitro chromosome aberration assay (structural chromosome changes).

We have not commenced formal biocompatibility studies for AC5. However, Dr. Ellis-Behnke and his colleagues previously engaged a third party to perform certain in vitro and in vivo biocompatibility and toxicology studies on an earlier version of the composition of AC5, and such tests illustrated no evidence of toxicity. Further, certain large relative dose pilot tests have been performed in rodents, and no abnormal behavior or pathology has been observed from such tests. The results of those tests may not be indicative of the results that may be obtained from any biocompatibility studies of AC5 that we aim to pursue in the near term.

Following completion of biocompatibility tests for AC5, assuming successful results of those tests, we expect that we will focus on conducting human clinical trials. Upon completion of required clinical trials and assuming successful results, we expect that we will then pursue a CE mark, the required European approval to market and commercialize a medical device such as AC5, prior to pursuing approval by the U.S. FDA.

We expect that we will pursue approvals for use of AC5 as a hemostatic agent in surgical settings, and we may also seek to obtain approvals for additional potential indications for use of the product, which we may pursue either opportunistically or once initial regulatory approval for the product is obtained.

Commercialization

We are in the process of developing a long-term commercialization plan for our product candidates. That plan could entail entering into one or more strategic partnerships in connection with product commercialization, our direct performance of commercialization activities, or some combination of those alternatives. Based on our current general approach and strategy of utilizing the expertise and resources of third party service providers and maintaining a small internal team, we currently expect that we may pursue some degree of strategic collaborations or partnerships with third parties, which could include licensing arrangements, distribution and supply partnerships, engagement of external regulatory experts and/or marketing and sales teams, among other types of potential relationships. We presently believe that certain partnerships or collaboration relationships could improve our ability to obtain regulatory approval for our product candidates and attain market acceptance for and profitable sales of those product candidates, and that our current and planned activities and milestones relating to AC5 are well-aligned with the needs of the market and potential partners and collaborators that may wish to enter or expand their presence in our target markets.

We envision the potential future customers in the marketplace for AC5 and any other hemostatic or sealant agent we may pursue will include surgeons and other doctors, government agencies such as the Department of Defense, hospital and operating room management and ambulance and other trauma specialists.

Plan of Operations

Our long-term business plan includes the following goals:

- conducting successful biocompatibility studies and, subsequently, clinical trials on AC5;
- obtaining regulatory approval or certification of AC5 in the EU, the U.S., and/or other jurisdictions as we may determine;
- expanding our intellectual property portfolio;
- developing appropriate third party relationships to manufacture, distribute, market and otherwise commercialize AC5; and

· developing additional product candidates in the hemostatic and sealant field.

With respect to our goals relating to AC5, we currently project requiring at least $6,000,000 of additional capital to complete the milestones to obtain regulatory approval in Europe. We expect that obtaining regulatory approvals in the U.S., including conducting additional required clinical trials, would require at least an additional $9,000,000 in capital. These estimated amounts could increase by potentially large amounts if any number of risks relating to conducting these activities were to occur, including without limitation those set forth under the heading "Risk Factors" in this prospectus.

In furtherance of our long-term business goals, we expect to focus on the following activities during the next twelve months:

- expand our team during the second calendar quarter by hiring a Vice President of Research and Development Engineering, adding additional quality systems expertise, and hiring a full time Chief Financial Officer in order to meet the Company's growing needs, which we anticipate will require approximately $400,000 for salary and related expenses during calendar year 2014;

- expand and enhance our intellectual property portfolio by filing new patent applications, obtaining allowances on currently filed patent applications, and adding to our trade secrets in self-assembly, manufacturing, analytical methods and formulation, which activities will be ongoing as we seek to expand our product candidate portfolio and which we anticipate will require approximately $250,000 during calendar year 2014;

- select a large scale manufacturing partner for scale-up and initiate production of product compliant with current good manufacturing practices (“cGMP”), which we anticipate will start in the third calendar quarter of 2014 and will require approximately $750,000 during the next twelve months;

- select a Notified Body for European regulatory pathway, confirm CE mark pathway plan for Europe, and participate in related regulatory meetings, which activities we anticipate will start during the second calendar quarter of 2014, continue throughout the balance of the year, and require approximately $200,000 during calendar year 2014. For a description of the CE mark pathway and European Notified Bodies, see “–Regulation by the FDA and Similar Foreign Agencies–Pre-Marketing Regulation in the EU”;

- identify and select additional pipeline candidates from self-assembling peptide platform for advancement into development, which activities will be ongoing as we seek to expand our product candidate portfolio and which we anticipate will require approximately $200,000 during calendar year 2014;

- conduct both informal and formal biocompatibility studies during the second and third calendar quarters of 2014, which we anticipate will require approximately $250,000 during calendar year 2014;

- develop initial clinical trial protocols, complete Clinical Investigational Plan with key opinion leaders and principal investigators and submit application to Ethics Committee, which activities we anticipate will occur during the second half of 2014 and require approximately $300,000 during calendar year 2014;

- commence a human clinical trial, the timeframe for which is dependent upon successful completion of certain manufacturing, regulatory, and biocompatibility activities. Based on current expectations, we estimate such a trial could be commenced as early as the fourth calendar quarter of 2014. We anticipate these activities will require approximately $1,000,000 over the course of the trial; and

- seek to raise additional funding when and as needed to support the milestones described above and our operations generally. The anticipated costs of our activities described above totals approximately $3.35 million over the next 12 months. The net proceeds to us of the Private Placement Financing, which totaled approximately $2.68 million, are being used, and are expected to continue to be used, to fund these activities. We will need to raise additional funds in the near term in order to support our business and the operational activities described above.

We anticipate that our operating and other expenses will continue to increase as we continue to implement our business plan and pursue these goals. After giving effect to the funds received in the recent equity and debt financings and assuming our use of that funding at the rate we presently anticipate, as of the date of this prospectus we expect to have sufficient funds to operate our business through October 2014. We could spend our financial resources much faster than we expect, in which case our current funds may not be sufficient to operate our business for that period.

Our estimates of the amount of cash necessary to operate our business and attain our near-term and long-term business goals may prove to be wrong, due to increased costs to achieve milestones and/or additional expenses if we encounter unanticipated difficulties or other reasons, in which case additional funding than projected would be needed. We have no commitments for any future capital (including any future capital we could receive upon the exercise of the Warrants, if any). We will require significant additional financing to fund our planned operations, including further research and development relating to our primary product candidate, seeking regulatory approval of that or any other product candidate we may choose to develop, commercializing any product candidate for which we are able to obtain regulatory approval or certification, seeking to license or acquire new assets or business, and maintaining our intellectual property rights and pursuing rights to new technologies. We do not presently have, nor do we expect in the near future to have, revenue to fund our business from operations, and we will need to obtain all of our necessary funding from external sources for the foreseeable future. We may not be able to obtain additional financing on commercially reasonable or acceptable terms when needed, or at all. If we cannot raise the money that we need in order to continue to develop our business, we will be forced to delay, scale back or eliminate some or all of our proposed operations. If any of these were to occur, there is a substantial risk that our business would fail and our stockholders could lose all of their investment.

Since inception, we have funded our operations primarily through equity and debt financings and we expect to continue to seek to do so in the future. If we obtain additional financing by issuing equity securities, our existing stockholders' ownership will be diluted, which dilution could be increased if certain anti-dilution protections provided to the holders of the Warrants are triggered by any such equity issuance. Additionally, the terms of securities we may issue in future capital-raising transactions may be more favorable for our new investors. Further, newly issued securities may include preferences, superior voting rights and the issuance of warrants or other derivative securities, which may have additional dilutive effects. If we obtain additional financing by incurring debt, we may become subject to significant limitations and restrictions on our operations pursuant to the terms of any loan or credit agreement governing the debt, which would be in addition to those currently imposed by the MLSC Loan Agreement. Further, obtaining any loan, assuming a loan would be available when needed on acceptable terms, would increase our liabilities and future cash commitments. We may also seek funding from collaboration or licensing arrangements in the future, which may require that we relinquish potentially valuable rights to our product candidates or proprietary technologies or grant licenses on terms that are not favorable to us. Moreover, regardless of the manner in which we seek to raise capital, we may incur substantial costs in those pursuits, including investment banking fees, legal fees, accounting fees, printing and distribution expenses and other related costs.

Industry

According to a 2012 report produced by MedMarket Diligence, LLC, approximately 114 million surgical and procedure-based wounds occur annually worldwide, including 36 million from surgery in the U.S. We estimate that 20-25% of those surgeries are performed using minimally invasive procedures. Additionally, some minor procedures and operations may not be included in those figures. We believe that the performance and safety of those surgeries and other procedures could benefit from sealants and hemostatic agents, because surgical and trauma patients are at significant risk for morbidity and mortality from bleeding and/or leaking body fluid.

Additional trends that support a demand for hemostatic and sealant products include the following:

- overall procedure volume growth;
- ambulatory same day surgery volume growth of approximately 5%;
- laparoscopic procedure volume growth; and
- efforts to reduce operating room time.

As a result of this demand, use of hemostatic agents and sealants is increasing. According to MedMarket Diligence, the market for these products achieved approximately $3.4 billion in 2010 worldwide sales and is projected to have reached $4.5 billion in 2013 and surpass $6.5 billion in 2017. Over two-thirds of those sales are for hemostatic agents. Further, the projected growth rate for sealants may be even higher than that for hemostatic agents due to a general lack of available products and potentially larger unmet need.

In spite of the large size of the market for these products, many available hemostatic and sealant agents possess a combination of limitations, including slow onset of action, general unreliability, user-unfriendliness, and risk for adverse effects, such as healing problems, adhesion formation, infection and other safety concerns. Many of the deficiencies of currently available hemostatic and sealant agents are the same as those of their first-generation counterparts, as revolutionary advances in underlying technologies have been elusive.

In the course of developing AC5, we engaged commercial strategy and marketing consultants to understand the routines and needs of potential customers and to assess market preferences. As we expected, better efficacy and reliability were identified as important to those customers, and we also discovered that other product features are also critical to achieving broad market acceptance. Surgeons, operating room managers, sales representatives for currently available hemostatic products, and hospital administrator decision-makers identified the following characteristics as desirable features of a hemostatic agent, which we carefully considered in developing AC5 and which we believe will be well satisfied by our primary product candidate:

- fast onset of activity;
- laparoscopic friendly;
- easily handled and applied;
- promotes a clear field of vision and does not obstruct view;
- non-viscous and flowable;
- non-sticky (to tissue or equipment);
- enables normal healing;

- indifferent to status of coagulation cascade or "blood thinning" drugs;
- non-toxic; and
- does not contain human blood product or animal components.

We have designed AC5 with the intent of meeting these market demands, and we anticipate it will be used in minimally invasive or laparoscopic surgery as well as open surgery. While open surgery represents the more established market for hemostatic agents, up to one-quarter of surgeries are performed by minimally invasive techniques, including laparoscopic surgery, and that number has been growing. Less invasive laparoscopic procedures produce shorter recovery times, faster discharges, less scarring, and less need for pain medications. Many of the hemostasis products currently available do not possess certain features and handling characteristics required for use in a laparoscopic setting. For instance, many available products may be challenging to use laparoscopically because they tend to be sticky, powdery, fabric-based or are otherwise difficult to control and/or insert into the small tubes used during many laparoscopic procedures. We believe that the novel features and differentiating characteristics of AC5 will make it more suitable for laparoscopic surgeries than presently available alternatives.

Further, available data indicates that there may be increased pressure to perform more complex surgeries at reduced costs, including conducting operations in less expensive outpatient settings. A National Health Statistics Report from 2006, revised in 2009, indicates that ambulatory surgery procedures have been increasing since the 1980’s due in part to an evolution of both medical technology and payment arrangements. In 2006, approximately 34.7 million outpatient surgical visits and 53.3 million total inpatient and outpatient surgical visits took place in the United States. Of the ambulatory surgical visits, 27.7% had two procedures performed. We believe that a motivating factor of these trends toward increasing outpatient surgeries may be the increased costs associated with hospital inpatient procedures performed in operating rooms, which, according to MedMarket Diligence, have been estimated to cost between $2,000 and $10,000 per hour. These costs likely motivate increased operating room throughput and increased volume of procedures performed in outpatient settings. Both of those trends highlight the need for highly effective hemostatic and sealant products that can decrease operating room time for inpatient procedures and help to increase the safety of performing more types of procedures in less expensive outpatient settings.

Competition

The hemostatic and sealant market is served by large established companies, such as Johnson & Johnson and its affiliated companies, Covidien plc, Baxter Healthcare Corporation, and The Medicines Company, as well as many smaller companies, academic institutions and governmental agencies and public and private research institutions. If

AC5 obtains regulatory approval, we expect that we will compete against all of these companies and any others that have produced or are developing a hemostatic and sealant agent. Most of our competitors have substantially greater resources, capabilities and experience in the development, approval and commercialization of medical devices or other products than we do. We may not be able to compete successfully against these competitors for funding, personnel, CRO, manufacturing and other third party relationships and other operational resources, and our lead product candidate may not be able to compete successfully against our competitors' hemostatic and sealant products.

We compete and our lead product candidate, if approved, will compete based on: product safety, efficacy and reliability; product features that promote ease of use (such as those described under the heading "—Industry" above); and product price. We believe that, assuming receipt of required regulatory approvals, AC5 will be well-positioned to compete against currently available products as a result of its broad applicability in various types of surgical settings and its features that address drawbacks seen in many available hemostatic agents, which appear to be mostly geared toward focused, niche applications and not broad surgical applications. For instance, a glue-like composition may be effective for sealing an air leak in the lung or connecting bleeding blood vessels, but it may not easily stop bleeding and permit normal healing in the liver. AC5 is envisioned as a general hemostatic agent that serves as one tool to replace narrower alternatives. Further, our planned use of a manufacturing method that we expect will be relatively simple and cost-effective compared to methods used to manufacture many currently available hemostatic products could enable any future sales to be made at competitive price points within the market range, which can cost between $50 and $500 per procedure, with the higher value added products generally priced at the upper end of that range. While our management believes that AC5, if approved, would compete favorably across these dimensions, our industry is characterized by rapid technological change that could result in new product introductions and other technological advancements that render our lead product candidate or any future product candidate we may seek to develop non-competitive or otherwise obsolete.

Some potential disadvantages of AC5 compared to the hemostatic agents currently on the market with which we would expect AC5 to compete if it obtains required regulatory approvals are as follows:

- The favorable handling characteristics of AC5 are the result of its non-sticky and non-glue-like nature. However, if a surgeon or healthcare provider requires a product to adhere tissues together, or provide similar glue-like action, then AC5 in its current form would not achieve that effect.
- While we project that AC5 will be relatively economical to manufacture at scale, it will not be able to compete from a price perspective with inexpensive means to stop bleeding, such as application of pressure or use of bandages or other inexpensive products.
- We have not completed preclinical and clinical human trials relating to AC5, whereas marketed competition has done so. Accordingly, the safety and efficacy of AC5 has not been demonstrated or accepted by required regulatory agencies, and we will require significant resources in order to conduct the required trials and other tests to attempt to obtain such approvals.

Research and Development Expenditures

Our research and development expenses to date have primarily included costs to develop our core technology and AC5. During the year ended September 30, 2013, we incurred $218,901 on research and development expenses, as compared to $87,021 incurred during the year ended September 30, 2012. We expect our research and development activities and expenses to increase significantly as we execute on our business plan and pursue clinical trials.

Regulation by the FDA and Similar Foreign Agencies

Our research, development and clinical programs, as well as our manufacturing and marketing operations that may be performed by us or third party service providers on our behalf, are subject to extensive regulation in the U.S. and other countries. Most notably, we believe that AC5 will be subject to regulation as a medical device under the U.S. Food Drug and Cosmetic Act as implemented and enforced by the FDA and equivalent regulations enforced by foreign agencies in any other countries in which we desire to pursue commercialization. The FDA and its foreign counterparts generally govern the following activities that we do or will perform or that will be performed on our behalf, to ensure that products we may manufacture, promote and distribute domestically or export internationally are safe and effective for their intended uses:

- product design, preclinical and clinical development and manufacture;
- product premarket clearance and approval;
- product safety, testing, labeling and storage;
- record keeping procedures;
- product marketing, sales and distribution; and

- post-marketing surveillance, complaint handling, medical device reporting, reporting of deaths, serious injuries or device malfunctions and repair or recall of products.

Pre-Marketing Regulation by the U.S. FDA

Medical Device Classification

As described above, we expect that AC5 will be classified as a medical device because its primary desired activity does not depend on metabolic or chemical activity in a body. The FDA classifies medical devices into one of the following three classes on the basis of the amount of risk associated with the medical device and the controls deemed necessary to reasonably ensure their safety and effectiveness:

- Class I, requiring general controls, including labeling, device listing, reporting and, for some products, adherence to good manufacturing practices through the FDA's quality system regulations and pre-market notification;
- Class II, requiring general controls and special controls, which may include performance standards and post-market surveillance; or
- Class III, requiring general controls and approval of a premarket approval application ("PMA"), which may include post-market approval conditions and post-market surveillance.

PMA Approval Process

A PMA must be submitted to the FDA if a device cannot be cleared through another approval process or is not otherwise exempt from the FDA's premarket clearance and approval requirements. A PMA is required for most Class III medical devices. A PMA must generally be supported by extensive data, including without limitation technical, preclinical, clinical trial, manufacturing and labeling data, to demonstrate to the FDA's satisfaction the safety and efficacy of the device for its intended use. During the review period, the FDA will typically request additional information or clarification of the information previously provided. Also, an advisory panel of experts from outside the FDA may be convened to review and evaluate the PMA and provide recommendations to the FDA as to the approvability of the device, although the FDA may or may not accept any such panel's recommendation. In addition, the FDA will generally conduct a pre-approval inspection of the manufacturing facility or facilities involved with producing the device to ensure compliance with the cGMP regulations. Upon approval of a PMA, the FDA may require that certain conditions of approval, such as conducting a post-market approval clinical trial, be met.

The PMA approval process can be lengthy and expensive and requires an applicant to demonstrate the safety and efficacy of the device based, in part, on data obtained from clinical trials. The PMA process is estimated to take from one to three years or longer, from the time the PMA application is submitted to the FDA until an approval is obtained.

Further, if post-approval modifications are made that affect the safety or efficacy of the device, including, for example, certain types of modifications to the device's indication for use, manufacturing process, labeling or design, then new PMAs or PMA supplements would be required. PMA supplements often require submission of the same type of information as a PMA, except that the supplement is typically limited to information needed to support the changes from the device covered by the original PMA and accordingly may not require as extensive clinical and other data.

We expect that we will need to obtain PMA approval in order to sell AC5 in the U.S., but the FDA will ultimately determine whether a PMA is the appropriate approval to be obtained. We have not submitted to the FDA any PMA covering AC5 or commenced the required clinical trials. If we are able to conduct successful preclinical studies and submit a PMA, the FDA may not grant PMA approval of AC5 for the desired indications of use, on a timely basis, or at all. Our inability to achieve regulatory approval for AC5 in the U.S., a large market for hemostatic products, would materially adversely affect our ability to grow our business.

Clinical Trials

Obtaining PMA approval requires the completion of human clinical trials that produce successful results demonstrating the safety and efficacy of the product. Clinical trials for a Class III medical device typically require an application for an investigational device exemption, which would need to be approved in advance by the FDA for a specified number of patients and study sites. Human clinical trials are subject to extensive monitoring, recordkeeping and reporting requirements, and must be conducted under the oversight of an IRB for the relevant clinical trial sites and comply with applicable FDA regulations, including those relating to GCP.

Prior to conducting a clinical trial, we also would be required to enroll sufficient patients to conduct the trial and obtain each patient’s informed consent in a form and substance that complies with both FDA requirements and state and federal privacy and human subject protection regulations. Many factors could lead to delays or inefficiencies in conducting clinical trials, some of which are discussed under the heading “Risk Factors” in this prospectus. Further, we, the FDA or the IRB could suspend a clinical trial at any time for various reasons, including a belief that the risks to the subjects of the trial outweigh the anticipated benefits. Even if a trial is completed, the results of clinical testing may not adequately demonstrate the safety and efficacy of the device or may otherwise not be sufficient to obtain FDA clearance or approval to market the product in the U.S.

We have not commenced any human clinical trials. We also have not yet commenced certain biocompatibility studies, described above under the heading “Development and Commercialization Strategy—Regulatory—Biocompatibility Tests and Clinical Trials”, that are typically completed prior to commencing clinical trials. We will require significant additional funding and preparation before we are able to initiate the first clinical trial for AC5 and in order to complete all required trials to obtain marketing approval in the U.S.

Pre-Marketing Regulation in the EU

Medical Device Classification

Similar to the U.S., the EU recognizes different class of medical devices. The EU recognizes Class I, Class IIa, Class IIb or Class III medical devices. Medical devices in the EU are classified into one of those classes on the basis of the amount of potential risk to the patient associated with use of the medical device. Classification involves rules found in the EU’s Medical Device Directive. Key questions of relevance include the degree of the device’s contact with the patient, invasiveness, active nature, and indications for use. The medical device classes recognized in the EU are as follows:

- Class I, which are considered low risk devices, such as wheelchairs and stethoscopes, and require pre-market notification prior to placing the devices onto the EU market;
- Class IIa, which are considered low-medium risk devices and require certification by a Notified Body;
- Class IIb, which are considered medium-high risk devices and require certification by a Notified Body; and
- Class III, which are considered high-risk devices and require certification by a Notified Body.

We anticipate that AC5 would be classified as a Class III medical device based on the EU's medical device classes.

CE Mark Approval Process

The EU has adopted numerous directives and standards regulating the design, manufacture, clinical trials, labeling, and adverse event reporting for medical devices. Each EU member state has implemented legislation applying these directives and standards at a national level. Other countries outside of the EU have also voluntarily adopted laws and regulations that mirror those of the EU with respect to medical devices.

Under applicable EU medical device directives, a CE mark is a symbol placed on a product that declares the product's compliance with the essential requirements of applicable EU health, safety and environmental protection legislation. In order to receive a CE mark for a product candidate, the company producing the product candidate must select a country in which to apply. Each country in the EU has one competent authority ("CA") that implements the national regulations by interpreting the EU directives. The CA in each country also designates and regulates Notified Bodies, which are private commercial entities designated by the national government of a member state as being competent to make independent judgments about whether a device complies with applicable regulatory requirements. An assessment by a Notified Body in the selected country within the EU is required in order to commercially distribute the device. In addition, compliance with ISO 13485 issued by the International Organization for Standardization, among other standards, establishes the presumption of conformity with the essential requirements for CE marking. Certification to the ISO 13485 standard demonstrates the presence of a quality management system that can be used by a manufacturer for design and development, production, installation and servicing of medical devices and the design, development and provision of related services.

Devices that comply with the requirements of the laws of the selected member state applying the applicable EU directive are entitled to bear a CE mark and can be distributed throughout the member states of the EU, as well as in other countries that have mutual recognition agreements with the EU or have adopted the EU's regulatory standards.

We have identified several potential countries through which we may pursue a CE mark for AC5.

Clinical Trials

As with U.S. Class III medical device approval, EU Class III medical device approval requires the successful completion of human clinical trials. However, there are several key differences between the jurisdictions with respect to the approvals and processes. Obtaining a CE mark is not equivalent to obtaining FDA approval, in that a CE mark confirms the safety, but not the effectiveness, of a product. Furthermore, a CE mark affixed to a product serves as a declaration by the responsible party that the product conforms to applicable provisions and that relevant conformity assessment procedures have been completed with respect to the product. Accordingly, we anticipate that the required EU clinical trial(s) for AC5 will be smaller, faster, and less expensive than what we expect would be required for AC5 to obtain equivalent approvals in the U.S.

Post-Approval Regulation

After a medical device obtains approval from the applicable regulatory agency and is launched in the market, numerous post-approval regulatory requirements would apply. Many of those requirements are similar in the U.S. and in member states of the EU, and include:

- product listing and establishment registration;
- requirements that manufacturers, including third-party manufacturers, follow stringent design, testing, control, documentation and other quality assurance procedures during all aspects of the design and manufacturing process;
- labeling and other advertising regulations, including prohibitions against the promotion of products for uncleared, unapproved or off-label use or indication;
- approval of product modifications that affect the safety or effectiveness of any of our devices that may achieve approval;
- post-approval restrictions or conditions, including post-approval study commitments;
- post-market surveillance regulations, which apply, when necessary, to protect the public health or to provide additional safety and effectiveness data for the device;
- the recall authority of the applicable government agency and regulations pertaining to voluntary recalls; and
- reporting requirements, including reports of incidents in which a product may have caused or contributed to a death or serious injury or in which a product malfunctioned, and notices of corrections or removals.

Failure by us or by our third-party manufacturers and other suppliers to comply with applicable regulatory requirements could result in enforcement action by various regulatory authorities, which may result in monetary fines, the imposition of operating restrictions, product recalls, criminal prosecution or other sanctions.

Regulation by Other Foreign Agencies

International sales of medical devices are subject to government regulations in each country in which the device is marketed and sold, which vary substantially from country to country. The time required to obtain approval by a foreign country may be longer or shorter than that required for FDA or CE mark clearance or approval, and the requirements may substantially differ.

Other Governmental Regulations and Environmental Matters

We are or may become subject to various laws and regulations regarding laboratory practices and the use of animals in testing, as well as environmental laws and regulations governing, among other things, any use and disposal by us of hazardous or potentially hazardous substances in connection with our research. At this time, costs attributable to environmental compliance are not material. In each of these areas, applicable U.S. and foreign government agencies have broad regulatory and enforcement powers, including, among other things, the ability to levy fines and civil penalties, suspend or delay issuance of approvals, seize or recall products, and withdraw approvals, any one or more of which could have a material adverse effect on our business. Additionally, if we are able to successfully obtain approvals for and commercialize our product candidates, then we and our products may become subject to various federal, state and local laws targeting fraud, abuse, privacy and security in the healthcare industry.

Intellectual Property

We are focused on the development of self-assembling compositions, particularly self-assembling peptide compositions, and methods of making and using such compositions in medical and non-medical applications. Suitable applications of these compositions include limiting or preventing the movement of bodily fluids and contaminants within or on the human body, preventing adhesions, treatment of leaky or damaged tight junctions, and reinforcement of weak or damages vessels, such as aneurysms. Our strategy to date has been to develop an intellectual property portfolio in high-value jurisdictions that tend to uphold intellectual property rights.

We have filed 10 patent applications for self-assembling peptides and methods of use thereof in five jurisdictions, all of which are pending. We have also entered into a license agreement with MIT pursuant to which we have been granted exclusive rights under one portfolio of patents and non-exclusive rights under another portfolio of patents. The portfolio exclusively licensed from MIT includes more than 10 pending patent applications in 10 jurisdictions, of which four are allowed. The portfolio non-exclusively licensed from MIT includes 11 issued patents in eight jurisdictions that expire between 2016 and 2026 (absent patent term extension), and six pending patent applications in four jurisdictions.

Our license agreement with MIT imposes certain diligence, capital raising, and other obligations on us, including obligations to raise certain amounts of capital by specific dates. Additionally, we are responsible for all patent prosecution and maintenance fees under that agreement. Our breach of any material terms of our license agreement with MIT could permit the counterparty to terminate the agreement, which could result in our loss of some or all of our rights to use certain intellectual property that is material to our business and our lead product candidate. Our loss of any of the rights granted to us under our license agreement with MIT could materially harm our product development efforts and could cause our business to fail.

We also have been granted a non-exclusive sub-license of a patent assigned to MIT and in turn licensed by MIT to the sub-licensing third party, which patent is due to expire in 2014. The sub-license is a fully-paid and royalty-free and does not provide any outbound license grant to any ABS owned or exclusively licensed intellectual property. We presently do not anticipate any material impact on our business or operations resulting from the expected expiration of this patent in 2014.

We have pending trademark applications for AC5 Surgical Hemostatic Device™, AC5™, Crystal Clear Surgery™, NanoDrape™ and NanoBioBarrier™.

Employees

We presently have five full-time employees and three part-time employees, and make extensive use of third party contractors, consultants, and advisors to perform many of our present activities. We expect to increase the number of our employees as we increase our operations.

Properties

We do not own any real property. Between July 2013 and September 2013, we maintained our corporate offices at a property in Cambridge, Massachusetts that we leased under a month-to-month property rental agreement, pursuant to which we were obligated to pay monthly rent of approximately $2,800. In October 2013, we entered into a one and one-half year operating sublease agreement pursuant to which we lease the office space of our relocated headquarters in Wellesley, Massachusetts for a base annual rent equal to $5,031 per month. We believe our present offices are suitable for our current and planned near-term operations.

Legal Proceedings

In the ordinary course of business, we may become a party to legal proceedings involving various matters. We are unaware of any such legal proceedings presently pending to which we or our subsidiary is a party or of which any of our property is the subject that management deems to be, individually or in the aggregate, material to our financial condition or results of operations

DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Set forth below is certain information regarding our current directors and executive officers:

Name	Position	Age	Director/Officer Since

Dr. Avtar Dhillon	Chairman of the Board of Directors	53	April 2013
Dr. Arthur Rosenthal	Director	67	June 2013
Dr. Terrence W. Norchi	President, Chief Executive Officer and Director	49	April 2013
Alan T. Barber	Chief Financial Officer	60	June 2013
William M. Cotter	Chief Operating Officer	64	July 2013

Business Experience

The following is a brief account of the education and business experience of our current directors and executive officers during at least the past five years, indicating their principal occupation during the period, and the name and principal business of the organization by which they were employed:

Dr. Avtar Dhillon. Dr. Dhillon has served as the Chairman of our Board of Directors since April 2013 and has been on the Board of Directors of ABS since May 2011. Previously, Dr. Dhillon was the President and Chief Executive Officer of Inovio Pharmaceuticals, Inc. (formerly Inovio Biomedical Corporation) (NYSE Euronext: INO) from October 2001 to June 2009, and served as President and Chairman of Inovio from June 2009 until October 2009, as Executive Chairman until August 2011, and as Chairman from September 2011. During his tenure at Inovio, Dr. Dhillon led the successful turnaround of the company through a restructuring, acquisition of technology from several European and North American companies, and a merger with VGX Pharmaceuticals to develop a vertically integrated DNA vaccine development company with one of the strongest development pipelines in the industry. Dr. Dhillon led multiple successful financings for Inovio and concluded several licensing deals that included global pharmaceutical firms, Merck and Wyeth (now Pfizer). Prior to joining Inovio, Dr. Dhillon was vice president of MDS Capital Corp. (now Lumira Capital Corp.), one of North America’s leading healthcare venture capital organizations. In July 1989, Dr. Dhillon started a medical clinic and subsequently practiced family medicine for over 12 years. Dr. Dhillon has been instrumental in successfully turning around struggling companies and influential as an active member in the biotech community. From March 1997 to July 1998, Dr. Dhillon was a consultant to Cardiome Pharma Corp. (NASDAQ: CRME), where he led a turnaround based on three pivotal financings, establishing a clinical development strategy, and procuring a new management team. In his role as a founder and board member of companies, Dr. Dhillon has been involved in several early stage healthcare-focused companies listed on U.S. or Canadian stock exchanges, which have successfully matured through advances in their development pipeline and subsequent M&A transactions. Most recently, he was a founding board member (May 2003) of Protox Therapeutics, Inc. (TSX-V: SHS) (now Sophiris Bio Inc.), a publicly traded specialty pharmaceutical company. Dr. Dhillon maintained his board position until the execution of a financing of up to $35 million with Warburg Pincus in November 2010. Dr. Dhillon currently sits on the Board of Directors of BC Advantage Funds, a Venture Capital Corporation in British Columbia, and since March 2012 has been the Chairman of the Board of Directors of Stevia First Corp. (OTCQB: STVF), an agricultural biotechnology company engaged in the cultivation and harvest of stevia leaf and the development of stevia products. Since March 2011, Dr. Dhillon has also served as the Chairman of the Board of Directors of of OncoSec Medical, Inc. (OTCQB: ONCS), a company developing its advanced-stage ImmunoPulse DNA-based immunotherapy to treat solid tumor and metastatic cancers. Dr. Dhillon adds value to our Board of Directors with his extensive experience as a member of boards of directors and senior management of other public companies and with his experience in company building, financing, and licensing with large industry partners.

Dr. Arthur Rosenthal. Dr. Rosenthal has been appointed as a director of the Company upon the consummation of the Merger, and has served as the Chairman of the Board of ABS since April 2011. He has served for 40 years in senior research and product development executive roles for medical technology companies and in those roles has successfully directed commercialization efforts for hundreds of novel medical products. He was Chief Scientific Officer at Boston Scientific from January 1994 to January 2005, Vice President of Research and Development at Johnson and Johnson Medical Products, Inc. from April, 1990 to January, 1994 and more recently Chief Executive Officer of two start-up companies, Labcoat, Ltd. and Cappella, Inc., both developing cardiovascular medical devices. He is currently, and has been since January 2010, a Professor of Practice in Translational Research in Boston University’s College of Engineering, where he oversees biomedical engineering innovation. Dr. Rosenthal received his Ph.D. in biochemistry from the University of Massachusetts, Amherst, in 1973. Currently, Dr. Rosenthal serves as Non-Executive Director and Chairman and as a member of the Compensation Committee and Audit Committee for Cyberonics, Inc. (NASDAQ: CYBX), having joined its Board of Directors in January 2007. Dr. Rosenthal is a valuable member of our Board of Directors because of his high-ranking roles in private and public medical device companies, his extensive experience overseeing research and development and commercialization of a large number of products in the medical field, and his company-building acumen.

Dr. Terrence W. Norchi. Dr. Terrence W. Norchi commenced service as our President, Chief Executive Officer and Interim Chief Financial Officer and a director on our Board of Directors on April 23, 2013. As a result of the appointment of Alan T. Barber as the Company's Chief Financial Officer concurrently with the closing of the Merger, Dr. Norchi no longer serves as the Company's Interim Chief Financial Officer. Dr. Norchi also serves as the President and Chief Executive Officer and a director of ABS, and has served in those positions since co-founding ABS in 2006. Prior to founding ABS, Dr. Norchi was a portfolio manager and pharmaceutical analyst at Putnam Investments from April 2002 to September 2004. Prior to that he served as the senior global biotech and international pharmaceutical equity analyst at Citigroup Asset Management from January 2000 to March 2002, and as a sell-side analyst covering non-U.S. pharmaceutical equities at Sanford C. Bernstein in New York City from September 1996 to December 1999. Dr. Norchi earned an M.B.A. from the Massachusetts Institute of Technology, Sloan School of Management in 1996. Dr. Norchi earned an M.D. degree in 1990 from Northeast Ohio Medical University and completed his internal medicine residency in 1994 at Baystate Medical Center, Tufts University School of Medicine, where he was selected to serve as Chief Medical Resident. Dr. Norchi brings to our Board of Directors invaluable experience and knowledge of our core technology and proposed product candidates as a result of his first-hand experience with the development of that technology, having ushered it from the research laboratory to its current stage of development, and also contributes his investing experience as a former public company analyst and a portfolio manager.

Alan T. Barber. Mr. Barber was appointed as the Chief Financial Officer of the Company effective as of the consummation of the Merger in June 2013, and has served as the Chief Financial Officer of ABS since August 2008. He has over 30 years of financial management experience and has been since September 2005, and continues to be, an independent consultant to various companies on financial matters. Prior to that Mr. Barber was the Chief Financial Officer for a number of technology and life science companies including Biotrove, Inc. from April 2004 to September 2005, Omnisonics Medical Technologies, Inc. from October 2001 to April 2004, Innovation Chain, Inc. from October 2000 to September 2001, MyWay.com from December 1999 to October 2000, Medical Foods, Inc. from November 1997 to October 1999 and Ergo Science, Inc. from October 1993 to November 1997. Prior to that Mr. Barber was a Partner with the international accounting firm of PricewaterhouseCoopers (formerly Coopers & Lybrand) from July 1979 to October 1993 where he was elected as a Partner in the firm in July 1986. Prior to that he worked for the international accounting firm KPMG from May 1975 to July 1979. Mr. Barber received a Bachelor of Science degree in Accounting from the Florida State University, Rovetta School of Business, and is a Certified Public Accountant.

William M. Cotter. Mr. Cotter was appointed Chief Operating Officer in July 2013. He is an industry veteran who brings expertise in operations and product development in his role with the Company. Mr. Cotter has over 30 years of operational experience with various medical device, diagnostics, biologics and life science companies, ranging from early stage start-ups to large multinational corporations. Most recently, Mr. Cotter has provided consulting and advisory services to early stage biomaterials and medical device companies, including providing advisory services since 2011 to ABS. Prior to that, Mr. Cotter served in senior operations and development roles for various companies including Cohera Medical from January 2009 to January 2012, Helicos Biosciences from May 2007 to June 2008, Closure Medical Corporation (acquired by Johnson & Johnson) from June 1997 to June 2007, Sanofi Diagnostics Pasteur (acquired by Beckman Coulter) from June 1989 to June 1997, Genetic Systems Corporation (acquired by Bio-Rad) from June 1984 to June 1989 and Advanced Technology Laboratories (acquired by Philips HealthCare) April 1980 to June 1984. While with Closure Medical Corporation, Mr. Cotter served as the Vice President of Operations and had direct responsibility and accountability for all product transfers from R&D, Engineering, Quality Control, Document Control, Production and Logistics. During that tenure, Mr. Cotter was part of a team that developed Closure Medical Corporation’s Dermabond®, the first synthetic topical skin adhesive approved by the U.S. Food and Drug Administration, and was the development project leader and co-inventor of the Dermabond TSA ProPen delivery applicator, which won the 2004 Medical Design Excellence Gold Medal Award. Mr. Cotter was also an integral part of the Closure Medical Corporation senior management team that led to a successful acquisition by Johnson & Johnson in June 2005. Prior to his tenure at Closure Medical Corporation, Mr. Cotter spent eight years with Sanofi Diagnostics Pasteur, where he had direct responsibility for all North American industrial sites and chaired that company’s World Wide Manufacturing Committee. Mr. Cotter is listed as co-inventor on eight U.S. patents, and is a graduate of Ohio University.

Term of Office of Directors

Our directors are elected at each annual meeting of stockholders and serve until the next annual meeting of stockholders or until their successor has been duly elected and qualified, or until their earlier death, resignation or removal.

Family Relationships

No family relationships exist between any of our current or former directors or executive officers.

Involvement in Certain Legal Proceedings

No director, executive officer or control person of the Company has been involved in any legal proceeding listed in Item 401(f) of Regulation S-K in the past 10 years.

Committees of the Board of Directors

Our Board of Directors has not established a separate standing audit committee within the meaning of Section 3(a)(58)(A) of the Exchange Act, nor has it established a separate standing compensation committee or a nominating and corporate governance committee. Instead, the functions of those committees are performed by our full Board of Directors, or our two independent directors acting in an executive session or otherwise without the participation of any non-independent directors, and will continue to do so upon the appointment of any new directors until such time as separate standing committees have been established. Our Board of Directors has determined that there is not presently an audit committee financial expert serving on our Board of Directors. We are seeking to add an audit committee financial expert as a member of our Board of Directors in the near term, upon identification and recruitment of a qualified and otherwise suitable candidate.

EXECUTIVE COMPENSATION

The following table summarizes all compensation recorded by us in each of the fiscal years ended September 30, 2013 and September 30, 2012 for (i) our principal executive officer, (ii) our two next most highly compensated executive officers whose total compensation exceeded $100,000 during our last completed fiscal year (of which there were none), and (iii) certain of our additional executive officers, whose compensation is voluntarily provided.

Summary Compensation Table

Name	Fiscal Year	Salary ($)	Option Awards ($) (4)	All Other Compensation ($)	Total ($)
Dr. Terrence W. Norchi,	2013	171,923	—	—	171,923
President and Chief Executive Officer (1)	2012	125,000	—	—	125,000
William M. Cotter,	2013	43,750	38,009	—	81,759
Chief Operating Officer (2)	2012	—	—	—	—
Alan T. Barber,	2013	53,015	13,806	—	66,821
Chief Financial Officer (3)	2012	10,640	—	—	10,640

(1) Dr. Norchi was the President and Chief Executive Officer of ABS since its inception in 2006, and was appointed as our President, Chief Executive Officer and Interim Chief Financial Officer on April 23, 2013. Dr. Norchi resigned as our Interim Chief Financial Officer upon the appointment of Mr. Barber as our Chief Financial Officer on June 26, 2013. Salary amounts reflected include $100,000 and $125,000 earned by Dr. Norchi in connection with his services for ABS during the fiscal years ended September 30, 2013 and 2012, respectively, and $71,923 earned by Dr. Norchi in connection with his service as an executive officer of the Company during the fiscal year ended September 30, 2013.

(2) Mr. Cotter was appointed as our Chief Operating Officer on July 2, 2013. Salary amounts reflected include amounts earned by Mr. Cotter in connection with his service as an executive officer of the Company during the fiscal year ended September 30, 2013.

(3) Mr. Barber served as a consultant for ABS until his appointment as our Chief Financial Officer on June 26, 2013. Salary amounts reflected include $31,150 and $10,640 earned by Mr. Barber in connection with his services for ABS during the fiscal years ended September 30, 2013 and 2012, respectively, and $21,865 earned by Mr. Barber in connection with his service as an executive officer of the Company during the fiscal year ended September 30, 2013.

(4) The values listed represent the fair value of the option grants that was recognized during the fiscal year ended September 30, 2013 under ASC Topic 718, which is calculated as of the grant date using a Black-Scholes option-pricing model. For information on the valuation assumptions with respect to option grants made during the fiscal year ended September 30, 2013, refer to Note 9 “Stock-Based Compensation” in our consolidated financial statements for the fiscal year ended September 30, 2013, included in this prospectus.

Mr. Joey Power served as our sole officer and director prior to the Merger, and resigned from all such positions on April 23, 2013. No compensation was awarded, earned or paid by the Company to Mr. Power for his service in such positions.

Employment Agreements with Named Executive Officers

Terrence W. Norchi

Effective as of June 26, 2013, we entered into an executive employment agreement with Dr. Terrence W. Norchi, our President and Chief Executive Officer. Dr. Norchi's employment agreement continues until terminated by us or Dr. Norchi, and provides for an initial annual base salary of $275,000 and eligibility to receive an annual cash bonus in an amount up to 30% of Dr. Norchi's then-current annual base salary. Annual bonuses are awarded at the sole discretion of our Board of Directors. If Dr. Norchi's employment agreement is terminated by us, unless it is terminated by us "For Cause" (as defined in the agreement), or is terminated by Dr. Norchi for "Good Reason" (as defined in the agreement), then Dr. Norchi, upon signing a release in favor of the Company, will be entitled to severance in an amount equal to 12 months of Dr. Norchi's then-current annual base salary, payable in the form of salary continuation, plus, if Dr. Norchi elects and subject to certain other conditions, payment of Dr. Norchi's premiums to continue his group health coverage under COBRA until the earlier of (i) 12 months following the date of such termination; or (ii) the date Dr. Norchi becomes covered under another employer's health plan. In addition, Dr. Norchi's employment agreement provides that, in the event of a change of control of the Company, termination by Dr. Norchi for Good Reason, termination by the Company for any reason other than For Cause, or termination as a result of Dr. Norchi's death, all unvested shares under outstanding equity grants to Dr. Norchi, if any, shall automatically accelerate and become fully vested.

Dr. Norchi's employment agreement provides the following definitions of "For Cause" and "Good Reason": (a) "For Cause" is the commission by the executive of a crime involving dishonesty, breach of trust, or physical harm to any person, executive's engagement by the executive in conduct that is in bad faith and materially injurious to the Company, commission by the executive of a material breach of the employment agreement, willful refusal by the executive to implement or follow a lawful policy or directive of the Company, or executive's engagement in misfeasance or malfeasance demonstrated by a pattern of failure to perform job duties diligently and professionally (other than any such failure resulting from Executive's incapacity due to physical or mental illness); and (b) "Good Reason" is a material reduction in executive's annual base salary, except for reductions that are comparable to reductions generally applicable to similarly-situated executives of the Company, the relocation of executive to a facility or location that is more than 50 miles from his primary place of employment and such relocation results in an increase in executive's one-way driving distance by more than 50 miles, or a material and adverse change in executive's authority, duties, or responsibilities with the Company or a material and adverse change in executive's reporting relationship within the Company.

In connection with our entry into the executive employment agreement with Dr. Norchi, effective on June 26, 2013, Dr. Norchi's former employment agreement with ABS was terminated pursuant to a termination agreement and release between Dr. Norchi and ABS.

William M. Cotter

Effective as of July 8, 2013, we entered into an executive employment agreement with Mr. Cotter. The agreement continues until terminated by us or by Mr. Cotter. Pursuant to the terms of the agreement, Mr. Cotter is entitled to an initial annual base salary of $175,000 and is eligible to receive an annual cash bonus in an amount of up to 20% of Mr. Cotter's then-current annual base salary. Annual bonuses are awarded at the sole discretion of our Board of Directors. If the agreement is terminated by us at any time after January 1, 2014, unless it is terminated by us "For Cause" (as defined in the agreement), or is terminated by Mr. Cotter at any time for "Good Reason" (as defined in the agreement), then Mr. Cotter, upon signing a release in favor of the Company, would be entitled to severance in an amount equal to six months of Mr. Cotter's then-current annual base salary payable in the form of salary continuation, plus monthly reimbursement of up to $1,200 for Mr. Cotter's health, dental and vision benefits coverage premiums until the earlier of (i) 12 months following the date of such termination, or (ii) the date Mr. Cotter becomes covered under another employer's health plan. In addition, in the event of a change of control of the Company, termination by Mr. Cotter for Good Reason, or termination as a result of Mr. Cotter's death or disability, the agreement provides that all unvested shares under outstanding equity grants to Mr. Cotter, if any, shall accelerate and become fully vested.

The agreement provides the following definitions of “For Cause” and “Good Reason”: (a) “For Cause” is the executive’s commission of a crime involving dishonesty, breach of trust, or physical harm to any person, the executive’s engagement in conduct that is in bad faith and materially injurious to the Company, the executive’s commission of a material breach of the employment agreement, the executive’s willful refusal to implement or follow a lawful policy or directive of the Company, or the executive’s engagement in misfeasance or malfeasance demonstrated by a pattern of failure to perform job duties diligently and professionally; and (b) “Good Reason” is, without the executive’s written consent, a material reduction in the executive’s annual base salary (except for reductions that are comparable to reductions generally applicable to similarly-situated executives of the Company), a relocation of the executive to a facility or location that is more than 50 miles from his primary place of employment and results in an increase in one-way driving distance by more than 50 miles (provided that any such relocation shall not constitute Good Reason if the executive is permitted to perform his duties remotely from or near his home for two weeks per month), or a material and adverse change in the executive’s authority, duties, or responsibilities with the Company or reporting relationship within the Company.

Alan T. Barber

Effective as of June 26, 2013, we entered into an executive employment agreement with Mr. Barber with an effective start date of June 26, 2013, pursuant to which Mr. Barber is obligated to perform his duties on a part-time basis and as compensation for such service receives an annual base salary of $83,600. Mr. Barber’s employment agreement continues until terminated by us or by Mr. Barber. Upon any termination of the employment agreement, whether by us, by Mr. Barber or as a result of Mr. Barber’s death or disability, Mr. Barber is not entitled to any severance payments or benefits.

Outstanding Equity Awards At Fiscal Year-End

The following table summarizes the aggregate number of option awards held by our named executive officers at September 30, 2013:

Name	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable		Option Exercise Price ($)	Option Expiration Date
Dr. Terrence W. Norchi	—	—		—	—
William M. Cotter	200,000	600,000	(1)	0.37	12/31/2017

	62,500	187,500	(2)	0.40	09/09/2023
Alan T. Barber	56,250	168,750	(3)	0.37	12/31/2017
	31,250	93,750	(4)	0.40	09/09/2023

(1) Represents an option to purchase 800,000 shares of common stock with a grant date of July 2, 2013. The option vests over a three-year period as follows: 25% of the shares subject to the option vested on July 1, 2013, 25% of the shares subject to the option vest 12 months after July 1, 2013, and 1/24th of the remaining unvested shares vest monthly thereafter, with all shares underlying the option subject to automatic acceleration of vesting upon a corporate transaction or change in control (as such terms are defined under the 2013 Plan). To the extent vested, the option may only be exercised during the 2017 calendar year, unless we undergo a corporate transaction or change in control or Mr. Cotter separates from service with us in a calendar year earlier than 2017, in which case the option must be exercised during such earlier calendar year.

(2) Represents an option to purchase 250,000 shares of common stock granted on September 9, 2013. The vesting period of the shares underlying the option commenced on the date of grant, with 25% of the shares vested immediately on the date of grant, 25% of the shares to vest 12 months following the date of grant, and the remaining 50% of the shares to vest thereafter in equal installments on each monthly anniversary of the date of grant.

(3) Represents an option to purchase 225,000 shares of common stock with a grant date of June 26, 2013. The option vests over a three-year period as follows: 25% of the shares subject to the option vested on July 1, 2013, 25% of the shares subject to the option vest 12 months after July 1, 2013, and 1/24th of the remaining unvested shares vest monthly thereafter, with all shares underlying the option subject to automatic acceleration of vesting upon a corporate transaction or change in control (as such terms are defined under the 2013 Plan). To the extent vested, the option may only be exercised during the 2017 calendar year, unless we undergo a corporate transaction or change in control or Mr. Barber separates from service with us in a calendar year earlier than 2017, in which case the option must be exercised during such earlier calendar year.

(4) Represents an option to purchase 125,000 shares of common stock granted on September 9, 2013. The vesting period of the shares underlying the options commenced on the date of grant, with 25% of the shares vested immediately on the date of grant, 25% of the shares to vest 12 months following the date of grant, and the remaining 50% of the shares to vest thereafter in equal installments on each monthly anniversary of the date of grant.

Compensation of Directors

On September 10, 2013, our Board of Directors adopted a director compensation policy for non-employee directors. That policy provides that, retroactive to Board service provided since July 1, 2013, the person serving as the Chairman of our Board of Directors and the Chairman of our Finance Committee receives an aggregate annual cash fee of $110,000 for those chairperson roles, and all other non-employee directors receive an annual cash fee of $35,000. In addition, the policy provides the Board of Directors the discretion to grant equity awards to our non-employee directors as additional compensation for their Board service, at such times, in such form and amount and with such terms as the Board of Directors may determine in its discretion.

The following table summarizes all compensation paid to our non-employee directors during the fiscal year ended September 30, 2013:

Director Compensation Table

Name	Fees Earned or Paid In Cash ($)	Stock Awards ($)	Option Awards ($)(1)	All other Compensation ($)	Total ($)
Dr. Avtar Dhillon	27,500	—	—	—	27,500
Dr. Arthur Rosenthal	8,750	—	28,911 (2)	—	37,661

(1)

The values listed represent the fair value of the option grants that was recognized during the fiscal year ended September 30, 2013 under ASC Topic 718, which is calculated as of the grant date using a Black-Scholes option-pricing model. For information on the valuation assumptions with respect to option grants made during the fiscal year ended September 30, 2013, refer to Note 9 “Stock-Based Compensation” in our consolidated financial statements for the fiscal year ended September 30, 2013, included in this prospectus.

(2) Represents a non-qualified stock option to purchase 500,000 shares of common stock with a grant date of June 26, 2013, an exercise price of $0.37 and a 10-year term. The option vests over a three-year period as follows: 25% of the shares subject to the option vested on July 1, 2013, 25% of the shares subject to the option vest 12 months after July 1, 2013, and 1/24th of the remaining unvested shares vest monthly thereafter, with all shares underlying the option subject to automatic acceleration of vesting upon a corporate transaction or change in control (as such terms are defined under the 2013 Plan). To the extent vested, the option may only be exercised during the 2017 calendar year, unless we undergo a corporate transaction or change in control or Dr. Rosenthal separates from service with us in a calendar year earlier than 2017, in which case the option must be exercised during such earlier calendar year.

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Except for Dr. Terrence Norchi, our President, Chief Executive Officer, former Interim Chief Financial Officer and a director, and Dr. Dhillon, the Chairman of our Board of Directors, who each became executive officers and/or directors of our Company shortly following the Company's and ABS's entry into a binding letter of intent regarding the terms of the Merger (the "LOI"), none of the current directors and executive officers were directors or executive officers of the Company prior to the closing of the Merger, nor did any hold any position with the Company prior to the closing of the Merger, nor have any been involved in any material proceeding adverse to the Company or any transactions with the Company or any of its directors, executive officers, affiliates or associates that are required to be disclosed pursuant to the rules and regulations of the SEC.

Dr. Terrence Norchi and Dr. Avtar Dhillon were appointed to their officer and director positions with us on April 23, 2013, shortly following the entry into the LOI between the Company and ABS relating to the Merger. Each of Dr. Avtar Dhillon and Dr. Terrence Norchi also held, and continue to hold, positions with ABS, with Dr. Norchi serving as the President, Chief Executive Officer and a director of ABS and Dr. Dhillon serving as a director of ABS. As a result, each of Dr. Norchi and Dr. Dhillon were directors and/or officers of us and of ABS upon the signing of the Merger Agreement on May 10, 2013. Further, it was a condition to the closing of the Merger that Dr. Norchi and Dr. Dhillon, or their respective designees, each receive, on or before the closing of the Merger, 10,000,000 shares of our common stock in private transfers from the former holders thereof. As a result of those transfers and other shares of our common stock to which Dr. Norchi and Dr. Dhillon became entitled in exchange for their former shares and convertible notes of ABS, as of the closing of the Merger, Dr. Norchi and Dr. Dhillon collectively held or otherwise controlled approximately 25.8% of our common shares on a fully diluted basis and approximately 31.7% of our outstanding common shares. As of June 26, 2014, Dr. Norchi and Dr. Dhillon collectively held or otherwise controlled approximately 16.0% of our common shares on a fully diluted basis and approximately 25.7% of our outstanding common shares. The number of shares of our common stock received by Dr. Norchi and Dr. Dhillon in connection with the Merger was negotiated by the parties to the LOI and was determined without input from any independent third party.

As a result of his ownership of 23,260 shares of ABS immediately prior to the closing of the Merger, Dr. Arthur Rosenthal became entitled to receive an aggregate of 58,400 shares of the Company's common stock upon the closing of the Merger.

On June 19, 2013, Dr. Terrence Norchi purchased from ABS an aggregate amount of $15,397 of certain convertible promissory note and warrant positions (the "Repurchased Securities"). The Repurchased Securities had originally been issued by ABS to third parties in June 2009, were repurchased by ABS from the original holders on April 30, 2013, and were resold to Dr. Norchi and other third party purchasers effective June 19, 2013. The Repurchased Securities were first issued by ABS to the original holders thereof in a bridge loan transaction in expectation of potential financings of ABS's capital stock. In contemplation of the Merger, any such potential financing of ABS's capital stock was abandoned and such Repurchased Securities were amended and restated to provide for (i) the conversion of all amounts owed under the convertible promissory notes into an aggregate of 1,349,614 shares of the Company's common stock upon the closing of the Merger, calculating to approximately one share of the Company's common stock for each $0.27 outstanding under the notes, and (ii) the cancellation of the warrants in full upon the closing of the Merger. Accordingly, Dr. Norchi became entitled to receive 56,103 shares of the Company's common stock upon the closing of the Merger as a result of his purchase of $15,397 worth of the Repurchased Securities.

Pursuant to the terms of Dr. Norchi's former employment agreement with ABS, Dr. Norchi was entitled to receive a cash bonus in the amount of $500,000 and certain warrants to acquire ABS's capital stock upon the closing of a capital raise by ABS of at least $1,000,000. Dr. Norchi agreed to defer his right to receive such cash bonus and warrants at the time they became due and issuable upon ABS's satisfaction of that capital raise condition. In connection with the closing of the Merger on June 26, 2013 and the concurrent entry into an executive employment agreement with the Company, Dr. Norchi and ABS entered into a termination agreement and release pursuant to which Dr. Norchi's employment agreement with ABS has been terminated by mutual agreement effective as of the closing of the Merger and Dr. Norchi has agreed to waive in full any and all right to receive such cash bonus and warrants.

Commencing in February 2009, Dr. Norchi loaned ABS an aggregate amount of $275,200 in several installments. On January 21, 2010, ABS issued a promissory note to Dr. Norchi in exchange for that loan in principal amount of $275,200, which promissory note, as amended, bore interest at the rate of 6% per annum through December 31, 2009 and at the rate of 10% per annum thereafter, was due upon demand and was unsecured. On June 24, 2013, ABS paid to Dr. Norchi all amounts due and owing under such promissory note, which totaled $373,488 as of such date.

On July 11, 2011, the Company issued a total of 4,000,000 shares of common stock to its then-President, Chief Executive Officer and sole director Mr. Joey Power at a price of $0.005 per share for an aggregate amount of $20,000 in a private offering.

Review, Approval or Ratification of Transactions with Related Persons

Due to the small size of our Company, at this time we have determined to rely on our full Board of Directors to review related party transactions and identify and prevent conflicts of interest. Our Board of Directors reviews a transaction in light of the affiliations of the director, officer, employee or stockholder and the affiliations of such person’s immediate family. Transactions are presented to our Board of Directors for approval before they are entered into or, if that is not possible, for ratification after the transaction has occurred. If our Board of Directors finds that a conflict of interest exists, then it will determine the appropriate remedial action, if any. Our Board of Directors approves or ratifies a transaction if it determines that the transaction is consistent with the best interests of the Company and its stockholders. The procedures described above have been approved by resolutions adopted by our Board of Directors.

Director Independence

Our Board of Directors has determined that Dr. Avtar Dhillon and Dr. Arthur Rosenthal would qualify as “independent” as that term is defined by Nasdaq Listing Rule 5605(a)(2). Further, although we have not established separately designated audit, nominating or compensation board committees, Dr. Dhillon and Dr. Rosenthal would qualify as “independent” under Nasdaq Listing Rules applicable to all such board committees. Dr. Terrence W. Norchi would not qualify as “independent” under Nasdaq Listing Rules applicable to the Board of Directors generally or to separately designated board committees because he currently serves as our President and Chief Executive Officer. Mr. Joey Power, who served as our sole director prior to the Merger and resigned on April 23, 2013, also did not qualify as “independent” under such Nasdaq Listing Rules because he served as our President, Chief Executive Officer and Chief Financial Officer during that period.

Subject to some exceptions, Nasdaq Listing Rule 5605(a)(2) provides that an independent director is a person other than an executive officer or other employee of the Company or any other individual having a relationship which, in the option of our Board of Directors, would interfere with the exercise of independent judgment in carrying out the responsibilities of a director, provided that a director will not be independent if (a) the director is, or in the past three years has been, an employee of ours; (b) a member of the director’s immediate family is, or in the past three years has been, an executive officer of ours; (c) the director or a member of the director’s immediate family has received more than $120,000 per year in direct compensation from us within the preceding three years, other than for service as a director or benefits under a tax-qualified retirement plan or non-discretionary compensation (or, for a family member, as a non-executive employee); (d) the director or a member of the director’s immediate family is a current partner of our independent public accounting firm, or has worked for such firm in any capacity on our audit at any time during the past three years; (e) the director or a member of the director’s immediate family is, or in the past three years has been, employed as an executive officer of a company where one of our executive officers serves on the compensation committee; or (f) the director or a member of the director’s immediate family is an executive officer, partner or controlling shareholder of a company that makes payments to, or receives payments from, us in an amount which, in any twelve-month period during our past three fiscal years, exceeds the greater of 5% of the recipient's consolidated gross revenues for that year or $200,000 (except for payments arising solely from investments in our securities or payments under non-discretionary charitable contribution matching programs).

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The following table sets forth certain information regarding the beneficial ownership of our common stock by (i) each person who, to our knowledge, beneficially owns more than 5% of our common stock, (ii) each of our directors and named executive officers, and (iii) all of our directors and executive officers as a group. As of June 26, 2014, the individual that served as our sole director and officer prior to the Merger beneficially owned no shares of our common stock. Unless otherwise indicated in the footnotes to the following table, the address of each person named in the table is: c/o Arch Therapeutics, Inc., 20 William St., Suite #270, Wellesley, Massachusetts 02481. The information set forth in the table below is based on 72,076,487 shares of our common stock outstanding on June 26, 2014. Shares of our common stock subject to options, warrants, or other rights currently exercisable or exercisable within 60 days of June 26, 2014, are deemed to be beneficially owned and outstanding for computing the share ownership and percentage of the person holding such options, warrants or other rights, but are not deemed outstanding for computing the percentage of any other person. The following table is presented after taking into account the 4.9% ownership limitations to which Cranshire Master Fund, Equitec and all other investors in the Private Placement Financing are subject as a result of the terms of the Warrants issued to such investors in connection with the Private Placement Financing. As a result, the table below (a) includes such investors in the Private Placement Financing (or such other parties that beneficially own the securities held of record by such investors) that beneficially own more than 5% of our common stock taking into account the 11,400,000 shares that we directly issued in such financing (but, due to the 4.9% ownership limitations included in the Warrants, without taking into account any of the shares underlying the Warrants), and (b) excludes such investors in the Private Placement Financing that would only beneficially own more than 5% of our common stock in the absence of the ownership limitations included in the Warrants. For a further description of the Warrants, see the disclosure under the heading "Summary—Private Placement Financing."

Name of Beneficial Owner	Number of Shares Beneficially Owned	Percentage Beneficially Owned (1)	
5%+ Stockholders:			
Twelve Pins Partners, LLC (2)	10,000,000	13.87	%
Fitzroy Ltd (3)	5,000,000	6.94	%
CCA, as investment manager for Cranshire Master Fund and a managed account for Equitec (4)	4,000,000	5.55	%
Directors and Named Executive Officers:			
Avtar Dhillon (5)	7,293,706	10.10	%
Terrence W. Norchi (6)	11,544,076	15.99	%
Arthur Rosenthal (7)	191,733	*	
William M. Cotter (8)	150,000	*	
Alan T. Barber (9)	31,250	*	
Current Directors and Executive Officers as a Group (5 persons)	19,210,765	26.47	%

* Less than 1%

(1) Except as otherwise indicated, we believe that each of the beneficial owners of the common stock listed above, based on information furnished by such owners, has sole investment and voting power with respect to the shares listed as beneficially owned by such owner, subject to community property laws where applicable. Beneficial ownership is determined in accordance with the rules of the SEC and generally includes voting or investment power with respect to securities.

(2) Dr. Norchi is the sole member of Twelve Pins Partners, LLC and has sole voting and investment control with respect to the shares it holds. Dr. Norchi disclaims beneficial ownership of these securities except to the extent of his pecuniary interest therein.

(3) Includes 2,500,000 shares exercisable within 60 days after June 26, 2014. Roger Knox exercises the sole voting and dispositive power over the securities held of record held by Fitzroy Ltd. The address of the stockholder is Trust Company Complex, Ajeltake Road, Ajeltake Island, Majuro, Marshall Islands MH96960.

(4) Represents (a) 3,200,000 shares of common stock held of record by Cranshire Master Fund, which represent approximately 4.4% of the common stock, and (b) 800,000 shares of common stock held of record by Equitec, which represent approximately 1.1% of the common stock. CCA serves as the investment manager of Cranshire Master Fund and as the investment manager to a managed account for Equitec, and consequently has voting control and investment discretion over securities held of record by each such entity. Mr. Kopin has voting control over CCA. As a result, each of Mr. Kopin and CCA may be deemed to have beneficial ownership (as determined under Section 13(d) of the Exchange Act) of the securities held of record by Cranshire Master Fund and Equitec. The address of the stockholders is c/o Cranshire Capital Advisors, LLC, 3100 Dundee Road, Suite 703, Northbrook, Illinois 60062.

(5) Includes 133,333 shares subject to an option exercisable within 60 days after June 26, 2014.

(6) Represents (a) 10,000,000 shares of our common stock held by Twelve Pins Partners, LLC, with respect to which Dr. Norchi holds sole voting and investment control, (b) 1,419,076 shares issued to Dr. Norchi upon the closing of the Merger in exchange for the cancellation of shares of common stock and convertible notes of ABS owned by him immediately prior to the closing of the Merger. Dr. Norchi disclaims beneficial ownership of the securities held by Twelve Pins Partners, LLC except to the extent of his pecuniary interest therein, and (c) 125,000 shares subject to an option exercisable within 60 days after June 26, 2014.

(7) Includes 133,333 shares subject to an option exercisable within 60 days after June 26, 2014.

(8) Represents 150,000 shares subject to options exercisable within 60 days after June 26, 2014.

(9) Represents 31,250 shares subject to an option exercisable within 60 days after June 26, 2014.

LEGAL MATTERS

The validity of the common stock being offered hereby has been passed upon for us by McDonald Carano Wilson LLP, Reno, Nevada.

EXPERTS

Moody, Famiglietti & Andronico, LLP, an independent registered public accounting firm, has audited our consolidated financial statements for the years ended September 30, 2013 and 2012, and for the period from inception (March 6, 2006) to September 30, 2013, as stated in its report appearing herein, and such audited consolidated financial statements have been so included in reliance upon the report of such firm given upon its authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read or obtain a copy of these reports at the SEC's public reference room at 100 F Street, N.E., Washington, D.C. 20549, on official business days during the hours of 10:00 am to 3:00 pm. You may obtain information on the operation of the public reference room and its copy charges by calling the SEC at 1-800-SEC-0330. The SEC maintains a website, at http://www.sec.gov, that contains registration statements, reports, proxy information statements and other information regarding registrants that file electronically with the SEC, including us. Our website address is http://www.archtherapeutics.com. We have not incorporated by reference into this prospectus the information on our website, and you should not consider it to be a part of this document.

We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the shares of common stock being offered by this prospectus. This prospectus is part of that registration statement. This prospectus does not contain all of the information set forth in the registration statement or the exhibits to the registration statement. For further information with respect to us and the shares we are offering pursuant to this prospectus, you should refer to the registration statement and its exhibits. Statements contained in this prospectus as to the contents of any contract, agreement or other document referred to are not necessarily complete, and you should refer to the copy of that contract or other documents filed as an exhibit to the registration statement. You may read or obtain a copy of the registration statement at the SEC's public reference room and website referred to above.

Arch Therapeutics, Inc.

(A Development Stage Company)

CONSOLIDATED FINANCIAL STATEMENTS

Index to Consolidated Financial Statements

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors of Arch Therapeutics, Inc.

Wellesley, Massachusetts

We have audited the accompanying consolidated balance sheets of Arch Therapeutics, Inc. and subsidiary (the “Company”) as of September 30, 2013 and 2012, and the related consolidated statements of operations, changes in stockholders’ equity (deficit) and cash flows for the years then ended and for the period from inception (March 6, 2006) through September 30, 2013. These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company’s internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall consolidated financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Arch Therapeutics, Inc. and subsidiary as of September 30, 2013 and 2012, and the results of their operations and their cash flows for the years then ended and for the period from inception (March 6, 2006) through September 30, 2013, in conformity with accounting principles generally accepted in the United States of America.

The accompanying consolidated financial statements have been prepared assuming that Arch Therapeutics, Inc. and subsidiary will continue as a going concern. As discussed in Notes 1 and 2 to the consolidated financial statements, the Company has an accumulated deficit, has suffered significant net losses and negative cash flows from operations, and has limited working capital that raises substantial doubt about its ability to continue as a going concern. Management’s plans in regard to these matters are also described in Notes 1 and 2. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ Moody, Famiglietti & Andronico, LLP

Tewksbury, MA

April 30, 2014

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Arch Therapeutics, Inc.
(A Development Stage Company)
Consolidated Balance Sheets
September 30, 2013 and 2012

	September 30, 2013	September 30, 2012
ASSETS		
Current assets:		
Cash and cash equivalents	$ 557,319	$ 17,139
Promissory Note Receivable	1,000,000	-
Prepaid expenses and other current assets	19,629	3,308
Total current assets	1,576,948	20,447
Long Term Assets:		
Property and equipment, net	322	908
Other Assets	10,062	-
Total long-term assets	10,384	908
Total assets	$ 1,587,332	$ 21,355
LIABILITIES AND STOCKHOLDERS' EQUITY (DEFICIT)		
Current liabilities:		
Current maturities of convertible notes payable	$ -	$ 1,395,000
Current maturities of convertible notes payable, related parties	-	105,000
Notes payable, related party	-	275,200
Accounts payable	314,769	258,426
Accrued expenses and other liabilities	140,840	49,510
Current Portion of accrued interest	-	352,755
Accrued interest to related parties	-	116,548
Total current liabilities	455,609	2,552,439
Long-term liabilities:		
Note payable	944,707	-
Convertible notes payable, net of current maturities	-	235,000
Accrued interest, net of current portion	-	6,351
Total long-term liabilities	944,707	241,351
Total liabilities	1,400,316	2,793,790
Commitments and contingencies		
Stockholders’ equity (deficit):		
Common stock, $0.001 par value, 300,000,000 shares authorized at September 30, 2013 and 75,000,000 at September 30, 2012, 60,145,237 and 5,645,212 shares issued and outstanding at September 30, 2013 and September 30, 2012, respectively	60,145	5,645
Additional paid in capital	4,758,742	-
Deficit accumulated during the development stage	(4,631,871)	(2,778,080)
Total stockholders’ equity (deficit)	187,016	(2,772,435)

Total liabilities and stockholders' equity (deficit)	$ 1,587,332	$ 21,355

The accompanying notes are an integral part of these consolidated financial statements

Arch Therapeutics, Inc.
(A Development Stage Company)
Consolidated Statements of Operations
Years Ended September 30, 2013 and 2012 and the
Period from Inception (March 6, 2006) through September 30, 2013

	Fiscal year ended September 30, 2013	Fiscal year ended September 30, 2012	Period from Inception (March 6, 2006) through September 30, 2013
Other Revenues	$ -	$ -	$ 431,461
Operating expenses:			
General and administrative expenses	1,526,075	333,503	3,662,040
Research and development expenses	218,901	87,021	866,673
Total operating expenses	1,744,976	420,524	4,528,713
Operating loss	(1,744,976)	(420,524)	(4,097,252)
Other (expense) income:			
Interest expense	(108,879)	(156,865)	(588,597)
Other income	64	478	53,978
Total other expense	(108,815)	(156,387)	(534,619)
Net loss	$ (1,853,791)	$ (576,911)	$ (4,631,871)
Net loss per common share basic and diluted	$ (0.09)	$ (0.10)	
Weighted average number of shares outstanding	21,366,752	5,645,212	

The accompanying notes are an integral part of these consolidated financial statements.

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Arch Therapeutics, Inc.

(A Development Stage Company)

Consolidated Statements of Changes in Stockholders' Equity (Deficit)

Period from Inception (March 6, 2006) through September 30, 2013

	Common Stock $0.001 Par Value Shares	Amount	Additional Paid-in-Capital	Deficit Accumulated During the Development Stage	Total Stockholders' Deficit
Balance at inception (March 6, 2006)	-	$ -	$ -	$ -	$ -
Net loss	-	-	-	(18,153)	(18,153)
Balance at September 30, 2006	-	-	-	(18,153)	(18,153)
Issuance of common stock to founder on November 13 for $33 ($0.00001 per share)	3,198,105	3,198	-	-	3,198
Net loss	-	-	-	(450,038)	(450,038)
Balance at September 30, 2007	3,198,105	3,198	-	(468,191)	(464,993)
Net loss	-	-	-	(233,040)	(233,040)
Balance at September 30, 2008	3,198,105	3,198	-	(701,231)	(698,033)
Issuances of common stock to directors on May 13 (1)	1,524,721	1,525	-	-	1,525
Issuances of common stock in connection with a technology license on May 13 (1)	282,886	283	-	-	283
Issuances of common stock to advisors and consultants on May 13 (1)	11,242	11	-	-	11
Issuances of common stock to advisors and consultants on July 22 (1)	42,448	42	-	-	42

Issuances of common stock to advisors and consultants on September 22 (1)	8,722	9	-	-	9
Net loss	-	-	-	(504,687)	(504,687)
Balance at September 30, 2009	5,068,124	5,068	-	(1,205,918)	(1,202,527)
Issuances of common stock to advisors and consultants on October 21 (1)	259,240	259	-	-	259
Net loss	-	-	-	(420,093)	(420,093)
Balance at September 30, 2010	5,327,364	5,327	-	(1,626,011)	(1,622,361)
Issuances of common stock to advisors and consultants on December 16 (1)	82,279	82	-	-	82
Issuances of common stock to directors on May 24 (1)	213,764	214	-	-	214
Issuances of common stock to advisors and consultants on May 24 (1)	12,114	12	-	-	12
Net loss	-	-	-	(573,472)	(573,472)
Balance at September 30, 2011	5,635,521	5,636	-	(2,201,160)	(2,195,524)
Issuance of common stock to an advisor on June 17 (1)	9,691	9	-	-	9
Net loss	-	-	-	(576,911)	(576,911)
Balance at September 30, 2012	5,645,212	5,645	-	(2,778,080)	(2,772,435)
Net loss	-	-	-	(1,853,791)	(1,853,791)
Equity acquired in reverse merger on June 26	41,500,000	41,500	(41,500)	-	-
Issuance of common stock and 2,500,000 warrants to purchase 2,500,000 shares of common stock on June 26 for $1,250,000 ($0.50 per share)	2,500,000	2,500	1,247,500	-	1,250,000
Exchange of debt and accrued interest for common stock pursuant to reverse merger on June 26	9,000,025	9,000	2,461,022	-	2,470,022
Issuance of common stock and 500,000 warrants to purchase 500,000 shares of common stock on July 3 for $250,000	500,000	500	249,500	-	250,000

($0.50 per share)

Issuance of common stock and 1,000,000 warrants to purchase 1,000,000 shares of common stock on August 30 for $500,000 ($0.50 per share)	1,000,000	1,000	499,000	-	500,000
Grant of one warrant to purchase 145,985 shares of common stock issued with note payable on September 30	-	-	55,293	-	55,293
Stock based compensation expense	-	-	287,927	-	287,927
Balance at September 30, 2013 (restated)	60,145,237	$ 60,145	$4,758,742	$(4,631,871)	$187,016

(1) The Company performed an analysis of the value of its common stock as of each of these dates and determined the value per share is equivalent to par value which is considered to be de minimis.

The accompanying notes are an integral part of these consolidated financial statements.

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Arch Therapeutics, Inc.
(A Development Stage Company)
Consolidated Statement of Cash Flows
Years Ended September 30, 2013 and 2012 and the
Period from Inception (March 6, 2006) through September 30, 2013

	Fiscal year ended September 30, 2013 (restated)	Fiscal year ended September 30, 2012	Period from Inception (March 6, 2006) through September 30, 2013 (restated)
Cash flows from operating activities:			
Net loss	$ (1,853,791)	$ (576,911)	$ (4,631,871)
Adjustments to reconcile net loss to cash used in operating activities:			
Depreciation expense	586	3,372	18,371
Other noncash adjustments	(92)	-	5,752
Stock based compensation	287,927	-	287,927
Noncash interest expense on convertible notes payable	82,147	118,657	441,253
Noncash interest expense on notes payable to related party	25,599	37,211	142,057
Repayment of accrued interest to related party	(98,288)	-	(98,288)
Issuance of common stock for services	-	1	253
Changes in operating assets and liabilities:			
(Increase) decrease in:			
Prepaid expenses and other current assets	(16,321)	648	(19,629)
Other Assets	(10,062)	-	(10,062)
Increase (decrease) in:			
Accounts payable	56,343	139,878	314,769
Accrued expenses and other liabilities	91,332	22,508	140,840
Net cash used in operating activities	(1,434,620)	(254,636)	(3,408,628)
Cash flows from investing activities:			
Purchases of property and equipment	-	-	(19,053)
Net cash used in investing activities	-	-	(19,053)
Cash flows from financing activities:			
Proceeds from issuance of common stock and warrants	2,000,000	-	2,000,000
Repayment of notes payable to related party	(275,200)	-	(275,200)
Proceeds from issuance of notes payable to related party	-	-	275,200
Proceeds from issuance of convertible notes payable to related party	-	-	105,000
Proceeds from issuance of convertible notes payable	250,000	235,000	1,880,000
Net cash provided by financing activities	1,974,800	235,000	3,985,000

Net increase in cash and cash equivalents	540,180	(19,636)	557,319
Cash and cash equivalents, beginning of period	17,139	36,775	-
Cash and cash equivalents, end of period	$ 557,319	$ 17,139	$ 557,319
Supplemental disclosure of cash flow information and non-cash financing activities			
Cash paid during the period for:			
Interest	$ 98,288	$ -	$ 98,288
Income taxes	$ -	$ -	$ -
Debt with warrants issued for promissory notes receivable	$ 1,000,000	$ -	$ 1,000,000
Exchange of convertible notes and related accrued interest for common stock	$ 2,470,022	$ -	$ 2,470,022

The accompanying notes are an integral part of these consolidated financial statements.

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Notes to the Consolidated Financial Statements

1. DESCRIPTION OF BUSINESS

Arch Therapeutics, Inc. and subsidiary (the "Company") was incorporated under the laws of State of Nevada on September 16, 2009 under the name "Almah, Inc." to pursue the business of distributing automobile spare parts online. Effective June 26, 2013, the Company completed a merger (the "Merger") with Arch Biosurgery, Inc. (formerly known as Arch Therapeutics, Inc.), a Massachusetts corporation ("ABS"), and Arch Acquisition Corporation ("Merger Sub"), the Company's wholly owned subsidiary formed for the purpose of the transaction, pursuant to which Merger Sub merged with and into ABS and ABS thereby became the wholly owned subsidiary of the Company. As a result of the acquisition of ABS, the Company has abandoned its prior business plan and has changed its operations to the business of developing polymers comprising synthetic peptides intended to form gel-like barriers over wounds to stop or control bleeding and seal wounds. The Company is in the development stage and has generated no operating revenues to date. The Company is currently devoting substantially all of its efforts toward product research and development. Also in connection with the Merger, we relocated our principal office to Wellesley, Massachusetts.

ABS was incorporated under the laws of Commonwealth of Massachusetts on March 6, 2006 as Clear Nano Solutions, Inc. On April 7, 2008, ABS changed its name to Arch Therapeutics, Inc. Effective upon the closing of the Merger, ABS changed its name from Arch Therapeutics, Inc. to Arch Biosurgery, Inc.

The Company is in the development stage and is devoting substantially all of its efforts toward product research and development. The Company has incurred losses of $4,631,871 since inception. To date, the Company has principally raised capital through the issuance of debt, convertible debt and the sale of investment units consisting of common stock and warrants.

The Company expects to incur substantial expenses for the foreseeable future relating to the research, development and commercialization of its potential products. The Company does not have sufficient cash and cash equivalents to support its current operating plan. The Company will be required to raise additional capital, obtain alternative means of financial support, or both, in order to continue to fund operations. However, there can be no assurance that the Company will be successful in securing additional resources on terms acceptable to the Company, if at all. Therefore, there exists substantial doubt about the Company's ability to continue as a going concern. The consolidated financial statements do not include any adjustments related to the recoverability of assets that might be necessary despite this uncertainty.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Accounting

The Company is in the development stage and is devoting substantially all of its efforts to raising capital, developing technologies, establishing customer and vendor relationships, and recruiting new employees. Accordingly, the accompanying consolidated financial statements are presented under the development stage accounting provisions of the Financial Accounting Standards Board (FASB).

Use of Estimates

Management is required to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the dates of the consolidated financial statements and the reported amounts of revenue and expenses during the reporting periods. Actual results could differ from those estimates.

Cash and Cash Equivalents

The Company considers all highly liquid investments with an original maturity of three months or less to be cash equivalents.

Concentration of Credit Risk

Financial instruments that potentially subject the Company to concentration of credit risk consist primarily of cash and cash equivalents. The Company maintains its cash in bank deposits accounts, which, at times, may exceed federally insured limits. The Company has not experienced any losses in such accounts. The Company believes it is not exposed to any significant credit risk on cash and cash equivalents.

Property and Equipment

Property and equipment are recorded at cost and depreciated using the straight-line method over the estimated useful life of the related asset. Upon sale or retirement, the cost and accumulated depreciation are eliminated from their respective accounts, and the resulting gain or loss is included in income or loss for the period. Repair and maintenance expenditures are charged to expense as incurred.

Impairment of Long-Lived Assets

Long-lived assets are reviewed for impairment when circumstances indicate the carrying value of an asset may not be recoverable in accordance with ASC 360, *Property, Plant and Equipment*. For assets that are to be held and used, impairment is recognized when the estimated undiscounted cash flows associated with the asset or group of assets is less than their carrying value. If impairment exists, an adjustment is made to write the asset down to its fair value, and a loss is recorded as the difference between the carrying value and fair value. Fair values are determined based on quoted market values, discounted cash flows or internal and external appraisals, as applicable. Assets to be disposed of are carried at the lower of carrying value or estimated net realizable value.

Convertible Debt

The Company records a discount to convertible notes for the intrinsic value of conversion options embedded in debt instruments based upon the differences between the fair value of the underlying preferred stock at the commitment date of the note transaction and the effective conversion price embedded in the note. Debt discounts under these arrangements are amortized to noncash interest expense using the effective interest rate method over the term of the related debt to their date of maturity. If a security or instrument becomes convertible only upon the occurrence of a future event outside the control of the Company, or, is convertible from inception, but contains conversion terms that change upon the occurrence of a future event, then any contingent beneficial conversion feature is measured and recognized when the triggering event occurs and contingency has been resolved.

Income Taxes

In accordance with ASC 740, *Income Taxes*, the Company recognizes deferred tax assets and liabilities for the expected future tax consequences or events that have been included in the Company's consolidated financial statements and/or tax returns. Deferred tax assets and liabilities are based upon the differences between the financial statement carrying amounts and the tax bases of existing assets and liabilities and for loss and credit carryforwards using enacted tax rates expected to be in effect in the years in which the differences are expected to reverse. Deferred tax assets are reduced by a valuation allowance if it is more likely than not that some portion or all of the deferred tax asset will not be realized.

The Company provides reserves for potential payments of tax to various tax authorities related to uncertain tax positions when management determines that it is probable that a loss will be incurred related to these matters and the amount of the loss is reasonably determinable. The Company has no reserves related to uncertain tax positions as of September 30, 2013 and 2012.

Revenue

The Company recognizes revenue in accordance with ASC 605-28, the milestone method of revenue recognition for arrangements involving research or development or other performance obligations whereby a portion or all of the consideration is contingent upon achievement of milestone events. Under these provisions, arrangement consideration contingent upon achievement of a milestone is recognized by the Company in the period the milestone is met when the Company concludes that the milestone is substantive. Upon inception of each applicable arrangement, the Company assesses each milestone and the consideration payable upon achievement of each milestone and concludes that the milestone is substantive if all of the following criteria are met: (i) the consideration is commensurate with the Company's performance or the enhanced value of a delivered item which is a direct result of the Company's performance to achieve the milestone, (ii) the consideration relates to past performance and there are no refund rights or other penalties related to the consideration based on completion of future performance and (iii) the consideration is reasonable relative to all the deliverables and payment terms within the arrangement. The related consideration for milestones that are considered substantive is recognized in its entirety in the period which the milestone is met. For the period from inception (March 6, 2006) through September 30, 2013 the Company has not recorded any revenue for these types of activities.

Other Revenue

During the period from inception (March 6, 2006) to September 30, 2013, the Company had a contract with a pharmaceutical company to allow that pharmaceutical company access to materials for a fixed period of time. Other revenue from this contract was recognized based upon the proportional performance method, over the period of access. The Company does not consider this revenue to be significant and does not consider this event to be a regular practice.

Research and Development

The Company expenses internal and external research and development costs, including costs of funded research and development arrangements, in the period incurred. Research and development related income is recognized over the term of the related project under the proportional performance method based on costs incurred.

Accounting for Stock-Based Compensation

The Company accounts for employee stock-based compensation in accordance with the guidance of FASB ASC Topic 718, *Compensation-Stock Compensation,* which requires all share-based payments to employees, including grants of employee stock options, to be recognized in the consolidated financial statements based on their fair values. The Company accounts for non-employee stock-based compensation in accordance with the guidance of FASB ASC Topic 505, *Equity* ("FASB ASC Topic 505"), which requires that companies recognize compensation expense based on the estimated fair value of options granted to non-employees over their vesting period, which is generally the period during which services are rendered by such non-employees. FASB ASC Topic 505 requires the Company to re-measure the fair value of stock options issued to non- employee at each reporting period during the vesting period or until services are complete.

In accordance with FASB ASC Topic 718, *Compensation-Stock Compensation*, the Company has elected to use the Black-Scholes option pricing model to determine the fair value of options granted and recognizes the compensation cost of share-based awards on a straight-line basis over the vesting period of the award.

The determination of the fair value of share-based payment awards utilizing the Black-Scholes model is affected by the fair value of the common stock and a number of other assumptions, including expected volatility, expected life, risk-free interest rate and expected dividends. The Company does not have a history of market prices of the common stock, and as such volatility is estimated in accordance with ASC 718-10-S99 Staff Accounting Bulletin ("SAB") No.

107, *Share-Based Payment* (“SAB No. 107”), using historical volatilities of similar public entities. The life term for awards and, therefore, uses simplified method for all “plain vanilla” options, as defined in SAB No. 107 and the contractual term for all other employee and non-employee awards. The risk-free interest rate assumption is based on observed interest rates appropriate for the terms of our awards. The dividend yield assumption is based on history and the expectation of paying no dividends. Forfeitures are estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. Stock-based compensation expense, when recognized in the consolidated financial statements, is based on awards that are ultimately expected to vest.

Fair Value Measurements

The Company measures both financial and nonfinancial assets and liabilities in accordance with FASB ASC Topic 820, *Fair Value Measurements and Disclosures*, except those that are recognized or disclosed in the consolidated financial statements at fair value on a recurring basis. The standard created a fair value hierarchy which prioritizes the inputs to valuation techniques used to measure fair value into three broad levels as follows: Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities; Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly; and Level 3 inputs are unobservable inputs that reflect the Company’s own assumptions about the assumptions market participants would use in pricing the asset or liability.

The Company's financial instruments include cash and cash equivalents. Because of their short maturity, the carrying amount of cash and cash equivalents are considered to approximate fair value.

Subsequent Events

The Company evaluated all events or transactions that occurred through April 30, 2014 the date which these consolidated financial statements were available to be issued. The Company disclosed material subsequent events in Note 14.

Going Concern Basis of Accounting

The Company does not currently believe its existing cash resources are sufficient to meet its anticipated needs during the next twelve months. As reflected in the consolidated financial statements, the Company has an accumulated deficit, has suffered significant net losses and negative cash flows from operations, and has limited working capital. The Company expects to incur substantial expenses for the foreseeable future for the research, development and commercialization of its potential products. In addition, the Company will require additional financing in order to seek to license or acquire new assets, research and develop any potential patents and the related compounds, and obtain any further intellectual property that the Company may seek to acquire. The Company does not have sufficient cash and cash equivalents to support its current operating plan. The Company will be required to raise additional capital, obtain alternative means of financial support, or both, in order to continue to fund operations. Therefore, there exists substantial doubt about the Company's ability to continue as a going concern. Historically, the Company has funded its operations primarily through equity and debt financings.

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern, which contemplates the realization of assets and the settlement of liabilities and commitments in the normal course of business. The consolidated financial statements do not include any adjustments that might result from this uncertainty.

The consolidated financial statements include the accounts of the Company as of September 30, 2013. All significant intercompany balances and transactions have been eliminated in consolidation.

Correction of an Immaterial Error

In connection with comments received from the Securities and Exchange Commission ("SEC") on April 18, 2014, with respect to a registration statement filed on Form S-1 on March 21, 2014, the Company identified errors in the presentation of issuances of stock and warrants in the consolidated statements of changes in stockholders' equity (deficit) and presentation matters in the consolidated statement of cash flows, as well as related footnotes.

The Company assessed the materiality of these errors for each period presented in accordance with the guidance in Accounting Standards Codification (ASC) Topic 250, *"Accounting Changes and Error Corrections,"* ASC Topic 250-10-S99-1, *"Assessing Materiality"*, and determined that the errors were immaterial to the consolidated financial statements taken as a whole. The Company has revised its consolidated statements of changes in stockholders' equity (deficit) and cash flows, as well as related footnotes as of and for the year ended September 30, 2013 and for the period from inception (March 6, 2006) through September 30, 2013 and will reflect these corrections in all future filings that contain such consolidated financial statements.

3. PROPERTY AND EQUIPMENT

At September 30, 2013 and 2012, property and equipment consisted of:

	Estimated Useful Life	2013	2012
Furniture and fixtures	5 years	$2,925	$11,791
Computer equipment	3 years	-	4,196
Lab equipment	5 years	3,066	3,066
		5,991	19,053
Less - accumulated depreciation		5,669	18,145
		$322	$908

Depreciation expense for the years ended September 30, 2013 and 2012, and for the period from inception (March 6, 2006) through September 30, 2013 was $586, $3,372 and $18,731, respectively.

4. INCOME TAXES

The principal components of the Company's net deferred tax assets consisted of the following at September 30:

	2013	2012
Net operating loss carryforwards	$1,332,955	$884,891
Research and experimentation credit carryforwards	32,559	32,559
Stock based compensation	115,171	-
Fixed assets	7,492	7,258
Accrued expenses	35,744	10,000
Gross deferred tax assets	1,523,921	934,708
Deferred tax asset valuation allowance	(1,523,921)	(934,708)
Net deferred tax assets	$-	$-

As of September 30, 2013 and 2012, the Company had federal net operating loss carryforwards of approximately $3,486,000 and $2,228,000, respectively, which may be available to offset future taxable income and which would begin to expire in 2026. As of September 30, 2013 and 2012, the Company had federal research and experimentation credit carryforwards of $32,559 which may be available to offset future income tax liabilities and which would begin to expire in 2028.

As of September 30, 2013 and 2012, the Company had state net operating loss carryforwards of approximately $2,800,000 and $2,120,000, respectively, which may be available to offset future taxable income and which would begin to expire in 2013. As of September 30, 2013 and 2012, the Company had state research and experimentation credit carryforwards of $10,135 which may be able to offset future income tax liabilities and which would begin to expire in 2023.

As the Company has not yet achieved profitable operations, management believes the tax benefits as of September 30, 2013 and 2012 did not satisfy the realization criteria set forth in FASB ASC Topic 740, Income Taxes, and therefore has recorded a valuation allowance for the entire deferred tax asset. The valuation allowance increased in 2013 and 2012 by approximately $589,213 and $198,220, respectively. The Company’s effective income tax rate differed from the federal statutory rate due to state taxes and the Company’s full valuation allowance, the latter of which reduced the Company’s effective federal income tax rate to zero.

The Company experienced an ownership change as a result of the Merger described in Note 6, causing a limitation on the annual use of the net operating loss carryforwards, which are subject to a substantial annual limitation due to the ownership change limitations set forth in Internal Revenue Code Section 382 and similar state provisions

5. RELATED PARTY TRANSACTIONS

Notes Payable, Related Party

In February 2009, ABS issued a promissory note (the “Note”) to Terrence Norchi (the “Note Holder”), a shareholder and director of the Company. During the period from February 2009 through February 2011, aggregate cash proceeds of $275,200 were advanced to the Company under Note. The Note accrued interest at a rate of 6% per year through December 31, 2009 and 10% per year beginning January 1, 2010. The original maturity date of the Note was August 10, 2010. In connection with the Note, the Company issued warrants to purchase shares of convertible preferred stock at the purchase price of such stock equal to 20% of the principal balance of the Note divided by the purchase price.

Upon maturity of the Note on August 10, 2010, the Note Holder entered into an agreement of forbearance with the Company extending the time to repay the Note and accrued interest for an unspecified period of time. Under the terms of the agreement, interest will continue to accrue at 10% per year. On June 24, 2013 the Company repaid the full amount of principle and accrued interest and the Note Holder agreed to cancel all related warrants.

Convertible Notes Payable, Related Parties

From June 2006 through December 2008, ABS issued convertible notes to related parties for aggregate cash proceeds of $105,000. The notes accrued interest at various rates ranging from 6% to 10% per year and had an original maturity date of two years from issuance. The “Convertible Notes” were originally convertible into shares of convertible preferred stock upon the closing of a preferred equity financing of at least $1,000,000, the number of which was to be determined by dividing the principle and accrued interest by the purchase price of the convertible preferred stock ("Conversion Price").

In connection with the notes, ABS issued warrants to purchase additional shares of convertible preferred stock at the conversion price equal to an aggregate amount of 20% of the principle. At September 30, 2012, $55,000 of the convertible notes with related parties had matured. In January 2013, an additional $50,000 matured bringing the total to $105,000. Each of the holders of the matured notes entered into an agreement of forbearance with the Company extending the time to repay the matured notes and accrued interest for an unspecified amount of time. Under the terms of the agreement, interest continued to accrue at the rate in effect at the time of maturity.

On April 20, 2013, the Convertible Note Holders and the Company entered into an agreement to cancel the related warrants and exchange the notes (with a total aggregate principal balance of $1,880,000) and the interest accrued through April 30, 2013 for the Company’s common stock upon the completion of the Merger on June 26, 2013 as described in Note 6.

Directors Compensation

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549
FORM 10-K

x **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the Fiscal Year Ended December 31, 2018

OR

o **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the Transition Period from______________________to______________________

Commission File No. 1-32525

AMERIPRISE FINANCIAL INC

(Exact name of registrant as specified in its charter)

Delaware	**13-3180631**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
1099 Ameriprise Financial Center, Minneapolis, Minnesota	**55474**
(Address of principal executive offices)	(Zip Code)

Registrant’s telephone number, including area code: (612) 671-3131

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock (par value $.01 per share)	**The New York Stock Exchange, Inc.**

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes x No o

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes o No x

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities
Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such
reports), and (2) has been subject to such filing requirements for the past 90 days. Yes x No o

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes x No o

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not
be contained, to the best of registrant’s knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

Accelerated Filer o

Large Accelerated Filer x
Non-Accelerated Filer o
Smaller reporting company o
Emerging growth company o

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. o

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes o No x

The aggregate market value, as of June 30, 2018, of voting shares held by non-affiliates of the registrant was approximately $19.9 billion.

Indicate the number of shares outstanding of each of the registrant's classes of common stock, as of the latest practicable date.

Class	**Outstanding at February 15, 2019**
Common Stock (par value $.01 per share)	135,496,261 shares

DOCUMENTS INCORPORATED BY REFERENCE

Part III: Portions of the registrant's Proxy Statement to be filed with the Securities and Exchange Commission in connection with the Annual Meeting of Shareholders to be held on April 24, 2019 ("Proxy Statement").

AMERIPRISE FINANCIAL, INC.
FORM 10-K
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PART I.
Item 1. Business
Overview
Ameriprise is a diversified financial services company with a more than 120-year history of providing solutions to help clients confidently achieve their financial objectives. Ameriprise Financial, Inc. is a holding company incorporated in Delaware that primarily engages in business through its subsidiaries. Accordingly, references to “Ameriprise,” “Ameriprise Financial,” the “Company,” “we,” “us,” and “our” may refer to Ameriprise Financial, Inc. exclusive to our entire family of companies, or to one or more of our subsidiaries. Our headquarters is located at 55 Ameriprise Financial Center, Minneapolis, Minnesota 55474. We also maintain executive offices in New York City.
We are a long-standing leader in financial planning and advice with $823 billion in assets under management and administration as of December 31, 2018. We offer a broad range of products and services designed to achieve individual and institutional clients’ financial objectives. Our strategy is centered on helping our clients confidently achieve their goals by providing holistic advice and by managing and protecting their assets and income. We utilize two go-to-market approaches in carrying out this strategy: Wealth Management and Asset Management.
<u>Wealth Management</u>
Our wealth management capabilities are centered on the long-term, personal relationships between our clients and our financial advisors (our “advisors”). Through our advisors, we offer financial planning and advice, as well as banking and full-service brokerage services, primarily to retail clients through our affiliated advisors. These products and services are designed to be used as solutions for our clients’ cash and liquidity, asset accumulation, income, protection, and estate and wealth transfer needs. The financial product solutions we offer through our advisors include both our own products and services and the products of other companies. Our advisor network is the primary channel through which we offer our own life and disability income insurance, annuity products and services, and a range of banking products. Our focus on personal relationships, as demonstrated by our exclusive *Confident Retirement*® approach to financial planning, allows us to address our clients’ evolving financial and retirement-related needs to help them live brilliantly, now and in the future. Over the years we have evolved our target market to move more upmarket as we respond to the needs of our clients. We currently view our primary target market segment as the mass affluent and affluent (which we define as households with investable assets of more than $100,000), and increasingly those with $500,000 to $5,000,000 in investable assets.
Our network of approximately 10,000 advisors is the primary means through which we engage in our wealth management activities. We offer our advisors training, tools, leadership, marketing programs and other field and centralized support to assist them in serving their clients. Our nationally recognized brand combined with our practice vision, local marketing and field support, integrated operating platform, practice expansion and succession opportunities and comprehensive set of products and solutions create a compelling value proposition for financial advisors, as evidenced by our strong advisor retention rate and our ability to attract and retain experienced and productive advisors. We continuously invest in, develop, and refine capabilities and tools designed to maximize advisor productivity and client satisfaction.
We are in a compelling position to capitalize on significant demographic and market trends driving increased demand for financial advice and solutions. In the U.S., the ongoing transition of baby boomers into retirement continues to drive demand for financial advice and solutions. In addition, the amount of investable assets held by mass affluent and affluent households (our target market) has grown and now accounts for over half of U.S. investable assets. We believe our differentiated financial planning model, broad range of products and solutions, and demonstrated financial strength throughout the economic and market uncertainty of recent years position us to capitalize on these trends and best serve our clients in achieving their goals.
<u>Asset Management</u>
Our asset management capabilities (represented by the *Columbia Threadneedle Investments*® brand) are global in scale. We offer a broad spectrum of investment advice and products to individual, institutional and high-net worth investors. These investment products are primarily provided through third parties, though we also provide our asset management products through our advisor channel. Our underlying asset management philosophy is rooted in delivering consistently strong, competitive investment performance. The quality and breadth of our asset management

capabilities are demonstrated by 101 of our mutual funds being rated as four- and five-star funds by Morningstar. We are positioned to continue to grow our assets under management in the long-term and strengthen our asset management offerings to existing and new clients. Our asset management capabilities are well positioned to address mature markets in the U.S. and Europe. We also have the capability to leverage our existing strengths in order to effectively expand into new global and emerging markets. In the past few years, we have expanded beyond our traditional strengths in the U.S. and UK to gather assets in Continental Europe, Asia, Australia, the Middle East, South America and Africa. In addition, we continue to identify and pursue opportunities to leverage the collective capabilities of our global asset management business in order to enhance our current range of investment solutions, develop new solutions and investment management strategies that are responsive to client demand in an increasingly complex marketplace, and maximize the distribution capabilities of our global business.

Financial markets and macroeconomic conditions have had and will continue to have a significant impact on our operating and performance results. In addition, the business, political and regulatory environment in which we operate is subject to elevated uncertainty and substantial and frequent change. Accordingly, we expect to continue focusing on our key strategic objectives and obtaining operational and strategic leverage from our core capabilities. The success of these and other strategies may be affected by the factors discussed below in Item 1A of this Annual Report on Form 10-K - “Risk Factors”, and other factors as discussed herein.

The financial results from the businesses underlying our go-to-market approaches are reflected in our five operating segments:

- Advice & Wealth Management;
- Asset Management;
- Annuities;
- Protection; and
- Corporate & Other.

As a diversified financial services firm, we believe our ability to gather assets across the enterprise is best measured by our assets under management and administration metric. At December 31, 2018, we had $823 billion in assets under management and administration compared to $897 billion as of December 31, 2017. For a more detailed discussion of assets under management and administration see “Management’s Discussion and Analysis of Financial Condition and Results of Operations” included in Part II, Item 7 of this Annual Report on Form 10-K.

The following chart shows how we have executed on our strategy to shift our business mix toward lower capital, fee-based business in Advice & Wealth Management and Asset Management and that Advice & Wealth Management now represents nearly half of our pretax adjusted operated earnings. This chart shows our current business mix through the contributions of each segment to our pretax adjusted operating earnings (excluding Corporate & Other segment) as well as a historical comparison.

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Our Principal Brands

We utilize multiple brands for the products and services offered by our businesses. We believe that using distinct brands for these products and services allows us to differentiate them in the marketplace.

We use the *Ameriprise Financial®* brand as our enterprise brand, as well as the name of our advisor network and certain of our retail products and services. The retail products and services that use the *Ameriprise Financial* brand include those that we provide through our advisors (e.g., financial planning, investment advisory accounts, retail brokerage services and banking products) and products and services that we market directly to consumers or through affinity groups (e.g., personal auto and home).

Columbia Threadneedle Investments® brand is our global brand that represents the combined capabilities, resources and reach of Columbia Management and Threadneedle. This brand reinforces the strength of both firms in their established markets of the UK, Europe and the U.S. and helps us grow our presence in key markets including Asia Pacific, Latin America, Africa and the Middle East.

We use our *RiverSource®* brand for our annuity and protection products issued by the RiverSource Life companies, including our life and disability income insurance products.

History and Development

Our company has a more than 120-year history of providing solutions to help clients confidently achieve their financial objectives. Our earliest predecessor company, Investors Syndicate, was founded in 1894 to provide face-amount certificates to consumers with a need for conservative investments. By 1937, Investors Syndicate had expanded its product offerings through Federal Housing Authority mortgages, and later, mutual funds, by establishing Investors Mutual, one of the pioneers in the mutual fund industry. In 1949, Investors Syndicate was renamed Investors Diversified Services, Inc., or IDS. In 1957, IDS added life insurance products, and later, annuity products, through IDS Life Insurance Company (now known as "RiverSource Life Insurance Company"). In 1972, IDS began to expand its network by delivering investment products directly to clients of unaffiliated financial institutions. IDS also introduced its comprehensive financial planning processes to clients, integrating the identification of client needs with the products and services to address those needs in the 1970s, and it introduced fee-based planning in the 1980s.

In 1979, IDS became a wholly owned subsidiary of Alleghany Corporation pursuant to a merger. In 1983, our company was formed as a Delaware corporation in connection with American Express' acquisition of IDS Financial Services from Alleghany Corporation in 1984. We changed our name to "American Express Financial Corporation" ("AEFC") and began marketing our products and services under the American Express brand in 1994. To provide retail clients with a more comprehensive set of products and services, we significantly expanded our offering of non-proprietary mutual funds in the late 1990s and in 2003, we acquired the business of Threadneedle Asset Management Holdings.

On September 30, 2005, American Express consummated a distribution of the shares of AEFC to American Express shareholders, at which time we became an independent, publicly traded company and changed our name to "Ameriprise Financial, Inc." In 2008, we completed the acquisitions of H&R Block Financial Advisors, Inc. and J. & W. Seligman & Co. Incorporated. In 2010, we completed the acquisition of the long-term asset management business of Columbia Management from Bank of America, which significantly enhanced the scale and performance of our retail mutual fund and institutional asset management businesses. In 2016, we completed the acquisition of Emerging Global Advisors, LLC, a registered investment advisor and provider of strategic beta portfolios based on emerging markets. In 2017, we acquired Investment Professionals, Inc. ("IPI"), an independent broker-dealer specializing in the on-site delivery of investment programs for financial institutions, including banks and credit unions that gives us scale entry into the bank channel. In 2017 we also acquired Lionstone Partners, LLC ("Lionstone Investments"), a leading national real estate investment firm, specializing in investment strategies based upon proprietary analytics that expands our real estate capabilities. This inorganic growth has allowed us to significantly enhance the scale, performance, and product offerings of our brokerage, financial planning, retail mutual funds and institutional asset management business in order to best serve our clients.

In 2006, we sold our large-scale retirement plan recordkeeping business to Wachovia Bank, N.A. (now Wells Fargo Bank, N.A.). We initiated the disposition of our institutional trust and custody business in 2008 to J.P. Morgan Chase

Bank, N.A. and completed that restructuring in early 2009. In 2011, we completed the sale of Securities America Financial Corporation and its subsidiaries to Ladenburg Thalmann Financial Services, Inc.

In January 2013, we completed the conversion of our federal savings bank subsidiary, Ameriprise Bank, FSB, to a limited powers national trust bank now known as Ameriprise National Trust Bank. In connection with this 2013 conversion, we terminated deposit-taking and credit-originating activities of Ameriprise Bank. In 2018, we made the strategic decision to seek to expand the banking products and services we can provide directly to our clients, and commenced the ongoing process to convert Ameriprise National Trust Bank into a federal savings bank with the capabilities to offer FDIC insured deposits and a range of lending products.

Our Organization

The following is a depiction of the organizational structure for our company, showing the primary subsidiaries through which we operate our businesses. The current legal entity names are provided for each subsidiary.

The following is a brief description of the business conducted by each subsidiary noted above.

Subsidiary Name	Description of Business
Ameriprise International Holdings GmbH	A holding company based in Switzerland for various companies engaged in our overseas business, including our Threadneedle group of companies (defined below)
Threadneedle Asset Management Holdings Sàrl	A holding company based in Luxembourg for the EMEA region group of companies that provide investment management products and services
Ameriprise Asset Management Holdings GmbH	A holding company based in Switzerland for our non-EMEA region group of companies that provide investment management products and services. We refer to the group of companies in this entity and Threadneedle Asset Management Holdings Sarl as “Threadneedle” and Threadneedle is our primary provider of non-U.S. investment management products and services.
Columbia Management Investment Advisers, LLC (“Columbia Management”)	The investment adviser for the majority of funds in the *Columbia Management* family of funds (“*Columbia Management*® funds”) and to U.S. and non-U.S. institutional accounts and private funds
J. & W. Seligman & Co. Incorporated (“Seligman”)	A holding company for Columbia Management Investment Distributors, Inc. and certain other subsidiaries within our Asset Management segment
Columbia Management Investment Distributors, Inc.	Broker-dealer subsidiary that serves as the principal underwriter and distributor for *Columbia Management* funds
Columbia Management Investment Services Corp.	A transfer agent that processes client transactions for *Columbia Management* funds and Ameriprise face-amount certificates

AMPF Holding Corporation	A holding company for certain of our retail brokerage and advisory subsidiaries, including AFSI (defined below) and AEIS (defined below)
American Enterprise Investment Services Inc. ("AEIS")	Our registered clearing broker-dealer subsidiary, brokerage transactions for accounts introduced by AFSI are executed, cleared and settled through AEIS
Ameriprise Financial Services, Inc. ("AFSI")	A registered broker-dealer and registered investment adviser, and our primary financial planning and retail distribution subsidiary
RiverSource Distributors, Inc. ("RiverSource Distributors")	A broker-dealer subsidiary that serves as the principal underwriter and/or distributor for our *RiverSource* annuities and insurance products sold through AFSI and third-party channels
RiverSource Life Insurance Company ("RiverSource Life")	Conducts its insurance and annuity business in states other than New York
RiverSource Life Insurance Co. of New York ("RiverSource Life of NY")	Conducts its insurance and annuity businesses in the State of New York. RiverSource Life of NY is a wholly owned subsidiary of RiverSource Life. We refer to RiverSource Life and RiverSource Life of NY as the "RiverSource Life companies."
IDS Property Casualty Insurance Company ("IDS Property Casualty" or "Ameriprise Auto & Home")	Provides personal auto, home and umbrella insurance products. Ameriprise Insurance Company, a wholly owned subsidiary of IDS Property Casualty, is also licensed to provide these products.
Ameriprise Certificate Company	Issues a variety of face-amount certificates
Ameriprise Trust Company ("ATC")	Provides trust services to individuals and businesses
Ameriprise National Trust Bank (to become Ameriprise Bank, FSB) ("Ameriprise Bank")	Upon conversion to a federal savings bank, will offer a variety of consumer banking deposit and lending products in addition to current personal trust and related services.

Our Segments - Advice & Wealth Management

Our Advice & Wealth Management segment provides financial planning and advice, as well as full-service brokerage services, primarily to retail clients through our financial advisors. These services are centered on long-term, personal relationships between our advisors and our clients and focus on helping clients confidently achieve their financial goals. Our financial advisors provide a distinctive, holistic approach to financial planning and have access to a broad selection of both affiliated and non-affiliated products to help clients meet their financial needs and achieve their goals.

A significant portion of revenues in this segment is fee-based, driven by the level of client assets, which is impacted by both market movements and net asset flows. We also earn net investment income on owned assets primarily from certificate products; as Ameriprise Bank evolves its deposit base following commencement of operations, it, too, would provide a source of net investment income. This segment earns revenues (distribution fees) for providing non-affiliated products and intersegment revenues (distribution fees) for providing our affiliated products and services to our retail clients. Intersegment expenses for this segment include expenses for investment management services provided by our Asset Management segment. All intersegment activity is eliminated in our consolidated results.

<u>Our Financial Advisor Platform</u>

We provide financial planning, advice and brokerage services to clients through our nationwide financial advisor network. Advisors can choose to affiliate with us in multiple ways, with each affiliation offering different levels of support and compensation. The affiliation options are:

- *Employee Advisors (Ameriprise Advisor Group).* Under this option, an advisor is an employee of our company and receives a higher level of support, including leadership, training, office space and staff support. We pay compensation that is competitive with other employee advisor models, which is generally lower than that of our franchisee advisors given the higher level of support we provide our employee advisors. Some employee advisors are employed in the Ameriprise Advisor Center ("AAC"), our dedicated platform for remote-based sales and service to Ameriprise retail customers through a team model.

• *Franchisee Advisors (Ameriprise Franchise Group).* Under this option, an advisor is an independent contractor franchisee who affiliates with our company and has the right to use the Ameriprise brand. We pay our franchisee advisors a higher payout rate than our employee advisors as they are responsible for paying their own overhead, staff compensation and other business expenses. In addition, our franchisee advisors pay a franchise association fee and other fees in exchange for the support we offer and the right to use our brand name. The support we offer to our franchisee advisors includes generalist and specialist leadership support, technology platforms and tools, training and marketing programs.

- *Bank Channel Advisors (Ameriprise Financial Institutions Group).* Our acquisition of IPI in 2017 added a new capability where we specialize in the on-site delivery of investment programs for financial institutions including banks and credit unions. Within this channel, we have different types of relationships with our financial institution partners as well as a variety of ways for advisors to affiliate with us.

We are committed to providing our advisors with the resources and support necessary to manage and grow their practices. Our platform offers advisors (and therefore clients) the flexibility of operating on a commission-based brokerage basis as well as on a fee-based advisory basis. Advisors have access to training and materials reflecting our differentiated financial planning model and *Confident Retirement* planning approach, our nationally recognized brand and *"Be Brilliant®"* advertising campaign, local marketing support capabilities and our full range of proprietary and non-proprietary advice and product solutions. Our demonstrated financial strength as well as our dedication to our clients also benefits our advisor practices. We expect to continue to invest in the capabilities of and support provided to our advisor platform, with the goal of continuing to best serve our clients, increase advisor productivity and improve our ability to attract and retain advisors.

Our nationwide advisor network consisted of approximately 10,000 advisors as of December 31, 2018, which includes approximately 2,200 employee advisors and advisors in our bank channel as well as approximately 7,800 independent franchisees or employees or contractors of franchisees. Of these advisors (and excluding AAC advisors, roughly 52% have been with us for more than 10 years, with an average tenure of over 20 years. Among advisors who have been with us for more than 10 years, we have a retention rate of over 95%. We believe our strong advisor retention rate, as well as our ability to recruit experienced advisors, speaks to the value proposition we offer our advisors.

Our advisors offer clients a diversified set of cash and liquidity management, asset accumulation, income, protection, and estate and wealth transfer products and services, as well as a broad selection of financial products from other unaffiliated companies (as described below).

Brokerage and Investment Advisory Services

Individual and Family Financial Services

Our personalized financial planning approach is designed to focus on all aspects of our clients' finances. After understanding our clients' needs, our advisors seek to identify solutions to address those needs across four cornerstones: cash and liabilities, investments, protection and taxes. We believe this approach helps our clients build a solid financial foundation, persevere through difficult economies and challenging markets, and ultimately achieve their financial goals. We offer a broad array of products and services in each of these categories, including those carrying the Ameriprise Financial, Columbia Management or RiverSource name, as well as solutions offered by unaffiliated firms.

Our advisors deliver financial solutions to our advisory clients principally by building long-term personal relationships through financial planning that is responsive to clients' evolving needs, priorities, and goals, in part through our exclusive *Confident Retirement* approach. Our exclusive *Confident Retirement* approach involves a comprehensive assessment of retirement income sources and assets, a client's plans and goals for retirement and an analysis of what is needed to fund the four principal types of expenses and liabilities encountered during retirement: covering essentials, ensuring lifestyle, preparing for the unexpected and leaving a legacy. Once an advisor identifies, and a financial planning client aligns upon, a client's objectives, the advisor recommends a solution set consisting of actions and offer products to address these objectives. In partnership with their advisor, a client then identifies what they determine to be an appropriate range and level of market risk. Our financial planning relationships with our clients are characterized by an ability to understand their specific needs, which enables us to help them meet those needs, achieve high overall client satisfaction and retention, hold more products in their accounts and increase our assets under management.

Our financial planning clients pay a fee for the receipt of financial planning services. This fee is based on the complexity of a client's financial and life situation and his or her advisor's experience. Some of our clients may elect to pay a consolidated, asset-based advisory fee for financial planning and managed account services and administration. If clients elect to implement their financial plan with our company, we and our advisors generally receive a sales commission and/or sales load and other revenues for the products that they purchase from us. These commissions, sales loads and other revenues are separate from, and in addition to, the financial planning and advisory fees we and our advisors may receive.

Brokerage and Other Products and Services

We offer our retail and institutional clients a variety of brokerage and other investment products and services.

Our *Ameriprise ONE*® Financial Account is a single integrated financial management brokerage account that enables clients to access a single cash account to fund a variety of financial transactions, including investments in mutual funds, individual securities, alternative investments, cash products and margin and securities-based lending.

We provide securities execution and clearing services for our retail and institutional clients through our registered broker-dealer subsidiaries. Clients can use our online brokerage service to purchase and sell securities, obtain proprietary and independent research and information about a wide variety of securities, and use self-directed asset allocation and other financial planning tools. We offer exchange traded mutual funds, 529 plans, public non-exchange traded real estate investment trusts, structured notes, private equity and other alternative investments issued by unaffiliated companies. We also offer trading and portfolio strategy services across a number of fixed income categories, including treasuries, municipals, corporate, mortgage- and asset-backed securities on both a proprietary and agency basis.

From time-to-time, Ameriprise may participate in syndicate offerings of closed-end funds and preferred securities. Syndicates are groups of investment banks and broker-dealers that jointly underwrite and distribute new security offerings to the investing public. Our clients may purchase for their own account the closed-end fund shares and preferred stock of such primary offerings in which we participate. In addition, qualified clients may purchase certain privately placed securities as distributed through Ameriprise.

Fee-based Investment Advisory Accounts

In addition to purchases of mutual funds and other securities on a stand-alone basis, clients may purchase mutual funds and other securities in connection with investment advisory fee-based account programs or services. We currently offer discretionary and non-discretionary investment advisory accounts. In a discretionary advisory account, we (or an unaffiliated investment advisor) choose the underlying investments in the portfolio on behalf of the client, whereas in a non-discretionary advisory account, clients choose the underlying investments in the portfolio based on their financial advisor's recommendation. Investors in discretionary and non-discretionary advisory accounts generally pay a fee (for investment advice and other services) based on the assets held in that account as well as any related fees or costs associated with the underlying securities held in that account. A significant portion of our affiliated mutual fund sales are made through advisory accounts. Client assets held in affiliated mutual funds in an advisory account generally produce higher revenues to us than client assets held in affiliated mutual funds on a stand-alone basis because, as noted above, we receive an investment advisory fee based on the asset values of the assets held in an advisory account in addition to revenues we normally receive for investment management and/or distribution of the funds included in the account.

We offer several types of investment advisory accounts. For example, we sponsor (i) Ameriprise Strategic Portfolio Service ("SPS") Advantage, a non-discretionary investment advisory account service, (ii) SPS - Advisor, a discretionary investment advisory account service, (iii) Ameriprise Select Separate Accounts (a separately managed account ("SMA") program), a discretionary investment advisory account service through which clients invest in strategies managed by affiliated and non-affiliated investment managers, and (iv) *Active Portfolios®* investments, a discretionary investment advisory account service that offers a number of strategic target allocations based on different risk profiles and tax sensitivities. Additionally, we offer discretionary investment advisory account services (Vista Separate Accounts, Investor Separate Accounts and Access Separate Accounts) through which clients may invest in SMAs, mutual funds and exchange traded funds. We also offer a discretionary investment advisory account service as an accommodation program where client accounts are held and serviced by a third-party asset management provider and its affiliates.

Mutual Fund Offerings (Unaffiliated and Affiliated)

In addition to the *Columbia Management* family of funds (discussed below in "Our Segments - Asset Management - Product and Service Offerings - U.S. Registered Funds"), we offer mutual funds from approximately 160 unaffiliated mutual fund families representing more than 2,200 mutual funds on our brokerage platform and as part of our investment advisory accounts to provide our clients a broad choice of investment products. In 2018, retail sales of other companies' mutual funds accounted for the substantial majority of our total retail mutual fund sales.

Mutual fund families of other companies generally pay us a portion of the revenue generated from the sales of those funds and from the ongoing management of fund assets attributable to our clients' ownership of shares of those funds. These payments enable us to offer a broad and robust product set to our clients and provide beneficial client services, tools and infrastructure such as our website and online brokerage platform. We also receive administrative services fees from most mutual funds sold through our advisor network.

Insurance and Annuities

We offer insurance and annuities issued by the RiverSource Life companies (discussed below in "Business - Our Segments - Annuities" and in "Business - Our Segments - Protection"). The *RiverSource* insurance solutions available to our retail clients include universal life insurance, indexed universal life insurance, variable universal life insurance, traditional term life insurance and disability income insurance. *RiverSource* annuities include fixed annuities and fixed index annuities, as well as variable annuities that allow our clients to choose from a number of underlying investment options, including volatility management options, and to purchase certain guaranteed benefit riders. In addition to

RiverSource insurance and annuity products, our advisors offer products of unaffiliated carriers on a limited basis, including variable annuities, life insurance and long term care insurance products issued by a select number of unaffiliated insurance companies. AFIG currently offers certain additional fixed and variable insurance and annuity products available only through the bank channel.

We receive a portion of the revenue generated from the sale of life and disability insurance policies of unaffiliated insurance companies. We are paid distribution fees on annuities sales of unaffiliated insurance companies based on a portion of the revenue generated from such sales and asset levels. These insurance companies may also pay us an administrative service fee in connection with the sale of their products.

Banking Products

We have changed our banking operations and products in recent years (as discussed above in “Business - History and Development”) and are in the process of rolling out a suite of banking products in connection with the conversion of Ameriprise National Trust Bank into a federal savings bank. Ameriprise Bank plans to eventually offer a set of core banking products, including checking and savings accounts, CDs, mortgage financing, home equity lines of credit, credit cards and debit cards, and pledged asset loans. This will include sweep deposits from its affiliate broker-dealer, AEIS, which offers the Ameriprise Insured Money Market Account ("AIMMA"), and Ameriprise Bank Insured Sweep Account ("ABISA"), an automatic "sweep" of available cash balances in its clients' brokerage accounts into an FDIC-insured deposit account. We believe these products play a key role in our Advice and Wealth Management business by offering our clients an FDIC-insured alternative to other cash products. These products also provide pricing flexibility generally not available through money market funds. This suite of cash management products and capabilities will allow our clients to consolidate their assets into a single account with convenient access and flexible, high-quality service.

Ameriprise Bank's strategy and operations are focused on serving affiliated advisor clients. We will provide our banking products primarily through affiliated advisors. We believe that the availability of these products supports our financial advisors in their ability to meet the cash and liquidity needs of our clients. We also serve advisor clients through the Personal Trust Services division of Ameriprise Bank. Personal Trust Services provides personal trust, custodial, agency and investment management services to help meet estate and wealth transfer needs of individual and corporate clients of our affiliated advisors. Personal Trust Services also uses some of our investment products in connection with its services. Ameriprise Bank generally receives an asset-based fee for investment advice and other services based on assets managed, as well as related fees and costs.

Face-Amount Certificates

We issue different types of face-amount certificates through Ameriprise Certificate Company, a wholly-owned subsidiary of Ameriprise Financial. Ameriprise Certificate Company is registered as an investment company under the Investment Company Act of 1940 ("Investment Company Act"). Owners of our certificates invest funds and are entitled to receive at the end of a stated term or upon demand, a determinable amount of money equal to their aggregate investments in the certificate plus interest at rates we determine, less early withdrawals and related penalties, if applicable. For certain types of certificate products, the rate of interest is calculated in whole or in part based on any upward movement in a broad-based stock market index up to a maximum return, where the maximum is a fixed rate for a given term, but can be changed at our discretion for prospective terms.

At December 31, 2018, we had $7.9 billion in total certificate reserves underlying our certificate products. Our earnings are based upon the difference, or "spread," between the interest rates credited to certificate holders and the interest earned on the certificate assets invested. A portion of these earnings is used to compensate the various affiliated entities that provide management, administrative and other services to our company for these products. In times of weak performance in the equity markets, certificate sales are generally stronger.

Financial Wellness Program

We provide workplace financial planning and educational programs to employees of major corporations, small businesses and school district employees through our Financial Wellness Program. In addition, we provide training and support to financial advisors working on-site at company locations to present educational seminars, conduct one-on-one meetings and participate in client educational events. We also provide financial advice service offerings, such as financial planning and executive financial services, tailored to discrete employee segments.

Strategic Alliances and Other Marketing Arrangements

We use strategic marketing alliances, local marketing programs for our advisors, and on-site workshops through our Business Alliances group to generate new clients for our financial planning and other financial services. An important aspect of our strategy is to create alliances that help us generate new financial services clients within our target market segment - the mass affluent and affluent, and increasingly those with $500,000 to $5,000,000 in investable assets. Our alliance arrangements are generally for a limited duration of one to five years with an option to renew. Additionally, these types of marketing arrangements typically provide that either party may terminate the agreements on short notice, usually within sixty days. We compensate our alliance partners for providing opportunities to market to their clients.

<u>Our Segments - Asset Management</u>

Our Asset Management segment provides investment management and advice and investment products to retail, high net worth and institutional clients on a global scale through Columbia Threadneedle Investments.

Columbia Management primarily provides products and services in the U.S. and Threadneedle primarily provides products and services internationally. As noted above, we refer to the group of companies in Ameriprise Asset Management Holdings GmbH and Threadneedle Asset Management Holdings Sarl as “Threadneedle.” “Columbia Threadneedle Investments” refers to both Columbia Management and Threadneedle and reflects the global manner in which we think about and operate our asset management business in line with the *Columbia Threadneedle Investments* brand. We provide U.S. retail clients with products through unaffiliated third-party financial institutions and through our Advice & Wealth Management segment. We provide institutional products and services through our institutional sales force. Retail products for non-U.S. retail investors are primarily distributed through third-party financial institutions and unaffiliated financial advisors. Retail products include U.S. mutual funds and their non-U.S. equivalents, exchange-traded funds (“ETFs”) and variable product funds underlying insurance and annuity separate accounts. Institutional asset management services are designed to meet specific client objectives and may involve a range of products, including those that focus on traditional asset classes, separately managed accounts, collateralized loan obligations (“CLOs”), hedge fund or alternative strategies, collective funds and property funds. CLOs, hedge fund or alternative strategies and certain private funds are often classified as alternative assets.

Our Asset Management segment also provides all intercompany asset management services for Ameriprise Financial subsidiaries. The fees for such services are reflected within the Asset Management segment results through intersegment transfer pricing. Intersegment expenses for this segment include distribution expenses for services provided by our Advice & Wealth Management, Annuities and Protection segments. All intersegment activity is eliminated in our consolidated results.

Revenues in the Asset Management segment are primarily earned as fees based on managed asset balances, which are impacted by market movements, net asset flows, asset allocation and product mix. We may also earn performance fees from certain accounts where investment performance meets or exceeds certain pre-identified targets. At December 31, 2018, our Asset Management segment had $430.7 billion in managed assets worldwide.

Managed assets include managed external client assets and managed owned assets. Managed external client assets include client assets for which we provide investment management services, such as the assets of the *Columbia Threadneedle Investments* fund families and the assets of institutional clients. Managed external client assets also include assets managed by sub-advisers we select. Our external client assets are not reported on our Consolidated Balance Sheets, although certain investment funds marketed to investors may be consolidated at certain times. See Note 2 to our Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K for additional information on consolidation principles. Managed owned assets include certain assets on our Consolidated Balance Sheets (such as the assets of the general account and the variable product funds held in the separate accounts of our life insurance subsidiaries) for which the Asset Management segment provides management services and receives management fees. For additional details regarding our assets under management and administration, see "Management's Discussion and Analysis of Financial Condition and Results of Operations" included in Part II, Item 7 of this Annual Report on Form 10-K.

Investment Management Capabilities

The investment management activities of Columbia Threadneedle Investments are conducted through investment management teams located in multiple locations, including Boston, Chicago, Houston, Los Angeles, London, Malaysia, Minneapolis, New York, Menlo Park, Portland and Singapore. Each investment management team may focus on particular investment strategies, asset types, products and on services offered and distribution channels utilized. Within the global asset management business, we deploy our investment teams across multiple jurisdictions pursuant to sub-advisory and personnel sharing arrangements on an intercompany basis.

Our investment management capabilities span a broad range of asset classes and investment styles. The portfolios underlying our product and service offerings may focus on providing solutions to investors through one or more U.S. or non-U.S. equity, fixed income, bank loan, property, multi-asset allocation, alternative (including real estate and liquid alternatives) or other asset classes, and the strategies utilized in the management of such portfolios varies depending on the needs and desired outcomes or objectives of individual and institutional investors. We continually assess these capabilities to help ensure our ability to provide product and services offerings that are responsive to the evolving needs of our clients.

Product and Service Offerings

We offer a broad spectrum of investment management and advice and products to individual, institutional and high-net worth investors. In an effort to address changing market conditions and the evolving needs of investors, we may from time to time develop and offer new retail and institutional investment products with new and/or innovative investment strategies, including U.S. mutual funds and their non-U.S. equivalents, ETFs, separately managed accounts, hedge or alternative funds and other private funds, CLOs, and collective funds. Below is an overview of our Asset Management offerings.

U.S. Registered Funds

We provide investment advisory, distribution and other services to the *Columbia Management* family of funds. The *Columbia Management* family of funds includes retail mutual funds, exchange-listed ETFs and U.S. closed-end funds and variable insurance trust funds ("VIT Funds"). Retail mutual funds are available through unaffiliated third-party financial institutions and the *Ameriprise®* financial advisor network. VIT Funds are available as underlying investment options in variable annuity and variable life insurance products, including *RiverSource®* products. The *Columbia Management* family of funds includes domestic and international equity funds, fixed income funds, cash management funds, balanced funds, specialty funds, absolute return and other alternative funds and asset allocation funds, including fund-of-funds, with a variety of investment objectives. The *Columbia Management* family of funds also uses sub-advisers to diversify the product offerings it makes available to investors on its VIT Fund and retail mutual funds platforms. At December 31, 2018, our sponsored U.S. retail mutual funds, ETFs and U.S. closed-end funds had total managed assets of $138.4 billion in 151 funds. The VIT Funds that we sponsor and manage had total managed assets at December 31, 2018 of $68.4 billion in 70 funds.

Columbia Management serves as investment manager for most of our U.S. mutual funds as well as our exchange-listed ETFs and U.S. closed-end funds. Columbia Wanger Asset Management, LLC ("Columbia Wanger"), a subsidiary of Columbia Management, also serves as investment manager for certain funds, which are included in the totals noted in the preceding paragraph. In addition, several of our subsidiaries perform related services for the funds, including distribution, accounting, administrative and transfer agency services. Columbia Management and Columbia Wanger perform investment management services pursuant to contracts with the U.S. registered funds that are subject to renewal by the fund boards within two years after initial implementation, and thereafter, on an annual basis.

We earn management fees for managing the assets of the *Columbia Management* family of mutual funds based on the underlying asset values. We also earn fees by providing related services to the *Columbia Management* family of funds.

Non-U.S. Funds

Threadneedle offers a fund product range that includes different risk-return options across regions, markets, asset classes and product structures, which include retail funds that are similar to U.S. mutual funds. These funds are marketed to non-U.S. persons and the majority are often referred to as UCITS products (Undertakings for Collective Investment in Transferable Securities). UCITS and other funds offered by Threadneedle typically are structured as Open Ended Investment Companies ("OEICs") in the UK, Société d'investissement à Capital Variable ("SICAVs") in Luxembourg, as well as unit trusts. Threadneedle also sponsors, manages and offers UK property funds that invest in UK real estate. Many of our non-U.S. fund offerings are registered in and distributed across multiple jurisdictions. For example, our SICAVs are offered in many jurisdictions and are now our primary offering to investors outside of the UK and US. At December 31, 2018, our non-U.S. retail funds had total managed assets of $41.2 billion in 168 funds. Threadneedle Asset Management Ltd. serves as investment manager for most of our non-U.S. fund products and earns management fees based on underlying asset values for managing the assets of these funds. Certain Threadneedle affiliates also earn fees by providing ancillary services to the funds. In addition, certain non-U.S. funds or portions of the portfolios underlying such funds may receive sub-advisory services, including services provided by both Columbia Threadneedle Investments personnel and other unaffiliated advisers.

Separately Managed Accounts

We provide investment management services to a range of clients globally, including pension, profit-sharing, employee savings, sovereign wealth funds and endowment funds, accounts of large- and medium-sized businesses and governmental clients, as well as the accounts of high-net-worth individuals and smaller institutional clients, including tax-exempt and not-for-profit organizations. Our services include investment of funds on a discretionary or non-discretionary basis and related services including trading, cash management and reporting. We offer various fixed income, equity and alternative investment strategies for our institutional clients with separately managed accounts. Columbia Management and Threadneedle distribute products of the other under the *Columbia Threadneedle Investments* brand, including Threadneedle's offering various investment strategies of Columbia Management to non-U.S. clients and Columbia Management's offering of certain investment strategies of Threadneedle to U.S. clients. For our investment management services, we generally receive fees based on the market value of managed assets pursuant to contracts the client can terminate on short notice. Clients may also pay us fees based on the performance of their portfolio. At December 31, 2018, within our *Columbia Threadneedle Investments* asset management business we managed a total of $114.4 billion in assets under this range of services.

Management of Owned Assets

We provide investment management services and recognize management fees for certain assets on our Consolidated Balance Sheets, such as the assets held in the general account of our RiverSource Life companies and assets held by Ameriprise Certificate Company. Our fixed income team manages the general account assets to produce a consolidated and targeted rate of return on investments based on a certain level of risk. Our fixed income and equity teams also manage separate account assets. The Asset Management segment's management of owned assets for Ameriprise Financial subsidiaries is reviewed by the boards of directors and staff functions of the applicable subsidiaries consistent with regulatory investment requirements. At December 31, 2018, the Asset Management segment managed $37.3 billion of owned assets.

Management of Collateralized Loan Obligations ("CLOs")

Columbia Threadneedle Investments has a team of investment professionals who provide collateral management services to special purpose vehicles which primarily invest in syndicated bank loans and issue multiple tranches of securities collateralized by the assets of each pool to provide investors with various maturity and credit risk characteristics. For collateral management of CLOs, we earn fees based on the par value of assets and, in certain instances, we may also receive performance-based fees. At December 31, 2018, we managed $2.4 billion of assets related to CLOs.

Private Funds

We also provide investment management and related services to private, pooled investment vehicles organized as limited partnerships, limited liability companies or foreign (non-U.S.) entities. These funds are currently exempt from registration under the Investment Company Act under either Section 3(c)(1) or Section 3(c)(7) or related interpretative relief and are organized as U.S. and non-U.S. funds. These funds are subject to local regulation in the jurisdictions where they are formed or marketed. For investment management services, we generally receive fees based on the market value of assets under management, and we may also receive performance-based fees. As of December 31, 2018, we managed $6.8 billion in private fund assets.

Lionstone Investments, a subsidiary of Columbia Management, also serves as investment manager for certain private funds (in addition to separate accounts), which are included in the totals noted in the preceding paragraph.

Ameriprise Trust Company - Collective Funds and Separately Managed Accounts

Collective funds are investment funds sponsored by ATC (our Minnesota-chartered trust company); these funds are exempt from registration with the Securities and Exchange Commission ("SEC") and offered to certain qualified institutional clients such as retirement, pension and profit-sharing plans. Columbia Management currently serves as investment adviser to ATC with respect to a series of ATC collective funds covering a broad spectrum of investment strategies for which ATC serves as trustee. ATC receives fees for its investment management services to the collective funds and Columbia Management receives fees from ATC pursuant to an agreement with ATC for the investment advisory services provided by Columbia Management. The fees payable to ATC and Columbia Management are generally based upon a percentage of assets under management. In addition to its collective funds, ATC serves as investment manager to separately managed accounts for qualified institutional clients.

As of December 31, 2018, we managed $6.4 billion of ATC Funds and separate accounts for ATC clients. This amount does not include the *Columbia Management* family of funds held in other retirement plans because these assets are included under assets managed for institutional and retail clients and within the "Product and Service Offerings - U.S. Registered Funds" section above.

Sub-advised Accounts

In addition, we act as sub-adviser for certain U.S. and non-U.S. funds, private banking individually managed accounts, common trust funds and other portfolios sponsored or advised by other firms. As with our affiliated funds, we earn management fees for these sub-advisory services based on the underlying asset value of the funds and accounts we sub-advise. For these accounts, we may also receive fees based on the performance of the underlying portfolio. As of December 31, 2018, we managed approximately $27 billion in assets in a sub-advisory capacity.

Distribution

We maintain distribution teams and capabilities that support the sales, marketing and support of the products and services of our global asset management business. These distribution activities are generally organized into two major categories: retail distribution and institutional/high net worth distribution.

Retail Distribution

Columbia Management Investment Distributors, Inc. acts as the principal underwriter and distributor of our *Columbia Management* family of funds. Pursuant to distribution agreements with the funds, we offer and sell fund shares on a continuous basis and pay certain costs associated with the marketing and selling of shares. We earn commissions for distributing the *Columbia Management* funds through sales charges (front-end or back-end loads) on certain classes of shares and distribution (12b-1) and servicing-related fees based on a percentage of fund assets and receive intersegment allocation payments. This revenue is impacted by overall asset levels and mix of the funds.

Columbia Management fund shares are sold through both our Advice & Wealth Management segment and through unaffiliated third-party financial intermediaries, including U.S. Trust and Bank of America (from whom we acquired Columbia Management in 2010). Fees and reimbursements paid to such intermediaries may vary based on sales, redemptions, asset values, asset allocation, product mix, and marketing and support activities provided by the intermediary. Intersegment distribution expenses for services provided by our Advice & Wealth Management Segment are eliminated in our consolidated results.

Threadneedle funds are sold primarily through financial intermediaries and institutions, including banks, life insurance companies, independent financial advisers, wealth managers and platforms offering a variety of investment products. Threadneedle also distributes directly to certain clients. Various Threadneedle affiliates serve as the distributors of these fund offerings and are authorized to engage in such activities in numerous countries across Europe, the Middle East, the Asia-Pacific region and Africa. Certain *Threadneedle* fund offerings, such as its UCITS products, may be distributed on a cross-border basis while others are distributed exclusively in local markets.

Institutional and High Net Worth Distribution

We offer separately managed account services and certain funds to high net worth clients and to a variety of institutional clients, including pension plans, employee savings plans, foundations, sovereign wealth funds, endowments, corporations, banks, trusts, governmental entities, high-net-worth individuals and not-for-profit organizations. We provide investment management services for insurance companies, including our insurance subsidiaries. We also provide a variety of services for our institutional clients that sponsor retirement plans. We have dedicated institutional sales teams that market directly to such institutional clients. We concentrate on establishing strong relationships with institutional clients and leading global and national consultancy firms across North America, Europe, the Middle East, Asia and Australia.

Our Segments - Annuities

Our Annuities segment provides *RiverSource* variable and fixed annuity products to individual clients. Our solutions in this segment and our Protection segment help us deliver on our *Confident Retirement* approach as well as provide certain products to unaffiliated advisors and financial institutions.

The RiverSource Life companies provide variable annuity products through our advisors, and our fixed annuity products are distributed through both affiliated and unaffiliated advisors and financial institutions. These products are designed to help individuals address their asset accumulation and income goals. Revenues for our variable annuity products are primarily earned as fees based on underlying account balances, which are impacted by both market movements and net asset flows. Revenues for our fixed deferred annuity products are primarily earned as net investment income on the RiverSource Life companies' general account assets supporting fixed account balances, with profitability significantly impacted by the spread between net investment income earned and interest credited on the fixed account balances. We also earn net investment income on general account assets supporting reserves for immediate annuities with a non-life contingent feature and for certain guaranteed benefits offered with variable annuities and on capital supporting the business. Revenues for our immediate annuities with a life contingent feature are earned as premium revenue. Intersegment revenues for this segment reflect fees paid by our Asset Management segment for marketing support and other services provided in connection with the availability of VIT Funds previously discussed (see “Business - Our Segments - Asset Management - Product and Service Offerings - U.S. Registered Funds,” above) under the variable annuity contracts. Intersegment expenses for this segment include distribution expenses for services provided by our Advice & Wealth Management segment, as well as expenses for investment management services provided by our Asset Management segment. All intersegment activity is eliminated in our consolidated results.

Our annuity products include deferred variable and fixed annuities as well as immediate annuities. The relative proportion between fixed and variable annuity sales is generally driven by the relative performance of the equity and fixed income markets. Fixed sales are generally stronger when yields available in the fixed income markets are relatively high than when yields are relatively low. Variable sales are generally stronger in times of superior performance in equity markets than in times of weak performance in equity markets. The relative proportion between fixed and variable annuity sales is also influenced by product design and other factors. In addition to the revenues we generate on any fixed investment option available within our variable annuity products, we also receive fees charged on assets allocated to our separate accounts to cover administrative costs and a portion of the management fees from the underlying investment accounts in which assets are invested, as discussed below under “Variable Annuities.” Investment management performance is critical to the profitability of our *RiverSource* annuity business.

Variable Annuities

A variable annuity provides a contractholder with investment returns linked to underlying investment accounts of the contractholder's choice. The underlying investment account options may include the VIT Funds previously discussed (see “Business - Our Segments - Asset Management - Product and Service Offerings - U.S. Registered Funds,” above), as well as variable portfolio funds offered through unaffiliated companies.

Contract purchasers can choose to add optional benefits to their contracts for an additional fee, including but not limited to, certain guaranteed minimum death benefits (individually, “GMDB”), a guaranteed minimum withdrawal benefit (“GMWB”) and a guaranteed minimum accumulation benefit (“GMAB”). Approximately 99% of RiverSource Life's overall variable annuity assets include a GMDB and approximately 63% of RiverSource Life's overall variable annuity assets include a GMWB or GMAB. In general, these features can help protect contractholders and beneficiaries from a shortfall in death benefits, accumulation value or lifetime income due to a decline in the value of their underlying investment accounts.

The general account assets of the RiverSource Life insurance subsidiaries support the contractual obligations under the guaranteed benefit they offer (see “Business - Our Segments - Asset Management - Product and Service Offerings - Management of Owned Assets” above). As a result, we bear the risk that protracted under-performance of the financial markets could result in guaranteed benefit payments being higher than what current account values would support. Our exposure to risk from guaranteed benefits generally will increase when equity markets decline. Similarly, our guaranteed benefit reserves will generally increase when interest rates decline.

RiverSource variable annuities provide us with fee-based revenue in the form of mortality and expense risk fees, marketing support and administrative fees, fees charged for optional benefits and features elected by the contractholder, and other contract charges. We receive marketing support payments from the VIT Funds underlying our variable annuity products as well as Rule 12b-1 distribution and servicing-related fees from the VIT Funds and the underlying funds of other companies. In addition, we receive marketing support payments from other companies' funds included as investment options in our *RiverSource* variable annuity products.

Fixed Annuities

RiverSource fixed deferred annuity products provide a contractholder with contract value that increases by a fixed or indexed interest rate. We periodically reset rates at our discretion subject to certain contract terms establishing guaranteed minimum interest crediting rates. Our earnings from fixed deferred annuities are based upon the spread between rates earned on assets purchased with fixed deferred annuity deposits and the rates at which interest is credited to our *RiverSource* fixed deferred annuity contracts. New contracts issued provide guaranteed minimum interest rates in compliance with state laws. Immediate annuity products provide a contractholder a guaranteed fixed income payment for life or the term of the contract.

Distribution

Our RiverSource Distributors subsidiary is a registered broker-dealer that serves both as the principal underwriter and distributor of *RiverSource* variable and fixed annuities through AFSI and as the distributor of fixed annuities through third-party channels such as banks and broker-dealer networks. Our advisors are the largest distributors of *RiverSource* annuity products, although they can offer variable annuities from selected unaffiliated insurers as well.

In 2018, we had total sales for fixed annuity products through third-party channels of $6 million. As of December 31, 2018, we had distribution agreements for *RiverSource* fixed annuity products in place with more than 110 third-party firms.

Liabilities and Reserves for Annuities

We maintain adequate financial reserves to cover the risks associated with guaranteed benefit provisions added to variable annuity contracts in addition to liabilities arising from fixed and variable annuity base contracts. You can find a discussion of liabilities and reserves related to our annuity products in Part II, Item 7A of this Annual Report on Form 10-K - "Quantitative and Qualitative Disclosures About Market Risk", as well as in Note 2, Note 11, Note 12 and Note 17 to our Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K.

Financial Strength Ratings

Our insurance company subsidiaries that issue *RiverSource* annuity products receive ratings from independent rating organizations. Ratings are important to maintain public confidence in our insurance subsidiaries and our protection and annuity products. For a discussion of the financial strength ratings of our insurance company subsidiaries, see the "Our Segments - Protection - Financial Strength Ratings" section below.

Our Segments - Protection

Our Protection segment provides a variety of products to address the protection and risk management needs of our retail clients, including life, disability income and property casualty insurance. These products are designed to provide a lifetime of solutions that allow clients to protect income, grow assets and give to loved ones or charity.

Life and disability income products are primarily provided through our advisors. Our property casualty products are sold primarily through affinity relationships. We issue insurance policies through our life insurance subsidiaries and the Property Casualty companies (as defined below under "Ameriprise Auto & Home Insurance Products"). The primary sources of revenues for this segment are premiums, fees and charges we receive to assume insurance-related risk. We earn net investment income on owned assets supporting insurance reserves and capital supporting the business. We also receive fees based on the level of the RiverSource Life companies' separate account assets supporting variable universal life investment options. This segment earns intersegment revenues from fees paid by our Asset Management segment for marketing support and other services provided in connection with the availability of VIT Funds under the variable universal life contracts. Intersegment expenses for this segment include distribution expenses for services provided by our Advice & Wealth Management segment, as well as expenses for investment management services provided by our Asset Management segment. All intersegment activity is eliminated in consolidation.

<u>RiverSource Insurance Products</u>

Through the RiverSource Life companies, we issue universal life insurance, indexed universal life insurance, variable universal life insurance, traditional life insurance and disability income insurance. Universal life insurance is a form of permanent life insurance characterized by flexible premiums, flexible death benefits and unbundled pricing factors (i.e., mortality, interest and expenses). Variable universal life insurance combines the premium and death benefit flexibility of universal life with underlying fund investment flexibility and the risks associated therewith. Traditional life insurance refers to whole and term life insurance policies. Traditional life insurance typically pays a specified sum to a beneficiary upon death of the insured for a fixed premium. We also offer our clients various riders and alternatives, such as an accelerated benefit rider for chronic illness on our new permanent insurance products and a universal life insurance product with long term care benefits.

Our sales of *RiverSource* individual life insurance in 2018, as measured by scheduled annual premiums, lump sum and excess premiums and single premiums, consisted of 79% universal life, 19% variable universal life and 2% traditional life. Our RiverSource Life companies issue only non-participating life insurance policies that do not pay dividends to policyholders from the insurer's earnings.

Assets supporting policy values associated with fixed account life insurance products, as well as those assets associated with fixed account investment options under variable insurance products (collectively referred to as the "fixed accounts"), are part of the RiverSource Life companies' general accounts. Under fixed accounts, the RiverSource Life companies bear the investment risk. More information regarding the RiverSource Life companies' general accounts is found under "Business - Our Segments - Asset Management - Product and Service Offerings - Management of Owned Assets" above.

Variable Universal Life Insurance

Variable universal life insurance provides life insurance coverage along with investment returns linked to underlying investment accounts of the policyholder's choice. Investment options may include the VIT Funds discussed above, Portfolio Navigator and Portfolio Stabilizer funds of funds, an index-linked option, as well as variable portfolio funds offered through unaffiliated companies.

Universal Life Insurance and Traditional Whole Life Insurance

Universal life and traditional whole life insurance policies do not subject the policyholder to the investment risks associated with variable universal life insurance.

RiverSource universal life insurance products provide life insurance coverage and cash value that increases by a fixed interest rate. The rate is periodically reset at the discretion of the issuing company subject to certain policy terms relative to minimum interest crediting rates. Certain universal life policies offered by RiverSource Life provide secondary guarantee benefits. The secondary guarantee ensures that, subject to specified conditions, the policy will not terminate and will continue to provide a death benefit even if there is insufficient policy value to cover the monthly deductions and charges.

RiverSource indexed universal life insurance ("IUL") provides lifetime insurance protection and asset growth through index-linked interest crediting. IUL is similar to universal life insurance in that it provides life insurance coverage and cash value that increases as a result of credited interest as well as a minimum guaranteed credited rate of interest.

We previously discontinued new sales of traditional whole life insurance; however, we continue to service existing policies. Our in force traditional whole life insurance policies combine a death benefit with a cash value that generally increases gradually over a period of years.

Term Life Insurance

Term life insurance provides a death benefit, but it does not build up cash value. The policyholder chooses the term of coverage with guaranteed premiums at the time of issue. During the chosen term, we cannot raise premium rates (even if claims experience deteriorates and it would then make sense to raise premium rates as a result). At the end of the chosen term, coverage may continue with higher premiums until the maximum age is attained, or the policy expires with no value.

Disability Income Insurance

Disability income insurance provides monthly benefits to individuals who are unable to earn income either at their occupation at time of disability ("own occupation") or at any suitable occupation ("any occupation") for premium payments that are guaranteed not to change. Depending upon occupational and medical underwriting criteria, applicants for disability income insurance can choose "own occupation" and "any occupation" coverage for varying benefit periods. In some states, applicants may also choose various benefit provisions to help them integrate individual disability income insurance benefits with Social Security or similar benefit plans and to help them protect their disability income insurance benefits from the risk of inflation.

Ameriprise Auto & Home Insurance Products

We offer personal auto, home and umbrella insurance products through IDS Property Casualty and its subsidiary, Ameriprise Insurance Company (the "Property Casualty companies"). We offer a range of coverage options under each product category. Our Property Casualty companies provide personal auto, home and umbrella coverage to clients in 43 states and the District of Columbia.

Distribution and Marketing Channels

Our Property Casualty companies do not have field agents. We use a co-branded direct marketing strategy to sell our personal auto, home and umbrella insurance products through alliances with commercial institutions and affinity groups, and directly to our clients and the general public. We also receive referrals through our financial advisor network. Our Property Casualty companies' multi-year contract with Costco Wholesale Corporation and Costco's affiliated insurance agency expires on March 31, 2020. Costco members represented 93% of all new policy sales of our Property Casualty companies in 2018.

We offer *RiverSource* life insurance products almost exclusively through our advisors. Our advisors offer insurance products issued predominantly by the RiverSource Life companies, though they may also offer insurance products of unaffiliated carriers, subject to certain qualifications.

Reinsurance

We reinsure a portion of the insurance risks associated with our life, disability income, long term care (included in our Corporate & Other segment) and property casualty insurance products through reinsurance agreements with unaffiliated reinsurance companies. We use reinsurance to limit losses, reduce exposure to large and catastrophic risks and provide additional capacity for future growth. To manage exposure to losses from reinsurer insolvencies, we evaluate the financial condition of reinsurers prior to entering into new reinsurance treaties and on a periodic basis during the terms of the treaties. Our insurance companies remain primarily liable as the direct insurers on all risks reinsured.

See Note 8 to our Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K for additional information on reinsurance.

Liabilities and Reserves

We maintain adequate financial reserves to cover the insurance risks associated with the annuity and insurance products we issue. Generally, reserves represent the present value of estimates of future benefits and claims that our insurance companies need to hold and applicable state insurance laws generally require us to assess and submit an opinion regarding the adequacy of our statutory-based reserves on an annual basis. For a discussion of the statutory-based financial statements related to our insurance products, see Note 21 to our Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K.

Financial Strength Ratings

Independent rating organizations evaluate the financial soundness and claims-paying ability of insurance companies continually, and they base their ratings on a number of different factors, including market position in core products and market segments, risk-adjusted capitalization and the quality of the company's investment portfolios. More specifically, the ratings assigned are developed from an evaluation of a company's balance sheet strength, operating performance and business profile. Balance sheet strength reflects a company's ability to meet its current and ongoing obligations to its contractholders and policyholders and includes analysis of a company's capital adequacy. The evaluation of operating performance centers on the stability and sustainability of a company's sources of earnings. The business profile component of the rating considers a company's mix of business, market position and depth and experience of management.

Our insurance subsidiaries' ratings are important to maintain public confidence in our protection and annuity products. We list our insurance subsidiaries' financial strength ratings on our website at ir.ameriprise.com. For the most current ratings information, please see the individual rating agency's website.

Our Segments - Corporate & Other

Our Corporate & Other segment consists of the long term care business and net investment income or loss on corporate level assets, including excess capital held in our subsidiaries and other unallocated equity and other revenues as well as unallocated corporate expenses.

Closed Block Long Term Care Insurance

Prior to December 31, 2002, the RiverSource Life companies underwrote stand-alone long term care ("LTC") insurance. We discontinued offering LTC insurance as of December 31, 2002. A large majority of our closed block LTC is comprised of nursing home indemnity LTC or comprehensive reimbursement LTC. Generally, our insureds are eligible for LTC benefits when they are cognitively impaired or unable to perform certain activities of daily living. Nursing home indemnity LTC policies provide a predefined daily benefit when the insured is confined to a nursing home, subject to various maximum benefit periods, regardless of actual expenses of the policyholder. Our older generation nursing home indemnity LTC policies were written between 1989 through 1999 and represent half of our policies.

Comprehensive reimbursement LTC policies provide a predefined maximum daily benefit when the insured is confined to a nursing home covering a variety of LTC expenses including assisted living, home and community care, adult day care and similar placement programs, subject to various maximum total benefit payment pools, on a cost-reimbursement basis. Our second generation comprehensive reimbursement LTC policies were written from 1997 until 2002.

Our closed block LTC was sold on a guaranteed renewable basis which allows us to re-price in force policies, subject to regulatory approval. Premium rates for LTC policies vary by age, benefit period, elimination period, home care coverage, and benefit increase option and are based on assumptions concerning morbidity, mortality, persistency, administrative expenses, investment income, and profit. We develop our assumptions based on our own claims and persistency experience. In line with the market, we have pursued nationwide premium rate increases for many years and expect to continue to pursue rate increases over the next several years. In general, since very little of our LTC business is subject to rate stability regulation, we have followed a policy of pursuing smaller, more frequent increases rather than single large increases in order to align policyholder and shareholder objectives. We also provide policyholders with options to reduce their coverage to lessen or eliminate the additional financial outlay that would otherwise result.

For existing LTC policies, RiverSource Life has continued ceding 50% of the risk on a coinsurance basis to subsidiaries of Genworth Financial, Inc. ("Genworth") and retains the remaining risk. For RiverSource Life of NY, this reinsurance arrangement applies for 1996 and later issues only. Under these agreements, we have the right, but never the obligation, to recapture some, or all, of the risk ceded to Genworth.

For more information regarding LTC, see Part II, Item 7 of this Annual Report on Form 10-K under the heading "Management's Discussion and Analysis of Financial Condition and Results of Operations – Corporate and Other."

Competition

We operate in a highly competitive global industry. As a diversified financial services firm, we compete directly with a variety of financial institutions, including registered investment advisors, securities brokers, asset managers, banks and insurance companies. Our competitors may have greater financial resources, broader and deeper distribution capabilities and products and services than we do. We compete directly with these for the provision of products and services to clients, as well as for our financial advisors and investment management personnel. Certain of our competitors offer web-based financial services and discount brokerage services, usually with lower levels of service, to individual clients.

Our Advice & Wealth Management segment competes with securities broker-dealers, independent broker-dealers, financial planning firms, registered investment advisors, insurance companies and other financial institutions to attract and retain financial advisors and their clients. Competitive factors influencing our ability to attract and retain financial advisors include compensation structures, brand recognition and reputation, product offerings and technology and service capabilities and support. Further, our financial advisors compete for clients with a range of other advisors, broker-dealers, and direct channels. This includes wirehouses, regional broker-dealers, independent broker-dealers, insurers, banks, asset managers, registered investment advisers and direct distributors. Competitive factors influencing our ability to attract and retain clients include quality of advice provided, price, reputation, advertising and brand recognition, product offerings, technology offerings, and service quality.

Our Asset Management segment competes on a global basis to acquire and retain managed and administered assets against a substantial number of firms, including those in the categories listed above. Such competitors may have achieved greater economies of scale, offer a broader array of products and services, offer products with a stronger performance record and have greater distribution capabilities. Competitive factors influencing our performance in this industry include investment performance, product offerings and innovation, product ratings, fee structures, advertising, service quality, brand recognition, reputation and the ability to attract and retain investment personnel. Furthermore, changes in investment preferences or investment management strategy (for example, "active" or "passive" investing styles), client or regulatory requirements on use of client commissions for research and downward pressure on fees presents various challenges to our business and may favor different competitors that focus more on "passive" investing styles. The ability to create, maintain and deepen relationships with distributors and clients also plays a significant role in our ability to acquire and retain managed and administered assets. The impact of these factors on our business may vary from country to country and certain competitors may have certain competitive advantage in certain jurisdictions. As an example, the timing and implementation of the British exit from the EU (commonly known as "Brexit") and other regulatory or political impacts may ultimately favor certain types of asset managers in the EU.

Competitors of our Annuities and Protection segments consist of both stock and mutual insurance companies. Competitive factors affecting the sale of annuity and insurance products (including property casualty insurance products) include distribution capabilities, price, product features, hedging capability, investment performance, commission structure, perceived financial strength, claims-paying ratings, service, advertising, brand recognition and financial strength ratings from rating agencies such as A.M. Best.

Technology

We have an integrated customer management system that serves as the hub of our technology platform. In addition, we have specialized product engines that manage various accounts and over the years, we have updated our platform to include new product lines. We also use a proprietary suite of processes, methods and tools for our financial planning services. We update our technological capabilities regularly to help maintain an adaptive platform design that aims to enhance the productivity of our advisors to allow for faster, lower-cost responses to emerging business opportunities, compliance requirements and marketplace and cybersecurity trends.

We have developed and maintain a comprehensive business continuity plan that utilizes an all-hazards approach to cover different potential business disruptions to centrally controlled systems, platforms and facilities of varying severity and scope. This plan addresses, among other things, the loss of an entire geographic area, corporate buildings, staff, data systems and/or telecommunications capabilities regardless of their cause (e.g., flood, fire, terrorism or other denial or disruption of technology service). Our plan for cybersecurity incidents also provides a response framework for breach of data protection. We review and test our business continuity plan and data protection response manual periodically and update as appropriate. We require our key technology vendors and service providers that provide corporate-wide services and solutions to do the same. Additionally, we require our franchise advisors to create plans to cover such events for their locally controlled systems, data, staff and facilities.

Employees

At December 31, 2018, we had approximately 14,000 employees, including approximately 2,200 employee advisors (which does not include our franchisee advisors, who are not employees of our company, but includes advisors employed in the AAC and in our bank channel). We are not subject to collective bargaining agreements, and we believe that our employee relations are strong.

Intellectual Property

We rely on a combination of contractual rights and copyright, trademark, patent and trade secret laws to establish and protect our intellectual property. In the United States and other jurisdictions, we have established and registered, or filed applications to register, certain trademarks and service marks that we consider important to the marketing of our products and services, including but not limited to Ameriprise Financial, Threadneedle, RiverSource and Columbia Threadneedle Investments. We have in the past and will continue to take action to establish and protect our intellectual property.

Regulation

Virtually all aspects of our business, including the activities of the parent company and our subsidiaries, are subject to various federal, state and foreign laws and regulations. These laws and regulations provide broad regulatory, administrative and enforcement powers to supervisory agencies and other bodies, including U.S. federal and state regulatory and law enforcement agencies, foreign government agencies or regulatory bodies and U.S. and foreign securities exchanges. The costs of complying with such laws and regulations can be significant, and the consequences for the failure to comply may include civil or criminal charges, fines, censure, the suspension of individual employees, restrictions on or prohibitions from engaging in certain lines of business (or in certain states or countries), revocation of certain registrations as well as reputational damage. We have made and expect to continue to make significant investments in our compliance processes, enhancing policies, procedures and oversight to monitor our compliance with the numerous legal and regulatory requirements applicable to our business.

The regulatory environment in which our businesses operate remains subject to change and heightened regulatory scrutiny. Regulatory developments, both in and outside of the U.S., have resulted or are expected to result in greater regulatory oversight and internal compliance obligations for firms across the financial services industry. In addition, we continue to see enhanced legislative and regulatory interest regarding retirement investing as well as cybersecurity and privacy matters, and we will continue to closely review and monitor any legislative or regulatory proposals and changes. These legal and regulatory changes have impacted and may in the future impact the manner in which we are regulated and the manner in which we operate and govern our businesses.

The discussion and overview set forth below provides a general framework of the primary laws and regulations impacting our businesses. Certain of our subsidiaries may be subject to one or more elements of this regulatory framework depending on the nature of their business, the products and services they provide and the geographic locations in which they operate. To the extent the discussion includes references to statutory and regulatory provisions, it is qualified in its entirety by reference to these statutory and regulatory provisions and is current only as of the date of this report.

In addition to the regulators summarized above, we are also subject to regulation by self-regulatory organizations such as the Financial Industry Regulatory Authority (“FINRA”), as well as various federal and state securities, insurance and financial regulators (such as regulatory agencies and bodies like the U.S. Department of Labor) in the U.S. and foreign jurisdictions where we do business. Further, this summary includes the Board of Governors for the Federal Reserve System (“FRB”) as they will supervise Ameriprise upon the conversion of Ameriprise National Trust Bank into a federal savings bank.

Advice and Wealth Management Regulation

Certain of our subsidiaries are registered with the SEC as broker-dealers under the Securities Exchange Act of 1934 ("Exchange Act") and with certain states, the District of Columbia and other U.S. territories. Our broker-dealer subsidiaries are also members of self-regulatory organizations, including FINRA, and are subject to the regulations of these organizations. The SEC and FINRA have stringent rules with respect to the net capital requirements and the marketing and trading activities of broker-dealers. Our broker-dealer subsidiaries, as well as our financial advisors and other personnel, must obtain all required state and FINRA licenses and registrations to engage in the securities business and take certain steps to maintain such registrations in good standing. SEC regulations also impose notice requirements and capital limitations on the payment of dividends by a broker-dealer to a parent.

Our financial advisors are representatives of a dual registrant that is registered both as an investment adviser under the Investment Advisers Act of 1940 ("Advisers Act") and as a broker-dealer. Our advisors are subject to various regulations that impact how they operate their practices, including those related to supervision, sales methods, trading practices, record-keeping and financial reporting. In addition, because our independent contractor advisor platform is structured as a franchise system, we are also subject to Federal Trade Commission and state franchise requirements.

As noted earlier, we continue to see enhanced legislative and regulatory interest regarding retirement investing and financial advisors, including proposed rules, regulatory priorities or general discussion around transparency and disclosure in advisor compensation and recruiting, identifying and managing conflicts of interest and enhanced data collection.

Our financial advisors serve clients who hold assets in IRAs and employer-sponsored retirement plan accounts. The Department of Labor ("DOL") published regulations in April 2016 that expanded the scope of who is considered an Employee Retirement Income Security Act of 1974, as amended ("ERISA") fiduciary when providing investment advice to tax qualified accounts. Tax qualified accounts, particularly IRAs, make up a significant portion of our assets under management and administration. However, on March 15, 2018, the United States Court of Appeals for the Fifth Circuit issued a decision vacating the DOL's regulations in its entirety. The Fifth Circuit's decision became effective when it issued its mandate on June 21, 2018. While the DOL's fiduciary regulation has been vacated, the SEC has proposed its own best interest standard that would apply to recommendations made by financial advisors who work on a commission basis. Furthermore, several states have either issued their own fiduciary rules or are considering doing so and those rules may extend to certain types of products (e.g. insurance and annuities, financial planning, etc.) or may broadly cover all recommendations made by financial advisors. The Certified Financial Planner Board has updated its professional standards of conduct to include a fiduciary standard that applies to financial advisors who hold a Certified Financial Planner designation. Currently, Ameriprise has approximately 4,100 financial advisors that hold a Certified Financial Planner designation. In light of the various fiduciary rules and regulations that have been proposed or finalized, we continue to exert significant efforts to evaluate and prepare to comply with each rule. Depending on the span and substance of any rules and regulations and timing of their applicability, the scope of any implementation could impact the way we compensate our advisors, particularly with respect to the sale of commission-based products, the access that representatives of affiliated and unaffiliated product manufacturers could have to our advisors and clients, and the manner and degree to which we and our advisors could have selling and marketing costs reimbursed by product manufacturers. We have incurred infrastructure costs in anticipation of compliance with these new regulations, and ongoing costs will be driven by how these regulations may evolve over the course of time. Other agencies, exchanges and self-regulatory organizations of which certain of our broker-dealer subsidiaries are members, and subject to applicable rules and regulations of, include the Commodities Futures Trading Commission ("CFTC") and the National Futures Association ("NFA"). Effective in August 2014, AFSI changed its registration from a Futures Commission Merchant to a Commodity Trading Advisor with the CFTC. In addition, certain subsidiaries may also be registered as insurance agencies and subject to the regulations described in the following sections.

Asset Management Regulation

U.S. Regulation

In the U.S., certain of our asset management subsidiaries are registered as investment advisers under the Advisers Act and subject to regulation by the SEC. The Advisers Act imposes numerous obligations on registered investment advisers, including fiduciary duties, disclosure obligations and record-keeping, and operational and marketing restrictions. Our registered investment advisers may also be subject to certain obligations of the Investment Company Act based on their status as investment advisers to U.S. registered investment companies that we, or third parties, sponsor. As noted earlier, we continue to see enhanced legislative and regulatory interest regarding financial services in the U.S. through rules (and those yet to be implemented), regulatory priorities or general discussion around expanded reporting requirements and transfer agent regulation. This trend is also true globally. As one example, the Financial Stability Board ("FSB"), an international body that can make its own recommendations but not enact regulations, provided 14 policy recommendations to address what they see as the following structural vulnerabilities from asset management activities that could potentially present financial stability risks: (i) liquidity mismatch between fund investments and redemption terms and conditions for open-ended fund units; (ii) leverage within investment funds; (iii) operational risk and challenges at asset managers in stressed conditions; and (iv) securities lending activities of asset managers and funds. We believe many of the recommendations with respect to individual funds and firms outlined by the FSB are addressed by our existing robust risk management practices for our global asset management business, including with respect to liquidity risk management. However, any future regulations could potentially require new or different approaches which increase our regulatory burdens and costs.

Aspects of the regulation that would apply to our Advice & Wealth Management segment would also apply to our Asset Management segment. For example, Columbia Management Investment Distributors, Inc. is registered as a broker-dealer for the limited purpose of acting as the principal underwriter and distributor for *Columbia Management* funds. Additionally, ERISA and the DOL's fiduciary regulations (as well as state and other fiduciary rules, the SEC's best interest standards or other similar standards) would be relevant to our global asset management business and we continue to review and analyze the potential impact of these regulations on our clients, prospective clients and distribution channels, as well as the potential impact on our business across each of our business lines.

In connection with rules adopted by the CFTC, certain of our subsidiaries are registered with the CFTC as a commodity trading advisor and commodity pool operator and are also members of the NFA. These rules adopted by the CFTC eliminated or limited previously available exemptions and exclusions from many CFTC requirements and impose additional registration and reporting requirements for operators of certain registered investment companies and certain other pooled vehicles that use or trade in futures, swaps and other derivatives that are subject to CFTC regulation.

Non-U.S. Regulation

UK Regulation

Outside of the U.S., Columbia Threadneedle Investments is primarily authorized to conduct its financial services business in the UK under the Financial Services and Markets Act 2000. Threadneedle is currently regulated by the Financial Conduct Authority ("FCA") and the Prudential Regulation Authority ("PRA"). FCA and PRA rules impose certain capital, operational and compliance requirements and allow for disciplinary action in the event of noncompliance. As with the U.S. environment, we continue to see enhanced legislative and regulatory interest regarding financial services outside the U.S. through rules (and those yet to be implemented). Key UK regulatory developments or trends include the following:

- The UK financial service sector continues to face uncertainty over the final relationship with the EU as a result of Brexit. In the event of no arrangements as part of final negotiations, the UK would become a third country from the EU's perspective (largely in the same way that the US is currently) which places restrictions on cross-border marketing of financial products. We continue to monitor developments in place and have an ongoing project to ensure we can continue to service our EU clients.
- The FCA will extend the new accountability regime to almost all regulated firms in December 2019; this is an evolution of current requirements, with changes including: (i) a requirement that senior managers take all reasonable steps to prevent a breach in their area of responsibility, (ii) the introduction of a new 'certified persons' regime to replace the current system of "approved persons"; and (iii) nearly all employees being subject to enforceable conduct rules. Once implemented this will be an evolution of the FCA's approach to conduct risk regulation.

As part of its Brexit planning, Columbia Threadneedle Investments has expanded the regulated permissions of its Luxembourg entity to become a "Super Manco". This will allow clients to choose whether to contract with our EU-based business or UK-based business but will expose Columbia Threadneedle to greater scrutiny from the Commission de Surveillance du Secteur Financier ("CSSF"). We have added a handful of new employees to our Luxembourg-based team, primarily in risk, client management and oversight roles as part of this initiative.

Pan-European and Other Non-U.S. Regulation

In addition to the above, certain of our asset management subsidiaries, such as Columbia Threadneedle Investment's UK and other European subsidiaries, are required to comply with pan-European directives issued by the European Commission, as adopted by EU member states. Certain of these directives also impact our global asset management business. For example, Columbia Threadneedle Investments and certain of our other asset management subsidiaries are required to comply with MiFID II, Alternative Investment Fund Managers Directive ("AIFMD"), European Market Infrastructure Regulation ("EMIR") and the Undertakings for Collective Investment in Transferable Securities Directive ("UCITS"). These regulations impact the way we manage assets and place, settle and report on trades for our clients, as well as market to clients and prospects. EMIR provides a framework for the regulation of over the counter and exchange-traded derivative markets, and is being implemented in a number of phases that began in August 2012 and is nearing completion. UCITS V amended the UCITS IV Directive and introduced changes relating to the depositary function, manager remuneration and sanctions for those funds that are publicly offered as UCITS products. UCITS V was implemented in March 2016. Similar to the developments in the U.S., we continue to see enhanced legislative and regulatory interest regarding financial services through international markets, including in the European Union ("EU") where we have a substantial asset management business. These non-U.S. rules (and those yet to be implemented), proposed rules, regulatory priorities or general discussions may impact us directly or indirectly, including as a regulated entity or as a service provider to, or a business receiving services from or engaging in transactions with, regulated entities. For example, within the EU and the UK we have been, or will be, addressing regulatory reforms including:

- Brexit,
- MiFID II,
- FCA's Asset Management Market Study,
- Senior Manager and Certification Regime ("SM &CR")
- Solvency II,

- Packaged Retail and Insurance-based Investment Products ("PRIIPs"),
- General Data Protection Regulation ("GDPR"),
- Market Abuse Regulation ("MAR"),
- Transparency Directive II ("TD II"),
- UCITS V,
- European Market Infrastructure Regulation II,
- Fourth Money Laundering Directive ("MLDIV),
- EU Benchmarks Regulation,
- Money Market Fund Regulation ("MMFR"),
- Insurance Distribution Directive ("IDD"),
- Shareholder Rights Directive ("SRD"),
- Investment Firms Review,
- Securitisation Regulation,
- Criminal Finance Act, and
- The Review of the European Supervisory Authorities and new powers over delegation.

MiFID II came into effect on January 3, 2018. MiFID II is the most significant regulatory change EU investment firms have faced since the EU financial service action plan in 2006 which sought to establish the EU single market for financial services. MiFID II strengthens the requirement for investment firms to act in the client's best interest, in many areas including conflicts of interest (specifically, inducements and a prohibition on free research), strengthening of best execution requirements and increased costs and charges disclosure, in relation to all services provided to clients. Firms are also subject to an increase in scope of transactions which must be reported to both the regulator and the market. In response to MiFID II, Columbia Threadneedle Investments has implemented wide ranging changes to systems, policies and operating procedures across its business including (i) increased transparency and reporting to our clients over costs impacting their investments; (ii) publishing detailed information on a near real-time basis for some trades, and reporting all transactions to the regulator the next business day; (iii) strengthening rules on requirements and reporting of best execution of our trades; and (iv) moving from clients paying for investment research as part of a bundled transaction fee to Columbia Threadneedle Investments paying for the research.

GDPR replaces the 1995 Directive on which the Data Protection Act of 1998 is based and which was inconsistently applied in the EU and did not fully contemplate developments in technology. GDPR seeks to harmonize data protection legislation and introduce changes in areas such as (i) governance and oversight; (ii) processing of personal data; (iii) enhancements around consent and data subject rights; and (iv) international data transfers. GDPR is a step change in the way personal data is regulated in Europe as well as outside of Europe to the extent that goods or services are being marketed to EU citizens and their personal information is collected and processed in the course of that interaction. GDPR became effective in May 2018, and our GDPR governance program is operating today. We are mindful of other upcoming regulatory change (including Brexit) and the data privacy impact that this will have on our current business model post-Brexit.

In March 2017, the UK invoked article 50 of the Treaty of Lisbon in serving its relevant notice to leave the European Union on March 30, 2019. Having voted to leave the EU, the UK and others will need to negotiate the terms of multiple new relationships and this will take some time. The full impact of Brexit remains uncertain as there is a significant degree of uncertainty about how negotiations relating to the UK's withdrawal and new trade agreements will be conducted, as well as the potential consequences and precise timeframe for Brexit. We already have an established fund range domiciled in Luxembourg (both UCITS and AIF) along with a UCITS Management Company. We are therefore well placed to continue to serve investors in Europe. We have replicated, and will continue to replicate, appropriate funds from our UK-based OEIC range within our Luxembourg SICAV platform. We have a well-resourced and experienced product development team with the capacity to ensure the needs of our clients are met in an efficient and transparent manner. Furthermore, we have expanded the regulated permissions of our Luxembourg entity as discussed above.

In Singapore, our asset management subsidiary Threadneedle Investments Singapore (Pte.) Ltd. ("Threadneedle Singapore") is regulated by the Monetary Authority of Singapore ("MAS") under the Securities and Futures Act.

Threadneedle Singapore holds a capital markets services license with MAS, and employees of Threadneedle Singapore engaging in regulated activities are also required to be licensed. MAS rules impose certain capital, operational and compliance requirements and allow for disciplinary action in the event of noncompliance. Threadneedle companies and activities are also subject to other local country regulations in Europe, Dubai, Hong Kong, the U.S., South Korea, South America and Australia. Additionally, many of our subsidiaries, including Columbia Management, are also subject to foreign, state and local laws with respect to advisory services that are offered and provided by these subsidiaries, including services provided to government pension plans.

Other Securities Regulation

Ameriprise Certificate Company is regulated as an investment company under the Investment Company Act. As a registered investment company, Ameriprise Certificate Company must observe certain governance, disclosure, record-keeping, operational and marketing requirements. Ameriprise Certificate Company pays dividends to the parent company and is subject to capital requirements under applicable law and understandings with the SEC and the Minnesota Department of Commerce (Banking Division).

ATC is primarily regulated by the Minnesota Department of Commerce (Banking Division) and is subject to capital adequacy requirements under Minnesota law. It may not accept deposits or make personal or commercial loans. As a provider of products and services to tax-qualified retirement plans and IRAs, certain aspects of our business, including the activities of our trust company, fall within the compliance oversight of the U.S. Departments of Labor and Treasury, particularly regarding the enforcement of ERISA, and the tax reporting requirements applicable to such accounts. ATC, as well as our investment adviser subsidiaries, may be subject to ERISA, and the regulations thereunder, insofar as they act as a “fiduciary” under ERISA with respect to certain ERISA clients.

Protection and Annuities Regulation

Our insurance subsidiaries are subject to supervision and regulation by states and other territories where they are domiciled or otherwise licensed to do business. The primary purpose of this regulation and supervision is to protect the interests of contractholders and policyholders. In general, state insurance laws and regulations govern standards of solvency, capital requirements, the licensing of insurers and their agents, premium rates, policy forms, the nature of and limitations on investments, periodic reporting requirements and other matters. In addition, state regulators conduct periodic examinations into insurer market conduct and compliance with insurance and securities laws. The Minnesota Department of Commerce, the Wisconsin Office of the Commissioner of Insurance, and the New York State Department of Financial Services (the “Domiciliary Regulators”) regulate certain of the RiverSource Life companies, and the Property Casualty companies depending on each company’s state of domicile. In addition to being regulated by their Domiciliary Regulators, our RiverSource Life companies and Property Casualty companies are regulated by each of the insurance regulators in the states where each is authorized to transact business. Financial regulation of our RiverSource Life companies and Property Casualty companies is extensive, and their financial transactions (such as intercompany dividends and investment activity) may be subject to pre-approval and/or continuing evaluation by the Domiciliary Regulators.

Aspects of the regulation applicable to our Advice & Wealth Management segment would also apply to our Annuities and Protection segments. For example, RiverSource Distributors is registered with the CFTC and NFA as well as registered as a broker-dealer for the limited purpose of acting as the principal underwriter and/or distributor for our *RiverSource* annuities and insurance products sold through AFSI and third-party channels. Additionally, ERISA and the U.S. Department of Labor’s fiduciary regulations (as well as state and other fiduciary rules, the SEC’s best interest standards or other similar standards) are relevant to our insurance business and we continue to review and analyze the potential impact of these regulations on our clients, prospective clients and distribution channels, as well as the potential impact on our business across each of our business lines.

All states require participation in insurance guaranty associations, which assess fees to insurance companies in order to fund claims of policyholders and contractholders of insolvent insurance companies subject to statutory limits. These assessments are generally based on a member insurer’s proportionate share of all premiums written by member insurers in the state during a specified period prior to an insurer’s insolvency. See Note 24 to our Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K for additional information regarding guaranty association assessments.

Certain variable annuity and variable life insurance policies offered by the RiverSource Life companies constitute and are registered as securities under the Securities Act of 1933, as amended. As such, these products are subject to regulation by the SEC and FINRA. Securities regulators have recently increased their focus on the adequacy of disclosure regarding complex investment products, including variable annuities and life insurance products, and have announced that they will continue to review actions by life insurers to improve profitability and reduce risks under in force annuity and insurance products with guaranteed benefits.

The 2010 Dodd-Frank Wall Street Reform and Consumer Protection Act (“Dodd-Frank Act”), created the Federal Insurance Office (“FIO”) within the Department of Treasury. The FIO does not have substantive regulatory responsibilities, though it is tasked with monitoring the insurance industry and the effectiveness of its regulatory framework and providing periodic reports to the President and Congress. We monitor the FIO’s activity to identify and assess emerging regulatory priorities with potential application to our business.

Each of our insurance subsidiaries is subject to risk-based capital ("RBC") requirements designed to assess the adequacy of an insurance company's total adjusted capital in relation to its investment, insurance and other risks. The National Association of Insurance Commissioners ("NAIC") has established RBC standards that all state insurance departments have adopted. The RBC requirements are used by the NAIC and state insurance regulators to identify companies that merit regulatory actions designed to protect policyholders. The NAIC RBC report is completed as of December 31 and filed annually, along with the statutory financial statements.

Our RiverSource Life companies and Property Casualty companies are subject to various levels of regulatory intervention should their total adjusted statutory capital fall below defined RBC action levels. At the “company action level,” defined as total adjusted capital level between 100% and 75% of the RBC requirement, an insurer must submit a plan for corrective action with its primary state regulator. The level of regulatory intervention is greater at lower levels of total adjusted capital relative to the RBC requirement. RiverSource Life, RiverSource Life of NY, IDS Property Casualty and Ameriprise Insurance Company maintain capital levels well in excess of the company action level required by state insurance regulators as noted below as of December 31, 2018:

Entity	Company Action Level RBC	Total Adjusted Capital	% of Company Action Level RBC	
	(in millions, except percentages)			
RiverSource Life	$675	$3,382	501	%
RiverSource Life of NY	40	266	661	
IDS Property Casualty	140	789	564	
Ameriprise Insurance Company	1	49	7,887	

Ameriprise Financial, as a direct and indirect owner of its insurance subsidiaries, is subject to the insurance holding company laws of the states where its insurance subsidiaries are domiciled. These laws generally require insurance holding companies to register with the insurance department of the insurance company’s state of domicile and to provide certain financial and other information about the operations of the companies within the holding company structure.

As part of its Solvency Modernization Initiative, in 2010 the NAIC adopted revisions to its Insurance Holding Company System Regulatory Act (“Holding Company Act”) to enhance insurer group supervision and create a new Risk Management and Own Risk and Solvency Assessment (“ORSA”) Model Act. The Holding Company Act revisions focus on the overall insurance holding company system, establish a framework of regulator supervisory colleges, enhancements to corporate governance, and require the annual filing of an Enterprise Risk Management Report. The ORSA Model Act requires that an insurer create and file, annually, its Own Risk Solvency Assessment, which is a complete self-assessment of its risk management functions and capital adequacy. These laws have now been enacted by the domiciliary states of RiverSource Life and the Property Casualty companies: Minnesota, New York and Wisconsin. The reports have been completed and filed as required by the laws and regulations of those states.

Federal Banking Regulation

Upon conversion of Ameriprise National Trust Bank into a federal savings bank, Ameriprise Bank will be a federal savings bank subject to regulation by the Office of the Comptroller of the Currency ("OCC"), which became the primary regulator of federal savings banks in 2011, and by the FDIC in its role as insurer of Ameriprise Bank's deposits. As a federally chartered bank, Ameriprise Bank will be subject to numerous rules and regulations governing all aspects of the banking business, including lending practices and transactions with affiliates. Ameriprise Bank will also be subject to specific capital rules and limits on capital distributions, including payment of dividends. If Ameriprise Bank's capital falls below certain levels, the OCC would be required to take remedial actions and could take other actions, including imposing further limits on dividends or business activities. In addition, an array of Community Reinvestment Act (“CRA”), fair lending, and other consumer protection laws and regulations will apply to Ameriprise Bank. Either of the OCC or the FDIC may bring administrative enforcement actions against Ameriprise Bank or its officers, directors or employees if any of them are found to be in violation of the law or engaged in an unsafe or unsound practice.

As the controlling company of Ameriprise Bank, upon conversion of Ameriprise National Trust Bank into a federal savings bank, Ameriprise Financial will be a savings and loan holding company that is subject to regulation, supervision and examination by the FRB. In connection with the conversion, Ameriprise Financial is electing to be classified as a financial holding company subject to regulation under the Bank Holding Company Act of 1956 (as amended). Further, Ameriprise Financial will be subject to ongoing supervision by the FRB, including supervision and prudential standards, such as capital, liquidity and operational risk monitoring by management.

Under the Bank Holding Company Act, bank holding companies and their banking subsidiaries are generally limited to the business of banking and activities closely related or incidental to banking. As a financial holding company, Ameriprise will be permitted to engage in other activities that the FRB has determined or in the future determines to be financial in nature, incidental to an activity that is financial in nature, or complementary to a financial activity and that do not pose a substantial risk to the safety and soundness of depository institutions or the financial system generally, and to acquire shares of companies engaged in such activities. Activities defined to be financial in nature include: providing financial or investment advice; securities underwriting and dealing; insurance underwriting; and making merchant banking investments in commercial and financial companies, subject to significant limitations. They also include activities previously determined by the FRB to be so closely related to banking or managing or controlling banks as to be a proper incident thereto. Ameriprise may not, however, directly or indirectly acquire the ownership or control of more than 5% of any class of voting shares, or substantially all of the assets, of a bank holding company or a bank, without the prior approval of the FRB.

In order to maintain Ameriprise’s status as a financial holding company, Ameriprise Bank, as Ameriprise’s sole insured depository institution subsidiary, will need to remain “well-capitalized” and “well-managed” under applicable regulations, and must receive at least a “satisfactory” rating in its most recent examination under the CRA. In addition, Ameriprise will need to remain “well-capitalized” and “well-managed” in order to maintain its status as a financial holding company. Failure to meet one or more of these requirements would mean, depending on the requirements not met, and any accord then reached with the FRB, that until cured Ameriprise Financial could not undertake new activities, continue certain activities, or make acquisitions other than those permitted generally for bank holding companies.

In connection with the conversion of Ameriprise National Trust Bank into a federal savings bank, we will be subject to what is commonly referred to as the Volcker Rule after a conformance period. The Volcker Rule prohibits “banking entities,” including us and our affiliates, from engaging in certain “proprietary trading” activities, as defined in the Volcker Rule, subject to exemptions for underwriting, market-making-related activities, risk-mitigating hedging and certain other activities. The Volcker Rule also prohibits certain investments and relationships by banking entities with “covered funds,” with a number of exemptions and exclusions. The Volcker Rule also requires that deductions be made from a BHC’s Tier 1 capital for permissible investments in covered funds. In addition, the Volcker Rule requires banking entities to have comprehensive compliance programs reasonably designed to ensure and monitor compliance with the Volcker Rule.

Additional Parent Company Regulation

Ameriprise Financial is a publicly traded company that is subject to SEC and New York Stock Exchange (“NYSE”) rules and regulations regarding public disclosure, financial reporting, internal controls and corporate governance. The adoption of the Sarbanes-Oxley Act of 2002 as well as the implementation of the Dodd-Frank Act have significantly enhanced these rules and regulations.

We have operations in a number of geographical regions outside of the U.S. through Threadneedle and certain of our other subsidiaries. We monitor developments in EU legislation, as well as in the other markets in which we operate, to ensure that we comply with all applicable legal requirements, including EU directives applicable to financial institutions as implemented in the various member states. Because of the mix of business activities we conduct, we assess the impact of, and monitor our status under, the EU Financial Conglomerates Directive, which contemplates that certain financial conglomerates involved in banking, insurance and investment activities among other things, implement measures to prevent excessive leverage and multiple leveraging of capital and maintain internal control processes to address risk concentrations as well as risks arising from significant intragroup transactions.

Privacy, Environmental Laws and USA Patriot Act

Many aspects of our business are subject to comprehensive legal requirements from a multitude of different functional regulators and law enforcement bodies concerning the use and protection of personal information, including client and employee information. This includes rules adopted pursuant to the Gramm-Leach-Bliley Act, the Fair and Accurate Credit Transactions Act, the Health Insurance Portability and Accountability Act (“HIPAA”), the Health Information Technology for Economic and Clinical Health (“HITECH”) Act, an ever increasing number of state laws and regulations such as the New York State Department of Financial Services’ *Cybersecurity Requirements for Financial Services Companies* and the California Consumer Privacy Act of 2018, EU data protection legislation as domestically implemented in the respective EU member states, and data protection rules in the other regions outside the U.S. and the EU in which we operate (including GDPR). We have also implemented policies and procedures, including a cybersecurity incident response manual, in response to such requirements. We continue our efforts to safeguard the data entrusted to us in accordance with applicable laws and our internal data protection policies, including taking steps to reduce the potential for identity theft or other improper use or disclosure of personal information, while seeking to collect only the data that is necessary to properly achieve our business objectives and best serve our clients.

As the owner and operator of real property, we are subject to federal, state and local environmental laws and regulations. We periodically conduct environmental reviews on our own real estate as well as investment real estate to assess and ensure our compliance with these laws and regulations.

The Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act, commonly referred to as the USA Patriot Act, was enacted in October 2001 in the wake of the September 11th terrorist attacks. The USA Patriot Act broadened existing anti-money laundering legislation and the extraterritorial jurisdiction of the United States substantially. In response, we enhanced our existing anti-money laundering programs and developed new procedures and programs. For example, we implemented a customer identification program applicable to many of our businesses and enhanced our “know your customer” and “due diligence” programs. In addition, we will continue to comply with anti-money laundering legislation in the UK derived from applicable EU directives and international initiatives adopted in other jurisdictions in which we conduct business.

Securities Exchange Act Reports and Additional Information

We maintain an Investor Relations website at ir.ameriprise.com. Investors can also access the website through our main website at ameriprise.com by clicking on the “Investor Relations” link located at the bottom of our homepage. We use our Investor Relations website to announce financial and other information to investors and to make available SEC filings, press releases, public conference calls and webcasts. Investors and others interested in the company are encouraged to visit the investor relations website from time to time, as information is updated and new information is posted. The website also allows users to sign up for automatic notifications in the event new materials are posted. The information found on the website is not incorporated by reference into this report or in any other report or document the Company furnishes or files with the SEC.

Item 1A. Risk Factors

Our operations and financial results are subject to various risks and uncertainties, including those described below, that could have a material adverse effect on our business, financial condition or results of operations and could cause the trading price of our common stock to decline. We believe that the following information identifies the material factors affecting our company based on the information we currently know. However, the risks and uncertainties our company faces are not limited to those described below. Additional risks and uncertainties not presently known to us or that we currently believe to be immaterial may also adversely affect our business.

Risks Relating to Our Business and Operations

Our financial condition and results of operations may be adversely affected by market fluctuations and by economic, political and other factors.

Our financial condition and results of operations may be materially affected by market fluctuations and by economic and other factors. Such factors, which can be global, regional, national or local in nature, include: (i) political, social, economic and market conditions; (ii) the availability and cost of capital; (iii) the level and volatility of equity prices, commodity prices and interest rates, currency values and other market indices; (iv) technological changes and events; (v) U.S. and foreign government fiscal and tax policies; (vi) U.S. and foreign government ability, real or perceived, to avoid defaulting on government securities; (vii) the availability and cost of credit; (viii) inflation; (ix) investor sentiment and confidence in the financial markets; (x) terrorism and armed conflicts; and (xi) natural disasters such as weather catastrophes and widespread health emergencies. Furthermore, changes in consumer economic variables, such as the number and size of personal bankruptcy filings, the rate of unemployment, decreases in property values, and the level of consumer confidence and consumer debt, may substantially affect consumer loan levels and credit quality, which, in turn, could impact client activity in all of our businesses. These factors also may have an impact on our ability to achieve our strategic objectives.

Declines and volatility in U.S. and global market conditions have impacted our businesses in the past and may do so again. Our businesses have been, and in the future may be, adversely affected by U.S. and global capital market and credit crises, the repricing of credit risk, equity market volatility and decline and stress or recession in the U.S. and global economies generally. Each of our segments operates in these markets with exposure for us and our clients in securities, loans, derivatives, alternative investments, seed capital and other commitments. It is difficult to predict when, how long and to what extent the aforementioned adverse conditions may exist, which of our markets, products and businesses will be directly affected in terms of revenues, management fees and investment valuations and earnings, and to what extent our clients may seek to bring claims arising out of investment performance that is affected by these conditions. As a result, these factors could materially adversely impact our financial condition and results of operations.

Our revenues are largely dependent upon the level and mix of assets we have under management and administration, which are subject to fluctuations based on market conditions and client activity. Downturns and volatility in equity markets can have, and have had, an adverse effect on the revenues and returns from our asset management services, retail advisory accounts, variable annuity contracts and banking products. Because the profitability of these products and services depends on fees related primarily to the value of assets under management, declines in the equity markets will reduce our revenues because the value of the investment assets we manage will be reduced. In addition, market downturns and volatility (as well as general regulatory or economic uncertainty, such as Brexit) may cause, and have caused, potential new purchasers of our products to limit purchases of or to refrain from purchasing products such as mutual funds, OEICs, SICAVs, variable annuities and variable universal life insurance. Downturns and uncertainty may also cause current shareholders in our mutual funds, OEICs, SICAVs, unit trusts and investment trusts, contractholders in our annuity products and policyholders in our protection products to withdraw cash values from those products.

Most of our variable annuity products contain guaranteed minimum death benefits and guaranteed minimum withdrawal and accumulation benefits. A significant equity market decline or volatility in equity markets could result in guaranteed minimum benefits being higher than what current account values would support, which would adversely affect our financial condition and results of operations. Although we have hedged a portion of the guarantees for the variable annuity contracts to mitigate the financial loss of equity market declines or volatility, there can be no assurance that such a decline or volatility would not materially impact the profitability of certain products or product lines or our financial condition or results of operations. Further, the cost of hedging our liability for these guarantees has increased as a result of low interest rates and volatility in the equity markets and broad-based market and regulatory-driven changes in the collateral requirements of hedge trading counterparties. In addition, heightened volatility creates greater uncertainty for future hedging effectiveness.

We believe that investment performance is an important factor in the success of many of our businesses. Poor investment performance could impair our revenues and earnings, as well as our prospects for growth. Poor investment performance could also result in additional benefits paid under certain annuity products (such variable annuity living benefits and death benefits). A significant portion of our revenue is derived from investment management agreements with the *Columbia Management* family of mutual funds which are terminable on 60 days' notice. In addition, although some contracts governing investment management services are subject to termination for failure to meet performance benchmarks, institutional and individual clients can terminate their relationships with us or our financial advisors at will or on relatively short notice. Our clients can also reduce the aggregate amount of managed assets or shift their funds to other types of accounts with different rate structures, for any number of reasons, including investment performance, changes in prevailing interest rates, changes in investment preferences or investment management strategy (for example, "active" or "passive" investing styles), changes in our (or our advisors') reputation in the marketplace, changes in client management or ownership, loss of key investment management personnel and financial market performance. A reduction in managed assets, and the associated decrease in revenues and earnings, could have a material adverse effect on our business. Moreover, if our money market funds experience a decline in market value, we may choose to contribute capital to those funds without consideration, which would result in a loss.

During periods of unfavorable or stagnating market or economic conditions, the level of individual investor participation in the global markets may also decrease, which would negatively impact the results of our retail businesses. Concerns about current market and economic conditions, declining real estate values and decreased consumer confidence have caused, and in the future may cause, some of our clients to reduce the amount of business they do with us. Fluctuations in global market activity could impact the flow of investment capital into or from assets under management and the way customers allocate capital among money market, equity, fixed maturity or other investment alternatives, which could negatively impact our Asset Management, Advice & Wealth Management and Annuities businesses. If we are unable to offer appropriate product alternatives which encourage customers to continue purchasing in the face of actual or perceived market volatility, our sales and management fee revenues could decline. Uncertain economic conditions and heightened market volatility may also increase the likelihood that clients or regulators present or threaten legal claims, that regulators may increase the frequency and scope of their examinations of us or the financial services industry generally, and that lawmakers may enact new requirements or taxation which can have a material impact on our revenues, expenses or statutory capital requirements.

Changes in interest rates and prolonged periods of low interest rates may adversely affect our financial condition and results of operations.

Certain of our insurance and annuity products and certain of our investment products and banking products are sensitive to interest rate fluctuations, and future impacts associated with such variations may differ from our historical costs. In addition, interest rate fluctuations could result in fluctuations in the valuation of certain minimum guaranteed benefits contained in some of our variable annuity products. Although we typically hedge to mitigate some of the effect of such fluctuations, significant changes in interest rates could have a material adverse impact on our results of operations.

During periods of increasing market interest rates, we offer higher crediting rates on interest-sensitive products, such as universal life insurance, fixed annuities and face-amount certificates, and we increase crediting rates on in force products to keep these products competitive. Because yields on invested assets may not increase as quickly as current interest rates, we may have to accept a lower spread and thus lower profitability or face a decline in sales and greater loss of existing contracts and related assets. In addition, increases in market interest rates may cause increased policy surrenders, withdrawals from life insurance policies and annuity contracts and requests for policy loans, as policyholders and contractholders seek to shift assets to products with perceived higher returns. This process may lead to an earlier than expected outflow of cash from our business. These withdrawals and surrenders may require investment assets to be sold at a time when the prices of those assets are lower because of the increase in market interest rates, which may result in realized investment losses. Also, increases in market interest rates may result in extension of certain cash flows from structured mortgage assets. Increases in crediting rates, as well as surrenders and withdrawals, could have an adverse effect on our financial condition and results of operations. An increase in policy surrenders and withdrawals also may require us to accelerate amortization of deferred acquisition costs ("DAC") or other intangibles or cause an impairment of goodwill, which would increase our expenses and reduce our net earnings.

During periods of falling interest rates or stagnancy of low interest rates, our spread may be reduced or could become negative, primarily because some of our products have guaranteed minimum crediting rates. Due to the long-term nature of the liabilities associated with certain of our businesses, such as long term care and universal life with secondary guarantees as well as fixed annuities and guaranteed benefits on variable annuities, sustained declines in or stagnancy of low long-term interest rates may subject us to reinvestment risks and increased hedging costs. In addition, reduced or negative spreads may require us to accelerate amortization of DAC, which would increase our expenses and reduce our net earnings.

Interest rate fluctuations also could have an adverse effect on the results of our investment portfolio. During periods of declining market interest rates or stagnancy of low interest rates, the interest we receive on variable interest rate investments decreases. In addition, during those periods, we are forced to reinvest the cash we receive as interest or return of principal on our investments in lower-yielding high-grade instruments or in lower-credit instruments to maintain comparable returns. Issuers of certain callable fixed income securities also may decide to prepay their obligations in order to borrow at lower market rates, which increases the risk that we may have to reinvest the cash proceeds of these securities in lower-yielding or lower-credit instruments.

Adverse capital and credit market conditions may significantly affect our ability to meet liquidity needs, our access to capital and our cost of capital.

The capital and credit markets may experience, and have experienced, varying degrees of volatility and disruption. In some cases, the markets have exerted downward pressure on availability of liquidity and credit capacity for certain issuers. We need liquidity to pay our operating expenses, interest expenses and dividends on our capital stock. Without sufficient liquidity, we could be required to curtail our operations and our business would suffer.

Our liquidity needs are satisfied primarily through our reserves and the cash generated by our operations. We believe the level of cash and securities we maintain, combined with expected cash inflows from investments and operations, is adequate to meet anticipated short-term and long-term payment obligations. In the event current resources are insufficient to satisfy our needs, we may access financing sources such as bank debt. The availability of additional financing would depend on a variety of factors such as market conditions, the general availability of credit, the volume of trading activities, the overall availability of credit to the financial services industry, our credit ratings and credit capacity, as well as the possibility that our shareholders, customers or lenders could develop a negative perception of our long- or short-term financial prospects if we incur large investment losses or if the level of our business activity decreases due to a market downturn. Similarly, our access to funds may be rendered more costly or impaired if regulatory authorities or rating organizations take actions against us.

Disruptions, uncertainty or volatility in the capital and credit markets may also limit our access to capital required to operate our business. Such market conditions may limit our ability to satisfy statutory capital requirements, generate fee income and market-related revenue to meet liquidity needs and access the capital necessary to grow our business. As such, we may be forced to delay raising capital, issue different types of capital than we would otherwise, less effectively deploy such capital, or bear an unattractive cost of capital which could decrease our profitability and significantly reduce our financial flexibility.

A downgrade or a potential downgrade in our financial strength or credit ratings could adversely affect our financial condition and results of operations.

Financial strength ratings, which various rating organizations publish as a measure of an insurance company's ability to meet contractholder and policyholder obligations, are important to maintain public confidence in our products, the ability to market our products and our competitive position. A downgrade in our financial strength ratings, or the announced potential for a downgrade, could have a significant adverse effect on our financial condition and results of operations in many ways, including: (i) reducing new sales of insurance and annuity products and investment products; (ii) adversely affecting our relationships with our advisors and third-party distributors of our products; (iii) materially increasing the number or amount of policy surrenders and withdrawals by contractholders and policyholders; (iv) requiring us to reduce prices for many of our products and services to remain competitive; and (v) adversely affecting our ability to obtain reinsurance or obtain reasonable pricing on reinsurance.

A downgrade in our credit ratings could also adversely impact our future cost and speed of borrowing and have an adverse effect on our financial condition, results of operations and liquidity.

In view of the difficulties experienced in recent years by many financial institutions, including our competitors in the insurance industry, the rating organizations have heightened the level of scrutiny that they apply to such institutions and have requested additional information from the companies that they rate. They may increase the frequency and scope of their credit reviews, adjust upward the capital and other requirements employed in the rating organizations' models for maintenance of ratings levels, or downgrade ratings applied to particular classes of securities or types of institutions.

Rating organizations may also become subject to tighter laws, regulations or scrutiny governing ratings, which may in turn impact ratings assigned to financial institutions.

We cannot predict what actions rating organizations may take, or what actions we may take in response to the actions of rating organizations, which could adversely affect our business. As with other companies in the financial services industry, our ratings could be changed at any time and without any notice by the rating organizations.

Intense competition and the economics of changes in our product revenue mix and distribution channels could negatively impact our ability to maintain or increase our market share and profitability.

Our businesses operate in intensely competitive industry segments. We compete based on a number of factors, including name recognition, service, the quality of investment advice, investment performance, product offerings and features, price, perceived financial strength, claims-paying ability and credit ratings. Our competitors include broker-dealers, banks, asset managers, insurers and other financial institutions. Certain of our competitors offer web-based financial services and discount brokerage services to individual clients. Many of our businesses face competitors that have greater market share, offer a broader range of products, have greater financial resources, or have higher claims-paying ability or credit ratings than we do. Some of our competitors may possess or acquire intellectual property rights that could provide a competitive advantage to them in certain markets or for certain products, which could make it difficult for us to introduce new products and services. Some of our competitors' proprietary products or technology could be similar to our own, and this could result in disputes that could impact our financial condition or results of operations. In addition, over time certain sectors of the financial services industry have become considerably more concentrated, as financial institutions involved in a broad range of financial services have been acquired by or merged into other firms, or distribution firms (including our own) are seeking to limit the breadth of product offerings in order to simplify their regulatory and risk management. This convergence could result in our competitors gaining greater resources, and we may experience downward pressures on our pricing and market share as a result of these factors and as some of our competitors seek to increase market share by reducing prices. Furthermore, the uncertain regulatory environment in the U.S. and around the world will cause various structural changes to the industry and other competitors may be better positioned to reap the benefits of that structural change and movement of assets around the industry depending on final regulations and trends among distributors and clients.

The offerings available to our advisor network include not only products issued by our RiverSource Life and Columbia Threadneedle Investments companies, but also products issued by unaffiliated insurance companies and asset managers. As a result of this and further openings of our advisor network to the products of other companies, we could experience lower sales of our companies’ products, higher surrenders or redemptions, or other developments which might not be fully offset by higher distribution revenues or other benefits, possibly resulting in an adverse effect on our results of operations. In addition, some of our products, such as certain products of our Property Casualty companies, are made available through alliances with unaffiliated third parties. We could experience lower sales or incur higher distribution costs or other developments which could have an adverse effect on our results of operations if alliance relationships are discontinued or if the terms of our alliances change.

We face intense competition in attracting and retaining key talent.

Our continued success depends to a substantial degree on our ability to attract and retain qualified people. We are dependent on our network of advisors to drive growth and results in our wealth management business and also for a significant portion of the sales of our mutual funds, annuities, face-amount certificates, banking and insurance products. In addition, the investment performance of our asset management products and services and the retention of our products and services by our clients are dependent upon the strategies and decisioning of our portfolio managers and analysts. The market for these financial advisors and portfolio managers is extremely competitive, as are the markets for qualified and skilled executives and marketing, finance, legal, compliance and other professionals. From time to time there are regulatory-driven or other trends and developments within the industry, such as the recent changes around the Protocol for Broker Recruiting, that could potentially impact the current competitive dynamics between us and our competitors. If we are unable to attract and retain qualified individuals or our recruiting and retention costs increase significantly, our financial condition and results of operations could be materially adversely impacted.

The impairment or negative performance of other financial institutions could adversely affect us.

We have exposure to many different industries and counterparties, and we routinely execute transactions with counterparties in the financial services industry, including broker-dealers, commercial banks, investment banks, hedge funds, insurers, reinsurers, investment funds and other institutions. The operations of U.S. and global financial services institutions are interconnected and a decline in the financial condition of one or more financial services institutions may expose us to credit losses or defaults, limit our access to liquidity or otherwise disrupt the operations of our businesses. While we regularly assess our exposure to different industries and counterparties, the performance and financial strength of specific institutions are subject to rapid change, the timing and extent of which cannot be known.

Many transactions with and investments in the products and securities of other financial institutions expose us to credit risk in the event of default of our counterparty. With respect to secured transactions, our credit risk may be exacerbated when the collateral we hold cannot be realized upon or is liquidated at prices insufficient to recover the full amount of the loan or derivative exposure due to it. We also have exposure to financial institutions in the form of unsecured debt instruments, derivative transactions (including with respect to derivatives hedging our exposure on variable annuity contracts with guaranteed benefits), reinsurance, repurchase and underwriting arrangements and equity investments. There can be no assurance that any such losses or impairments to the carrying value of these assets would not materially and adversely impact our business and results of operations.

Downgrades in the credit or financial strength ratings assigned to the counterparties with whom we transact or other adverse reputational impacts to such counterparties could create the perception that our financial condition will be adversely impacted as a result of potential future defaults by such counterparties. Additionally, we could be adversely affected by a general, negative perception of financial institutions caused by the downgrade or other adverse impact to the reputation of other financial institutions. Accordingly, ratings downgrades or other adverse reputational impacts for other financial institutions could affect our market capitalization and could limit access to or increase our cost of capital.

A number of the products and services we make available to our clients are those offered by third parties, for which we may generate revenue based on the level of assets under management, the number of client transactions or otherwise. The poor performance of such products and services, or negative perceptions of the firms offering such products and services, may adversely impact our sales of such products and services and reduce our revenue. In addition, such failures or poor performance of products and services offered by other financial institutions could adversely impact consumer confidence in products and services that we offer. Negative perceptions of certain financial products and services, or the financial industry in general, may increase the number of withdrawals and redemptions or reduce purchases made by our clients, which would adversely impact the levels of our assets under management, revenues and liquidity position.

A drop in our investment performance as compared to that of our competitors could negatively impact our revenues and profitability.

Investment performance is a key competitive factor for our retail and institutional asset management products and services. Strong investment performance helps to ensure the retention of our products and services by our clients and creates new sales of products and services. It may also result in higher ratings by ratings services such as Morningstar or Lipper, which may compound the foregoing effects. Strong investment performance and its effects are important elements to our stated goals of growing assets under management and achieving economies of scale.

There can be no assurance as to how future investment performance will compare to our competitors or that historical performance will be indicative of future returns. Any drop or perceived drop in investment performance as compared to our competitors could cause a decline in sales of our mutual funds and other investment products, an increase in redemptions and the termination of institutional asset management relationships. These impacts may reduce our aggregate amount of assets under management and reduce management fees. Poor investment performance could also adversely affect our ability to expand the distribution of our products through unaffiliated third parties. Further, any drop in market share of mutual funds sales by our advisors may further reduce profits as sales of other companies' mutual funds are less profitable than sales of our proprietary funds.

We may not be able to maintain our unaffiliated third-party distribution channels or the terms by which unaffiliated third parties sell our products.

We distribute certain of our investment products and fixed annuities through unaffiliated third-party advisors and financial institutions. Maintaining and deepening relationships with these unaffiliated distributors is an important part of our growth strategy, as strong third-party distribution arrangements enhance our ability to market our products and to increase our assets under management, revenues and profitability. There can be no assurance that the distribution relationships we have established will continue, as our distribution partners may cease to operate or otherwise terminate their relationship with us. Any such reduction in access to third-party distributors may have a material adverse effect on our ability to market our products and to generate revenue in our Asset Management and Annuities segments.

Access to distribution channels is subject to intense competition due to the large number of competitors and products in the investment advisory and annuities industries as well as regulatory and consumer trends driving escalating compliance, disclosure and risk management requirements for distributors. Relationships with distributors are subject to periodic negotiation that may result in increased distribution costs and/or reductions in the amount of our products marketed, and the frequency or complexity of these negotiations is expected to increase in light of prevailing regulatory reforms and market volatility. Any increase in the costs to distribute our products or reduction in the type or amount of products made available for sale may have a material effect on our revenues and profitability.

We face risks arising from acquisitions and divestitures.

We have made acquisitions and divestitures in the past and may pursue similar strategic transactions in the future. Risks in acquisition transactions include difficulties in the integration of acquired businesses into our operations and control environment (including our risk management policies and procedures), difficulties in assimilating and retaining employees and intermediaries, difficulties in retaining the existing customers of the acquired entities, assumed or unforeseen liabilities that arise in connection with the acquired businesses, the failure of counterparties to satisfy any obligations to indemnify us against liabilities arising from the acquired businesses, and unfavorable market conditions that could negatively impact our growth expectations for the acquired businesses. Fully integrating an acquired company or business into our operations (such as our recent acquisitions of Lionstone Investments and IPI) may take a significant amount of time. Risks in divestiture transactions include difficulties in the separation of the disposed business, retention or obligation to indemnify certain liabilities, the failure of counterparties to satisfy payment obligations, unfavorable market conditions that may impact any earnout or contingency payment due to us and unexpected difficulties in losing employees of the disposed business. We cannot assure you that we will be successful in overcoming these risks or any other problems encountered with acquisitions, divestitures and other strategic transactions. Execution of our business strategies also may require certain regulatory approvals or consents, which may include approvals of the FRB and other domestic and non-U.S. regulatory authorities. These regulatory authorities may impose conditions on the activities or transactions contemplated by our business strategies which may impact negatively our ability to realize fully the expected benefits of certain opportunities. These risks may prevent us from realizing the expected benefits from acquisitions or divestitures and could result in the failure to realize the full economic value of a strategic transaction or the impairment of goodwill and/or intangible assets recognized at the time of an acquisition. These risks could be heightened if we complete a large acquisition or multiple acquisitions within a short period of time.

Third-party defaults, bankruptcy filings, legal actions and other events may limit the value of or restrict our access and our clients' access to cash and investments.

Capital and credit market volatility can exacerbate, and has exacerbated, the risk of third-party defaults, bankruptcy filings, foreclosures, legal actions and other events that may limit the value of or restrict our access and our clients' access to cash and investments. Although we are not required to do so, we have elected in the past, and we may elect in the future, to compensate clients for losses incurred in response to such events, provide clients with temporary credit or liquidity or other support related to products that we manage, or provide credit liquidity or other support to the financial products we manage. Any such election to provide support may arise from factors specific to our clients, our products or industry-wide factors. If we elect to provide additional support, we could incur losses from the support we provide and incur additional costs, including financing costs, in connection with the support. These losses and additional costs could be material and could adversely impact our results of operations. If we were to take such actions we may also restrict or otherwise utilize our corporate assets, limiting our flexibility to use these assets for other purposes, and may be required to raise additional capital.

Defaults in our fixed maturity securities portfolio or consumer credit holdings could adversely affect our earnings.

Issuers of the fixed maturity securities that we own may default on principal and interest payments. As of December 31, 2018, 3.5% of our fixed maturity securities had ratings below investment-grade. Moreover, economic downturns and corporate malfeasance can increase the number of companies, including those with investment-grade ratings, which default on their debt obligations. Default-related declines in the value of our fixed maturity securities portfolio or consumer credit holdings could cause our net earnings to decline and could also cause us to contribute capital to some of our regulated subsidiaries, which may require us to obtain funding during periods of unfavorable market conditions.

Our valuation of fixed maturity and equity securities may include methodologies, estimations and assumptions which are subject to differing interpretations and could result in changes to investment valuations that may materially adversely impact our results of operations or financial condition.

Fixed maturity, equity, trading securities and short-term investments, which are reported at fair value on the consolidated balance sheets, represent the majority of our total cash and invested assets. The determination of fair values by management in the absence of quoted market prices is based on: (i) valuation methodologies; (ii) securities we deem to be comparable; and (iii) assumptions deemed appropriate given the circumstances. The fair value estimates are made at a specific point in time, based on available market information and judgments about financial instruments, including estimates of the timing and amounts of expected future cash flows and the credit standing of the issuer or counterparty. Factors considered in estimating fair value include: coupon rate, maturity, estimated duration, call provisions, sinking fund requirements, credit rating, industry sector of the issuer, interest rates, credit spreads, and quoted market prices of comparable securities. The use of different methodologies and assumptions may have a material effect on the estimated fair value amounts.

During periods of market disruption, including periods of significantly rising or high interest rates and rapidly widening credit spreads or illiquidity, it may be difficult to value certain of our securities. There may be certain asset classes that were in active markets with significant observable data that become illiquid due to the financial environment. In such cases, the valuation of certain securities may require additional subjectivity and management judgment. As such, valuations may include inputs and assumptions that are less observable and may require greater estimation as well as valuation methods that are more sophisticated, which may result in values less than the value at which the investments may be ultimately sold. Further, rapidly changing and unexpected credit and equity market conditions could materially impact the valuation of securities as reported within our consolidated financial statements and the period-to-period changes in value could vary significantly. Decreases in value may have a material adverse effect on our results of operations or financial condition.

The elimination of London Inter-Bank Offered Rate ("LIBOR") may adversely affect the interest rates on and value of certain derivatives and floating rate securities we hold, the activities we conduct, and any other assets or liabilities whose value is tied to LIBOR.

On July 27, 2017, the U.K. Financial Conduct Authority announced that it intends to stop persuading or compelling banks to submit LIBOR rates after 2021. However, it remains unclear if, how and in what form, LIBOR will continue to exist. Actions by regulators have resulted in the establishment of alternative reference rates to LIBOR in most major currencies. The U.S. Federal Reserve, based on the recommendations of the New York Federal Reserve's Alternative Reference Rate Committee (constituted of major derivative market participants and their regulators), has begun publishing a Secured Overnight Funding Rate ("SOFR") which is intended to replace U.S. dollar LIBOR, and SOFR-based investment products have been issued in the U.S. Proposals for alternative reference rates for other currencies have also been announced or have already begun publication. Markets are slowly developing in response to these new rates and questions around liquidity in these rates and how to appropriately adjust these rates to eliminate any economic value transfer at the time of transition remain a significant concern for us and others in the marketplace. The effect of any changes or reforms to LIBOR or discontinuation of LIBOR on new or existing financial instruments to which we have exposure or the activities in our businesses will vary depending on: (i) existing fallback provisions in individual contracts; and (ii) whether, how, and when industry participants develop and widely adopt new reference rates and fallbacks for both legacy and new products or instruments. Accordingly, it is difficult to predict the full impact of the transition away from LIBOR on certain derivatives and floating rate securities we hold, the activities we conduct in our various businesses, and any other assets or liabilities (as well as contractual rights and obligations) whose value is tied to LIBOR. The value or profitability of these products and instruments, and our costs of operations, may be adversely affected until new reference rates and fallbacks for both legacy and new products, instruments and contracts are commercially accepted.

The determination of the amount of allowances and impairments taken on certain investments is subject to management's evaluation and judgment and could materially impact our results of operations or financial position.

The determination of the amount of allowances and impairments vary by investment type and is based upon our periodic evaluation and assessment of inherent and known risks associated with the respective asset class. Such evaluations and assessments are revised as conditions change and new information becomes available. Management updates its evaluations regularly and reflects changes in allowances and impairments in operations as such evaluations are revised. Historical trends may not be indicative of future impairments or allowances.

The assessment of whether impairments have occurred is based on management's case-by-case evaluation of the underlying reasons for the decline in fair value that considers a wide range of factors about the security issuer or borrower, and management uses its best judgment in evaluating the cause of the decline in the estimated fair value of the security or loan and in assessing the prospects for recovery. Inherent in management's evaluation of the security or loan are assumptions and estimates about the operations of the issuer and its future earnings potential.

Some of our investments are relatively illiquid.

We invest a portion of our owned assets in certain privately placed fixed income securities, mortgage loans, policy loans and limited partnership interests, all of which are relatively illiquid. These asset classes represented 13.9% of the carrying value of our investment portfolio as of December 31, 2018. If we require significant amounts of cash on short notice in excess of our normal cash requirements, we may have difficulty selling these investments in a timely manner or be forced to sell them for an amount less than we would otherwise have been able to realize, or both, which could have an adverse effect on our financial condition and results of operations.

The failure of other insurers could require us to pay higher assessments to state insurance guaranty funds.

Our insurance companies are required by law to be members of the guaranty fund association in every state where they are licensed to do business. In the event of insolvency of one or more unaffiliated insurance companies, our insurance companies could be adversely affected by the requirement to pay assessments to the guaranty fund associations. Uncertainty and volatility in the U.S. economy and financial markets in recent years, plus the repercussions of a heightened regulatory environment, have weakened or may weaken the financial condition of numerous insurers, including insurers currently in receiverships, increasing the risk of triggering guaranty fund assessments. For more information regarding assessments from guaranty fund associations, see Note 24 to our Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K.

If the counterparties to our reinsurance arrangements or to the derivative instruments we use to hedge our business risks default or otherwise fail to fulfill their obligations, we may be exposed to risks we had sought to mitigate, which could adversely affect our financial condition and results of operations.

We use reinsurance to mitigate our risks in various circumstances as described in Item 1 of this Annual Report on Form 10-K - “Business - Our Segments - Protection - Reinsurance.” Reinsurance does not relieve us of our direct liability to our policyholders and contractholders, even when the reinsurer is liable to us. Accordingly, we bear credit and performance risk with respect to our reinsurers, including Genworth Life Insurance Company with whom we finalized various confidential enhancements in July 2016 that have been shared, in the normal course of regular reviews, with our Domiciliary Regulators and rating agencies. A reinsurer’s insolvency or its inability or unwillingness to make payments under the terms of our reinsurance agreement could have a material adverse effect on our financial condition and results of operations. See Notes 2 and 8 to our Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K for additional information regarding reinsurance.

In addition, we use a variety of derivative instruments (including options, forwards, swaps and futures with a number of counterparties to hedge business risks. The amount and breadth of exposure to derivative counterparties, as well as the cost of derivative instruments, have increased significantly in connection with our strategies to hedge guaranteed benefit obligations under our variable annuity products. If our counterparties fail to honor their obligations under the derivative instruments in a timely manner, our hedges of the related risk will be ineffective. That failure could have a material adverse effect on our financial condition and results of operations. This risk of failure of our hedge transactions from counterparty default may be increased by capital market volatility.

We provide investment securities as collateral to our derivative counterparties which they may sell, pledge, or rehypothecate. We have exposure, under the relevant arrangement, if the collateral is not returned to us to the extent that the fair value of the collateral exceeds our liability. Additionally, we may also accept investment securities as collateral from our derivative counterparties, which we may sell, pledge, or rehypothecate. If the counterparties that we pledge the collateral to are not able to return these investment securities under the terms of the relevant arrangements, we would be required to deliver alternative investments or cash to our derivative counterparty, which could impact our liquidity and could adversely impact our financial condition or results of operations.

If our reserves for future policy benefits and claims or for our bank lending portfolio or for future certificate redemptions and maturities are inadequate, we may be required to increase our reserve liabilities, which would adversely affect our results of operations and financial condition.

We establish reserves as estimates of our liabilities to provide for future obligations under our insurance policies, annuities and investment certificate contracts. We also establish reserves as estimates of the potential for loan losses in our consumer lending portfolios. Reserves do not represent an exact calculation of the liability but, rather, are estimates of contract benefits and related expenses we expect to incur over time. The assumptions and estimates we make in establishing reserves require certain judgments about future experience and, therefore, are inherently uncertain. We cannot determine with precision the actual amounts that we will pay for contract benefits, the timing of payments, or whether the assets supporting our stated reserves will increase to the levels we estimate before payment of benefits or claims. We monitor our reserve levels continually. If we were to conclude that our reserves are insufficient to cover actual or expected contract benefits, we would be required to increase our reserves and incur income statement charges for the period in which we make the determination, which would adversely affect our results of operations and financial condition. For more information on how we set our reserves, see Note 2 to our Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K.

Morbidity rates, mortality rates or the severity or frequency of other insurance claims that differ significantly from our pricing expectations could negatively affect profitability.

We have historically set, and continue to set, prices for *RiverSource* life disability insurance (and historically LTC insurance) as well as some annuity products based upon expected claim payment patterns, derived from assumptions we make about our policyholders and contractholders, including morbidity and mortality rates. The long-term profitability of these products depends upon how our actual experience compares with our pricing assumptions. For example, if morbidity rates are higher, or mortality rates are lower, than our pricing assumptions, we could be required to make greater payments under disability income insurance policies, chronic care riders and immediate annuity contracts than we had projected. The same holds true for LTC policies we previously underwrote to the extent of the risks that we retained. If mortality rates are higher than our pricing assumptions, we could be required to make greater payments under our life insurance policies and annuity contracts with guaranteed minimum death benefits than we have projected.

The risk that our claims experience may differ significantly from our pricing assumptions is particularly significant for our LTC insurance products notwithstanding our ability to implement future price increases with regulatory approvals. As with life insurance, LTC insurance policies provide for long-duration coverage and, therefore, our actual claims experience will emerge over many years. However, as a relatively new product in the market, LTC insurance does not have the extensive claims experience history of life insurance and, as a result, our ability to forecast future claim rates for LTC insurance is more limited than for life insurance. We have sought to moderate these uncertainties to some extent by partially reinsuring LTC policies at the time the policies were underwritten and limiting our present stand-alone LTC insurance offerings to policies underwritten fully by unaffiliated third-party insurers, and we have also implemented rate increases on certain in force policies. Certain estimates and assumptions used in setting our LTC reserves (which is an inherently uncertain and complex process) are described in Item 1 of this Annual Report on Form 10-K - “Business - Our Segments - Corporate & Other - Closed Block Long Term Care Insurance.” We may be required to implement additional rate increases in the future and may or may not receive regulatory approval for the full extent and timing of any rate increases that we may seek.

Unexpected changes in the severity or frequency of claims may affect the profitability of our auto and home insurance business. Recorded claim reserves in the auto and home insurance business are based on our best estimates of losses, both reported and incurred but not reported ("IBNR") claims, after considering known facts and interpretations of circumstances. Internal factors are considered including our experience with similar cases, actual claims paid, historical trends involving claim payment patterns, pending levels of unpaid claims, loss management programs, product mix and contractual terms. External factors are also considered, such as court decisions and changes in law, regulatory requirements, litigation trends, and price levels of medical services, auto and home repairs, and other economic conditions. Because reserves are estimates of the unpaid portion of losses that have occurred, including IBNR losses, the establishment of appropriate reserves, including reserves for catastrophes, is an inherently uncertain and complex process. Increases in claim severity or frequency can also arise from unexpected events that are inherently difficult to predict. Although we pursue various loss management initiatives in our auto and home insurance business in order to mitigate future increases in claim severity, there can be no assurances that these initiatives will successfully identify or reduce the effect of future increases in claim severity or frequency. To address adverse trends in claims we may seek additional rate increases for our auto and home insurance business in the future and may or may not receive regulatory approval for the full extent and timing of any rate increases that we may seek.

We may face losses if there are significant deviations from our assumptions regarding the future persistency of our insurance policies and annuity contracts.

The prices and expected future profitability of our life insurance and deferred annuity products are based in part upon assumptions related to persistency, which is the probability that a policy or contract will remain in force from one period to the next. Economic and market dislocations may occur, and future consumer persistency behaviors could vary materially from the past. The effect of persistency on profitability varies for different products. For most of our life insurance and deferred annuity products, actual persistency that is lower than our persistency assumptions could have an adverse impact on profitability, especially in the early years of a policy or contract, primarily because we would be required to accelerate the amortization of expenses we deferred in connection with the acquisition of the policy or contract.

For our LTC insurance and universal life insurance policies with secondary guarantees, as well as variable annuities with guaranteed minimum withdrawal benefits, actual persistency that is higher than our persistency assumptions could have a negative impact on profitability. If these policies remain in force longer than we assumed, we could be required to make greater benefit payments than we had anticipated when we priced or partially reinsured these products. Some of our LTC insurance policies have experienced higher persistency and poorer morbidity experience than we had assumed, which led us to increase premium rates on certain policies.

Because our assumptions regarding persistency experience are inherently uncertain, reserves for future policy benefits and claims may prove to be inadequate if actual persistency experience is different from those assumptions. Although some of our products permit us to increase premiums during the life of the policy or contract, we cannot guarantee that these increases would be sufficient to maintain profitability. Additionally, some of these pricing changes require regulatory approval, which may not be forthcoming. Moreover, many of our products do not permit us to increase premiums or limit those increases during the life of the policy or contract, while premiums on certain other products (primarily LTC insurance) may not be increased without prior regulatory approval. Significant deviations in experience from pricing expectations regarding persistency could have an adverse effect on the profitability of our products.

We may be required to accelerate the amortization of DAC, which would increase our expenses.

DAC represent the portion of costs which are incremental and direct to the acquisition of new or renewal business, principally direct sales commissions and other distribution and underwriting costs that have been deferred on the sale of annuity, life and disability income insurance and, to a lesser extent, direct marketing expenses for personal auto and home insurance, and distribution expenses for certain mutual fund products. For annuity and universal life products, DAC are amortized based on projections of estimated gross profits over amortization periods equal to the approximate life of the business. For other insurance products, DAC are generally amortized as a percentage of premiums over amortization periods equal to the premium-paying period. For certain mutual fund products, we generally amortize DAC over fixed periods on a straight-line basis, adjusted for redemptions.

Our projections underlying the amortization of DAC for insurance and annuity products require the use of certain assumptions, including interest margins, mortality rates, persistency rates, maintenance expense levels and customer asset value growth rates for variable products. We periodically review and, where appropriate, adjust our assumptions. When we change our assumptions, we may be required to accelerate the amortization of DAC or to record a charge to increase benefit reserves.

For more information regarding DAC, see Part II, Item 7 of this Annual Report on Form 10-K under the heading "Management's Discussion and Analysis of Financial Condition and Results of Operations - Critical Accounting Estimates - Deferred Acquisition Costs."

Misconduct by our employees and advisors is difficult to detect and deter and could harm our business, results of operations or financial condition.

Misconduct by our employees and advisors could result in violations of law, regulatory sanctions and/or serious reputational or financial harm. Misconduct can occur in each of our businesses and could include: (i) binding us to transactions that exceed authorized limits; (ii) hiding unauthorized or unsuccessful activities resulting in unknown and unmanaged risks or losses; (iii) improperly using, disclosing or otherwise compromising confidential information, including client confidential information; (iv) recommending transactions that are not suitable; (v) engaging in fraudulent or otherwise improper activity, including the misappropriation of funds; (vi) engaging in unauthorized or excessive trading to the detriment of customers; or (vii) otherwise not complying with laws, regulations or our control procedures.

We cannot always deter misconduct by our employees and advisors, and the precautions we take to prevent and detect this activity may not be effective in all cases. Preventing and detecting misconduct among our franchisee advisors who are not employees of our company presents additional challenges. We also cannot assure you that misconduct by our employees and advisors will not lead to a material adverse effect on our business, results of operations or financial condition.

A failure to protect our reputation could adversely affect our businesses.

Our reputation is one of our most important assets. Our ability to attract and retain customers, investors, employees and advisors is highly dependent upon external perceptions of our company. Damage to our reputation could cause significant harm to our business and prospects. Reputational damage may arise from numerous sources including litigation or regulatory actions, failing to deliver minimum standards of service and quality, compliance failures, any perceived or actual weakness in our financial strength or liquidity, technological, cybersecurity, or other security breaches (including attempted breaches) resulting in improper disclosure of client or employee personal information, unethical or improper behavior and the misconduct of our employees, advisors and counterparties. Negative perceptions or publicity regarding these matters could damage our reputation among existing and potential customers, investors, employees and advisors. Reputations may take decades to build, and any negative incidents can quickly erode trust and confidence, particularly if they result in adverse mainstream and social media publicity, governmental investigations or litigation. Adverse developments with respect to our industry may also, by association, negatively impact our reputation or result in greater regulatory or legislative scrutiny or litigation against us.

Our reputation is also dependent on our continued identification of and mitigation against conflicts of interest. As we have expanded the scope of our businesses and our client base, we increasingly have to identify and address potential conflicts of interest, including those relating to our proprietary activities and those relating to our sales of non-proprietary products from manufacturers that have agreed to provide us marketing, sales and account maintenance support. For example, conflicts may arise between our position as a provider of financial planning services and as a manufacturer and/or distributor or broker of asset accumulation, income or insurance products that one of our advisors may recommend to a financial planning client. We have procedures and controls that are designed to identify, address and appropriately disclose perceived conflicts of interest. However, identifying and appropriately addressing conflicts of interest is complex, and our reputation could be damaged if we fail, or appear to fail, to address conflicts of interest appropriately.

In addition, the SEC and other federal and state regulators have increased their scrutiny of potential conflicts of interest. It is possible that potential or perceived conflicts could give rise to litigation or enforcement actions. Also, it is possible that the regulatory scrutiny of, and litigation in connection with, conflicts of interest will make our clients less willing to enter into transactions in which such a conflict may occur, which would adversely affect our businesses.

Our operational systems and networks have been, and will continue to be, subject to evolving cybersecurity or other technological risks, which could result in the disclosure of confidential client or employee information, loss of our proprietary information, damage to our reputation, additional costs to us, regulatory penalties and other adverse impacts. The same is true for systems, networks and operations that franchise advisors control locally.

Our business is reliant upon internal and third-party technology systems and networks to process, transmit and store information, including sensitive client and proprietary information, and to conduct many of our business activities and transactions with our clients, advisors, vendors and other third parties. Maintaining the security and integrity of this information and these systems and networks, and appropriately responding to any cybersecurity and privacy incidents (including attempts), is critical to the success of our business operations, including our reputation, the retention of our advisors and clients, and to the protection of our proprietary information and our clients' personal information. To date, we have not experienced any material breaches of or interference with our centrally controlled systems and networks, however, we routinely face and address such threats. For example, in past years we and other financial institutions experienced distributed denial of service attacks intended to disrupt the centrally controlled systems that provide clients with access to online systems and information. While we have been able to detect and respond to these incidents to date without loss of client assets or information, we enhanced our corporate security capabilities and cybersecurity incident response manual and will continue to assess our ability to monitor for, detect, prevent, mitigate, respond to and recover from such threats. In addition to the foregoing, our (and our advisors') experiences with cybersecurity and technology threats have included phishing and spear phishing scams, social engineering attacks, account takeovers, introductions of malware, attempts at electronic break-ins, and the submission of fraudulent payment requests. The number of attempted phishing attacks increased substantially in 2018, and we do not expect a reduction in the future as they are low-cost scams for their purveyors. Any successful breaches or interference (as well as attempted breaches or interference) by third parties or by insiders that may occur in the future could have a material adverse impact on our business, reputation, financial condition or results of operations.

On a corporate basis, we are subject to international, federal and state regulations, and in some cases contractual obligations, that require us to establish and maintain corporate policies and procedures designed to protect sensitive client, employee, contractor and vendor information and respond to cybersecurity incidents. We have implemented policies that require our franchisee advisors who control locally their own technology operations to do the same. We have implemented and maintain security measures designed to protect against breaches of corporate security and other interference with our corporate systems and networks resulting from attacks by third parties, including hackers, and from employee, advisor or service provider error or malfeasance. We also contractually require third-party vendors who, in the provision of services to us, are provided with access to our systems and information pertaining to our business or our clients, to meet certain physical and information security standards. We recommend through policies that franchise advisors do the same with their facilities, systems and third-party vendors. Changes in our client base, the mix of assets under management or administration and business model or technology platform changes, such as an evolution to accommodate mobile computing, virtual interface and multi-device functionality, may also require corresponding changes in our systems, networks and data security and response measures. While accessing our products and services, our customers may use computers and other devices that sit outside of our security control. We provide tips for clients regarding safe online practices, but cannot be sure clients will adopt some or all such advice. In addition, the ever-increasing reliance on technology systems and networks and the occurrence and potential adverse impact of attacks on such systems and networks (including in recent well-publicized security breaches at other companies), both generally and in the financial services industry, have enhanced government and regulatory scrutiny of the measures taken by companies to protect against cybersecurity threats. As these threats, and government and regulatory oversight of associated risks, continue to evolve, we may be required to expend additional resources to enhance or expand upon the security and response measures we currently maintain or that we allow franchise advisors to maintain and control locally.

Despite the measures we have taken and may in the future take to address and mitigate cybersecurity, privacy and technology risks, we cannot assure you that our systems and networks will not be subject to successful attacks, breaches or interference. Nor can we always assure you that franchise advisors will comply with our policies and procedures in this regard, or that clients will engage in safe online practices. Any such event may result in operational disruptions (including for example, various delays or mistakes in materials provided to our clients and shareholders in the Columbia Threadneedle Investments funds, as well as impacts to pricing, calculation and trading operations for the Columbia Threadneedle Investments funds and various operations for our other businesses), as well as unauthorized access to or the disclosure or loss of, our proprietary information or client or employee personal information, which in turn may result in legal claims, regulatory scrutiny and liability, reputational damage, the incurrence of costs to eliminate or mitigate further exposure, the loss of clients or advisors or other damage to our business. While we maintain cyber liability insurance that provides both third-party liability and first-party liability coverages, this insurance may not be sufficient to protect us against all cybersecurity-related losses. Furthermore, we may be subject to indemnification costs and liability to third parties if we breach any confidentiality obligations regarding vendor data or for losses related to the data. In addition, the trend toward broad consumer and general-public notification of such incidents could exacerbate the harm to our business, reputation, financial condition or results of operations. Even if we successfully protect our technology infrastructure and the confidentiality of sensitive data and conduct appropriate incident response, we may incur significant expenses in connection with our responses to any such attacks, as well as the adoption, implementation and maintenance of appropriate security measures. In addition, our regulators may seek to hold our company responsible for the acts or omissions of our franchise advisors even where they procure and control much of the physical office space and technology infrastructure they use to operate their businesses locally. We could also suffer harm to our business and reputation if attempted security breaches are publicized regardless of whether or not harm was actually done to any client or client information or employee or employee information. We cannot be certain that advances in criminal capabilities, discovery of new vulnerabilities, attempts to exploit vulnerabilities in our systems or third-party systems we or our franchise advisors use, data thefts, physical system or network break-ins or inappropriate access, or other developments will not compromise or breach the technology or other security measures protecting the networks and systems used in connection with our business.

Protection from system interruptions and operating errors is important to our business. If we experience a sustained interruption to our telecommunications or data processing systems, or other failure in operational execution, it could harm our business.

Operating errors and system or network interruptions could delay and disrupt our ability to develop, deliver or maintain our products and services, or to operate compliance or risk management functions, causing harm to our business and reputation and resulting in loss of our advisors, clients or revenue. Interruptions could be caused by operational failures arising from service provider, employee or advisor error or malfeasance, interference by third parties, including hackers, our implementation of new technology, as well as from our maintenance of existing technology. Our financial, accounting, data processing or other operating systems and facilities may fail to operate or report data properly, experience connectivity disruptions or otherwise become disabled as a result of events that are wholly or partially beyond our control, adversely affecting our ability to process transactions or provide products and services to our clients.

These interruptions can include fires, floods, earthquakes and other natural disasters, power losses, equipment failures, attacks by third parties, failures of internal or vendor personnel, software, equipment or systems and other events beyond our control. Although we have developed and maintain a comprehensive business continuity plan and cybersecurity incident response manual that covers potential disruptions to centrally controlled systems and platforms and require our key technology vendors and service providers to do the same, there are inherent limitations in such plans and they might not, despite testing and monitoring, operate as designed in the event of an actual event or crisis. Further, we cannot control the execution of any business continuity or incident response plans implemented by our service providers or our franchise advisors.

We rely on third-party service providers and vendors for certain communications, technology and business functions and other services, and we face the risk of operational failure (including, without limitation, failure caused by an inaccuracy, untimeliness or other deficiency in data reporting), technical or security failures, termination or capacity constraints of any of the clearing agents, exchanges, clearing houses or other third-party service providers that we use to facilitate or are component providers to our securities transactions and other product manufacturing and distribution activities. For example, most of our applications run on a technology infrastructure managed on an outsourced basis by IBM since 2002. Under this arrangement, IBM is responsible for all mainframe, mid-range, computing network and storage operations, which includes a portion of our web hosting operations, and we are subject to the risks of any operational failure, termination or other restraints in this arrangement. These risks are heightened by our deployment in response to both investor interest and evolution in the financial markets of increasingly sophisticated products, such as those which incorporate automatic asset re-allocation, long/short trading strategies or multiple portfolios or funds, and business-driven hedging, compliance and other risk management or investment or financial management strategies. Any such failure, termination or constraint or flawed response could adversely impact our ability to effect transactions, service our clients, manage our exposure to risk, or otherwise achieve desired outcomes.

Risk management policies and procedures may not be fully effective in identifying or mitigating risk exposure in all market environments or against all types of risk, including employee and financial advisor misconduct.

We have devoted significant resources to develop our risk management policies and procedures and will continue to do so. Nonetheless, our policies and procedures to identify, monitor and manage risks may not be fully effective in mitigating our risk exposure in all market environments or against all types of risk. Many of our methods of managing risk and the associated exposures are based upon our use of observed historical market behavior or statistics based on historical models. During periods of market volatility, or due to unforeseen events, the historically-derived correlations upon which these methods are based may not be valid. As a result, these methods may not predict future exposures accurately, which could be significantly greater than what our models indicate. This could cause us to incur investment losses or cause our hedging and other risk management strategies to be ineffective. Other risk management methods depend upon the evaluation of information regarding markets, clients, catastrophe occurrence or other matters that are publicly available or otherwise accessible to us, which may not always be accurate, complete, up-to-date or properly evaluated.

Moreover, we are subject to the risks of errors and misconduct by our employees and advisors, such as fraud, non-compliance with policies, recommending transactions that are not suitable, and improperly using or disclosing confidential information. These risks are difficult to detect in advance and deter, and could harm our business, results of operations or financial condition. We are further subject to the risk of nonperformance or inadequate performance of contractual obligations by third-party vendors of products and services that are used in our businesses. Management of operational, legal and regulatory risks requires, among other things, policies and procedures to record properly and verify a large number of transactions and events, and these policies and procedures may not be fully effective in mitigating our risk exposure in all market environments or against all types of risk. Insurance and other traditional risk-shifting tools may be held by or available to us in order to manage certain exposures, but they are subject to terms such as deductibles, coinsurance, limits and policy exclusions, as well as risk of counterparty denial of coverage, default or insolvency.

As a holding company, we depend on the ability of our subsidiaries to transfer funds to us to pay dividends and to meet our obligations.

We act as a holding company for our subsidiaries, through which substantially all of our operations are conducted. Dividends from our subsidiaries and permitted payments to us under our intercompany arrangements with our subsidiaries are our principal sources of cash to pay shareholder dividends and to meet our other financial obligations. These obligations include our operating expenses and interest and principal on our borrowings. If the cash we receive from our subsidiaries pursuant to dividend payment and intercompany arrangements is insufficient for us to fund any of these obligations, we may be required to raise cash through the incurrence of additional debt, the issuance of additional equity or the sale of assets. If any of this happens, it could adversely impact our financial condition and results of operations.

Insurance, banking and securities laws and regulations regulate the ability of many of our subsidiaries (such as our insurance, banking and brokerage subsidiaries and our face-amount certificate company) to pay dividends or make other permitted payments. See Item 1 of this Annual Report on Form 10-K - “Regulation” as well as the information contained in Part II, Item 7 under the heading “Management’s Discussion and Analysis of Financial Condition and Results of Operations - Liquidity and Capital Resources.” In addition to the various regulatory restrictions and local law requirements that constrain our subsidiaries’ ability to pay dividends or make other permitted payments to our company, the rating organizations impose various capital requirements on our company and our insurance company subsidiaries in order for us to maintain our ratings and the ratings of our insurance subsidiaries. The value of assets on the company-level balance sheets of our subsidiaries is a significant factor in determining these restrictions and capital requirements. As asset values decline, our and our subsidiaries' ability to pay dividends or make other permitted payments can be reduced. Additionally, the various asset classes held by our subsidiaries, and used in determining required capital levels, are weighted differently or are restricted as to the proportion in which they may be held depending upon their liquidity, credit risk and other factors. Volatility in relative asset values among different asset classes can alter the proportion of our subsidiaries' holdings in those classes, which could increase required capital and constrain our and our subsidiaries' ability to pay dividends or make other permitted payments. The regulatory capital requirements and dividend-paying ability of our subsidiaries may also be affected by a change in the mix of products sold by such subsidiaries. For example, fixed annuities typically require more capital than variable annuities, and an increase in the proportion of fixed annuities sold in relation to variable annuities could increase the regulatory capital requirements of our life insurance subsidiaries. This may reduce the dividends or other permitted payments which could be made from those subsidiaries in the near term without the rating organizations viewing this negatively. Further, the capital requirements imposed upon our subsidiaries may be impacted by heightened regulatory scrutiny and intervention, which could negatively affect our and our subsidiaries' ability to pay dividends or make other permitted payments. Additionally, in the past we have found it necessary and advisable to provide support to certain of our subsidiaries in order to maintain adequate capital for regulatory or other purposes and we may provide such support in the future. The provision of such support could adversely affect our excess capital, liquidity, and the dividends or other permitted payments received from our subsidiaries.

The operation of our business in foreign markets and our investments in non-U.S. denominated securities and investment products subjects us to exchange rate and other risks in connection with international operations and earnings and income generated overseas.

While we are a U.S.-based company, a significant portion of our business operations occurs outside of the U.S. and some of our investments are not denominated in U.S. dollars. As a result, we are exposed to certain foreign currency exchange risks that could reduce U.S. dollar equivalent earnings as well as negatively impact our general account and other proprietary investment portfolios. Appreciation of the U.S. dollar could unfavorably affect net income from foreign operations, the value of non-U.S. dollar denominated investments and investments in foreign subsidiaries. In comparison, depreciation of the U.S. dollar could positively affect our net income from foreign operations and the value of non-U.S. dollar denominated investments, though such depreciation could also diminish investor, creditor and rating organizations' perceptions of our company compared to peer companies that have a relatively greater proportion of foreign operations or investments.

We may seek to mitigate these risks by employing various hedging strategies including entering into derivative contracts. Currency fluctuations, including the effect of changes in the value of U.S. dollar denominated investments that vary from the amounts ultimately needed to hedge our exposure to changes in the U.S. dollar equivalent of earnings and equity of these operations, may adversely affect our results of operations, cash flows or financial condition.

In addition, conducting and increasing our international operations subjects us to new risks that, generally, we have not faced in the U.S., including: (i) unexpected changes in foreign regulatory requirements, (ii) difficulties in managing and staffing international operations, (iii) potentially adverse tax consequences, including the complexities of foreign value added tax systems and restrictions on the repatriation of earning, (iii) the localization of our solutions and related costs, (iv) the burdens of complying with a wide variety of foreign laws and different legal standards, including laws and regulations; (v) increased financial accounting and reporting burdens and complexities; and (vi) local, regional and global political, social and economic instability abroad. The occurrence of any one of these risks could negatively affect our international business and, consequently, our results of operations generally. Additionally, operating in international markets also requires significant management attention and financial resources. We cannot be certain that the investment and additional resources required in establishing, acquiring or integrating operations in other countries, or adjusting to changes in local or regional political environments (such as may result from Brexit) will produce desired levels of revenues or profitability.

As an example, with Brexit there is a significant degree of uncertainty about how negotiations relating to the UK's withdrawal and new trade agreements will be conducted, as well as the potential consequences and precise timeframe for withdrawal from the EU. While the UK invoked Article 50 of the Treaty of Lisbon in serving its relevant notice to leave the EU on March 30, 2019, the final terms and full impact remains uncertain. During this period and beyond, the impact of any partial or complete dissolution of the EU on the UK and European economies and the broader global economy could be significant, resulting in negative impacts on currency and financial markets generally, such as increased volatility and illiquidity, and potentially lower economic growth in markets in the UK, Europe and globally, which may adversely affect the value of the *Columbia Threadneedle Investments* funds' portfolio investments. The UK has one of the largest economies in Europe, and member countries of the EU are substantial trading partners of the UK. The UK financial service sector continues to face uncertainty over the final relationship with the EU and globally as a result of Brexit. For example, certain financial services operations may have to move outside of the UK after withdrawal from the EU (e.g., currency trading, international settlement operations). Additionally, depending on the final terms of Brexit, certain financial services business may be forced to move staff and comply with two separate sets of rules or lose business to firms in Europe. Furthermore, the final terms of Brexit may create the potential for decreased trade, the possibility of capital outflows, devaluation of the pound sterling, the cost of higher corporate bond spreads, and the risk that all the above could negatively impact business and consumer spending as well as foreign direct investment. As a result of Brexit, the British economy and its currency may be negatively impacted by changes to the UK's economic and political relations with the EU and other countries. Any further exits from the EU, or the possibility of such exits, would likely cause additional market disruption globally and introduce new legal and regulatory uncertainties. The impact of Brexit in the near- and long-term is still unknown and could have additional adverse effects on economies, financial markets, currencies and asset valuations around the world.

The occurrence of natural or man-made disasters and catastrophes could adversely affect our results of operations and financial condition.

The occurrence of natural disasters and catastrophes, including earthquakes, hurricanes, floods, tornadoes, fires, blackouts, severe winter weather, explosions, pandemic disease and man-made disasters, including acts of terrorism, insurrections and military actions, could adversely affect our results of operations or financial condition. Such disasters and catastrophes may damage our facilities, preventing our employees and financial advisors from performing their roles or otherwise disturbing our ordinary business operations and by impacting insurance claims, as described below. These impacts could be particularly severe to the extent they affect our computer-based data processing, transmission, storage and retrieval systems and destroy or release valuable data. Such disasters and catastrophes may also impact us indirectly by changing the condition and behaviors of our customers, business counterparties and regulators, as well as by causing declines or volatility in the economic and financial markets.

The potential effects of natural and man-made disasters and catastrophes on certain of our businesses include but are not limited to the following: (i) a catastrophic loss of life may materially increase the amount of or accelerate the timing in which benefits are paid under our insurance policies; (ii) significant widespread property damage may materially increase the amount of claims submitted under our property casualty insurance policies; (iii) an increase in claims and any resulting increase in claims reserves caused by a disaster may harm the financial condition of our reinsurers, thereby impacting the cost and availability of reinsurance and the probability of default on reinsurance recoveries; and (iv) declines and volatility in the financial markets may decrease the value of our assets under management and administration, which could harm our financial condition and reduce our management fees.

We cannot predict the timing and frequency with which natural and man-made disasters and catastrophes may occur, nor can we predict the impact that changing climate conditions may have on the frequency and severity of natural disasters or on overall economic stability and sustainability. As such, we cannot be sure that our actions to identify and mitigate the risks associated with such disasters and catastrophes, including predictive modeling, establishing liabilities for expected claims, acquiring insurance and reinsurance and developing business continuity plans, will be effective.

Legal, Regulatory and Tax Risks

Legal and regulatory actions are inherent in our businesses and could result in financial losses or harm our businesses.

We are, and in the future may be, subject to legal and regulatory actions in the ordinary course of our operations, both domestically and internationally. Actions brought against us may result in awards, settlements, penalties, injunctions or other adverse results, including reputational damage. In addition, we may incur significant expenses in connection with our defense against such actions regardless of their outcome. Various regulatory and governmental bodies have the authority to review our products and business practices and those of our employees and independent financial advisors and to bring regulatory or other legal actions against us if, in their view, our practices, or those of our employees or advisors, are improper. Pending legal and regulatory actions include proceedings relating to aspects of our businesses and operations that are specific to us and proceedings that are typical of the industries and businesses in which we operate. Some of these proceedings have been brought on behalf of various alleged classes of complainants. In certain of these matters, the plaintiffs are seeking large and/or indeterminate amounts, including punitive or exemplary damages. See Item 3 of this Annual Report on Form 10-K - “Legal Proceedings.” In or as a result of turbulent times, the volume of claims and amount of damages sought in litigation and regulatory proceedings generally increase.

Our businesses are regulated heavily, and changes to the laws and regulations applicable to our businesses may have an adverse effect on our operations, reputation and financial condition.

Virtually all aspects of our business, including the activities of our parent company and our various subsidiaries, are subject to various federal, state and international laws and regulations. For a discussion of the regulatory framework in which we operate, see “Business - Regulation.” included in Part I, Item 1 of this Annual Report on Form 10-K. Compliance with these applicable laws and regulations is time-consuming and personnel-intensive, and we have invested and will continue to invest substantial resources to ensure compliance by our parent company and our subsidiaries, directors, officers, employees, registered representatives and agents. Any enforcement actions, investigations or other proceedings brought against us or our subsidiaries, directors, employees or advisors by our regulators may result in fines, injunctions or other disciplinary actions that could harm our reputation or impact our results of operations. Further, any changes to the laws and regulations applicable to our businesses, as well as changes to the interpretation and enforcement of such laws and regulations, may affect our operations and financial condition. Such changes may impact our operations and profitability and the practices of our advisors, including with respect to the scope of products and services provided, the manner in which products and services are marketed and sold and the incurrence of additional costs of doing business. Ongoing changes to regulation and oversight of the financial industry may produce results, the full impact of which cannot be immediately ascertained. In addition, we expect the worldwide demographic trend of population aging will cause policymakers to continue to focus on the framework of U.S. and non-U.S. retirement systems, which may drive additional changes regarding the manner in which individuals plan for and fund their retirement, the extent of government involvement in retirement savings and funding, the regulation of retirement products and services and the oversight of industry participants. For example, we continue to see enhanced legislative and regulatory interest regarding retirement investing, financial advisors and investment professionals, and we will continue to closely review and monitor any legislative or regulatory proposals and changes. Any incremental requirements, costs and risks imposed on us in connection with such current or future legislative or regulatory changes may constrain our ability to market our products and services to potential customers, and could negatively impact our profitability and make it more difficult for us to pursue our growth strategy.

Certain examples of legislative and regulatory changes that may impact our businesses are described below. Some of the changes could present operational challenges and increase costs. Ultimately these complexities and increased costs could have an impact on our ability to offer cost-effective and innovative insurance products to our clients.

The Department of Labor ("DOL") published regulations in April 2016 that expanded the scope of who is considered an ERISA fiduciary when providing investment advice to tax qualified accounts. Tax qualified accounts, particularly IRAs, make up a significant portion of our assets under management and administration. However, on March 15, 2018, the United States Court of Appeals for the Fifth Circuit issued a decision vacating the DOL's regulations in its entirety. The Fifth Circuit's decision became effective when it issued its mandate on June 21, 2018. While the DOL's fiduciary regulation has been vacated, the SEC has proposed its own best interest standard that would apply to recommendations made by financial advisors who work on a commission basis. Furthermore, New York and several other states have either issued their own fiduciary rules or are considering doing so and those rules may extend to certain types of products (e.g. insurance and annuities, financial planning, etc.) or may broadly cover all recommendations made by financial advisors. The Certified Financial Planner Board has updated its professional standards of conduct to include a fiduciary standard that applies to financial advisors who hold a Certified Financial Planner designation. Currently, Ameriprise has approximately 4,100 financial advisors that hold a Certified Financial Planner designation. In light of the various fiduciary rules and regulations that have been proposed or finalized, we continue to exert significant efforts to evaluate and prepare to comply with each rule. Depending on the span and substance of any fiduciary rules and regulations and timing of their applicability, the scope of any implementation could impact the way we compensate our advisors, particularly with respect to the sale of commission-based products, the access that representatives of affiliated and unaffiliated product manufacturers could have to our advisors and clients, and the manner and degree to which we and our advisors could have selling and marketing costs reimbursed by product manufacturers. We have incurred infrastructure costs in anticipation of compliance with these new regulations, and ongoing costs will be driven by how these regulations may evolve over the course of time. Depending on the final regulations, we could be subject to both increased litigation risk and the possibility of overlapping or competing requirements from other regulators. Our solutions may be different than some or all of our competitors which may lead us to having a competitive advantage or disadvantage as compared to our peers. How our advisors, prospective advisor recruits, distribution partners, competitors and the broader financial industry adapt to any final regulation, or how clients, prospective clients and regulators react to industry and business changes driven thereof, will evolve over the course of time.

MiFID II came into effect on January 3, 2018 and is the most significant regulatory change EU investment firms have faced since the EU financial service action plan in 2006 which sought to establish the EU single market for financial services. MiFID II strengthens the requirement for investment firms to act in the client's best interest, in many areas including conflicts of interest (specifically, inducements and a prohibition on free research), strengthening of best execution requirements and increased costs and charges disclosure, in relation to all services provided to clients. In response to MiFID II, Columbia Threadneedle Investments has implemented wide ranging changes to systems, policies and operating procedures across its business. Implementation of our internal measures will have direct and indirect impacts on us and certain of our affiliates, including significant changes to client servicing models, distribution models, the fees we are able to charge to clients and the way that our affiliates execute investment decisions for client portfolios. MiFID II and similar regimes may result in existing flows of business moving to less profitable channels or even to competitors providing substitutable products outside the regime. The interpretation and implementation of the inducements rules has also resulted in major changes to how fund managers finance investment research with many firms opting to pay for third-party investment research for U.S. and non-U.S. client accounts regardless of whether such accounts were covered by MiFID II. There is no assurance we will continue to have access to the third-party broker-dealers, banks, investment advisers and other financial intermediaries that currently distribute our products, or continue to have the opportunity to offer all or some of our existing products through them. Any inability to access and successfully sell our products to clients through third-party distribution channels could have a negative effect on our level of AUM and overall business and financial condition.

Effective May 2018, the EU's GDPR strengthened data protection rules for individuals within the EU. GDPR also addresses export of personal data outside the EU. Compliance with the stringent rules under GDPR will require ongoing reviews of all of our global data processing systems, processes and procedures. A failure to comply with GDPR could result in fines up to 20 million Euros or 4% of annual global revenues, whichever is higher. Domestically, state-level laws and regulations continue to evolve creating a patchwork of rules to be examined and followed. Most recently, California passed its California Consumer Privacy Act of 2018, which is set to become effective on January 1, 2020. However, it has been amended multiple times since its passage, and the rulemaking process has only just started. Only when the final rules are published will we have a concrete idea about how they will be enforced, and we may not have a lot of time to implement changes prior to the effective date. Other states may follow suit and promulgate their own privacy legislation.

Upon conversion of Ameriprise National Trust Bank into a federal savings bank, Ameriprise Financial will be subject to ongoing supervision by the FRB, including supervision and prudential standards, requirements related to RBC, stress-testing, resolution planning, and certain risk management requirements. Further, as a financial holding company, our activities will be limited to those that are financial in nature, incidental to a financial activity or, with FRB approval, complementary to a financial activity. In order to maintain Ameriprise's status as a financial holding company, Ameriprise Bank, as Ameriprise's sole insured depository institution subsidiary, will need to remain "well-capitalized" and "well-managed" under applicable regulations, and must have received at least a "satisfactory" rating in its most recent examination under the Community Reinvestment Act ("CRA"). In addition, Ameriprise will need to remain "well-capitalized" and "well-managed" in order to maintain its status as a financial holding company. Failure to meet one or more of these requirements would mean, depending on the requirements not met, that Ameriprise could not undertake new activities, continue certain activities, or make acquisitions other than those permitted generally for bank holding companies. Compliance with bank holding company laws and regulation could impact the structure and availability of certain of our products and services and our costs in providing those products and services. Costs of compliance may be driven by how these laws and regulations and the scale of Ameriprise Bank evolves over the course of time.

Any mandated reductions or restructuring of the fees we charge for our products and services resulting from regulatory initiatives or proceedings could reduce our revenues and/or earnings. Fees paid by mutual funds in accordance with plans and agreements of distribution adopted under Rule 12b-1 promulgated under the Investment Company Act and by other sources of managed products are commonly found as a means for product manufacturers and distribution platforms to address the costs of these products and investor education. The SEC has in the past and could again propose measures that would establish a new framework to materially alter Rule 12b-1. Certain industry-wide reduction or restructuring of Rule 12b-1 fees, or other servicing fees, could impact our ability to distribute our own mutual funds and/or the fees we receive for distributing other companies' mutual funds to our commission-based brokerage customers, which could, in turn, impact our revenues and/or earnings.

Our insurance companies are subject to state regulation and must comply with statutory reserve and capital requirements. State regulators, as well as the NAIC, continually review and update these requirements and other requirements relating to the business operations of insurance companies, including their underwriting and sales practices and their use of affiliated captive insurers. Changes in these requirements that are made for the benefit of the consumer sometimes lead to additional expense for the insurer and, thus, could have a material adverse effect on our financial condition and results of operations. In December 2012, the NAIC adopted a new reserve valuation manual that applies principles-based reserve standards to life insurance products. The valuation manual has been adopted by the required number of states and the percentage of U.S. insurance premium threshold has been reached, therefore, the valuation manual was effective for companies domiciled in adopted states on January 1, 2017. Minnesota adopted the valuation manual in 2016 and New York adopted the valuation manual in December 2018 to be effective January 2020. The RiverSource Life companies have developed an implementation plan and expect to report principles-based reserves for the majority of new business issued in 2019. The requirement for principles-based life insurance reserves may result in statutory reserves being more sensitive to changes in interest rates, policyholder behavior and other market factors. It is not possible at this time to estimate the potential impact of future changes in statutory reserve and capital requirements on our insurance businesses. Further, we cannot predict the effect that proposed federal legislation may have on our businesses or competitors, such as the option of federally chartered insurers, a mandated federal systemic risk regulator, future initiatives of the FIO within the Department of the Treasury or by any of the Domiciliary Regulators or the International Association of Insurance Supervisors with respect to insurance holding company supervision, capital standards or systemic risk regulation. For additional discussion on the role and activities of the FIO, see the information provided under the heading "Regulation - Insurance Regulation" included in Part I, Item 1 of this Annual Report on Form 10-K.

Changes in the supervision and regulation of the financial industry, both domestically and internationally, could materially impact our results of operations, financial condition and liquidity.

The Dodd-Frank Act, enacted into law in 2010 called for sweeping changes in the supervision and regulation of the financial services industry designed to provide for greater oversight of financial industry participants, reduce risk in banking practices and in securities and derivatives trading, enhance public company corporate governance practices and executive compensation disclosures, and provide greater protections to individual consumers and investors. Accordingly, while certain elements of these reforms could be changed under the Trump administration (such as through the May 2018 legislation that loosened aspects of the Dodd-Frank Act and current proposals regarding the Volcker Rule), the Dodd-Frank Act has impacted and is expected to further impact the manner in which we market our products and services, manage our company and its operations and interact with regulators, all of which could materially impact our results of operations, financial condition and liquidity. Certain provisions of the Dodd-Frank Act that may impact our business include but are not limited to the establishment of a fiduciary standard for broker-dealers, the resolution authority granted to the FDIC, changes in regulatory oversight and greater oversight over derivatives instruments and trading (as well as the Volcker Rule upon the conversion of Ameriprise Bank). We will need to respond to changes to the framework for the supervision of U.S. financial institutions, including the actions of the FSOC. To the extent the Dodd-Frank Act or other new regulation of the financial services industry impacts the operations, financial condition, liquidity and capital requirements of unaffiliated financial institutions with whom we transact business, those institutions may seek to pass on increased costs, reduce their capacity to transact, or otherwise present inefficiencies in their interactions with us.

It is uncertain whether the Dodd-Frank Act, the rules and regulations developed thereunder, or any future legislation designed to stabilize the financial markets, the economy generally, or provide better protections to consumers, will have the intended effect. Any new domestic or international legislation or regulatory changes could require us to change certain business practices, impose additional costs, or otherwise adversely affect our business operations, regulatory reporting relationships, results of operations or financial condition. Consequences may include substantially higher compliance costs as well as material effects on fee rates, interest rates and foreign exchange rates, which could materially impact our investments, results of operations and liquidity in ways that we cannot predict. In addition, prolonged government support for, and intervention in the management of, private institutions could distort customary and expected commercial behavior on the part of those institutions, adversely impacting us.

In recent years, other national and international authorities have also proposed measures intended to increase the intensity of regulation of financial institutions, requiring greater coordination among regulators and efforts to harmonize regulatory regimes. These measures have included enhanced RBC requirements, leverage limits, liquidity and transparency requirements, single counterparty exposure limits, governance requirements for risk management, stress-test requirements, debt-to-equity limits for certain companies, early remediation procedures, resolution and recovery planning and guidance for maintaining appropriate risk culture. Our international operations and our worldwide consolidated operations are subject to the jurisdiction of certain of these non-U.S. authorities and may be materially adversely affected by their actions and decisions. Potential measures taken by foreign and international authorities also include the nationalization or expropriation of assets, the imposition of limits on foreign ownership of local companies, changes in laws (including tax laws and regulations) and in their application or interpretation, imposition of large fines, political instability, dividend limitations, price controls, changes in applicable currency, currency exchange controls, or other restrictions that prevent us from transferring funds from these operations out of the countries in which they operate or converting local currencies we hold to U.S. dollars or other currencies. Any of these changes or actions may negatively affect our business. A further result of our non-U.S. operations is that we are subject to regulation by non-U.S. regulators and U.S. regulators such as the Department of Justice and the SEC with respect to the Foreign Corrupt Practices Act of 1977. We expect the scope and extent of regulation outside the U.S., as well as general regulatory oversight, to continue to increase.

Changes in corporate tax laws and regulations (including recent U.S. federal tax reform) and changes in the interpretation of such laws and regulations, as well as adverse determinations regarding the application of such laws and regulations, could adversely affect our earnings and could make some of our products less attractive to clients.

We are subject to the income tax laws of the U.S., its states and municipalities and those of the foreign jurisdictions in which we have significant business operations. These tax laws are complex and may be subject to different interpretations. We must make judgments and interpretations about the application of these inherently complex tax laws when determining the provision for income taxes and must also make estimates about when in the future certain items affect taxable income in the various tax jurisdictions. Disputes over interpretations of the tax laws may be settled with the taxing authority upon examination or audit. In addition, changes to the Internal Revenue Code, administrative rulings or court decisions could increase our provision for income taxes and reduce our earnings.

On December 22, 2017, the legislation commonly referred to as the Tax Cuts and Jobs Act (“Tax Act”) was enacted. The Tax Act is complex and materially changes U.S. corporate income tax rates, imposes significant additional limitations on the deductibility of interest and net operating losses, allows for the expensing of certain capital expenditures, and puts into effect a number of changes impacting operations outside of the United States to shift from a tax on worldwide income to a territorial system (along with certain rules designed to prevent erosion of the U.S. income tax base).

We continue to examine the impact the Tax Act may have on our business. The Tax Act has had a material impact on our income tax expense and deferred tax balances (most notably a $320 million unfavorable impact in the fourth quarter of 2017 related to the remeasurement of net deferred tax assets using the lowered corporate tax rate, repatriation tax and lower future tax benefits from low income housing assets). Despite the beneficial impact in the corporate income tax rate, the full impact is uncertain and our business and financial condition could be adversely affected. For example, it is unclear what impact the Tax Act will have on our clients and competitors and therefore it is unclear how we may be advantaged or disadvantaged (such as investor demand for lower pricing or competitors that are better situated to respond or adjust to the evolving marketplace and investor sentiment). Furthermore, many of the products we issue or on which our businesses are based (including both insurance products and non-insurance products) receive favorable treatment under current U.S. federal income or estate tax law. Changes in U.S. federal income or estate tax law could reduce or eliminate the tax advantages of certain of our products and thus make such products less attractive to clients and the Tax Act will cause a change in client demand and activity.

We may not be able to protect our intellectual property and may be subject to infringement claims.

We rely on a combination of contractual rights and copyright, trademark, patent and trade secret laws to establish and protect our intellectual property. Although we use a broad range of measures to protect our intellectual property rights, third parties may infringe or misappropriate our intellectual property. We may have to litigate to enforce and protect our copyrights, trademarks, patents, trade secrets and know-how or to determine their scope, validity or enforceability, which represents a diversion of resources that may be significant in amount and may not prove successful. The loss of intellectual property protection or the inability to secure or enforce the protection of our intellectual property assets could have a material adverse effect on our business and our ability to compete.

We also may be subject to costly litigation in the event that another party alleges our operations or activities infringe upon or constitute misappropriation of such other party's intellectual property rights. Third parties may have, or may eventually be issued, patents or other protections that could be infringed by our products, methods, processes or services or could otherwise limit our ability to offer certain product features. Any party that holds such a patent could make a claim of infringement against us. We may also be subject to claims by third parties for breach of copyright, trademark, license usage rights, or misappropriation of trade secret rights. Any such claims and any resulting litigation could result in significant liability for damages. If we were found to have infringed or misappropriated a third-party patent or other intellectual property rights, we could incur substantial liability, and in some circumstances could be enjoined from providing certain products or services to our customers or utilizing and benefiting from certain methods, processes, copyrights, trademarks, trade secrets or licenses, or alternatively could be required to enter into costly licensing arrangements with third parties, all of which could have a material adverse effect on our business, results of operations and financial condition.

Changes in and the adoption of accounting standards or inaccurate estimates or assumptions in applying accounting policies could have a material impact on our financial statements and changes in the regulation of independent registered public accounting firms are present with increasing frequency in connection with broader market reforms.

Our accounting policies and methods are fundamental to how we record and report our financial condition and results of operations. Some of these policies require use of estimates and assumptions that may affect the reported value of our assets or liabilities and results of operations and are critical because they require management to make difficult, subjective, and complex judgments about matters that are inherently uncertain. If those assumptions, estimates or judgments were incorrectly made, we could be required to correct and restate prior period financial statements.

We prepare our financial statements in accordance with U.S. generally accepted accounting principles. The Financial Accounting Standards Board, the SEC and other regulators often change the financial accounting and reporting standards governing the preparation of our financial statements. In addition, the conduct of our independent registered public accounting firm is overseen by the Public Company Accounting Oversight Board ("PCAOB"). These and other regulators may make additional inquiries regarding, or change their application of, existing laws and regulations regarding our independent auditor, financial statements or other financial reports and the possibility of such additional inquiries or changes is increasing in frequency in connection with broader market reforms. These changes are difficult to predict, and could impose additional governance, internal control and disclosure demands. In some cases, we could be required to apply a new or revised standard retroactively, resulting in our restating prior period financial statements. It is possible that the changes could have a material adverse effect on our financial condition and results of operations. For example, PricewaterhouseCoopers LLP ("PwC") informed us that it has identified a potential issue related to its independence under Rule 2-01(c)(1)(ii)(A) of Regulation S-X (referred to as the "Loan Rule"). The Loan Rule prohibits accounting firms, such as PwC, from being deemed independent if they have certain financial relationships with their audit clients or certain affiliates of those clients. Pursuant to the SEC's application of the Loan Rule, PwC has advised us that certain relationships between PwC and its lenders who also are record owners of various funds in the *Columbia Threadneedle Investments* family of funds (collectively, the "*Columbia Threadneedle Investments* Funds") or certain other entities within the Ameriprise Financial, Inc. investment company complex, may implicate the Loan Rule. On June 20, 2016, the Staff of the SEC issued a "no-action" letter confirming that it would not recommend that the SEC commence enforcement action against an unrelated fund that relied on audit services performed by an audit firm that was not in compliance with the Loan Rule in certain specified circumstances. The SEC Staff stated that the relief under the letter was temporary and would expire 18 months after the issuance of the letter and on September 22, 2017 the SEC subsequently issued a letter extending the no-action relief until the SEC amends the Loan Rule to address concerns expressed in the no-action letter. On May 2, 2018, the SEC proposed amendments to the Loan Rule, which, if adopted as proposed, would refocus the analysis that must be conducted to determine whether an audit firm is independent when the audit firm has a lending relationship with certain shareholders of an audit firm client at any time during an audit or professional engagement period. However, these amendments have not yet been finalized. If it was determined that PwC was not independent, or we do not receive some form of exemptive relief, among other things, the financial statements audited by PwC and the interim financial statements reviewed by PwC may have to be audited and reviewed, respectively, by another independent registered public accounting firm. PwC has advised us that, based on its knowledge and analyses of our facts and circumstances, it is not aware of any facts that would preclude reliance by us, our affiliates and other entities within the Ameriprise Financial, Inc. investment company complex on the no-action letter. PwC has also affirmed to us that they are able to exercise objective and impartial judgment in their audits of us, our affiliates and the *Columbia Threadneedle Investments* Funds, are independent accountants within the meaning of PCAOB Rule 3520 Auditor Independence and in their view can continue to serve as our independent registered public accounting firm. The Company has considered disclosures made to it by PwC of lending relationships described by PwC, PwC's representation that it is independent within the meaning of the PCAOB Rule 3520, and representations made to the Company's Audit Committee by PwC that PwC believes that a reasonable investor possessing all the facts regarding the lending relationships and audit relationships would conclude that PwC is able to exhibit the requisite objectivity and impartiality to report on the Company’s financial statements as the independent registered public accounting firm. Based on the foregoing, the Company does not believe that PwC is incapable of exercising objective and impartial judgment with respect to audit services provided to us, our affiliates or the *Columbia Threadneedle Investments* Funds.

Risks Relating to Our Common Stock

The market price of our shares may fluctuate.

The market price of our common stock may fluctuate widely, depending upon many factors, some of which may be beyond our control, including: (i) changes in expectations concerning our future financial performance and the future performance of the financial services industry in general, including financial estimates and recommendations by securities analysts; (ii) differences between our actual financial and operating results and those expected by investors and analysts; (iii) our strategic moves and those of our competitors, such as acquisitions, divestitures or restructurings; (iv) changes in the regulatory framework of the financial services industry and regulatory action; (v) changes in and the adoption of accounting standards and securities and insurance rating agency processes and standards applicable to our businesses and the financial services industry; and (vi) changes in general economic or market conditions.

Stock markets in general have experienced volatility that has often been unrelated to the operating performance of a particular company. These broad market fluctuations may adversely affect the trading price of our common stock.

Provisions in our certificate of incorporation and bylaws and of Delaware law may prevent or delay an acquisition of our company, which could decrease the market value of our common stock.

Our certificate of incorporation and bylaws and Delaware law contain provisions intended to deter coercive takeover practices and inadequate takeover bids by making them unacceptably expensive to the raider and to encourage prospective acquirers to negotiate with our board of directors rather than to attempt a hostile takeover. These provisions include, among others: (i) elimination of the right of our shareholders to act by written consent; (ii) rules regarding how shareholders may present proposals or nominate directors for election at shareholder meetings, either directly or through proxies; (iii) the right of our board of directors to issue preferred stock without shareholder approval; and (iv) limitations on the rights of shareholders to remove directors.

Delaware law also imposes some restrictions on mergers and other business combinations between us and any holder of 15% or more of our outstanding common stock.

We believe these provisions protect our shareholders from coercive or otherwise unfair takeover tactics by requiring potential acquirers to negotiate with our board of directors and by providing our board of directors time to assess any acquisition proposal. They are not intended to make our company immune from takeovers. However, these provisions apply even if the offer may be considered beneficial by some shareholders and could delay or prevent an acquisition that our board of directors determines is not in the best interests of our company and our shareholders.

The issuance of additional shares of our common stock or other equity securities may result in a dilution of interest or adversely affect the price of our common stock.

Our certificate of incorporation allows our directors to authorize the issuance of additional shares of our common stock, as well as other forms of equity or securities that may be converted into equity securities, without shareholder approval. We have in the past and may in the future issue additional equity or convertible securities in order to raise capital, in connection with acquisitions or for other purposes. Any such issuance may result in a significant dilution in the interests of our current shareholders and adversely impact the market price of our common stock.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

We operate our business from two principal locations, both of which are located in Minneapolis, Minnesota: the Ameriprise Financial Center, an 848,000 square foot building that we lease, and our 885,000 square foot Client Service Center, which we own. Generally, we lease the premises we occupy in other locations, including the executive offices that we maintain in New York City and branch offices for our employee advisors throughout the United States. Our principal leases are in the following locations:

- Columbia Threadneedle Investments leases offices in Boston containing approximately 156,000 square feet, leases approximately 65,000 square feet of a shared building in London (as well as a second location in Swindon, UK) and also leases property in a number of other cities to support its global operations, including in New York, Menlo Park, Chicago and Houston in the United States and Austria, Chile, Denmark, Dubai, France, Germany, Netherlands, Hong Kong, Italy, Luxembourg, Singapore, Spain, Switzerland and South Korea;
- Ameriprise Auto and Home Insurance leases approximately 132,000 square feet at its corporate headquarters in DePere, Wisconsin and also leases space in Phoenix, Arizona; and
- We also have leases in Las Vegas, Nevada (supporting aspects of our Advice & Wealth Management and Protection businesses, including Ameriprise Auto and Home Insurance) and Gurugram and Noida India (supporting our broader business in the United States).

We believe that the facilities owned or occupied by our company suit our needs and are well maintained.

Item 3. Legal Proceedings

For a discussion of material legal proceedings, see Note 24 to our Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K, which is incorporated herein by reference.

Item 4. Mine Safety Disclosures

Not applicable.

PART II.

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Our common stock trades principally on The New York Stock Exchange under the trading symbol AMP. As of February 15, 2019, we had approximately 13,547 common shareholders of record. Information regarding our equity compensation plans can be found in Part III, Item 12 of this Annual Report on Form 10-K. Information comparing the cumulative total shareholder return on our common stock to the cumulative total return for certain indices is set forth under the heading "Performance Graph" provided in our 2018 Annual Report to Shareholders and is incorporated herein by reference.

We are primarily a holding company and, as a result, our ability to pay dividends in the future will depend on receiving dividends from our subsidiaries. For information regarding our ability to pay dividends, see the information set forth under the heading "Management's Discussion and Analysis of Financial Condition and Results of Operations — Liquidity and Capital Resources" contained in Part II, Item 7 of this Annual Report on Form 10-K.

Share Repurchases

The following table presents the information with respect to purchases made by or on behalf of Ameriprise Financial, Inc. or any "affiliated purchaser" (as defined in Rule 10b-18(a)(3) under the Securities Exchange Act of 1934), of our common stock during the fourth quarter of 2018:

Period	**(a)** Total Number of Shares Purchased	**(b)** Average Price Paid Per Share	**(c)** Total Number of Shares Purchased as part of Publicly Announced Plans or Programs [1]	**(d)** Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs [1]
October 1 to October 31, 2018				
Share repurchase program [1]	1,014,181	$135.10	1,014,181	$807,340,324
Employee transactions [2]	24,083	$138.18	N/A	N/A
November 1 to November 30, 2018				
Share repurchase program [1]	1,140,830	$126.91	1,140,830	$662,552,673
Employee transactions [2]	4,457	$127.92	N/A	N/A
December 1 to December 31, 2018				
Share repurchase program [1]	1,404,849	$109.56	1,404,849	$508,632,134
Employee transactions [2]	2,909	$113.66	N/A	N/A
Totals				
Share repurchase program [1]	3,559,860	$122.40	3,559,860	
Employee transactions [2]	31,449	$134.46	N/A	
	3,591,309		3,559,860	

N/A Not applicable.

[1] On April 24, 2017, we announced that our Board of Directors authorized an expenditure of up to $2.5 billion for the repurchase of our common stock through June 30, 2019. In February 2019, our Board of Directors authorized an additional repurchase up to $2.5 billion of our common stock through March 31, 2021. The share repurchase program does not require the purchase of any minimum number of shares, and depending on market conditions and other factors, these purchases may be commenced or suspended at any time without prior notice. Acquisitions under the share repurchase program may be made in the open market, through privately negotiated transactions or block trades or other means.

[2] Includes restricted shares withheld pursuant to the terms of awards under the Company's share-based compensation plans to offset tax withholding obligations that occur upon vesting and release of restricted shares. The value of the restricted shares withheld is the closing price of common stock of Ameriprise Financial, Inc. on the date the relevant transaction occurs. Also includes shares withheld pursuant to the net settlement of Non-Qualified Stock Option ("NQSO") exercises to offset tax withholding obligations that occur upon exercise and to cover the strike price of the NQSO. The value of the shares withheld pursuant to the net settlement of NQSO exercises is the closing price of common stock of Ameriprise Financial, Inc. on the day prior to the date the relevant transaction occurs.

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Item 6. Selected Financial Data

The following table sets forth selected consolidated financial information derived from our Consolidated Financial Statements as of December 31, 2018, 2017, 2016, 2015 and 2014 and for the five-year period ended December 31, 2018. The selected financial data presented below should be read in conjunction with our Consolidated Financial Statements and Notes included elsewhere in this report and "Management's Discussion and Analysis of Financial Condition and Results of Operations." On January 1, 2018, we retrospectively applied the new accounting standard for revenue recognition to each reporting period presented in the financial statements. The selected consolidated financial information as of December 31, 2015 and 2014 and for the years then ended have not been revised.

	Years Ended December 31,				
	2018	2017 Revised	2016 Revised	2015	2014
	(in millions, except per share data)				
Income Statement Data:					
Total net revenues	$12,835	$12,132	$11,800	$12,170	$12,268
Total expenses	10,351	9,918	10,209	10,028	9,721
Income from continuing operations	$2,098	$1,480	$1,313	$1,687	$2,002
Loss from discontinued operations, net of tax	—	—	—	—	(2)
Net income	2,098	1,480	1,313	1,687	2,000
Less: Net income attributable to noncontrolling interests	—	—	—	125	381
Net income attributable to Ameriprise Financial	$2,098	$1,480	$1,313	$1,562	$1,619
Earnings Per Share Attributable to Ameriprise Financial, Inc. Common Shareholders:					
Basic					
Income from continuing operations	$14.41	$9.60	$7.90	$8.60	$8.46
Loss from discontinued operations	—	—	—	—	(0.01)
Net income	$14.41	$9.60	$7.90	$8.60	$8.45
Diluted					
Income from continuing operations	$14.20	$9.44	$7.81	$8.48	$8.31
Loss from discontinued operations	—	—	—	—	(0.01)
Net income	$14.20	$9.44	$7.81	$8.48	$8.30
Cash Dividends Declared Per Common Share	$3.53	$3.24	$2.92	$2.59	$2.26

	December 31,				
	2018	2017 Revised	2016 Revised	2015	2014
	(in millions)				
Balance Sheet Data:					
Investments [(1)]	$35,825	$35,925	$35,834	$34,144	$35,582
Separate account assets	77,925	87,368	80,210	80,349	83,256
Total assets	137,216	147,480	139,831	145,339	148,803
Policyholder account balances, future policy benefits and claims	30,124	29,904	30,202	29,699	30,350
Separate account liabilities	77,925	87,368	80,210	80,349	83,256
Customer deposits	11,545	10,303	10,036	8,634	7,664
Long-term debt [(1)]	2,867	2,891	2,917	2,692	3,045
Short-term borrowings	201	200	200	200	200
Total liabilities	131,628	141,485	133,542	136,960	139,524
Total Ameriprise Financial, Inc. shareholders' equity	5,588	5,995	6,289	7,191	8,098
Noncontrolling interests' equity	—	—	—	1,188	1,181

(1) Represents amounts before consolidated investment entities, as reported on our Consolidated Balance Sheets.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis of our consolidated financial condition and results of operations should be read in conjunction with the "Forward-Looking Statements," our Consolidated Financial Statements and Notes that follow and the "Consolidated Five-Year Summary of Selected Financial Data" and the "Risk Factors" included in our Annual Report on Form 10-K. References to "Ameriprise Financial," "Ameriprise," the "Company," "we," "us," and "our" refer to Ameriprise Financial, Inc. exclusively, to our entire family of companies, or to one or more of our subsidiaries.

Overview

Ameriprise is a diversified financial services company with a more than 120-year history of providing financial solutions. We are a long-standing leader in financial planning and advice with $823 billion in assets under management and administration as of December 31, 2018. We offer a broad range of products and services designed to achieve individual and institutional clients' financial objectives. For additional discussion of our businesses, see Part I, Item 1 of this Annual Report on Form 10-K.

The products and services we provide retail clients and, to a lesser extent, institutional clients, are the primary source of our revenues and net income. Revenues and net income are significantly affected by investment performance and the total value and composition of assets we manage and administer for our retail and institutional clients as well as the distribution fees we receive from other companies. These factors, in turn, are largely determined by overall investment market performance and the depth and breadth of our individual client relationships.

Financial markets and macroeconomic conditions have had and will continue to have a significant impact on our operating and performance results. In addition, the business and regulatory environment in which we operate remains subject to elevated uncertainty and change. To succeed, we expect to continue focusing on our key strategic objectives. The success of these and other strategies may be affected by the factors discussed in Item 1A of this Annual Report on Form 10-K — "Risk Factors."

Equity price, credit market and interest rate fluctuations can have a significant impact on our results of operations, primarily due to the effects they have on the asset management and other asset-based fees we earn, the "spread" income generated on our fixed deferred annuities, fixed insurance, deposit products and the fixed portion of variable annuities and variable insurance contracts, the value of deferred acquisition costs ("DAC") and deferred sales inducement costs ("DSIC") assets, the values of liabilities for guaranteed benefits associated with our variable annuities and the values of derivatives held to hedge these benefits.

Earnings, as well as adjusted operating earnings, will be negatively impacted by the ongoing low interest rate environment should it continue. In addition to continuing spread compression in our interest sensitive product lines, a sustained low interest rate environment may result in increases to our reserves and changes in various rate assumptions we use to amortize DAC and DSIC, which may negatively impact our adjusted operating earnings. For additional discussion on our interest rate risk, see Item 7A. "Quantitative and Qualitative Disclosures About Market Risk."

In the third quarter of the year, we updated our market-related inputs and implemented model changes related to our living benefit valuation. In addition, we conducted our annual review of life insurance and annuity valuation assumptions relative to current experience and management expectations including modeling changes. These aforementioned changes are collectively referred to as unlocking. We also reviewed our active life future policy benefit reserve adequacy for our long term care ("LTC") business in the third quarter. See our Consolidated and Segment Results of Operations sections for the pretax impacts on our revenues and expenses attributable to unlocking and LTC loss recognition.

We consolidate certain variable interest entities for which we provide asset management services. These entities are defined as consolidated investment entities ("CIEs"). While the consolidation of the CIEs impacts our balance sheet and income statement, our exposure to these entities is unchanged and there is no impact to the underlying business results. For further information on CIEs, see Note 5 to our Consolidated Financial Statements. The results of operations of the CIEs are reflected in the Corporate & Other segment. On a consolidated basis, the management fees we earn for the services we provide to the CIEs and the related general and administrative expenses are eliminated and the changes in the fair value of assets and liabilities related to the CIEs, primarily syndicated loans and debt, are reflected in net investment income. We include the fees from these entities in the management and financial advice fees line within our Asset Management segment.

While our consolidated financial statements are prepared in accordance with U.S. generally accepted accounting principles (“GAAP”), management believes that adjusted operating measures, which exclude net realized investment gains or losses, net of the related DSIC and DAC amortization, unearned revenue amortization and the reinsurance accrual; the market impact on variable annuity guaranteed benefits, net of hedges and the related DSIC and DAC amortization; the market impact on indexed universal life (“IUL”) benefits, net of hedges and the related DAC amortization, unearned revenue amortization and the reinsurance accrual; the market impact on fixed index annuity benefits, net of hedges and the related DAC amortization; the market impact of hedges to offset interest rate changes on unrealized gains or losses for certain investments; integration and restructuring charges; and the impact of consolidating CIEs, best reflect the underlying performance of our core operations and facilitate a more meaningful trend analysis. Management uses certain of these non-GAAP measures to evaluate our financial performance on a basis comparable to that used by some securities analysts and investors. Also, certain of these non-GAAP measures are taken into consideration, to varying degrees, for purposes of business planning and analysis and for certain compensation-related matters. Throughout our Management’s Discussion and Analysis, these non-GAAP measures are referred to as adjusted operating measures. These non-GAAP measures should not be viewed as a substitute for U.S. GAAP measures.

It is management's priority to increase shareholder value over a multi-year horizon by achieving our on-average, over-time financial targets.

Our financial targets are:

- Adjusted operating total net revenue growth of 6% to 8%,
- Adjusted operating earnings per diluted share growth of 12% to 15%, and
- Adjusted operating return on equity excluding accumulated other comprehensive income ("AOCI") of 19% to 23%.

The following tables reconcile our GAAP measures to adjusted operating measures:

	Years Ended December 31,	
	2018	2017
	(in millions)	
Total net revenues	$12,835	$12,132
Less: Revenue attributable to CIEs	127	94
Less: Net realized investment gains	10	46
Less: Market impact on IUL benefits	(7)	1
Less: Market impact of hedges on investments	11	(2)
Adjusted operating total net revenues	$12,694	$11,993

	Years Ended December 31,		Per Diluted Share Years Ended December 31,	
	2018	2017	2018	2017
	(in millions, except per share amounts)			
Net income	$2,098	$1,480	$14.20	$9.44
Less: Net income (loss) attributable to CIEs	(1)	1	(0.01)	—
Add: Integration/restructuring charges (1)	19	5	0.13	0.03
Add: Market impact on variable annuity guaranteed benefits (1)	31	232	0.21	1.48
Add: Market impact on fixed index annuity benefits (1)	(1)	—	(0.01)	—
Add: Market impact on IUL benefits (1)	17	(4)	0.12	(0.02)
Add: Market impact of hedges on investments (1)	(11)	2	(0.08)	0.01
Less: Net realized investment gains (1)	9	44	0.06	0.28
Tax effect of adjustments (2)	(10)	(67)	(0.07)	(0.43)
Adjusted operating earnings	$2,135	$1,603	$14.45	$10.23
Weighted average common shares outstanding:				
Basic	145.6	154.1		
Diluted	147.7	156.7		

(1) Pretax adjusted operating adjustments.

(2) Calculated using the statutory tax rate of 21% in 2018 and 35% in 2017.

The following table reconciles net income to adjusted operating earnings and the five-point average of quarter-end equity to adjusted operating equity:

	Years Ended December 31,	
	2018	2017
	(in millions)	
Net income	$2,098	$1,480
Less: Adjustments [1]	(37)	(123)
Adjusted operating earnings	$2,135	$1,603
Total Ameriprise Financial, Inc. shareholders' equity	$5,735	$6,212
Less: AOCI, net of tax	(98)	252
Total Ameriprise Financial, Inc. shareholders' equity, excluding AOCI	5,833	5,960
Less: Equity impacts attributable to CIEs	1	—
Adjusted operating equity	$5,832	$5,960
Return on equity, excluding AOCI	36.0 %	24.8 %
Adjusted operating return on equity, excluding AOCI [2]	36.6 %	26.9 %

(1) Adjustments reflect the sum of after-tax net realized investment gains/losses, net of DSIC and DAC amortization, unearned revenue amortization and the reinsurance accrual; the market impact on variable annuity guaranteed benefits, net of hedges and related DSIC and DAC amortization; the market impact on IUL benefits, net of hedges and the related DAC amortization, unearned revenue amortization, and the reinsurance accrual; the market impact on fixed index annuity benefits, net of hedges and the related DAC amortization; the market impact of hedges to offset interest rate changes on unrealized gains or losses for certain investments; integration and restructuring charges; and net income (loss) from consolidated investment entities. After-tax is calculated using the statutory tax rate of 21% for 2018 and 35% for 2017.

(2) Adjusted operating return on equity, excluding AOCI is calculated using adjusted operating earnings in the numerator and Ameriprise Financial shareholders' equity, excluding AOCI and the impact of consolidating investment entities using a five-point average of quarter-end equity in the denominator. After-tax is calculated using the statutory rate of 21% for 2018 and 35% for 2017.

Critical Accounting Estimates

The accounting and reporting policies that we use affect our Consolidated Financial Statements. Certain of our accounting and reporting policies are critical to an understanding of our consolidated results of operations and financial condition and, in some cases, the application of these policies can be significantly affected by the estimates, judgments and assumptions made by management during the preparation of our Consolidated Financial Statements. The accounting and reporting policies and estimates we have identified as fundamental to a full understanding of our consolidated results of operations and financial condition are described below. See Note 2 to our Consolidated Financial Statements for further information about our accounting policies.

Valuation of Investments

The most significant component of our investments is our Available-for-Sale securities, which we carry at fair value within our Consolidated Balance Sheets. See Note 15 to our Consolidated Financial Statements for discussion of the fair value of our Available-for-Sale securities.

Financial markets are subject to significant movements in valuation and liquidity, which can impact our ability to liquidate and the selling price that can be realized for our securities and increases the use of judgment in determining the estimated fair value of certain investments. We evaluate our Available-for-Sale securities and certain other investments for impairment on a quarterly basis. The methodology and factors considered to determine impairments is discussed further in Note 2 to our Consolidated Financial Statements.

Deferred Acquisition Costs

See Note 2 to our Consolidated Financial Statements for discussion of our DAC accounting policy.

Non-Traditional Long-Duration Products

For our non-traditional long-duration products (including variable and fixed deferred annuity contracts, universal life ("UL") and variable universal life ("VUL") insurance products), our DAC balance at any reporting date is based on projections that show management expects there to be estimated gross profits ("EGPs") after that date to amortize the remaining balance. These projections are inherently uncertain because they require management to make assumptions about financial markets, mortality levels and contractholder and policyholder behavior over periods extending well into the future. Projection periods used for our annuity products are typically 30 to 50 years and for our UL insurance products 50 years or longer.

EGPs vary based on persistency rates (assumptions at which contractholders and policyholders are expected to surrender, make withdrawals from and make deposits to their contracts), mortality levels, client asset value growth rates (based on equity and bond market performance), variable annuity benefit utilization and interest margins (the spread between earned rates on invested assets and rates credited to contractholder and policyholder accounts). Changes in these assumptions can be offsetting and we are unable to predict their movement or offsetting impact over time. When assumptions are changed, the percentage of EGPs used to amortize DAC might also change. A change in the required amortization percentage is applied retrospectively; an increase in amortization percentage will result in a decrease in the DAC balance and an increase in DAC amortization expense, while a decrease in amortization percentage will result in an increase in the DAC balance and a decrease in DAC amortization expense. The effect on the DAC balance that would result from the realization of unrealized gains (losses) on securities is recognized with an offset to accumulated other comprehensive income on the consolidated balance sheet.

The client asset value growth rates are the rates at which variable annuity and VUL insurance contract values invested in separate accounts are assumed to appreciate in the future. The rates used vary by equity and fixed income investments. The long-term client asset value growth rates are based on assumed gross annual returns of 9% for equity funds and 6.9% for fixed income funds. We typically use a five-year mean reversion process as a guideline in setting near-term equity fund growth rates based on a long-term view of financial market performance as well as recent actual performance. The suggested near-term equity fund growth rate is reviewed quarterly to ensure consistency with management's assessment of anticipated equity market performance.

A decrease of 100 basis points in separate account fund growth rate assumptions is likely to result in an increase in DAC amortization and an increase in benefits and claims expense for variable annuity and VUL insurance contracts. The following table presents the estimated impact to current period pretax income:

	Estimated Impact to Pretax Income [1]		
	DAC Amortization	Benefits and Claims Expense	Total
	(in millions)		
Decrease in future near- and long-term fixed income fund growth returns by 100 basis points	$(26)	$(70)	$(96)
Decrease in future near-term equity fund growth returns by 100 basis points	$(24)	$(43)	$(67)
Decrease in future long-term equity fund growth returns by 100 basis points	(18)	(33)	(51)
Decrease in future near- and long-term equity fund growth returns by 100 basis points	$(42)	$(76)	$(118)

[1] An increase in the above assumptions by 100 basis points would result in an increase to pretax income for approximately the same amount.

An assessment of sensitivity associated with changes in any single assumption would not necessarily be an indicator of future results.

Traditional Long-Duration Products

For our traditional long-duration products (including traditional life and disability income ("DI") insurance products), our DAC balance at any reporting date is based on projections that show management expects there to be adequate premiums after the date to amortize the remaining balance. These projections are inherently uncertain because they require management to make assumptions over periods extending well into the future. These assumptions include interest rates, persistency rates and mortality and morbidity rates and are not modified (unlocked) unless recoverability testing is inadequate. Projection periods used for our traditional life insurance are up to 30 years. Projection periods for our DI products are up to 45 years. We may experience accelerated amortization of DAC if policies terminate earlier than projected or a slower rate of amortization of DAC if policies persist longer than projected.

For traditional life and DI insurance products, the assumptions provide for adverse deviations in experience and are revised only if management concludes experience will be so adverse that DAC are not recoverable. If management concludes that DAC are not recoverable, DAC are reduced to the amount that is recoverable based on best estimate assumptions.

Future Policy Benefits and Claims

We establish reserves to cover the risks associated with non-traditional and traditional long-duration products and short-duration products. Reserves for non-traditional long-duration products include the liabilities related to guaranteed benefit provisions added to variable annuity contracts, a portion of our UL and VUL policies and the embedded derivatives related to variable annuity contracts, indexed annuities and IUL insurance. Reserves for traditional long-duration products are established to provide adequately for future benefits and expenses for term life, whole life, DI and LTC insurance products. Reserves for short-duration products are established to provide adequately for incurred losses primarily related to auto and home policies.

The establishment of reserves is an estimation process using a variety of methods, assumptions and data elements. If actual experience is better than or equal to the results of the estimation process, then reserves should be adequate to provide for future benefits and expenses. If actual experience is worse than the results of the estimation process, additional reserves may be required.

Non-Traditional Long-Duration Products, including Embedded Derivatives

UL and VUL

A portion of our UL and VUL policies have product features that result in profits followed by losses from the insurance component of the contract. These profits followed by losses can be generated by the cost structure of the product or secondary guarantees in the contract. The secondary guarantee ensures that, subject to specified conditions, the policy will not terminate and will continue to provide a death benefit even if there is insufficient policy value to cover the monthly deductions and charges. The liability for these future losses is determined using actuarial models to estimate the death benefits in excess of account value and the expected assessments (e.g. cost of insurance charges, contractual administrative charges, similar fees and investment margin). Significant assumptions made in projecting future benefits and assessments relate to customer asset value growth rates, mortality, persistency and investment margins and are consistent with those used for DAC valuation for the same contracts. See Note 12 to our Consolidated Financial Statements for information regarding the liability for contracts with secondary guarantees.

Variable Annuities

We have approximately $72 billion of variable annuity account value that has been issued over a period of more than fifty years. The diversified variable annuity block consists of $27 billion of account value with no living benefit guarantees and $45 billion of account value with living benefit guarantees, primarily guaranteed minimum withdrawal benefit ("GMWB") provisions. The business is predominately issued through the Ameriprise Financial advisor network. The majority of the variable annuity contracts offered by us contain guaranteed minimum death benefit ("GMDB") provisions. We also offer variable annuities with death benefit provisions that gross up the amount payable by a certain percentage of contract earnings which are referred to as gain gross-up ("GGU") benefits. In addition, we offer contracts with GMWB and guaranteed minimum accumulation benefit ("GMAB") provisions and, until May 2007, we offered contracts containing guaranteed minimum income benefit ("GMIB") provisions. See Note 12 to our Consolidated Financial Statements for further discussion of our variable annuity contracts.

In determining the liabilities for GMDB, GGU, GMIB and the life contingent benefits associated with GMWB, we project these benefits and contract assessments using actuarial models to simulate various equity market scenarios. Significant assumptions made in projecting future benefits and assessments relate to customer asset value growth rates, mortality, persistency, benefit utilization and investment margins and are consistent with those used for DAC valuation for the same contracts. As with DAC, management reviews, and where appropriate, adjusts its assumptions each quarter. Unless management identifies a material deviation over the course of quarterly monitoring, management reviews and updates these assumptions annually in the third quarter of each year.

Regarding the exposure to variable annuity living benefit guarantees, the source of behavioral risk is driven by changes in policyholder surrenders and utilization of guaranteed withdrawal benefits. We have extensive experience studies and analysis to monitor changes and trends in policyholder behavior. A significant volume of company-specific policyholder experience data is available and provides management with the ability to regularly analyze policyholder behavior. On a monthly basis, actual surrender and benefit utilization experience is compared to expectations. Experience data includes detailed policy information providing the opportunity to review impacts of multiple variables. The ability to analyze differences in experience, such as presence of a living benefit rider, existence of surrender charges, and tax qualifications provide us an effective approach in quickly detecting changes in policyholder behavior.

At least annually, we perform a thorough policyholder behavior analysis to validate the assumptions included in our benefit reserve, embedded derivative and DAC balances. The variable annuity assumptions and resulting reserve computations reflect multiple policyholder variables. Differentiation in assumptions by policyholder age, existence of surrender charges, guaranteed withdrawal utilization, and tax qualification are examples of factors recognized in establishing management's assumptions used in reserve calculations. The extensive data derived from our variable annuity block informs management in confirming previous assumptions and revising the variable annuity behavior assumptions. Changes in assumptions are governed by a review and approval process to ensure an appropriate measurement of all impacted financial statement balances.

See the table in the previous discussion of "Deferred Acquisition Costs" for the estimated impact to benefits and claims expense related to variable annuity and VUL insurance contracts resulting from a decrease of 100 basis points in separate account fund growth rate assumptions.

Embedded Derivatives

The fair value of embedded derivatives related to GMAB and the non-life contingent benefits associated with GMWB provisions, indexed annuities and IUL fluctuate based on equity, interest rate and credit markets which can cause these embedded derivatives to be either an asset or a liability. In addition, embedded derivatives are impacted by an estimate of our nonperformance risk adjustment. This estimate results in a spread over the LIBOR swap curve as of the balance sheet date. As our estimate of this spread over LIBOR widens or tightens, the liability will decrease or increase.

Additionally, our Corporate Actuarial Department calculates the fair value of the embedded derivatives on a monthly basis. During this process, control checks are performed to validate the completeness of the data. Actuarial management approves various components of the valuation along with the final results. The change in the fair value of the embedded derivatives is reviewed monthly with senior management.

See Note 15 to our Consolidated Financial Statements for information regarding the fair value measurement of embedded derivatives.

Traditional Long-Duration Products

Liabilities for unpaid amounts on reported DI and LTC claims include any periodic or other benefit amounts due and accrued, along with estimates of the present value of obligations for continuing benefit payments. These unpaid amounts are calculated using anticipated claim continuance rates based on established industry tables, adjusted as appropriate for our experience. The discount rates used to calculate present values are based on average interest rates earned on assets supporting the liability for unpaid amounts.

Liabilities for estimates of benefits that will become payable on future claims on term life, whole life and DI policies are based on the net level premium and LTC policies are based on a gross premium valuation reflecting management's current best estimate assumptions. Both include anticipated premium payments, mortality and morbidity rates, policy persistency and interest rates earned on assets supporting the liability. Anticipated mortality and morbidity rates are based on established industry mortality and morbidity tables, with modifications based on our experience. Anticipated premium payments and persistency rates vary by policy form, issue age, policy duration and certain other pricing factors.

Short-Duration Products

The liabilities for short-duration products primarily include auto and home reserves comprised of amounts determined from loss reports on individual claims, as well as amounts based on historical loss experience for losses incurred but not yet reported. Such liabilities are based on estimates. Our methods for making such estimates and for establishing the resulting liabilities are continually reviewed, and any adjustments are reflected in earnings in the period such adjustments are made.

Derivative Instruments and Hedging Activities

We use derivative instruments to manage our exposure to various market risks. All derivatives are recorded at fair value. The fair value of our derivative instruments is determined using either market quotes or valuation models that are based upon the net present value of estimated future cash flows and incorporate current market observable inputs to the extent available.

For further details on the types of derivatives we use and how we account for them, see Note 2, Note 15 and Note 17 to our Consolidated Financial Statements. For discussion of our market risk exposures and hedging program and related sensitivity testing, see Item 7A. "Quantitative and Qualitative Disclosures About Market Risk."

Income Tax Accounting

Inherent in the provision for income taxes are estimates and judgments regarding the tax treatment of certain items. Estimates and judgments are re-evaluated on a continual basis as regulatory and business factors change. In the event that the ultimate tax treatment of items differs from our estimates, we may be required to significantly change the provision for income taxes recorded in our Consolidated Financial Statements.

We are required to establish a valuation allowance for any portion of our deferred tax assets that management believes will not be realized. Significant judgment is required in determining if a valuation allowance should be established, and the amount of such allowance if required. Factors used in making this determination include estimates relating to the performance of the business. Consideration is given to, among other things in making this determination, (i) future taxable income exclusive of reversing temporary differences and carryforwards, (ii) future reversals of existing taxable temporary differences, (iii) taxable income in prior carryback years, and (iv) tax planning strategies. Management may need to identify and implement appropriate planning strategies to ensure our ability to realize our deferred tax assets and reduce the likelihood of the establishment of a valuation allowance with respect to such assets. See Note 22 to our Consolidated Financial Statements for additional information on income taxes and our valuation allowance.

Recent Accounting Pronouncements

For information regarding recent accounting pronouncements and their expected impact on our future consolidated results of operations and financial condition, see Note 3 to our Consolidated Financial Statements.

Sources of Revenues and Expenses

Management and Financial Advice Fees

Management and financial advice fees relate primarily to fees earned from managing mutual funds, private funds, separate account and wrap account assets and institutional investments, as well as fees earned from providing financial advice, administrative services (including transfer agent and administration fees earned from providing services to retail mutual funds) and other custodial services. Management and financial advice fees include performance-based incentive management fees, which we may receive on certain management contracts. Management and financial advice fees also include mortality and expense risk fees.

Distribution Fees

Distribution fees primarily include point-of-sale fees (such as mutual fund front-end sales loads) and asset-based fees (such as 12b-1 distribution and shareholder service fees). Distribution fees also include amounts received under marketing support arrangements for sales of mutual funds and other companies' products, such as through our wrap accounts, as well as surrender charges on annuities and UL and VUL insurance.

Net Investment Income

Net investment income primarily includes interest income on fixed maturity securities classified as Available-for-Sale, mortgage loans, policy and certificate loans, margin loans, other investments, cash and cash equivalents and investments of consolidated investment entities ("CIEs"); the changes in fair value of trading securities, certain derivatives and certain assets and liabilities of CIEs; the pro rata share of net income or loss on equity method investments; and realized gains and losses on the sale of investments and charges for other-than-temporary impairments of investments related to credit losses.

Premiums
Premiums include premiums on auto and home insurance, traditional life, DI and LTC insurance and immediate annuities with a life contingent feature and are net of reinsurance premiums.
Other Revenues
Other revenues primarily include variable annuity guaranteed benefit rider charges and UL and VUL insurance charges, which consist of cost of insurance charges (net of reinsurance premiums and cost of reinsurance for UL insurance products) and administrative charges.
For discussion of our accounting policies on revenue recognition, see Note 2 to our Consolidated Financial Statements.
Banking and Deposit Interest Expense
Banking and deposit interest expense primarily includes interest expense related to investment certificates. The changes in fair value of stock market certificate embedded derivatives and the derivatives hedging stock market certificates are included within banking and deposit interest expense.
Distribution Expenses
Distribution expenses primarily include compensation paid to our financial advisors, registered representatives, third-party distributors and wholesalers, net of amounts capitalized and amortized as DAC. The amounts capitalized and amortized are based on actual distribution costs. The majority of these costs, such as advisor and wholesaler compensation, vary directly with the level of sales. Distribution expenses also include marketing support and other distribution and administration related payments made to affiliated and unaffiliated distributors of products provided by our affiliates. The majority of these expenses vary with the level of sales, or assets held, by these distributors, and the remainder is fixed. Distribution expenses also include wholesaling costs.
Interest Credited to Fixed Accounts
Interest credited to fixed accounts represents amounts earned by contractholders and policyholders on fixed account values associated with UL and VUL insurance and annuity contracts. The changes in fair value of indexed annuity and IUL embedded derivatives and the derivatives hedging these products are included within interest credited to fixed accounts.
Benefits, Claims, Losses and Settlement Expenses
Benefits, claims, losses and settlement expenses consist of amounts paid and changes in liabilities held for anticipated future benefit payments under insurance policies and annuity contracts, along with costs to process and pay such amounts. Amounts are net of benefit payments recovered or expected to be recovered under reinsurance contracts. Benefits under variable annuity guarantees include the changes in fair value of GMWB and GMAB embedded derivatives and the derivatives hedging these benefits, as well as the changes in fair value of derivatives hedging GMDB provisions. Benefits, claims, losses and settlement expenses also include amortization of DSIC.
Amortization of DAC
Direct sales commissions and other costs capitalized as DAC are amortized over time. For annuity and UL/VUL contracts, DAC are amortized based on projections of EGPs over amortization periods equal to the approximate life of the business. For other insurance products, DAC are generally amortized as a percentage of premiums over amortization periods equal to the premium-paying period.
Interest and Debt Expense
Interest and debt expense primarily includes interest on corporate debt and CIE debt, the impact of interest rate hedging activities and amortization of debt issuance costs.
General and Administrative Expense
General and administrative expense includes compensation, share-based awards and other benefits for employees (other than employees directly related to distribution, such as financial advisors), professional and consultant fees, information technology, facilities and equipment, advertising and promotion, legal and regulatory and corporate related expenses.

Assets Under Management and Administration

Assets under management ("AUM") include external client assets for which we provide investment management services, such as the assets of the Columbia Threadneedle Investments funds, institutional clients and clients in our advisor platform held in wrap accounts as well as assets managed by sub-advisors selected by us. AUM also includes certain assets on our Consolidated Balance Sheets for which we provide investment management services and recognize management fees in our Asset Management segment, such as the assets of the general account and the variable product funds held in the separate accounts of our life insurance subsidiaries and CIEs. These assets do not include assets under advisement, for which we provide model portfolios but do not have full discretionary investment authority.

Assets under administration ("AUA") include assets for which we provide administrative services such as client assets invested in other companies' products that we offer outside of our wrap accounts. These assets include those held in clients' brokerage accounts. We generally record revenues received from administered assets as distribution fees. We do not exercise management discretion over these assets and do not earn a management fee. These assets are not reported on our Consolidated Balance Sheets. AUA also includes certain assets on our Consolidated Balance Sheets for which we do not provide investment management services and do not recognize management fees, such as investments in non-affiliated funds held in the separate accounts of our life insurance subsidiaries. These assets do not include assets under advisement, for which we provide model portfolios but do not have full discretionary investment authority.

The following table presents detail regarding our AUM and AUA:

	December 31,		Change	
	2018	2017		
	(in billions)			
Assets Under Management and Administration				
Advice & Wealth Management AUM	$249.9	$246.7	$3.2	1 %
Asset Management AUM	430.7	494.6	(63.9)	(13)
Eliminations	(26.4)	(27.0)	0.6	2
Total Assets Under Management	654.2	714.3	(60.1)	(8)
Total Assets Under Administration	168.5	182.7	(14.2)	(8)
Total AUM and AUA	$822.7	$897.0	$(74.3)	(8)%

Total AUM decreased $60.1 billion, or 8%, to $654.2 billion as of December 31, 2018 compared to $714.3 billion as of December 31, 2017 due to a $63.9 billion decrease in Asset Management AUM primarily driven by market depreciation, net outflows and retail fund distributions. Advice & Wealth Management AUM increased $3.2 billion, or 1%, compared to the prior year driven by wrap account net inflows, partially offset by market depreciation. See our segment results of operations discussion for additional information on changes in our AUM.

Consolidated Results of Operations

Year Ended December 31, 2018 Compared to Year Ended December 31, 2017

The following table presents our consolidated results of operations:

	Years Ended December 31, 2018	2017	Change	
	(in millions)			
Revenues				
Management and financial advice fees	$6,776	$6,415	$361	6 %
Distribution fees	1,877	1,757	120	7
Net investment income	1,596	1,509	87	6
Premiums	1,426	1,394	32	2
Other revenues	1,249	1,105	144	13
Total revenues	12,924	12,180	744	6
Banking and deposit interest expense	89	48	41	85
Total net revenues	12,835	12,132	703	6
Expenses				
Distribution expenses	3,637	3,397	240	7
Interest credited to fixed accounts	674	656	18	3
Benefits, claims, losses and settlement expenses	2,302	2,233	69	3
Amortization of deferred acquisition costs	322	267	55	21
Interest and debt expense	245	207	38	18
General and administrative expense	3,171	3,158	13	—
Total expenses	10,351	9,918	433	4
Pretax income	2,484	2,214	270	12
Income tax provision	386	734	(348)	(47)
Net income	$2,098	$1,480	$618	42 %

Overall

Pretax income increased $270 million, or 12%, to $2.5 billion for the year ended December 31, 2018 compared to $2.2 billion for the prior year primarily reflecting average equity market appreciation, wrap account net inflows, a positive impact from higher short-term interest rates and a decrease in the unfavorable market impact on variable annuity guaranteed benefits (net of hedges and the related DSIC and DAC amortization), partially offset by the impact of unlocking, the cumulative impact of asset management net outflows and the impact on DAC, DSIC and reserves for insurance features in non-traditional long-duration contracts from actual versus expected market performance. The market impact on variable annuity guaranteed benefits (net of hedges and the related DSIC and DAC amortization) was an expense of $31 million for the year ended December 31, 2018 compared to an expense of $232 million for the prior year.

The impact on DAC, DSIC and reserves for insurance features in non-traditional long-duration contracts from actual versus expected market performance was an expense of $33 million ($21 million for DAC, $5 million for DSIC and $7 million for insurance features in non-traditional long duration contracts) for the year ended December 31, 2018 reflecting unfavorable market returns compared to a benefit of $83 million ($36 million for DAC, $8 million for DSIC and $39 million for insurance features in non-traditional long duration contracts) for the prior year reflecting favorable market returns.

The following table presents the total pretax impacts on our revenues and expenses attributable to unlocking and LTC loss recognition for the years ended December 31:

Pretax Increase (Decrease)	**2018**	**2017**
	(in millions)	
Other revenues	$78	$(47)
Total revenues	78	(47)
Benefits, claims, losses and settlement expenses:		
LTC loss recognition	51	57
Unlocking impact	113	(139)
Total benefits, claims, losses and settlement expenses	164	(82)
Amortization of DAC	(33)	(12)
Total expenses	131	(94)
Pretax income [1]	$(53)	$47

[1] Includes a $5 million net benefit related to the market impact on variable annuity guaranteed benefits for both the years ended December 31, 2018 and 2017.

The following table presents the impact from the enactment of the Tax Act for the year ended December 31, 2017:

Increase (Decrease)	**(in millions)**
Net investment income [1]	$ (51)
Pretax income	(51)
Income tax provision	
Remeasurement of deferred tax assets and liabilities	221
Foreign tax provisions	57
Remeasurement of tax contingencies	8
Total prior to tax effect of affordable housing partnership impairment	286
Tax effect of affordable housing partnership impairment	(17)
Total income tax provision	269
Net income	$ (320)

[1] Includes the impairment of our investment in affordable housing partnerships due to the Tax Act's change in statutory tax rate to 21%.

Net Revenues

Net revenues increased $703 million, or 6%, to $12.8 billion for the year ended December 31, 2018 compared to $12.1 billion for the prior year.

Management and financial advice fees increased $361 million, or 6%, to $6.8 billion for the year ended December 31, 2018 compared to $6.4 billion for the prior year primarily due to an increase in AUM. Average AUM increased $35.4 billion, or 5%, compared to the prior year primarily due to average equity market appreciation and wrap account net inflows, partially offset by asset management net outflows. See our discussion on the changes in AUM in our segment results of operations section.

Distribution fees increased $120 million, or 7%, to $1.9 billion for the year ended December 31, 2018 compared to $1.8 billion for the prior year reflecting average equity market appreciation and higher earnings on brokerage cash due to an increase in short-term interest rates, partially offset by a $30 million decrease related to our transition to share classes without 12b-1 fees in advisory accounts, which we completed during the first quarter of 2017.

Net investment income increased $87 million, or 6%, to $1.6 billion for the year ended December 31, 2018 compared to $1.5 billion for the prior year primarily due to a $51 million impairment of our investment in affordable housing partnerships in 2017 due to the enactment of the Tax Act, a $31 million increase in net investment income of CIEs, a $13 million favorable change in the market impact of hedges on investments and an increase in interest earned on brokerage margin loans and cash balances due to higher short-term interest rates, partially offset by a $36 million decrease in net realized investment gains.

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Other revenues increased $144 million, or 13%, to $1.2 billion for the year ended December 31, 2018 compared to $1.1 billion for the prior year primarily due to the impact of unlocking and an increase in variable annuity guaranteed benefit rider charges, partially offset by a $7 million expense related to a modification of costs within a reinsurance contract.

Banking and deposit interest expense increased $41 million, or 85%, to $89 million for the year ended December 31, 2018 compared to $48 million for the prior year due to higher average crediting rates on certificates, as well as higher average certificate balances.

Expenses

Total expenses increased $433 million, or 4%, to $10.4 billion for the year ended December 31, 2018 compared to $9.9 billion for the prior year.

Distribution expenses increased $240 million, or 7%, to $3.6 billion for the year ended December 31, 2018 compared to $3.4 billion for the prior year reflecting higher advisor compensation due to average equity market appreciation and wrap account net inflows, partially offset by asset management net outflows and a $16 million decrease from changes related to our transition to share classes without 12b-1 fees in advisory accounts.

Benefits, claims, losses and settlement expenses increased $69 million, or 3%, to $2.3 billion for the year ended December 31, 2018 compared to $2.2 billion for the prior year primarily reflecting the following items:

- The impact of unlocking was an expense of $113 million for the year ended December 31, 2018 compared to a benefit of $139 million for the prior year. The unlocking impact for the year ended December 31, 2018 primarily reflected unfavorable mortality experience on UL and VUL insurance products and lower surrender rate assumptions on variable annuities, partially offset by a favorable impact from updates to assumptions on utilization of guaranteed withdrawal benefits. The unlocking impact for the prior year primarily reflected a benefit from updates to market-related inputs to our living benefit valuation.
- Our annual review of LTC active life future policy benefit reserve adequacy in the third quarter resulted in loss recognition of $51 million for the year ended December 31, 2018 compared to $57 million in the prior year. The loss recognition in both periods was primarily due to unfavorable morbidity experience, partially offset by approved, pending and future expected premium increases.
- A $25 million increase in expense related to higher reserve funding driven by the impact of higher variable annuity guaranteed benefit rider charges.
- The impact on DSIC and reserves for insurance features in non-traditional long-duration contracts from actual versus expected market performance was an expense of $12 million for the year ended December 31, 2018 compared to a benefit of $47 million for the prior year.
- A $356 million decrease in expense from the unhedged nonperformance credit spread risk adjustment on variable annuity guaranteed benefits. The favorable impact of the nonperformance credit spread was $250 million for the year ended December 31, 2018 compared to an unfavorable impact of $106 million for the prior year. As the estimate of the nonperformance credit spread over the LIBOR swap curve tightens or widens, the embedded derivative liability will increase or decrease. As the embedded derivative liability on which the nonperformance credit spread is applied increases (decreases), the impact of the nonperformance credit spread is favorable (unfavorable) to expense.
- A $106 million increase in expense from other market impacts on variable annuity guaranteed benefits, net of hedges in place to offset those risks and the related DSIC amortization. This increase was the result of an unfavorable $1.2 billion change in the market impact on variable annuity guaranteed living benefits reserves, a favorable $1.1 billion change in the market impact on derivatives hedging the variable annuity guaranteed benefits and an unfavorable $4 million change in the DSIC offset. The main market drivers contributing to these changes are summarized below:
- Equity market impact on the variable annuity guaranteed living benefits liability net of the impact on the corresponding hedge assets resulted in a higher expense for the year ended December 31, 2018 compared to the prior year.
- Interest rate impact on the variable annuity guaranteed living benefits liability net of the impact on the corresponding hedge assets resulted in a lower expense for the year ended December 31, 2018 compared to the prior year.
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- Volatility impact on the variable annuity guaranteed living benefits liability net of the impact on the corresponding hedge assets resulted in a lower expense for the year ended December 31, 2018 compared to the prior year.
- Other unhedged items, including the difference between the assumed and actual underlying separate account investment performance, fixed income credit exposures, transaction costs and various behavioral items, were a net unfavorable impact compared to the prior year.

Amortization of DAC increased $55 million, or 21%, to $322 million for the year ended December 31, 2018 compared to $267 million for the prior year primarily reflecting the following items:

- The impact on DAC from actual versus expected market performance was an expense of $21 million for the year ended December 31, 2018 compared to a benefit of $36 million for the prior year.
- The DAC offset to the market impact on variable annuity guaranteed benefits was an expense of $23 million for the year ended December 31, 2018 compared to a benefit of $26 million for the prior year.

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- The impact of unlocking was a benefit of $33 million for the year ended December 31, 2018 and primarily reflected updated mortality assumptions on UL and VUL insurance products and lower surrender rate assumptions on variable annuities, partially offset by an unfavorable impact from updates to assumptions on utilization of guaranteed withdrawal benefits. The impact of unlocking for the prior year was a benefit of $12 million and primarily reflected improved persistency and mortality on UL and VUL insurance products and a $10 million benefit from a correction related to a variable annuity model assumption, partially offset by updates to market-related inputs to the living benefit valuation.
- The positive impact on DAC from lower than expected lapses on variable annuities was $10 million.

Interest and debt expense increased $38 million, or 18%, to $245 million for the year ended December 31, 2018 compared to $207 million for the prior year primarily due to an increase in interest expense of CIEs.

Income Taxes

Our effective tax rate was 15.5% for the year ended December 31, 2018 compared to 33.1% for the prior year. The decrease in our effective tax rate for the year ended December 31, 2018 compared to the prior year is primarily the result of the decrease in the federal statutory tax rate and a $286 million expense in 2017 due to provisions in the Tax Act, partially offset by lower levels of the dividends received deduction and a decrease in the benefit for net excess tax benefits related to employee share-based payments, which was $25 million for the year ended December 31, 2018 compared to $70 million for the prior year.

Results of Operations by Segment

Year Ended December 31, 2018 Compared to Year Ended December 31, 2017

Adjusted operating earnings is the measure of segment profit or loss management uses to evaluate segment performance. Adjusted operating earnings should not be viewed as a substitute for GAAP pretax income. We believe the presentation of segment adjusted operating earnings as we measure it for management purposes enhances the understanding of our business by reflecting the underlying performance of our core operations and facilitating a more meaningful trend analysis. See Note 26 to the Consolidated Financial Statements for further information on the presentation of segment results and our definition of adjusted operating earnings.

The following table presents summary financial information by segment:

	Years Ended December 31,	
	2018	2017
	(in millions)	
Advice & Wealth Management		
Net revenues	$6,189	$5,616
Expenses	4,800	4,453
Adjusted operating earnings	$1,389	$1,163
Asset Management		
Net revenues	$3,011	$3,072
Expenses	2,283	2,332
Adjusted operating earnings	$728	$740
Annuities		
Net revenues	$2,476	$2,499
Expenses	2,011	1,789
Adjusted operating earnings	$465	$710
Protection		
Net revenues	$2,206	$2,044
Expenses	1,963	1,828
Adjusted operating earnings	$243	$216
Corporate & Other		
Net revenues	$226	$173
Expenses	520	599
Adjusted operating loss	$(294)	$(426)

The following table presents the segment pretax adjusted operating impacts on our revenues and expenses attributable to unlocking and LTC loss recognition for the years ended December 31:

Segment Pretax Adjusted Operating Increase (Decrease)	2018			2017		
	Annuities	Protection	Corporate	Annuities	Protection	Corporate
	(in millions)					
Other revenues	$—	$ 78	$ —	$—	$ (47)	$ —
Total revenues	—	78	—	—	(47)	—
Benefits, claims, losses and settlement expenses						
LTC loss recognition	—	—	51	—	—	57
Unlocking	18	101	1	(119)	(14)	1
Total benefits, claims, losses and settlement expenses	18	101	52	(119)	(14)	58
Amortization of DAC	(17)	(18)	—	(1)	(13)	—
Total expenses	1	83	52	(120)	(27)	58
Pretax income	$(1)	$ (5)	$ (52)	$120	$ (20)	$ (58)

Advice & Wealth Management

The following table presents the changes in wrap account assets and average balances for the years ended December 31:

	2018	2017
	(in billions)	
Beginning balance	$248.2	$201.1
Inflows from acquisition [1]	—	0.7
Other net flows	21.1	18.8
Net flows	21.1	19.5
Market appreciation (depreciation) and other	(17.8)	27.6
Ending balance	$251.5	$248.2
Advisory wrap account assets ending balance [2]	$249.1	$245.8
Average advisory wrap account assets [3]	$255.5	$222.1

(1) Inflows associated with acquisition that closed during the period.

(2) Advisory wrap account assets represent those assets for which clients receive advisory services and are the primary driver of revenue earned on wrap accounts. Clients may hold non-advisory investments in their wrap accounts that do not incur an advisory fee.

(3) Average ending balances are calculated using an average of the prior period’s ending balance and all months in the current period.

Wrap account assets increased $3.3 billion, or 1%, during the year ended December 31, 2018 due to net inflows of $21.1 billion, partially offset by market depreciation and other of $17.8 billion. Average advisory wrap account assets increased $33.4 billion, or 15%, compared to the prior year reflecting net inflows and market appreciation.

In July 2017, we completed our acquisition of Investment Professionals, Inc. (“IPI”), an independent broker-dealer based in San Antonio, Texas specializing in the on-site delivery of investment programs for financial institutions, including banks and credit unions. The acquisition added 215 financial advisors and $8 billion in client assets (including $0.7 billion in assets under management and $7.3 billion in assets under administration).

The following table presents the results of operations of our Advice & Wealth Management segment on an adjusted operating basis:

	Years Ended December 31,		Change	
	2018	2017		
	(in millions)			
Revenues				
Management and financial advice fees	$3,538	$3,153	$385	12%
Distribution fees	2,241	2,095	146	7
Net investment income	316	239	77	32
Other revenues	183	177	6	3
Total revenues	6,278	5,664	614	11
Banking and deposit interest expense	89	48	41	85
Total net revenues	6,189	5,616	573	10
Expenses				
Distribution expenses	3,521	3,245	276	9
Interest and debt expense	10	9	1	11
General and administrative expense	1,269	1,199	70	6
Total expenses	4,800	4,453	347	8
Adjusted operating earnings	$1,389	$1,163	$226	19%

Our Advice & Wealth Management segment pretax adjusted operating earnings, which exclude net realized investment gains or losses, increased $226 million, or 19%, to $1.4 billion for the year ended December 31, 2018 compared to $1.2 billion for the prior year reflecting wrap account net inflows, average equity market appreciation and higher earnings on brokerage cash, partially offset by higher general and administrative expense. Pretax adjusted operating margin was 22.4% for the year ended December 31, 2018 compared to 20.7% for the prior year.

Net Revenues

Net revenues exclude net realized investment gains or losses. Net revenues increased $573 million, or 10%, to $6.2 billion for the year ended December 31, 2018 compared to $5.6 billion for the prior year. Adjusted operating net revenue per advisor increased to $624,000 for the year ended December 31, 2018, up 9%, from $575,000 for the prior year.

Management and financial fees increased $385 million, or 12%, to $3.5 billion for the year ended December 31, 2018 compared to $3.2 billion for the prior year primarily due to growth in wrap account assets. Average advisory wrap account assets increased $33.4 billion, or 15%, compared to the prior year reflecting net inflows and average equity market appreciation.

Distribution fees increased $146 million, or 7%, to $2.2 billion for the year ended December 31, 2018 compared to $2.1 billion for the prior year reflecting higher earnings on brokerage cash due to an increase in short-term interest rates and the IPI acquisition, partially offset by a $30 million decrease related to our transition to share classes without 12b-1 fees in advisory accounts in the first quarter of 2017.

Net investment income increased $77 million, or 32%, to $316 million for the year ended December 31, 2018 compared to $239 million for the prior year primarily due to higher investment yields on assets related to certificates and higher invested balances due to certificate net inflows, as well as an increase in interest earned on brokerage margin loans and cash balances due to higher short-term interest rates.

Banking and deposit interest expense increased $41 million, or 85%, to $89 million for the year ended December 31, 2018 compared to $48 million for the prior year due to higher client crediting rates on certificates, as well as higher average certificate balances.

Expenses

Total expenses increased $347 million, or 8%, to $4.8 billion for the year ended December 31, 2018 compared to $4.5 billion for the prior year.

Distribution expenses increased $276 million, or 9%, to $3.5 billion for the year ended December 31, 2018 compared to $3.2 billion for the prior year reflecting higher advisor compensation due to average equity market appreciation and wrap account net inflows, as well as the IPI acquisition, partially offset by a $16 million decrease from changes related to our transition to share classes without 12b-1 fees in advisory accounts in the first quarter of 2017.

General and administrative expense increased $70 million, or 6%, to $1.3 billion for the year ended December 31, 2018 compared to $1.2 billion for the prior year primarily due to an increase in staffing costs, allocated overhead expenses, technology-related expenses, marketing expenses, vendor-related expenses linked to revenue growth and the IPI acquisition.

Asset Management

The following tables present the mutual fund performance of our retail Columbia Threadneedle Investments funds as of December 31:

Columbia **Mutual Fund Rankings in top 2 Lipper Quartiles**			**2018**	**2017**
Domestic Equity	Equal weighted	1 year	46 %	69 %
		3 year	50 %	75 %
		5 year	63 %	69 %
	Asset weighted	1 year	56 %	73 %
		3 year	56 %	83 %
		5 year	68 %	80 %
International Equity	Equal weighted	1 year	35 %	75 %
		3 year	60 %	60 %
		5 year	60 %	70 %
	Asset weighted	1 year	49 %	52 %
		3 year	69 %	47 %
		5 year	65 %	54 %
Taxable Fixed Income	Equal weighted	1 year	50 %	67 %
		3 year	71 %	83 %
		5 year	75 %	82 %
	Asset weighted	1 year	48 %	69 %
		3 year	75 %	89 %
		5 year	82 %	89 %
Tax Exempt Fixed Income	Equal weighted	1 year	89 %	79 %
		3 year	100 %	89 %
		5 year	89 %	100 %
	Asset weighted	1 year	86 %	76 %
		3 year	100 %	93 %
		5 year	98 %	100 %
Asset Allocation Funds	Equal weighted	1 year	46 %	62 %
		3 year	64 %	80 %
		5 year	100 %	78 %
	Asset weighted	1 year	65 %	51 %
		3 year	50 %	94 %
		5 year	100 %	94 %
Number of funds with 4 or 5 Morningstar star ratings		Overall	52	52
		3 year	46	56
		5 year	49	50
Percent of funds with 4 or 5 Morningstar star ratings		Overall	50 %	51 %
		3 year	44 %	55 %
		5 year	49 %	51 %
Percent of assets with 4 or 5 Morningstar star ratings		Overall	67 %	60 %
		3 year	50 %	63 %
		5 year	59 %	59 %

Mutual fund performance rankings are based on the performance of the Institutional Class for Columbia branded mutual funds. Only funds with Institutional Class shares are included.

Equal Weighted Rankings in Top 2 Quartiles: Counts the number of funds with above median ranking divided by the total number of funds. Asset size is not a factor.

Asset Weighted Rankings in Top 2 Quartiles: Sums the total assets of the funds with above median ranking divided by total assets of all funds. Funds with more assets will receive a greater share of the total percentage above or below median.

Threadneedle Retail Fund Rankings in Top 2 Morningstar Quartiles or Above Index Benchmark			**2018**	**2017**
Equity	Equal weighted	1 year	40%	59%
		3 year	39%	64%
		5 year	70%	63%
	Asset weighted	1 year	51%	56%
		3 year	53%	60%
		5 year	79%	63%
Fixed Income	Equal weighted	1 year	60%	83%
		3 year	76%	82%
		5 year	69%	72%
	Asset weighted	1 year	66%	93%
		3 year	94%	95%
		5 year	89%	88%
Allocation (Managed) Funds	Equal weighted	1 year	38%	67%
		3 year	75%	78%
		5 year	86%	100%
	Asset weighted	1 year	41%	60%
		3 year	84%	97%
		5 year	95%	100%

The performance of each fund is measured on a consistent basis against the most appropriate benchmark — a peer group of similar funds or an index.

Equal weighted: Counts the number of funds with above median ranking (if measured against peer group) or above index performance (if measured against an index) divided by the total number of funds. Asset size is not a factor.

Asset weighted: Sums the assets of the funds with above median ranking (if measured against peer group) or above index performance (if measured against an index) divided by the total sum of assets in the funds. Funds with more assets will receive a greater share of the total percentage above or below median or index.

Aggregated Allocation (Managed) Funds include funds that invest in other funds of the Threadneedle range including those funds that invest in both equity and fixed income.

Aggregated Threadneedle data includes funds on the Threadneedle platform sub-advised by Columbia Management as well as advisors not affiliated with Ameriprise Financial, Inc.

The following table presents managed assets by type:

	December 31,		**Change**		**Average [1] December 31,**		**Change**	
	2018	**2017**			**2018**	**2017**		
	(in billions)							
Equity	$229.0	$275.4	$(46.4)	(17)%	$266.4	$258.4	$8.0	3%
Fixed income	160.9	173.6	(12.7)	(7)	168.9	177.0	(8.1)	(5)
Money market	5.1	5.4	(0.3)	(6)	5.7	5.8	(0.1)	(2)
Alternative	3.1	5.6	(2.5)	(45)	4.4	6.8	(2.4)	(35)
Hybrid and other	32.6	34.6	(2.0)	(6)	34.2	27.5	6.7	24
Total managed assets	$430.7	$494.6	$(63.9)	(13)%	$479.6	$475.5	$4.1	1%

[1] Average ending balances are calculated using an average of the prior period's ending balance and all months in the current period.

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The following tables present the changes in global managed assets:

	Years Ended December 31, 2018	2017
	(in billions)	
Global Retail Funds		
Beginning assets	$287.8	$259.9
Inflows	53.0	50.9
Outflows	(67.2)	(60.0)
Net VP/VIT fund flows	(3.0)	(3.3)
Net new flows	(17.2)	(12.4)
Reinvested dividends	11.6	9.8
Net flows	(5.6)	(2.6)
Distributions	(13.8)	(11.7)
Market appreciation (depreciation) and other	(18.2)	38.4
Foreign currency translation (1)	(2.3)	3.8
Total ending assets	247.9	287.8
Global Institutional		
Beginning assets	206.8	194.5
Inflows	21.6	24.7
Inflows from acquisitions (2)	—	5.4
Outflows	(37.2)	(44.2)
Net flows	(15.6)	(14.1)
Market appreciation (depreciation) and other (3)	(4.5)	18.8
Foreign currency translation (1)	(3.9)	7.6
Total ending assets	182.8	206.8
Total managed assets	$430.7	$494.6
Total net flows	$(21.2)	$(16.7)
Former Parent Company Related (4)		
Retail net new flows	$(2.8)	$(3.0)
Institutional net new flows	(5.2)	(12.2)
Total net new flows	$(8.0)	$(15.2)

(1) Amounts represent local currency to US dollar translation for reporting purposes.
(2) Inflows associated with acquisitions that closed during the period.
(3) Includes $0.6 billion and $0.5 billion for the total change in Affiliated General Account Assets during the years ended December 31, 2018 and 2017, respectively.
(4) Former parent company related assets and net new flows are included in the rollforwards above.

In March 2017, the UK invoked article 50 of the Treaty of Lisbon in serving its relevant notice to leave the European Union on March 30, 2019. The full impact of the British exit from the EU (commonly known as “Brexit”) remains uncertain about how negotiations relating to the UK’s withdrawal and new trade agreements will be conducted, as well as the potential consequences and precise timeframe for Brexit. This uncertainty may have a negative impact on our UK and European net flows and foreign currency translation if the British Pound weakens.

Total segment AUM decreased $63.9 billion, or 13%, during the year ended December 31, 2018 driven by net outflows of $21.2 billion, retail fund distributions of $13.8 billion, market depreciation and a negative impact of foreign currency translation. Total segment AUM net outflows included $8.0 billion of outflows of former parent-related assets.

Global retail net outflows of $5.6 billion for the year ended December 31, 2018 included $17.2 billion of net new outflows, partially offset by $11.6 billion of reinvested dividends. In U.S. retail, net new outflows of $14.1 billion reflected elevated outflows in the fourth quarter from market dislocation, industry pressures on active strategies and outflows from former parent-related assets, partially offset by $11.5 billion of reinvested dividends. In Europe, Middle East and Africa ("EMEA") retail, net outflows of $3.0 billion

reflected elevated outflows in the fourth quarter consistent with the industry reflecting weakened market sentiment across all regions related to market volatility and concerns over Brexit, the economy and interest rates.
Global institutional net outflows of $15.6 billion included $5.2 billion of outflows from former parent-related assets and $2.5 billion of CLO redemptions. Third party institutional outflows were elevated and reflect lower sales and higher redemptions of equity and fixed income mandates.
In November 2017, we completed our acquisition of Lionstone Partners, LLC ("Lionstone Investments"), a leading national real estate investment firm, specializing in investment strategies based upon proprietary analytics. This acquisition added $5.4 billion in assets under management.
The following table presents the results of operations of our Asset Management segment on an adjusted operating basis:

	Years Ended December 31, 2018	2017	Change	
	(in millions)			
Revenues				
Management and financial advice fees	$2,540	$2,569	$(29)	(1)%
Distribution fees	433	458	(25)	(5)
Net investment income	19	28	(9)	(32)
Other revenues	19	17	2	12
Total revenues	3,011	3,072	(61)	(2)
Banking and deposit interest expense	—	—	—	—
Total net revenues	3,011	3,072	(61)	(2)
Expenses				
Distribution expenses	961	998	(37)	(4)
Amortization of deferred acquisition costs	13	15	(2)	(13)
Interest and debt expense	24	22	2	9
General and administrative expense	1,285	1,297	(12)	(1)
Total expenses	2,283	2,332	(49)	(2)
Adjusted operating earnings	$728	$740	$(12)	(2)%

Our Asset Management segment pretax adjusted operating earnings, which exclude net realized investment gains or losses, decreased $12 million, or 2%, to $728 million for the year ended December 31, 2018 compared to $740 million for the prior year primarily due to the cumulative impact of net outflows, a $31 million decrease related to CLO unwinds and $12 million of costs associated with the implementation of our Brexit strategy, partially offset by average equity market appreciation, lower performance-based compensation and continued expense management.
Net Revenues
Net revenues, which exclude net realized investment gains or losses, decreased $61 million, or 2%, to $3.0 billion for the year ended December 31, 2018 compared to $3.1 billion for the prior year.
Management and financial advice fees decreased $29 million, or 1%, to $2.5 billion for the year ended December 31, 2018 compared to $2.6 billion for the prior year driven by cumulative net outflows, a $32 million decrease in incentive fees from CLO unwinds and a $17 million decrease in performance fees, partially offset by average equity market appreciation, a $13 million positive foreign currency translation impact and a $24 million increase from the Lionstone Investments acquisition. Our average weighted equity index, which is a proxy for equity movements on AUM, increased 10% for the year ended December 31, 2018 compared to the prior year.
Distribution fees decreased $25 million, or 5%, to $433 million for the year ended December 31, 2018 compared to $458 million for the prior year due to cumulative net outflows and an $11 million decrease related to the transition of advisory accounts to share classes without 12b-1 fees in the first quarter of 2017, partially offset by average equity market appreciation.
Expenses

Total expenses decreased $49 million, or 2%, to $2.3 billion for the year ended December 31, 2018 compared to the prior year.

Distribution expenses decreased $37 million, or 4%, to $961 million for the year ended December 31, 2018 compared to $998 million for the prior year due to asset management net outflows and an $11 million decrease related to the transition of advisory accounts to share classes without 12b-1 fees in the first quarter of 2017, partially offset by average equity market appreciation.

General and administrative expense decreased $12 million, or 1%, to $1.3 billion for the year ended December 31, 2018 compared to the prior year primarily due to lower performance-based compensation, lower compensation related to CLO unwinds, a $14 million decrease in compensation related to lower performance fees and disciplined expense management, partially offset by $12 million of Brexit-related costs, an $8 million negative foreign currency translation impact and a $25 million increase related to the Lionstone Investments acquisition.

Annuities

The following table presents the results of operations of our Annuities segment on an adjusted operating basis:

	Years Ended December 31, 2018	2017	Change	
	(in millions)			
Revenues				
Management and financial advice fees	$792	$790	$2	— %
Distribution fees	347	346	1	—
Net investment income	644	697	(53)	(8)
Premiums	108	116	(8)	(7)
Other revenues	585	550	35	6
Total revenues	2,476	2,499	(23)	(1)
Banking and deposit interest expense	—	—	—	—
Total net revenues	2,476	2,499	(23)	(1)
Expenses				
Distribution expenses	432	428	4	1
Interest credited to fixed accounts	461	473	(12)	(3)
Benefits, claims, losses and settlement expenses	677	467	210	45
Amortization of deferred acquisition costs	200	181	19	10
Interest and debt expense	40	35	5	14
General and administrative expense	201	205	(4)	(2)
Total expenses	2,011	1,789	222	12
Adjusted operating earnings	$465	$710	$(245)	(35)%

Our Annuities segment pretax adjusted operating income, which excludes net realized investment gains or losses (net of the related DSIC and DAC amortization), the market impact on variable annuity guaranteed benefits (net of hedges and the related DSIC and DAC amortization) and the market impact on fixed index annuity benefits (net of hedges and the related DAC amortization), decreased $245 million, or 35%, to $465 million for the year ended December 31, 2018 compared to $710 million for the prior year primarily due to the impact of unlocking, lower investment yields, variable annuity net outflows and the impact on DAC, DSIC and reserves for insurance features in non-traditional long-duration contracts from actual versus expected market performance, partially offset by average equity market appreciation.

The impact of unlocking was an expense of $1 million for the year ended December 31, 2018 compared to a benefit of $120 million for the prior year. The impact on DAC, DSIC and reserves for insurance features in non-traditional long-duration contracts from actual versus expected market performance (“mean reversion-related impacts”) was an expense of $31 million ($19 million for DAC, $5 million for DSIC and $7 million for insurance features in non-traditional long duration contracts) for the year ended December 31, 2018 reflecting unfavorable market returns compared to a benefit of $81 million ($34 million for DAC, $8 million for DSIC and $39 million for insurance features in non-traditional long duration contracts) for the prior year reflecting favorable market returns.

Our Annuities segment pretax adjusted operating income excluding mean reversion-related impacts and unlocking decreased $12 million, or 2%, to $497 million for the year ended December 31, 2018 compared to $509 million for the prior year.

RiverSource variable annuity account balances declined 10% to $72.0 billion as of December 31, 2018 compared to the prior year due to equity market depreciation and net outflows of $3.3 billion.

RiverSource fixed deferred annuity account balances declined 7% to $8.7 billion as of December 31, 2018 compared to the prior year as older policies continue to lapse and new sales are limited due to low interest rates. Given the current interest rate environment, our current fixed deferred annuity book is expected to gradually run off and earnings on our fixed deferred annuity business will trend down.

Net Revenues

Net revenues, which exclude net realized investment gains or losses, decreased $23 million, or 1%, to $2.5 billion for the year ended December 31, 2018 compared to the prior year.

Net investment income, which excludes net realized investment gains or losses, decreased $53 million, or 8%, to $644 million for the year ended December 31, 2018 compared to $697 million for the prior year primarily due to a decrease of approximately $32 million from lower invested assets due to fixed annuity net outflows and approximately $23 million from lower earned interest rates.

Other revenues increased $35 million, or 6%, to $585 million for the year ended December 31, 2018 compared to $550 million for the prior year due to an increase in variable annuity guaranteed benefit rider charges driven by higher average fee rates on variable annuity guarantee sales and sales in the prior year where the fees start on the first anniversary date.

Expenses

Total expenses, which exclude the market impact on variable annuity guaranteed benefits (net of hedges and the related DSIC and DAC amortization), the market impact on fixed index annuity benefits (net of hedges and the related DAC amortization) and the DAC and DSIC offset to net realized investment gains or losses, increased $222 million, or 12%, to $2.0 billion for the year ended December 31, 2018 compared to $1.8 billion for the prior year.

Interest credited to fixed accounts decreased $12 million, or 3%, to $461 million for the year ended December 31, 2018 compared to $473 million for the prior year due to lower average fixed deferred annuity account balances.

Benefits, claims, losses and settlement expenses, which exclude the market impact on variable annuity guaranteed benefits (net of hedges and the related DSIC amortization) and the DSIC offset to net realized investment gains or losses, increased $210 million, or 45%, to $677 million for the year ended December 31, 2018 compared to $467 million for the prior year primarily reflecting the following items:

- The impact of unlocking was an $18 million expense for the year ended December 31, 2018 compared to a $119 million benefit for the prior year. See our Consolidated Results of Operations section for discussion of the drivers of unlocking.
- The impact on DSIC and reserves for insurance features in non-traditional long-duration contracts from actual versus expected market performance was an expense of $12 million for the year ended December 31, 2018 compared to a benefit of $47 million for the prior year.
- A $25 million increase in expense related to higher reserve funding driven by the impact of higher variable annuity guaranteed benefit rider charges.

Amortization of DAC, which excludes the DAC offset to the market impact on variable annuity guaranteed benefits and fixed index annuity benefits and the DAC offset to net realized investment gains or losses, increased $19 million, or 10%, to $200 million for the year ended December 31, 2018 compared to $181 million for the prior year primarily reflecting the following items:

- The impact on DAC from actual versus expected market performance was an expense of $19 million for the year ended December 31, 2018 compared to a benefit of $34 million for the prior year.
- The impact of unlocking was a benefit of $17 million for the year ended December 31, 2018 compared to a benefit of $1 million for the prior year. See our Consolidated Results of Operations section for discussion of the drivers of unlocking.
- The positive impact on DAC from lower than expected lapses on variable annuities was $10 million.

Protection

The following table presents the results of operations of our Protection segment on an adjusted operating basis:

	Years Ended December 31, 2018	2017	Change	
	(in millions)			
Revenues				
Management and financial advice fees	$52	$53	$(1)	(2)%
Distribution fees	99	96	3	3
Net investment income	347	338	9	3
Premiums	1,245	1,204	41	3
Other revenues	463	353	110	31
Total revenues	2,206	2,044	162	8
Banking and deposit interest expense	—	—	—	—
Total net revenues	2,206	2,044	162	8
Expenses				
Distribution expenses	69	68	1	1
Interest credited to fixed accounts	200	186	14	8
Benefits, claims, losses and settlement expenses	1,324	1,209	115	10
Amortization of deferred acquisition costs	89	96	(7)	(7)
Interest and debt expense	26	25	1	4
General and administrative expense	255	244	11	5
Total expenses	1,963	1,828	135	7
Adjusted operating earnings	$243	$216	$27	13 %

Our Protection segment pretax adjusted operating earnings, which excludes net realized investment gains or losses (net of the related DAC amortization, unearned revenue amortization and the reinsurance accrual) and the market impact on IUL benefits (net of hedges and the related DAC amortization, unearned revenue amortization and the reinsurance accrual), increased $27 million, or 13%, to $243 million for the year ended December 31, 2018 compared to $216 million for the prior year primarily due to the impact of unlocking and lower catastrophe losses, partially offset by a $7 million expense related to a modification of costs within a reinsurance contract and the negative impact of continued low interest rates. A strategic review of the auto and home business is underway.

Net Revenues

Net revenues, which exclude net realized investment gains or losses (net of unearned revenue amortization and the reinsurance accrual) and the unearned revenue amortization and reinsurance accrual offset to the market impact on IUL benefits, increased $162 million, or 8%, to $2.2 billion for the year ended December 31, 2018 compared to $2.0 billion for the prior year.

Premiums increased $41 million, or 3%, to $1.2 billion for the year ended December 31, 2018 compared to the prior year due to higher average premium in both auto and home insurance products and higher auto policies in force.

Other revenues, which exclude the unearned revenue amortization and reinsurance accrual offset to net realized investment gains or losses and the market impact on IUL benefits, increased $110 million, or 31%, to $463 million for the year ended December 31, 2018 compared to $353 million for the prior year primarily due to the impact of unlocking, partially offset by a $7 million expense related to a modification of costs within a reinsurance contract and higher cost of reinsurance for life insurance products. Other revenues for the year ended December 31, 2018 included a $78 million favorable impact from unlocking compared to a $47 million unfavorable impact in the prior year period. See our Consolidated Results of Operations section for discussion of the drivers of unlocking.

Expenses

Total expenses, which exclude the market impact on IUL benefits (net of hedges and the related DAC amortization) and the DAC offset to net realized investment gains or losses, increased $135 million, or 7%, to $2.0 billion for the year ended December 31, 2018 compared to $1.8 billion for the prior year.

Interest credited to fixed accounts increased $14 million, or 8%, to $200 million for the year ended December 31, 2018 compared to $186 million for the prior year primarily driven by higher fixed account values associated with UL and VUL insurance.

Benefits, claims, losses and settlement expenses increased $115 million, or 10%, to $1.3 billion for the year ended December 31, 2018 compared to $1.2 billion for the prior year primarily reflecting the following impacts:

- The impact of unlocking was an expense of $101 million for the year ended December 31, 2018 compared to a benefit of $14 million for the prior year. See our Consolidated Results of Operations section for discussion of the drivers of unlocking.
- A $4 million increase in auto and home expenses due to a 3% increase in auto policies in force and a higher non-catastrophe loss ratio, partially offset by lower catastrophe losses. Catastrophe losses (net of the impact of reinsurance), which were higher than anticipated due to storms and California wildfires, were $82 million for the year ended December 31, 2018 compared to $122 million for the prior year. Our reinsurance program resulted in ceded losses of approximately $42 million for the year ended December 31, 2018 compared to $104 million for the prior year.
- A $14 million decrease in DI claims, partially offset by a $4 million increase in life claims.

Corporate & Other

The following table presents the results of operations of our Corporate & Other segment on an adjusted operating basis:

	Years Ended December 31, 2018	2017	Change	
	(in millions)			
Revenues				
Net investment income	$119	$60	$59	98 %
Premiums	107	109	(2)	(2)
Other revenues	6	7	(1)	(14)
Total revenues	232	176	56	32
Banking and deposit interest expense	6	3	3	NM
Total net revenues	226	173	53	31
Expenses				
Distribution expenses	(11)	(11)	—	—
Benefits, claims, losses and settlement expenses	306	313	(7)	(2)
Amortization of deferred acquisition costs	—	—	—	—
Interest and debt expense	25	27	(2)	(7)
General and administrative expense	200	270	(70)	(26)
Total expenses	520	599	(79)	(13)
Adjusted operating loss	$(294)	$(426)	$132	31 %

NM Not Meaningful.

Our Corporate & Other segment pretax adjusted operating loss excludes net realized investment gains or losses, the market impact of hedges to offset interest rate changes on unrealized gains or losses for certain investments, integration and restructuring charges, and the impact of consolidating CIEs. Our Corporate & Other segment pretax adjusted operating loss decreased $132 million, or 31%, to $294 million for the year ended December 31, 2018 compared to $426 million for the prior year.

Net investment income increased $59 million, or 98%, to $119 million for the year ended December 31, 2018 compared to $60 million for the prior year primarily due to a $51 million impairment of our investment in affordable

housing partnerships in 2017 due to the enactment of the Tax Act.
General and administrative expense decreased $70 million, or 26%, to $200 million for the year ended December 31, 2018 compared to $270 million for the prior year primarily due to a $21 million decline in DOL planning and implementation expenses, lower performance-based compensation and a $9 million expense in the prior year related to the renegotiation of a vendor arrangement.

Our Corporate & Other segment includes our closed block LTC insurance, which had a pretax adjusted operating loss of $61 million for the year ended December 31, 2018 compared to a loss of $73 million for the prior year.

As of December 31, 2018, our nursing home indemnity LTC block had approximately $88 million in gross in force annual premium and future policyholder benefits and claim reserves of approximately $1.3 billion, net of reinsurance, which was 55% of GAAP reserves. This block has been shrinking over the last few years given the average attained age is 81 and the average attained age of policyholders on claim is 87. Fifty-five percent of daily benefits in force in this block come from policies that have a lifetime benefit period.

As of December 31, 2018, our comprehensive reimbursement LTC block had approximately $116 million in gross in force annual premium and future policyholder benefits and claim reserves of approximately $1.0 billion, net of reinsurance. This block has higher premiums per policy than the nursing home indemnity LTC policies. The average attained age is 76 and the average attained age of policyholders on claim is 84. Thirty-eight percent of daily benefits in force in this block come from policies that have a lifetime benefit period.

We utilize three primary levers to manage our LTC business. First, we have taken an active approach of steadily increasing rates since 2005, with cumulative rate increases of 140% on our nursing home indemnity LTC block and 66% on our comprehensive reimbursement LTC block as of December 31, 2018. Second, we have a reserving process that reflects the policy features and risk characteristics of our blocks. As of December 31, 2017, we had 29,000 policies that were closed with claim activity, as well as 8,000 open claims. We apply this experience to our in force policies, which were 108,000 as of December 31, 2018, at a very granular level by issue year, attained age and benefit features. Our statutory reserves are approximately $403 million higher than our GAAP reserves and include margins for key assumptions like morbidity and mortality, as well as $210 million in asset adequacy reserves as of December 31, 2018. Lastly, we have prudently managed our investment portfolio by maintaining a liquid, investment grade portfolio that is currently in a net unrealized gain position.

We undertake an extensive review of active life future policy benefit reserve adequacy annually during the third quarter of each year, or more frequently if appropriate, using current best estimate assumptions as of the date of the review. Our annual review process includes an analysis of our key reserve assumptions, including, at this time, those for morbidity, terminations (mortality and lapses), premium rate increases, and investment yields. Because we have a rigorous annual review of all key reserve assumptions, we believe we are materially less exposed to large one-time reserve adjustments.

Our annual review of LTC active life future policy benefit reserve adequacy resulted in loss recognition of $51 million in 2018 compared to $57 million in the prior year. The loss recognition in both years was primarily due to unfavorable morbidity experience, partially offset by approved, pending and future expected premium increases.

Consolidated Results of Operations

Year Ended December 31, 2017 Compared to Year Ended December 31, 2016

The following table presents our consolidated results of operations:

	Years Ended December 31, 2017	2016	Change	
	(in millions)			
Revenues				
Management and financial advice fees	$6,415	$5,802	$613	11 %
Distribution fees	1,757	1,781	(24)	(1)
Net investment income	1,509	1,576	(67)	(4)
Premiums	1,394	1,491	(97)	(7)
Other revenues	1,105	1,189	(84)	(7)
Total revenues	12,180	11,839	341	3
Banking and deposit interest expense	48	39	9	23
Total net revenues	12,132	11,800	332	3
Expenses				
Distribution expenses	3,397	3,200	197	6
Interest credited to fixed accounts	656	623	33	5
Benefits, claims, losses and settlement expenses	2,233	2,646	(413)	(16)
Amortization of deferred acquisition costs	267	415	(148)	(36)
Interest and debt expense	207	241	(34)	(14)
General and administrative expense	3,158	3,084	74	2
Total expenses	9,918	10,209	(291)	(3)
Pretax income	2,214	1,591	623	39
Income tax provision	734	278	456	NM
Net income	$1,480	$1,313	$167	13 %

NM Not Meaningful.

Overall

Pretax income increased $623 million, or 39%, to $2.2 billion for the year ended December 31, 2017 compared to $1.6 billion for the prior year primarily reflecting the impact of unlocking, market appreciation, wrap account net inflows, a positive impact from higher short-term interest rates and a $39 million increase in LTC reserves in the prior year primarily due to out-of-period corrections, partially offset by asset management net outflows, loss recognition of $57 million on LTC insurance products in 2017, higher performance-based compensation and a $51 million impairment of our investment in affordable housing partnerships from the enactment of the Tax Act.

The impact on DAC, DSIC and reserves for insurance features in non-traditional long-duration contracts from actual versus expected market performance was a benefit of $83 million ($36 million for DAC, $8 million for DSIC and $39 million for insurance features in non-traditional long duration contracts) for the year ended December 31, 2017 reflecting favorable market returns compared to a benefit of $18 million ($6 million for DAC, $2 million for DSIC and $10 million for insurance features in non-traditional long duration contracts) for the prior year.

Net realized investment gains (net of the related DSIC and DAC amortization, unearned revenue amortization and the reinsurance accrual) were $44 million for the year ended December 31, 2017 compared to $6 million for the prior year. The market impact on IUL benefits (net of hedges and the related DAC amortization, unearned revenue amortization and the reinsurance accrual) was a benefit of $4 million for the year ended December 31, 2017 compared to a benefit of $36 million for the prior year.

The following table presents the total pretax impacts on our revenues and expenses attributable to unlocking and LTC loss recognition for the years ended December 31:

Pretax Increase (Decrease)	**2017**	**2016**
(in millions)		
Other revenues	$(47)	$64
Total revenues	(47)	64
Distribution expenses:		
LTC loss recognition	—	(27)
Benefits, claims, losses and settlement expenses:		
LTC loss recognition	57	—
Unlocking impact	(139)	229
Total benefits, claims, losses and settlement expenses	(82)	229
Amortization of DAC:		
LTC loss recognition	—	58
Unlocking impact	(12)	23
Total amortization of DAC	(12)	81
Total expenses	(94)	283
	$47	$(219)

Pretax
income
(1)

(1) Includes a $5 million and $16 million net benefit related to the market impact on variable annuity guaranteed benefits for the years ended December 31, 2017 and 2016, respectively.

The favorable unlocking impact in 2017 primarily reflected a positive impact from updates to market-related inputs to our living benefit valuation. Our annual review of LTC active life future policy benefit reserve adequacy in the third quarter resulted in loss recognition of $57 million in 2017 primarily due to unfavorable morbidity experience, partially offset by approved, pending and future expected premium increases. The unfavorable unlocking impact in 2016 primarily reflected low interest rates and higher persistency on living benefit contracts that more than offset benefits from persistency on annuity contracts without living benefits, an update to market-related inputs related to our living benefit valuation and other model updates. Our review of our LTC business in the third quarter of 2016 resulted in a loss recognition of $31 million due to low interest rates, higher morbidity and higher reinsurance expenses, slightly offset by premium increases.

Net Revenues

Net revenues increased $332 million, or 3%, to $12.1 billion for the year ended December 31, 2017 compared to $11.8 billion for the prior year.

Management and financial advice fees increased $613 million, or 11%, to $6.4 billion for the year ended December 31, 2017 compared to $5.8 billion for the prior year primarily due to an increase in AUM, as well as a $25 million increase in performance fees and higher fees on variable annuities driven by higher average separate account balances. Average AUM increased $48.2 billion, or 8%, compared to the prior year primarily due to market appreciation and wrap account net inflows, partially offset by asset management net outflows. See our discussion on the changes in AUM in our segment results of operations section.

Distribution fees decreased $24 million, or 1%, to $1.8 billion for the year ended December 31, 2017 compared to the prior year primarily due to a $223 million decrease related to our transition to share classes without 12b-1 fees in advisory accounts, partially offset by market appreciation and higher brokerage cash spread due to an increase in short-term interest rates.

Net investment income decreased $67 million, or 4%, to $1.5 billion for the year ended December 31, 2017 compared to $1.6 billion for the prior year primarily due to a $51 million impairment of our investment in affordable housing partnerships due to the enactment of the Tax Act, a $49 million decrease in net investment income of CIEs primarily due to a CLO unwind in late 2016 and a $19 million decrease in investment income on fixed maturities driven by low interest rates, partially offset by net realized investment gains of $46 million for the year ended December 31, 2017 compared to $6 million for the prior year.

Premiums decreased $97 million, or 7%, to $1.4 billion for the year ended December 31, 2017 compared to $1.5 billion for the prior year primarily reflecting higher ceded premiums for our auto and home business due to new reinsurance arrangements we entered into at the beginning of 2017 to reduce risk.

Other revenues decreased $84 million, or 7%, to $1.1 billion for the year ended December 31, 2017 compared to $1.2 billion for the prior year primarily due to the impact of unlocking and the unearned revenue amortization and the reinsurance accrual offset to the market impact on IUL benefits, partially offset by higher fees from variable annuity guarantee sales in the prior year where the fees start on the first anniversary date and higher average fee rates on variable annuity riders. The unearned revenue amortization and reinsurance accrual offset to the market impact on IUL benefits was a benefit of $1 million for the year ended December 31, 2017 compared to a benefit of $24 million for the prior year. Other revenues for the year ended December 31, 2017 included a $47 million unfavorable impact from unlocking compared to a $64 million favorable impact in the prior year. The primary driver of the unlocking impact to other revenues for the year ended December 31, 2017 was a negative impact from lower projected gains on reinsurance contracts resulting from favorable mortality experience. The primary driver of the unlocking impact to other revenues for the prior year was a positive impact from higher projected gains on reinsurance contracts resulting from unfavorable mortality experience.

Expenses

Total expenses decreased $291 million, or 3%, to $9.9 billion for the year ended December 31, 2017 compared to $10.2 billion for the prior year.

Distribution expenses increased $197 million, or 6%, to $3.4 billion for the year ended December 31, 2017 compared to $3.2 billion for the prior year reflecting higher advisor compensation due to market appreciation and wrap account net inflows, investments in recruiting experienced advisors and a $27 million benefit in the prior year related to the write-off of the deferred reinsurance liability in connection with loss recognition testing of LTC insurance products, partially offset by a $147 million decrease from changes related to our transition to share classes without 12b-1 fees in advisory accounts and lower compensation due to asset management net outflows.

Interest credited to fixed accounts increased $33 million, or 5%, to $656 million for the year ended December 31, 2017 compared to $623 million for the prior year primarily due to the market impact on IUL benefits, net of hedges, which was a benefit of $3 million for the year ended December 31, 2017 compared to a benefit of $30 million for the prior year.

Benefits, claims, losses and settlement expenses decreased $413 million, or 16%, to $2.2 billion for the year ended December 31, 2017 compared to $2.6 billion for the prior year primarily reflecting the following items:

- The year ended December 31, 2017 included a $139 million benefit from unlocking compared to a $229 million expense in the prior year. The unlocking impact for the year ended December 31, 2017 primarily reflected a benefit from updates to market-related inputs to our living benefit valuation. The unlocking impact for the prior year primarily reflected low interest rates and an unfavorable impact from persistency on living benefit reserves, partially offset by a benefit from updates to withdrawal utilization and fee assumptions, as well as market-related inputs related to our living benefit valuation.
- A $39 million increase in LTC reserves in the prior year, which included a $29 million out-of-period correction related to our claim utilization factor, a $5 million out-of-period correction related to our waiver of premium claim reserve and a $5 million impact from assumption changes for our active life reserve valuation as a result of loss recognition.
- The impact on DSIC and reserves for insurance features in non-traditional long-duration contracts from actual versus expected market performance was a benefit of $47 million for the year ended December 31, 2017 reflecting favorable equity market and bond fund returns compared to a benefit of $12 million for the prior year.
- A $64 million decrease in auto and home expenses reflecting the impact of new reinsurance arrangements and a lower non-catastrophe loss ratio, partially offset by higher gross catastrophe losses. Catastrophe losses, net of the impact of reinsurance, were $122 million for the year ended December 31, 2017 compared to $104 million for the prior year. The expanded reinsurance program resulted in ceded losses of approximately $104 million for the year ended December 31, 2017.
- A $57 million expense from loss recognition on the closed block LTC insurance products for the year ended December 31, 2017.
- A $31 million increase in expense related to higher reserve funding driven by the impact of higher fees from variable annuity guarantee sales in the prior year where the fees start on the first anniversary date.
- A $21 million negative impact in 2017 from changes in assumptions in the prior year unlocking process that resulted in ongoing increases to living benefit reserves.

Amortization of DAC decreased $148 million, or 36%, to $267 million for the year ended December 31, 2017 compared to $415 million for the prior year primarily reflecting the following items:

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The impact of unlocking was a benefit of $12 million for the year ended December 31, 2017 compared to an expense of $23 million for the prior year. The impact of unlocking for the year ended December 31, 2017 primarily reflected improved persistency and mortality on life insurance contracts and a $10 million benefit from a correction related to a variable annuity model assumption, partially offset by updates to market-related inputs to the living benefit valuation. The impact of unlocking in the prior year primarily reflected low interest rates that more than offset benefits from persistency on annuity contracts without living benefits.

- In 2016, we wrote-off DAC of $58 million in connection with the loss recognition on LTC insurance products.
- The impact on DAC from actual versus expected market performance was a benefit of $36 million for the year ended December 31, 2017 compared to a benefit of $6 million for the prior year.
- The DAC offset to the market impact on IUL benefits (net of hedges, unearned revenue amortization and the reinsurance accrual) was nil for the year ended December 31, 2017 compared to an expense of $18 million for the prior year.

Interest and debt expense decreased $34 million, or 14%, to $207 million for the year ended December 31, 2017 compared to $241 million for the prior year due to lower interest expense on CIE debt primarily due to a CLO unwind in late 2016.
General and administrative expense increased $74 million, or 2%, to $3.2 billion for the year ended December 31, 2017 compared to $3.1 billion for the prior year primarily due to higher performance-based compensation and a $13 million increase in compensation related to higher performance fees, partially offset by a $23 million expense in the prior year from the resolution of a legacy legal matter related to the hedge fund business.
Income Taxes
Our effective tax rate was 33.1% for the year ended December 31, 2017 compared to 17.4% for the prior year. The increase in our effective tax rate for the year ended December 31, 2017 was primarily due to a $286 million expense in 2017 due to provisions of the Tax Act, including remeasurement of net deferred tax assets, a deemed repatriation tax of our total post-1986 earnings and profits and remeasurement of tax contingencies, partially offset by a $70 million benefit for net excess tax benefits related to the adoption of an accounting standard for employee share-based payments. See Consolidated Results of Operations – Year ended December 31, 2018 compared to the year ended December 31, 2017 for additional details on the impact of the Tax Act.
Results of Operations by Segment
Year Ended December 31, 2017 Compared to Year Ended December 31, 2016
The following table presents summary financial information by segment:

	Years Ended December 31,	
	2017	2016
	(in millions)	
Advice & Wealth Management		
Net revenues	$5,616	$5,144
Expenses	4,453	4,234
Adjusted operating earnings	$1,163	$910
Asset Management		
Net revenues	$3,072	$2,960
Expenses	2,332	2,339
Adjusted operating earnings	$740	$621
Annuities		
Net revenues	$2,499	$2,463
Expenses	1,789	2,134
Adjusted operating earnings	$710	$329
Protection		
Net revenues	$2,044	$2,241
Expenses	1,828	1,978
Adjusted operating earnings	$216	$263
Corporate & Other		
Net revenues	$173	$237
Expenses	599	596
Adjusted operating loss	$(426)	$(359)

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The following table presents the segment pretax adjusted operating impacts on our revenues and expenses attributable to unlocking and LTC loss recognition for the years ended December 31:

Segment Pretax Adjusted Operating Increase (Decrease)	2017			2016		
	Annuities	Protection	Corporate	Annuities	Protection	Corporate
	(in millions)					
Other revenues	$—	$ (47)	$ —	$—	$ 64	$ —
Total revenues	—	(47)	—	—	64	—
Distribution expenses:						
LTC loss recognition	—	—	—	—	—	(27)
Benefits, claims, losses and settlement expenses:						
LTC loss recognition	—	—	57	—	—	—
Unlocking impact	(119)	(14)	1	197	40	6
Total benefits, claims, losses and settlement expenses	(119)	(14)	58	197	40	6
Amortization of DAC:						
LTC loss recognition	—	—	—	—	—	58
Unlocking impact	(1)	(13)	—	18	7	—
Total amortization of DAC	(1)	(13)	—	18	7	58
Total expenses	(120)	(27)	58	215	47	37
Pretax income	$120	$ (20)	$ (58)	$(215)	$ 17	$ (37)

Advice & Wealth Management

The following table presents the changes in wrap account assets and average balances for the years ended December 31:

	2017	2016
	(in billions)	
Beginning balance	$201.1	$180.5
Inflows from acquisition [1]	0.7	—
Other net flows	18.8	10.2
Net flows	19.5	10.2
Market appreciation (depreciation) and other	27.6	10.4
Ending balance	$248.2	$201.1
Advisory wrap account assets ending balance [2]	$245.8	$198.9
Average advisory wrap account assets [3]	$222.1	$187.3

(1) Inflows associated with acquisition that closed during the period.

(2) Advisory wrap account assets represent those assets for which clients receive advisory services and are the primary driver of revenue earned on wrap accounts. Clients may hold non-advisory investments in their wrap accounts that do not incur an advisory fee.

(3) Average ending balances are calculated using an average of the prior period's ending balance and all months in the current period.

Wrap account assets increased $47.1 billion, or 23%, during the year ended December 31, 2017 due to net inflows of $19.5 billion and market appreciation and other of $27.6 billion. Wrap net inflows increased $9.3 billion, or 92%, compared to the prior year driven by client activity and a shift from commission-based business to fee-based advisory accounts. Average advisory wrap account assets increased $34.8 billion, or 19%, compared to the prior year reflecting net inflows and market appreciation.

The following table presents the results of operations of our Advice & Wealth Management segment on an operating basis:

	Years Ended December 31, 2017	2016	Change	
	(in millions)			
Revenues				
Management and financial advice fees	$3,153	$2,711	$442	16 %
Distribution fees	2,095	2,119	(24)	(1)
Net investment income	239	186	53	28
Other revenues	177	167	10	6
Total revenues	5,664	5,183	481	9
Banking and deposit interest expense	48	39	9	23
Total net revenues	5,616	5,144	472	9
Expenses				
Distribution expenses	3,245	3,072	173	6
Interest and debt expense	9	8	1	13
General and administrative expense	1,199	1,154	45	4
Total expenses	4,453	4,234	219	5
Adjusted operating earnings	$1,163	$910	$253	28 %

Our Advice & Wealth Management segment pretax adjusted operating earnings, which exclude net realized investment gains or losses, increased $253 million, or 28%, to $1.2 billion for the year ended December 31, 2017 compared to $910 million for the prior year reflecting wrap account net inflows, market appreciation and higher earnings on brokerage cash, partially offset by expenses associated with recruiting experienced advisors and higher performance-based compensation. Pretax operating margin was 20.7% for the year ended December 31, 2017 compared to 17.7% for the prior year.

Net Revenues

Net revenues exclude net realized investment gains or losses. Net revenues increased $472 million, or 9%, to $5.6 billion for the year ended December 31, 2017 compared to $5.1 billion for the prior year. Operating net revenue per advisor increased to $575,000 for the year ended December 31, 2017, up 9%, from $528,000 for the prior year.

Management and financial fees increased $442 million, or 16%, to $3.2 billion for the year ended December 31, 2017 compared to $2.7 billion for the prior year primarily due to growth in wrap account assets. Average advisory wrap account assets increased $34.8 billion, or 19%, compared to the prior year reflecting net inflows and market appreciation.

Distribution fees decreased $24 million, or 1%, to $2.1 billion for the year ended December 31, 2017 compared to the prior year primarily due to a $223 million decrease related to our transition to share classes without 12b-1 fees in advisory accounts, partially offset by market appreciation, increased transactional activity and higher brokerage cash spread due to an increase in short-term interest rates.

Net investment income increased $53 million, or 28%, to $239 million for the year ended December 31, 2017 compared to $186 million for the prior year primarily due to higher investment yields and an increase in invested balances driven by certificate net inflows.

Expenses

Total expenses increased $219 million, or 5%, to $4.5 billion for the year ended December 31, 2017 compared to $4.2 billion for the prior year.

Distribution expenses increased $173 million, or 6%, to $3.2 billion for the year ended December 31, 2017 compared to $3.1 billion for the prior year reflecting higher advisor compensation due to market appreciation and wrap account net inflows, increased transactional activity and investments in recruiting experienced advisors, partially offset by a $147 million decrease related to our transition to share classes without 12b-1 fees in advisory accounts.

General and administrative expense increased $45 million, or 4%, to $1.2 billion for the year ended December 31, 2017 compared to the prior year primarily due to higher performance-based compensation, expenses related to the IPI acquisition and higher national conference expenses.

Asset Management

The following table presents managed assets by type:

	December 31, 2017	December 31, 2016	Change		Average[(1)] December 31, 2017	Average[(1)] December 31, 2016	Change	
	(in billions)							
Equity	$275.4	$240.0	$35.4	15 %	$258.4	$242.7	$15.7	6 %
Fixed income	173.6	175.9	(2.3)	(1)	177.0	179.0	(2.0)	(1)
Money market	5.4	6.3	(0.9)	(14)	5.8	7.1	(1.3)	(18)
Alternative	5.6	7.4	(1.8)	(24)	6.8	7.5	(0.7)	(9)
Hybrid and other	34.6	24.8	9.8	40	27.5	24.5	3.0	12
Total managed assets	$494.6	$454.4	$40.2	9 %	$475.5	$460.8	$14.7	3 %

(1) Average ending balances are calculated using an average of the prior period's ending balance and all months in the current period.

The following tables present the changes in global managed assets:

	Years Ended December 31, 2017	Years Ended December 31, 2016
	(in billions)	
Global Retail Funds		
Beginning assets	$259.9	$263.9
Inflows	50.9	52.2
Inflows from acquisitions (1)	—	1.0
Outflows	(60.0)	(63.5)
Net VP/VIT fund flows	(3.3)	(2.0)
Net new flows	(12.4)	(12.3)
Reinvested dividends	9.8	8.1
Net flows	(2.6)	(4.2)
Distributions	(11.7)	(9.9)
Market appreciation and other	38.4	15.2
Foreign currency translation (2)	3.8	(5.1)
Total ending assets	287.8	259.9
Global Institutional		
Beginning assets	194.5	208.0
Inflows	24.7	24.1
Inflows from acquisitions (1)	5.4	—
Outflows	(44.2)	(38.5)
Net flows	(14.1)	(14.4)
Market appreciation and other (3)(4)	18.8	13.5
Foreign currency translation (2)	7.6	(12.6)
Total ending assets	206.8	194.5
Total managed assets	$494.6	$454.4
Total net flows	$(16.7)	$(18.6)
Former Parent Company Related (5)		
Retail net new flows	$(3.0)	$(1.3)
Institutional net new flows	(12.2)	(8.9)
Total net new flows	$(15.2)	$(10.2)

(1) Inflows associated with acquisitions that closed during the period.

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(2) Amounts represent local currency to US dollar translation for reporting purposes.
(3) Included in Market appreciation and other for Global Institutional in 2016 are $(0.4) billion due to the transfer of assets from Separately Managed Accounts to Unified Managed Accounts.
(4) Includes $0.5 billion and $1.7 billion for the total change in Affiliated General Account Assets during the years ended December 31, 2017 and 2016, respectively.
(5) Former parent company related assets and net new flows are included in the rollforwards above.

Total segment AUM increased $40.2 billion, or 9%, during the year ended December 31, 2017 driven by market appreciation and a positive impact of foreign currency translation, partially offset by net outflows and retail fund distributions. Total segment AUM net outflows were $16.7 billion for the year ended December 31, 2017, which included $15.2 billion of outflows of former parent-related assets.

Global retail net outflows of $2.6 billion included $3.3 billion of outflows of our variable product funds underlying insurance and annuity separate accounts and $3.0 billion of outflows from former parent-related assets. In U.S. retail, net outflows of $4.1 billion reflected industry pressures on active strategies and outflows from former parent-related assets, partially offset by $9.7 billion of reinvested dividends. In EMEA retail, net inflows were $1.5 billion.

Global institutional net outflows of $14.1 billion included $12.2 billion of outflows from former parent-related assets. Institutional outflows from former parent-related assets primarily included Zurich outflows of $7.6 billion and U.S. Trust outflows of $4.4 billion. Institutional outflows also included $4.3 billion from three fixed-income mandates that had a weighted average fee rate of only four basis points. Flows also included $5.4 billion of inflows from the Lionstone Investments acquisition.

The following table presents the results of operations of our Asset Management segment on an operating basis:

	Years Ended December 31, 2017	2016	Change	
	(in millions)			
Revenues				
Management and financial advice fees	$2,569	$2,448	$121	5 %
Distribution fees	458	487	(29)	(6)
Net investment income	28	14	14	NM
Other revenues	17	11	6	55
Total revenues	3,072	2,960	112	4
Banking and deposit interest expense	—	—	—	—
Total net revenues	3,072	2,960	112	4
Expenses				
Distribution expenses	998	1,017	(19)	(2)
Amortization of deferred acquisition costs	15	18	(3)	(17)
Interest and debt expense	22	21	1	5
General and administrative expense	1,297	1,283	14	1
Total expenses	2,332	2,339	(7)	—
Adjusted operating earnings	$740	$621	$119	19 %

NM Not Meaningful.

Our Asset Management segment pretax adjusted operating earnings, which exclude net realized investment gains or losses, increased $119 million, or 19%, to $740 million for the year ended December 31, 2017 compared to $621 million for the prior year primarily due to market appreciation, a $12 million increase related to CLO unwinds, a $12 million increase in performance fees on property funds and hedge funds (net of related compensation), a $9 million expense in the prior year from the resolution of a legacy legal matter related to the hedge fund business and expense management, partially offset by the cumulative impact of net outflows and higher performance-based compensation.

Net Revenues

Net revenues, which exclude net realized investment gains or losses, increased $112 million, or 4%, to $3.1 billion for the year ended December 31, 2017 compared to $3.0 billion for the prior year.

Management and financial advice fees increased $121 million, or 5%, to $2.6 billion for the year ended December 31, 2017 compared to $2.4 billion for the prior year driven by market appreciation, an increase in incentive fees from CLO unwinds and a $25 million increase in performance fees, partially offset by cumulative net outflows from former parent-related assets and higher fee yielding retail funds and an $11 million negative foreign currency translation impact. Our average weighted equity index, which is a proxy for equity movements on AUM, increased 17% for the year ended December 31, 2017 compared to the prior year.

Distribution fees decreased $29 million, or 6%, to $458 million for the year ended December 31, 2017 compared to $487 million for the prior year due to cumulative net outflows and a $40 million decrease related to the transition of advisory accounts to share classes without 12b-1 fees, partially offset by market appreciation.

Expenses

Total expenses decreased $7 million to $2.3 billion for the year ended December 31, 2017 compared to the prior year. Distribution expenses decreased $19 million, or 2%, to $998 million for the year ended December 31, 2017 compared to $1.0 billion for the prior year due to lower compensation driven by cumulative net outflows and a $40 million decrease related to the transition of advisory accounts to share classes without 12b-1 fees, partially offset by market appreciation. The Asset Management segment expense related to 12b-1 fees is eliminated on a consolidated basis. General and administrative expense increased $14 million, or 1%, to $1.3 billion for the year ended December 31, 2017 compared to the prior year primarily due to a $13 million increase in compensation related to higher performance fees and higher performance-based compensation, partially offset by a $13 million benefit from the impact of foreign exchange, a $9 million expense in the prior year from the resolution of a legacy legal matter related to the hedge fund business and expense management.

Annuities

The following table presents the results of operations of our Annuities segment on an operating basis:

	Years Ended December 31, 2017	2016	Change	
	(in millions)			
Revenues				
Management and financial advice fees	$790	$751	$39	5 %
Distribution fees	346	330	16	5
Net investment income	697	760	(63)	(8)
Premiums	116	116	—	—
Other revenues	550	506	44	9
Total revenues	2,499	2,463	36	1
Banking and deposit interest expense	—	—	—	—
Total net revenues	2,499	2,463	36	1
Expenses				
Distribution expenses	428	423	5	1
Interest credited to fixed accounts	473	478	(5)	(1)
Benefits, claims, losses and settlement expenses	467	780	(313)	(40)
Amortization of deferred acquisition costs	181	209	(28)	(13)
Interest and debt expense	35	33	2	6
General and administrative expense	205	211	(6)	(3)
Total expenses	1,789	2,134	(345)	(16)%
Adjusted operating earnings	$710	$329	$381	NM

NM Not Meaningful.

Our Annuities segment pretax operating income, which excludes net realized investment gains or losses (net of the related DSIC and DAC amortization), the market impact on variable annuity guaranteed benefits (net of hedges and the related DSIC and DAC amortization) and the market impact on fixed index annuity benefits (net of hedges and the related DAC amortization), increased $381 million to $710 million for the year ended December 31, 2017 compared to $329 million for the prior year primarily due to the impact of unlocking, equity market appreciation and the impact on DAC, DSIC and reserves for insurance features in non-traditional long-duration contracts from actual versus expected market performance, partially offset by lower investment yields and a $21 million negative impact in 2017 from changes in assumptions in the prior year unlocking process that resulted in ongoing increases to living benefit reserves.

RiverSource variable annuity account balances increased 7% to $80.3 billion at December 31, 2017 compared to the prior year due to equity market appreciation, partially offset by net outflows of $3.9 billion. Lapse rates were higher in the year, reflecting increased client asset transfers from variable annuities to affiliated fee-based investment advisory accounts.

RiverSource fixed deferred annuity account balances declined 7% to $9.3 billion at December 31, 2017 compared to the prior year as older policies continue to lapse and new sales are limited due to low interest rates.

The impact on DAC, DSIC and reserves for insurance features in non-traditional long-duration contracts from actual versus expected market performance was a benefit of $81 million ($34 million for DAC, $8 million for DSIC and $39 million for insurance features in non-traditional long duration contracts) for the year ended December 31, 2017 reflecting favorable market returns compared to a benefit of $18 million ($6 million for DAC, $2 million for DSIC and $10 million for insurance features in non-traditional long duration contracts) for the prior year.

Net Revenues

Net revenues, which exclude net realized investment gains or losses, increased $36 million, or 1%, to $2.5 billion for the year ended December 31, 2017 compared to the prior year.

Management and financial advice fees increased $39 million, or 5%, to $790 million for the year ended December 31, 2017 compared to $751 million for the prior year due to higher fees on variable annuities driven by higher average separate account balances. Average variable annuity separate account balances increased $3.3 billion, or 5%, from the prior year due to market appreciation, partially offset by net outflows.

Net investment income, which excludes net realized investment gains or losses, decreased $63 million, or 8%, to $697 million for the year ended December 31, 2017 compared to $760 million for the prior year primarily reflecting a decrease of approximately $45 million from lower earned interest rates and approximately $18 million from lower invested assets due to fixed annuity net outflows.

Other revenues increased $44 million, or 9%, to $550 million for the year ended December 31, 2017 compared to $506 million for the prior year due to higher fees from variable annuity guarantee sales in the prior year where the fees start on the first anniversary date and higher average fee rates on variable annuity riders.

Expenses

Total expenses, which exclude the market impact on variable annuity guaranteed benefits (net of hedges and the related DSIC and DAC amortization), the market impact on fixed index annuity benefits (net of hedges and the related DAC amortization) and the DAC and DSIC offset to net realized investment gains or losses, decreased $345 million, or 16%, to $1.8 billion for the year ended December 31, 2017 compared to $2.1 billion for the prior year.

Benefits, claims, losses and settlement expenses, which exclude the market impact on variable annuity guaranteed benefits (net of hedges and the related DSIC amortization) and the DSIC offset to net realized investment gains or losses, decreased $313 million, or 40%, to $467 million for the year ended December 31, 2017 compared to $780 million for the prior year primarily reflecting the following items:

- The impact of unlocking was a $119 million benefit for the year ended December 31, 2017 compared to a $197 million expense for the prior year. See our Consolidated Results of Operations section for discussion of the drivers of unlocking.
- The impact on DSIC and reserves for insurance features in non-traditional long-duration contracts from actual versus expected market performance was a benefit of $47 million for the year ended December 31, 2017 compared to a benefit of $12 million for the prior year.
- A $31 million increase in expense related to higher reserve funding driven by the impact of higher fees from variable annuity guarantee sales in the prior year where the fees start on the first anniversary date.
- A $21 million negative impact in 2017 from changes in assumptions in the prior year unlocking process that resulted in ongoing increases to living benefit reserves.

Amortization of DAC, which excludes the DAC offset to the market impact on variable annuity guaranteed benefits and fixed index annuity benefits and the DAC offset to net realized investment gains or losses, decreased $28 million, or 13%, to $181 million for the year ended December 31, 2017 compared to $209 million for the prior year primarily reflecting the following items:

- The impact of unlocking was a benefit of $1 million for the year ended December 31, 2017 compared to an expense of $18 million for the prior year. See our Consolidated Results of Operations section for discussion of the drivers of unlocking.
- The impact on DAC from actual versus expected market performance was a benefit of $34 million for the year ended December 31, 2017 compared to a benefit of $6 million for the prior year.

Protection

The following table presents the results of operations of our Protection segment on an operating basis:

	Years Ended December 31,		Change	
	2017	2016		
	(in millions)			
Revenues				
Management and financial advice fees	$53	$56	$(3)	(5)%
Distribution fees	96	93	3	3
Net investment income	338	330	8	2
Premiums	1,204	1,286	(82)	(6)
Other revenues	353	476	(123)	(26)
Total revenues	2,044	2,241	(197)	(9)
Banking and deposit interest expense	—	—	—	—
Total net revenues	2,044	2,241	(197)	(9)
Expenses				
Distribution expenses	68	70	(2)	(3)
Interest credited to fixed accounts	186	175	11	6
Benefits, claims, losses and settlement expenses	1,209	1,325	(116)	(9)
Amortization of deferred acquisition costs	96	138	(42)	(30)
Interest and debt expense	25	25	—	—
General and administrative expense	244	245	(1)	—
Total expenses	1,828	1,978	(150)	(8)
Adjusted operating earnings	$216	$263	$(47)	(18)%

Our Protection segment pretax adjusted operating earnings, which excludes net realized investment gains or losses (net of the related DAC amortization, unearned revenue amortization and the reinsurance accrual) and the market impact on IUL benefits (net of hedges and the related DAC amortization, unearned revenue amortization and the reinsurance accrual), decreased $47 million, or 18%, to $216 million for the year ended December 31, 2017 compared to $263 million for the prior year primarily due to the impact of unlocking and the impact of the low interest rate environment on investment returns.

Net Revenues

Net revenues, which exclude net realized investment gains or losses (net of unearned revenue amortization and the reinsurance accrual) and the unearned revenue amortization and reinsurance accrual offset to the market impact on IUL benefits, decreased $197 million, or 9%, to $2.0 billion for the year ended December 31, 2017 compared to $2.2 billion for the prior year.

Net investment income, which excludes net realized investment gains or losses, increased $8 million, or 2%, to $338 million for the year ended December 31, 2017 compared to $330 million for the prior year due to higher invested assets, partially offset by lower earned interest rates.

Premiums decreased $82 million, or 6%, to $1.2 billion for the year ended December 31, 2017 compared to $1.3 billion for the prior year primarily reflecting higher ceded premiums for our auto and home business due to new reinsurance arrangements we entered into at the beginning of 2017 to reduce risk.

Other revenues, which exclude the unearned revenue amortization and reinsurance accrual offset to net realized investment gains or losses and the market impact on IUL benefits, decreased $123 million, or 26%, to $353 million for the year ended December 31, 2017 compared to $476 million for the prior year primarily due to the impact of unlocking. See our Consolidated Results of Operations section for discussion of the drivers of unlocking.

Expenses

Total expenses, which exclude the market impact on IUL benefits (net of hedges and the related DAC amortization) and the DAC offset to net realized investment gains or losses, decreased $150 million, or 8%, to $1.8 billion for the year ended December 31, 2017 compared to $2.0 billion for the prior year.

Interest credited to fixed accounts increased $11 million, or 6%, to $186 million for the year ended December 31, 2017 compared to $175 million for the prior year primarily driven by higher fixed account values associated with UL and VUL insurance.

Benefits, claims, losses and settlement expenses decreased $116 million, or 9%, to $1.2 billion for the year ended December 31, 2017 compared to $1.3 billion for the prior year due to the impact of unlocking and a $64 million decrease in auto and home expenses reflecting the impact of new reinsurance arrangements and a lower non-catastrophe loss ratio, partially offset by higher gross catastrophe losses. The unlocking impact for the year ended December 31, 2017 was a $14 million benefit and primarily reflected favorable mortality experience on life insurance contracts. The unlocking impact for the prior year was a $40 million expense and primarily reflected low interest rates and unfavorable mortality experience. Catastrophe losses, net of the impact of reinsurance, were $122 million for the year ended December 31, 2017 compared to $104 million for the prior year. The expanded reinsurance program resulted in ceded losses of approximately $104 million for the year ended December 31, 2017.

Amortization of DAC decreased $42 million, or 30%, to $96 million for the year ended December 31, 2017 compared to $138 million for the prior year primarily reflecting the impact of unlocking, as well as benefits generated from ceding commission earned on our auto and home reinsurance program. The unlocking impact for the year ended December 31, 2017 was a benefit of $13 million and primarily reflected improved persistency and mortality on life insurance contracts. The unlocking impact for the prior year was an expense of $7 million.

Corporate & Other

The following table presents the results of operations of our Corporate & Other segment on an operating basis:

	Years Ended December 31, 2017	2016	Change	
	(in millions)			
Revenues				
Net investment income	$60	$123	$(63)	(51)%
Premiums	109	110	(1)	(1)
Other revenues	7	5	2	40
Total revenues	176	238	(62)	(26)
Banking and deposit interest expense	3	1	2	NM
Total net revenues	173	237	(64)	(27)
Expenses				
Distribution expenses	(11)	(42)	31	74
Benefits, claims, losses and settlement expenses	313	294	19	6
Amortization of deferred acquisition costs	—	63	(63)	NM
Interest and debt expense	27	27	—	—
General and administrative expense	270	254	16	6
Total expenses	599	596	3	1
Operating loss	$(426)	$(359)	$(67)	(19)%

NM Not Meaningful.

Our Corporate & Other segment pretax operating loss excludes net realized investment gains or losses, the market impact of hedges to offset interest rate changes on unrealized gains or losses for certain investments, integration and restructuring charges, and the impact of consolidating CIEs. Our Corporate & Other segment pretax operating loss increased $67 million, or 19%, to $426 million for the year ended December 31, 2017 compared to $359 million for the prior year primarily reflecting a decrease in net investment income, an increase in general and administrative expense and loss recognition of $57 million on LTC insurance products in 2017, partially offset by loss recognition of $31 million on LTC insurance products in the prior year and a $29 million increase in LTC reserves in the prior year from a correction related to our claim utilization factor.

Net investment income decreased $63 million, or 51%, to $60 million for the year ended December 31, 2017 compared to $123 million for the prior year primarily due to a $51 million impairment of our investment in affordable housing partnerships due to the enactment of the Tax Act and the impact of interest allocation between subsidiaries.

Distribution expenses increased $31 million due to a $27 million benefit in the prior year related to the write-off of the deferred reinsurance liability in connection with loss recognition on LTC insurance products.

Benefits, claims, losses and settlement expenses increased $19 million, or 6%, to $313 million for the year ended December 31, 2017 compared to $294 million for the prior year. This is primarily due to a $57 million expense in

2017 from loss recognition and the related cumulative impact of updating future policyholder benefit assumptions to reflect management's current best estimate on LTC insurance products. The LTC reserves in 2016 increased by $39 million primarily due to a $29 million out-of-period correction related to our claim utilization factor for 2015 and prior years, a $5 million out-of-period correction related to our waiver of premium claim reserve from 2015 and prior years, and a $5 million impact from assumption changes for our active life reserve valuation.

Amortization of DAC decreased $63 million compared to the prior year reflecting the write-off of DAC in the third quarter of 2016 in connection with the loss recognition on LTC insurance products.

General and administrative expense increased $16 million, or 6%, to $270 million for the year ended December 31, 2017 compared to $254 million for the prior year primarily due to higher performance-based compensation and a $9 million expense related to the renegotiation of a vendor arrangement, partially offset by a $14 million expense in the prior year from the resolution of a legacy legal matter related to the hedge fund business.

Fair Value Measurements

We report certain assets and liabilities at fair value; specifically, separate account assets, derivatives, embedded derivatives and most investments and cash equivalents. Fair value assumes the exchange of assets or liabilities occurs in orderly transactions and is not the result of a forced liquidation or distressed sale. We include actual market prices, or observable inputs, in our fair value measurements to the extent available. Broker quotes are obtained when quotes from pricing services are not available. We validate prices obtained from third parties through a variety of means such as: price variance analysis, subsequent sales testing, stale price review, price comparison across pricing vendors and due diligence reviews of vendors. See Note 15 to the Consolidated Financial Statements for additional information on our fair value measurements.

Fair Value of Liabilities and Nonperformance Risk

Companies are required to measure the fair value of liabilities at the price that would be received to transfer the liability to a market participant (an exit price). Since there is not a market for our obligations of our variable annuity riders, indexed annuities and IUL insurance, we consider the assumptions participants in a hypothetical market would make to reflect an exit price. As a result, we adjust the valuation of variable annuity riders, indexed annuities and IUL insurance by updating certain contractholder assumptions, adding explicit margins to provide for profit, risk and expenses, and adjusting the rates used to discount expected cash flows to reflect a current market estimate of our nonperformance risk. The nonperformance risk adjustment is based on observable market data adjusted to estimate the risk of our life insurance company subsidiaries not fulfilling these liabilities. Consistent with general market conditions, this estimate resulted in a spread over the LIBOR swap curve as of December 31, 2018. As our estimate of this spread widens or tightens, the liability will decrease or increase. If this nonperformance credit spread moves to a zero spread over the LIBOR swap curve, the reduction to future net income would be approximately $490 million, net of DAC, DSIC, unearned revenue amortization, the reinsurance accrual and income taxes (calculated at the statutory tax rate of 21%), based on December 31, 2018 credit spreads.

Liquidity and Capital Resources

Overview

We maintained substantial liquidity during the year ended December 31, 2018. At December 31, 2018 and 2017, we had $2.9 billion and $2.5 billion, respectively, in cash and cash equivalents excluding CIEs. We have additional liquidity available through an unsecured revolving credit facility for up to $750 million that expires in October 2022. Under the terms of the credit agreement, we can increase this facility to $1.0 billion upon satisfaction of certain approval requirements. Available borrowings under this facility are reduced by any outstanding letters of credit.

At December 31, 2018, we had no outstanding borrowings under this credit facility and had $1 million of outstanding letters of credit. Our credit facility contains various administrative, reporting, legal and financial covenants. We were in compliance with all such covenants at December 31, 2018.

We enter into short-term borrowings, which may include repurchase agreements and Federal Home Loan Bank (“FHLB”) advances, to reduce reinvestment risk. Short-term borrowings allow us to receive cash to reinvest in longer-duration assets, while paying back the short-term debt with cash flows generated by the fixed income portfolio. The balance of repurchase agreements as of both December 31, 2018 and 2017 was $50 million, which is collateralized with agency residential mortgage backed securities and commercial mortgage backed securities from our investment portfolio. Our subsidiary, RiverSource Life Insurance Company (“RiverSource Life”), is a member of the FHLB of Des Moines, which provides access to collateralized borrowings. As of December 31, 2018 and 2017, we had borrowings of $151 million and $150 million, respectively, from the FHLB, which is collateralized with commercial mortgage backed securities. We believe cash flows from operating activities, available cash balances and our availability of revolver borrowings will be sufficient to fund our operating liquidity needs.

Dividends from Subsidiaries

Ameriprise Financial is primarily a parent holding company for the operations carried out by our wholly owned subsidiaries. Because of our holding company structure, our ability to meet our cash requirements, including the payment of dividends on our common stock, substantially depends upon the receipt of dividends or return of capital from our subsidiaries, particularly our life insurance subsidiary, RiverSource Life, our face-amount certificate subsidiary, Ameriprise Certificate Company ("ACC"), AMPF Holding Corporation, which is the parent company of our retail introducing broker-dealer subsidiary, Ameriprise Financial Services, Inc. ("AFSI") and our clearing broker-dealer subsidiary, American Enterprise Investment Services, Inc. ("AEIS"), our Auto and Home insurance subsidiary, IDS Property Casualty Insurance Company ("IDS Property Casualty"), doing business as Ameriprise Auto & Home Insurance, our transfer agent subsidiary, Columbia Management Investment Services Corp., our investment advisory company, Columbia Management Investment Advisers, LLC, and Ameriprise International Holdings GmbH, which is the parent company of Threadneedle Asset Management Holdings Sàrl. The payment of dividends and other distributions by many of our subsidiaries is restricted and certain of our subsidiaries are subject to regulatory capital requirements.

Actual capital and regulatory capital requirements for our wholly owned subsidiaries subject to regulatory capital requirements were as follows:

	Actual Capital		Regulatory Capital Requirements	
	December 31,		December 31,	
	2018	2017	2018	2017
	(in millions)			
RiverSource Life (1)(2)	$3,382	$2,451	$ 675	$ 562
RiverSource Life of NY (1)(2)	266	269	40	36
IDS Property Casualty (1)(3)	789	781	233	214
Ameriprise Insurance Company (1)(3)	49	48	3	3
ACC (4)(5)	444	365	420	343
Threadneedle Asset Management Holdings Sàrl (6)	218	426	173	170
Ameriprise National Trust Bank (7)	24	22	10	10
AFSI (3)(4)	108	63	#	#
Ameriprise Captive Insurance Company (3)	51	51	9	8
Ameriprise Trust Company (3)	32	31	27	27
AEIS (3)(4)	136	125	23	22
RiverSource Distributors, Inc. (3)(4)	13	12	#	#
Columbia Management Investment Distributors, Inc. (3)(4)	18	16	#	#
Investment Professionals, Inc. (8)	N/A	2	N/A	#

Amounts are less than $1 million.

(1) Actual capital is determined on a statutory basis.

(2) Regulatory capital requirement is based on the statutory risk-based capital filing.

(3) Regulatory capital requirement is based on the applicable regulatory requirement, calculated as of December 31, 2018 and 2017.

(4) Actual capital is determined on an adjusted GAAP basis.

(5) ACC is required to hold capital in compliance with the Minnesota Department of Commerce and SEC capital requirements.

(6) Actual capital and regulatory capital requirements are determined in accordance with U.K. regulatory legislation. The regulatory capital requirements at December 31, 2018 represent calculations at September 30, 2018 of the rule based requirements, as specified by FCA regulations.

(7) Ameriprise National Trust Bank is required to maintain capital in compliance with the Office of the Comptroller of the Currency (“OCC”) regulations and policies.

(8) Investment Professionals, Inc. (“IPI”) was acquired by AMPF Holding Corporation on July 1, 2017. In the fourth quarter of 2018, IPI was merged with AFSI and is no longer a separate registered broker dealer as of December 31, 2018.

In addition to the particular regulations restricting dividends and other distributions and establishing subsidiary capitalization requirements, we take into account the overall health of the business, capital levels and risk management considerations in determining a strategy for payments to our parent holding company from our subsidiaries, and in deciding to use cash to make capital contributions to our subsidiaries.

During the year ended December 31, 2018, the parent holding company received cash dividends or a return of capital from its subsidiaries of $2.7 billion and contributed cash to its subsidiaries of $73 million. During the year ended December 31, 2017, the parent holding company received cash dividends or a return of capital from its subsidiaries of $1.7 billion and contributed cash to its subsidiaries of $79 million.

The table below presents the historical subsidiary capacity for dividends and other distributions to the parent holding company in each of the years ended December 31:

	2018	2017	2016
	(in millions)		
RiverSource Life [(1)]	$958	$700	$1,033
Ameriprise National Trust Bank	4	5	—
ACC [(2)]	25	37	17
Columbia Management Investment Advisers, LLC	395	388	296
Columbia Management Investment Services Corporation	39	25	18
Ameriprise International Holdings GmbH	446	367	233
Ameriprise Trust Company	6	4	5
Ameriprise Captive Insurance Company	64	64	64
RiverSource Distributors, Inc.	12	12	14
AMPF Holding Corporation	1,027	752	587
Total capacity	$2,976	$2,354	$2,267

(1) For RiverSource Life payments in excess of statutory unassigned funds require advance notice to the Minnesota Department of Commerce, RiverSource Life's primary regulator, and are subject to potential disapproval. In addition, dividends and other distributions whose fair market value, together with that of other dividends or distributions made within the preceding 12 months, exceeds the greater of (1) the previous year's statutory net gain from operations or (2) 10% of the previous year-end statutory capital and surplus are referred to as "extraordinary dividends." Extraordinary dividends also require advance notice to the Minnesota Department of Commerce, and are subject to potential disapproval. For dividends exceeding these thresholds, RiverSource Life provided notice to the Minnesota Department of Commerce and received responses indicating that it did not object to the payment of these dividends. Total dividend capacity for RiverSource Life represents dividends paid during year ended December 31 along with any unpaid ordinary dividend capacity, subject to unassigned funds limitation.
(2) The dividend capacity for ACC is based on capital held in excess of regulatory requirements.

The following table presents cash dividends paid or return of capital to the parent holding company, net of cash capital contributions made by the parent holding company for the following subsidiaries for the years ended December 31:

	2018	2017	2016
	(in millions)		
RiverSource Life	$750	$700	$1,000
Ameriprise National Trust Bank	—	—	9
ACC	(33)	10	(33)
Columbia Management Investment Advisers, LLC ("CMIA")	308	298	190
Ameriprise International Holdings GmbH [(1)]	393	109	—
IDS Property Casualty	—	—	(118)
Ameriprise Advisor Capital, LLC ("AAC") [(2)]	401	(70)	(46)
RiverSource Distributors, Inc.	—	—	3
Ameriprise Captive Insurance Company	10	5	—
AMPF Holding Corporation	840	614	450
Total	$2,669	$1,666	$1,455

(1) Includes forgiveness of parent holding company debt of $195 million and $109 million for the years ended December 31, 2018 and 2017, respectively.
(2 In 2018, the amount includes $351 million from a securitized portfolio of advisor loans which were previously held at AAC. The securitization transaction eliminated in consolidation.

In 2009, RiverSource established an agreement to protect its exposure to Genworth Life Insurance Company ("GLIC") for its reinsured LTC. In 2016, substantial enhancements to this reinsurance protection agreement were finalized. The terms of these confidential provisions within the agreement have been shared, in the normal course of regular reviews, with our Domiciliary Regulator and rating agencies. Management believes that this agreement and offsetting non LTC legacy arrangements with Genworth Financial, Inc. will enable RiverSource to recover on all net exposure in the event of an insolvency of GLIC.

Dividends Paid to Shareholders and Share Repurchases

We paid regular quarterly dividends to our shareholders totaling $516 million and $502 million for the years ended December 31, 2018 and 2017, respectively. On January 30, 2019, we announced a quarterly dividend of $0.90 per common share. The dividend will be paid on February 28, 2019 to our shareholders of record at the close of business on February 15, 2019.

In April 2017, our Board of Directors authorized us to repurchase up to $2.5 billion of our common stock through June 30, 2019. As of December 31, 2018, we had $509 million remaining under this share repurchase authorization. In February 2019, our Board of Directors authorized an additional repurchase up to $2.5 billion of our common stock through March 31, 2021. We intend to fund share repurchases through existing working capital, future earnings and other customary financing methods. The share repurchase program does not require the purchase of any minimum number of shares, and depending on market conditions and other factors, these purchases may be commenced or suspended at any time without prior notice. Acquisitions under the share repurchase program may be made in the open market, through privately negotiated transactions or block trades or other means. During the year ended December 31, 2018, we repurchased a total of 11.3 million shares of our common stock at an average price of $139.82 per share.

Cash Flows

Cash flows of CIEs and restricted and segregated cash are reflected in our cash flows provided by (used in) operating activities, investing activities and financing activities. Cash held by CIEs is not available for general use by Ameriprise Financial, nor is Ameriprise Financial cash available for general use by its CIEs. Cash segregated under federal and other regulations is held for the exclusive benefit of our brokerage customers and is not available for general use by Ameriprise Financial.

Operating Activities

Net cash provided by operating activities increased $1.1 billion to $2.6 billion for the year ended December 31, 2018 compared to $1.5 billion for the prior year primarily due to an $847 million increase in cash from changes in restricted and segregated investments and lower cash outflows related to derivatives.

Net cash provided by operating activities decreased $808 million to $1.5 billion for the year ended December 31, 2017 compared to $2.3 billion for the prior year primarily due to a $324 million decrease in cash from changes in restricted and segregated investments and a $508 million decrease in cash from changes in brokerage deposits.

Investing Activities

Our investing activities primarily relate to our Available-for-Sale investment portfolio. Further, this activity is significantly affected by the net flows of our investment certificate, fixed annuity and universal life products reflected in financing activities.

Net cash used in investing activities increased $416 million to $587 million for the year ended December 31, 2018 compared to $171 million for the prior year primarily due to a $2.9 billion increase in cash used for purchases of Available-for-Sale securities, a $404 million decrease in cash proceeds from sales, maturities and repayments of mortgage loans reflecting the sale of our remaining consumer loans in 2017 and a $134 million increase in purchases of other investments, partially offset by a $1.8 billion increase in proceeds from maturities, sinking fund payments and calls of Available-for-Sale securities, a $244 million decrease in funding of mortgage loans, a $393 million increase in cash proceeds from sales, maturities and collections of other investments driven by proceeds from certificates of deposit, and a $594 million increase in net cash related to changes in investments of CIEs.

Net cash used in investing activities decreased $612 million to $171 million for the year ended December 31, 2017 compared to $783 million for the prior year primarily due to a $1.1 billion decrease in cash used for purchases of Available-for-Sale securities and a $536 million increase in proceeds from maturities, sinking fund payments and calls of Available-for-Sale securities, partially offset by a $250 million increase in purchases of other investments, a $111 million decrease in cash proceeds from sales, maturities and repayments of mortgage loans and a $495 million decrease in net cash related to changes in investments of CIEs.

Financing Activities

Net cash used in financing activities decreased $522 million to $1.3 billion for the year ended December 31, 2018 compared to $1.8 billion for the prior year primarily due to a $1.5 billion increase in cash proceeds from investment certificates and a $138 million increase in cash received from purchased options with deferred premiums, partially offset by a $483 million increase in cash used for maturities, withdrawals and surrenders of investment certificates, a $474 million decrease in net cash related to changes in debt of CIEs and a $145 million increase in cash used to repurchase common shares.

Net cash used in financing activities increased $643 million to $1.8 billion for the year ended December 31, 2017 compared to $1.1 billion for the prior year primarily due to a $1.1 billion increase in cash used for maturities, withdrawals and surrenders of investment certificates and the issuance of $500 million of long-term debt in 2016, partially offset by a $475 million increase in cash proceeds from investment certificates, a $222 million decrease in cash used to repurchase common shares and a $246 million decrease in repayments of long-term debt.

Contractual Commitments

The contractual obligations identified in the table below include both our on and off-balance sheet transactions that represent material expected or contractually committed future obligations. The table excludes obligations of CIEs as they are not direct obligations of the Company and have recourse only to the assets of the CIEs. Estimated cash payments due by period as of December 31, 2018 were as follows:

	Total	2019	2020-2021	2022-2023	2024 and Thereafter
	(in millions)				
Balance Sheet					
Long-term debt [(1)]	$2,875	$314	$761	$750	$1,050
Insurance and annuities [(2)]	51,389	2,921	5,156	4,428	38,884
Investment certificates [(3)]	7,892	7,517	375	—	—
Deferred premium options [(4)]	1,469	294	403	368	404
Affordable housing and other real estate partnerships [(5)]	59	47	6	4	2
Off-Balance Sheet					
Operating lease obligations	278	61	93	59	65
Purchase obligations [(6)]	937	326	371	108	132
Interest on long-term debt [(7)]	433	117	138	123	55
Total	$65,332	$11,597	$7,303	$5,840	$40,592

[(1)] See Note 14 to our Consolidated Financial Statements for more information about our long-term debt. Amounts include obligations under capital leases.

[(2)] These scheduled payments are represented by reserves of approximately $30.1 billion at December 31, 2018 and are based on interest credited, mortality, morbidity, lapse, surrender and premium payment assumptions. The estimated payments are presented gross before reinsurance. The scheduled payments are undiscounted and exceed the corresponding liability at December 31, 2018. Actual payment obligations may differ if experience varies from these assumptions. As of December 31, 2018, the projected period for which cash payments will be made is 40 years. Separate account liabilities have been excluded as associated contractual obligations would be met by separate account assets.

[(3)] The payments due by year are based on contractual term maturities. However, contractholders have the right to redeem the investment certificates earlier and at their discretion subject to surrender charges, if any. Redemptions are most likely to occur in periods of substantial increases in interest rates.

[(4)] The fair value of these commitments included on the Consolidated Balance Sheets was $1.3 billion as of December 31, 2018. See Note 17 to our Consolidated Financial Statements for more information about our deferred premium options.

[(5)] Call dates for the obligations presented are either date or event specific. For date specific obligations, we are required to fund a specific amount on a stated date provided there are no defaults under the agreement. For event specific obligations, we are required to fund a specific amount of its capital commitment when properties in a fund become fully stabilized. For event specific obligations, the estimated call date of these commitments is used in the table above.

[(6)] Purchase obligations include the minimum contractual amounts by period under contracts that were in effect at December 31, 2018. Many of the purchase agreements giving rise to these purchase obligations include termination clauses that may require payment of termination fees if the agreements are terminated by us without cause prior to their stated expiration; however, the table reflects the amounts to be paid assuming the contracts are not terminated.

[(7)] Interest on long-term debt was estimated based on rates in effect as of December 31, 2018.

In addition to the contractual commitments outlined in the table above, we periodically fund the employees' defined benefit plans. In 2019, we expect to contribute $14 million to our pension plans and $1 million to our defined benefit postretirement plans. See Note 23 to our Consolidated Financial Statements for additional information.

Total loan funding commitments, which are not included in the table above due to uncertainty with respect to timing of future cash flows, were $58 million at December 31, 2018. For additional information relating to these contractual commitments, see Note 24 to our Consolidated Financial Statements.

Off-Balance Sheet Arrangements

We provide asset management services to investment entities which are considered to be VIEs, such as CLOs, hedge funds, property funds and other private funds, which are sponsored by us. We consolidate certain CLOs. We have determined that consolidation is not required for hedge funds, property funds and other private funds, which are sponsored by us. Our maximum exposure to loss with respect to our investment in these non-consolidated entities is limited to our carrying value. We have no obligation to provide further financial or other support to these investment entities nor have we provided any support to these investment entities. See Note 5 to our Consolidated Financial Statements for additional information on our arrangements with these investment entities.

Forward-Looking Statements

This report contains forward-looking statements that reflect management's plans, estimates and beliefs. Actual results could differ materially from those described in these forward-looking statements. Examples of such forward-looking statements include:

- statements of the Company's plans, intentions, positioning, expectations, objectives or goals, including those relating to asset flows, mass affluent and affluent client acquisition strategy, client retention and growth of our client base, financial advisor productivity, retention, recruiting and enrollments, the introduction, cessation, terms or pricing of new or existing products and services, acquisition integration, benefits and claims expenses, general and administrative costs, consolidated tax rate, return of capital to shareholders, debt repayment and excess capital position and financial flexibility to capture additional growth opportunities;
- other statements about future economic performance, the performance of equity markets and interest rate variations and the economic performance of the United States and of global markets; and
- statements of assumptions underlying such statements.

The words "believe," "expect," "anticipate," "optimistic," "intend," "plan," "aim," "will," "may," "should," "could," "would," "on pace," "project" and similar expressions are intended to identify forward-looking statements but are not the exclusive means of identifying such statements. Forward-looking statements are subject to risks and uncertainties, which could cause actual results to differ materially from such statements.

Such factors include, but are not limited to:

- conditions in the interest rate, credit default, equity market and foreign exchange environments, including changes in valuations, liquidity and volatility;
- changes in and the adoption of relevant accounting standards and securities rating agency standards and processes, as well as changes in the litigation and regulatory environment, including ongoing legal proceedings and regulatory actions, the frequency and extent of legal claims threatened or initiated by clients, other persons and regulators, and developments in regulation and legislation, including the rules and regulations implemented or that may be implemented or modified in connection with the Dodd-Frank Wall Street Reform and Consumer Protection Act or in light of the U.S. Department of Labor's fiduciary regulations (as well as state and other fiduciary rules, the SEC best interest standards, or similar standards such as the Certified Financial Planner Board standards) pertaining to the fiduciary status of investment advice providers to 401(k) plans, plan sponsors, plan participants and the holders of individual retirement or health savings accounts and related issues;
- investment management performance and distribution partner and consumer acceptance of the Company's products;
- effects of competition in the financial services industry, including pricing pressure, the introduction of new products and services and changes in product distribution mix and distribution channels;
- changes to the Company's reputation that may arise from employee or advisor misconduct, legal or regulatory actions, cybersecurity incidents, perceptions of the financial services industry generally, improper management of conflicts of interest or otherwise;
- the Company's capital structure, including indebtedness, limitations on subsidiaries to pay dividends, and the extent, manner, terms and timing of any share or debt repurchases management may effect as well as the opinions of rating agencies and other analysts and the reactions of market participants or the Company's regulators, advisors, distribution partners or customers in response to any change or prospect of change in any such opinion;
- changes to the availability and cost of liquidity and the Company's credit capacity that may arise due to shifts in market conditions, the Company's credit ratings and the overall availability of credit;
- risks of default, capacity constraint or repricing by issuers or guarantors of investments the Company owns or by counterparties to hedge, derivative, insurance or reinsurance arrangements or by manufacturers of products the Company distributes, experience deviations from the Company's assumptions regarding such risks, the evaluations or the prospect of changes in evaluations of any such third parties published by rating agencies or other analysts, and the reactions of other market participants or the Company's regulators, advisors, distribution partners or customers in response to any such evaluation or prospect of changes in evaluation;
- experience deviations from the Company's assumptions regarding morbidity, mortality, persistency and premium rate increases in certain annuity and insurance products (including, but not limited to, variable annuities and long term

care policies), or from assumptions regarding market returns assumed in valuing or unlocking DAC and DSIC or market volatility underlying the Company's valuation and hedging of guaranteed benefit annuity riders, or from assumptions regarding interest rates or asset yield assumed in the Company's loss recognition testing of its long term care business, or from assumptions regarding anticipated claims and losses relating to the Company's auto and home insurance products;

- changes in capital requirements that may be indicated, required or advised by regulators or rating agencies;
- the impacts of the Company's efforts to improve distribution economics and to grow third-party distribution of its products;
- the ability to pursue and complete strategic transactions and initiatives, including acquisitions, divestitures, restructurings, joint ventures and the development of new products and services;

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- the ability to realize the financial, operating and business fundamental benefits of strategic transactions and initiatives the Company has completed, is pursuing or may pursue in the future, which may be impacted by the ability to obtain regulatory approvals, the ability to effectively manage related expenses and by market, business partner and consumer reactions to such strategic transactions and initiatives;
- the ability and timing to realize savings and other benefits from re-engineering and tax planning;
- interruptions or other failures in the Company's communications, technology and other operating systems, including errors or failures caused by third-party service providers, interference or failures caused by third party attacks on the Company's systems (or other cybersecurity incidents), or the failure to safeguard the privacy or confidentiality of sensitive information and data on such systems; and
- general economic and political factors, including consumer confidence in the economy and the financial industry, the ability and inclination of consumers generally to invest as well as their ability and inclination to invest in financial instruments and products other than cash and cash equivalents, the costs of products and services the Company consumes in the conduct of its business, and applicable legislation and regulation and changes therein (such as the ongoing negotiations following the June 2016 UK referendum on membership in the European Union and the uncertain regulatory environment in the U.S. since the 2016 U.S. election), including tax laws, tax treaties, fiscal and central government treasury policy, and policies regarding the financial services industry and publicly-held firms, and regulatory rulings and pronouncements.

Management cautions the reader that the foregoing list of factors is not exhaustive. There may also be other risks that management is unable to predict at this time that may cause actual results to differ materially from those in forward-looking statements. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date on which they are made. Management undertakes no obligation to update publicly or revise any forward-looking statements.

Ameriprise Financial announces financial and other information to investors through the Company's investor relations website at ir.ameriprise.com, as well as SEC filings, press releases, public conference calls and webcasts. Investors and others interested in the company are encouraged to visit the investor relations website from time to time, as information is updated and new information is posted. The website also allows users to sign up for automatic notifications in the event new materials are posted. The information found on the website is not incorporated by reference into this report or in any other report or document the Company furnishes or files with the SEC.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Market Risk

Our primary market risk exposures are interest rate, equity price, foreign currency exchange rate and credit risk. Equity price and interest rate fluctuations can have a significant impact on our results of operations, primarily due to the effects they have on the asset management and other asset-based fees we earn, the spread income generated on our fixed deferred annuities, fixed insurance, brokerage client cash balances, face-amount certificate products and the fixed portion of our variable annuities and variable insurance contracts, the value of DAC and DSIC assets, the value of liabilities for guaranteed benefits associated with our variable annuities and the value of derivatives held to hedge these benefits.

RiverSource Life has the following variable annuity guarantee benefits: guaranteed minimum withdrawal benefits ("GMWB"), guaranteed minimum accumulation benefits ("GMAB"), guaranteed minimum death benefits ("GMDB") and guaranteed minimum income benefits ("GMIB"). Each of these benefits guarantees payouts to the annuity holder under certain specific conditions regardless of the performance of the underlying invested assets.

The variable annuity guarantees continue to be managed by utilizing a hedging program which attempts to match the sensitivity of the assets with the sensitivity of the liabilities. This approach works with the premise that matched sensitivities will produce a highly effective hedging result. Our comprehensive hedging program focuses mainly on first order sensitivities of assets and liabilities: Equity Market Level (Delta), Interest Rate Level (Rho) and Volatility (Vega). Additionally, various second order sensitivities are managed. We use various options (equity index, interest rate swaptions, etc.), swaps (interest rate, total return, etc.) and futures to manage risk exposures. The exposures are measured and monitored daily, and adjustments to the hedge portfolio are made as necessary.

We have a macro hedge program to provide protection against the statutory tail scenario risk arising from variable annuity reserves on our statutory surplus and to cover some of the residual risks not covered by other hedging activities. We assess the residual risk under a range of scenarios in creating and executing the macro hedge program. As a means of economically hedging these risks, we may use a combination of futures, options, swaps and swaptions. Certain of the macro hedge derivatives used contain settlement provisions linked to both equity returns and interest rates; the remaining are interest rate contracts or equity contracts. The macro hedge program could result in additional earnings volatility as changes in the value of the macro hedge derivatives, which are designed to reduce statutory capital volatility, may not be closely aligned to changes in the variable annuity guarantee embedded derivatives.

To evaluate interest rate and equity price risk we perform sensitivity testing which measures the impact on pretax income from the sources listed below for a 12-month period following a hypothetical 100 basis point increase in interest rates or a hypothetical 10% decline in equity prices. The interest rate risk test assumes a sudden 100 basis point parallel shift in the yield curve, with rates then staying at those levels for the next 12 months. The equity price risk test assumes a sudden 10% drop in equity prices, with equity prices then staying at those levels for the next 12 months. In estimating the values of variable annuity riders, indexed annuities, stock market certificates, IUL insurance and the associated hedge assets, we assume no change in implied market volatility despite the 10% drop in equity prices.

The following tables present our estimate of the impact on pretax income from the above defined hypothetical market movements as of December 31, 2018:

Equity Price Decline 10%	**Equity Price Exposure to Pretax Income**		
	Before Hedge Impact	**Hedge Impact**	**Net Impact**
	(in millions)		
Asset-based management and distribution fees [1]	$ (232)	$ 4	$ (228)
DAC and DSIC amortization [2][3]	(34)	—	(34)
Variable annuity riders:			
GMDB and GMIB [3]	(21)	—	(21)
GMWB [3]	(407)	440	33
GMAB	(24)	26	2
DAC and DSIC amortization [4]	N/A	N/A	(7)
Total variable annuity riders	(452)	466	7
Macro hedge program [5]	—	44	44
Indexed annuities	1	(1)	—
Certificates	2	(2)	—
IUL insurance	18	(20)	(2)
Total	$ (697)	$ 491	$ (213) [6]

Interest Rate Increase 100 Basis Points	**Interest Rate Exposure to Pretax Income**		
	Before Hedge Impact	**Hedge Impact**	**Net Impact**
	(in millions)		
Asset-based management and distribution fees [1]	$ (54)	$ —	$ (54)
Variable annuity riders:			
GMDB and GMIB	—	—	—
GMWB	912	(596)	316
GMAB	21	(9)	12
DAC and DSIC amortization [4]	N/A	N/A	(41)
Total variable annuity riders	933	(605)	287
Macro hedge program [5]	—	(3)	(3)
Fixed annuities, fixed insurance and fixed portion of variable annuities and variable insurance products	57	—	57
Brokerage client cash balances	122	—	122
Certificates	16	—	16
IUL insurance	114	2	116
Total	$ 1,188	$ (606)	$ 541

N/A Not Applicable.

[1] Excludes incentive income which is impacted by market and fund performance during the period and cannot be readily estimated.

[2] Market impact on DAC and DSIC amortization resulting from lower projected profits.

[3] For the fourth quarter of 2018, in estimating the impact to pretax income on DAC and DSIC amortization and additional insurance benefit reserves, we have adjusted our assumed equity asset growth rates to reflect what management would follow in its mean reversion guidelines.

[4] Market impact on DAC and DSIC amortization related to variable annuity riders is modeled net of hedge impact.

[5] The market impact of the macro hedge program is modeled net of any related impact to DAC and DSIC amortization.

[6] Represents the net impact to pretax income. The estimated net impact to pretax adjusted operating income is $(340) million or a decrease of $127 million.

The above results compare to an estimated negative net impact to pretax income of $551 million related to a 10% equity price decline and an estimated positive net impact to pretax income of $192 million related to a 100 basis point increase in interest rates as of December 31, 2017. The change in interest rate exposure was driven by variable annuity riders primarily due to changes in market rates.

Net impacts shown in the above table from GMWB riders result largely from differences between the liability valuation basis and the hedging basis. Liabilities are valued using fair value accounting principles, with risk margins incorporated in contractholder behavior assumptions and with discount rates increased to reflect a current market estimate of our risk of nonperformance specific to these liabilities. The Company's hedging is based on our determination of economic risk, which excludes certain items in the liability valuation including the nonperformance spread risk.

Actual results could differ materially from those illustrated above as they are based on a number of estimates and assumptions. These include assuming that implied market volatility does not change when equity prices fall by 10% and that the 100 basis point increase in interest rates is a parallel shift of the yield curve. Furthermore, we have not tried to anticipate changes in client preferences for different types of assets or other changes in client behavior, nor have we tried to anticipate actions management might take to increase revenues or reduce expenses in these scenarios. The selection of a 100 basis point interest rate increase as well as a 10% equity price decline should not be construed as a prediction of future market events. Impacts of larger or smaller changes in interest rates or equity prices may not be proportional to those shown for a 100 basis point increase in interest rates or a 10% decline in equity prices.

Asset-Based Management and Distribution Fees

We earn asset-based management fees and distribution fees on our assets under management. As of December 31, 2018, the value of our assets under management was $654.2 billion. These sources of revenue are subject to both interest rate and equity price risk since the value of these assets and the fees they earn fluctuate inversely with interest rates and directly with equity prices. We do not currently hedge the interest rate or equity price risk of this exposure.

DAC and DSIC Amortization

For annuity and UL/VUL products, DAC and DSIC are amortized on the basis of EGPs. EGPs are a proxy for pretax income prior to the recognition of DAC and DSIC amortization expense. When events occur that reduce or increase current period EGPs, DAC and DSIC amortization expense is typically reduced or increased as well, somewhat mitigating the impact of the event on pretax income.

Variable Annuity Riders

The total contract value of all variable annuities as of December 31, 2018 was $72.0 billion. These contract values include GMWB and GMAB contracts which were $43.0 billion and $2.5 billion, respectively, as of December 31, 2018. As of December 31, 2018, reserves for GMWB were net liabilities of $875 million and reserves for GMAB were net assets of $19 million. The GMWB and GMAB reserves include the fair value of embedded derivatives, which fluctuates based on equity, interest rate and credit markets which can cause these embedded derivatives to be either an asset or a liability. As of December 31, 2018, the reserve for GMDB and GMIB was a net liability of $27 million.

Equity Price Risk

The variable annuity guaranteed benefits guarantee payouts to the annuity holder under certain specific conditions regardless of the performance of the investment assets. For this reason, when equity prices decline, the returns from the separate account assets coupled with guaranteed benefit fees from annuity holders may not be sufficient to fund expected payouts. In that case, reserves must be increased with a negative impact to earnings.

The core derivative instruments with which we hedge the equity price risk of our GMWB and GMAB provisions are longer dated put and call options; these core instruments are supplemented with equity futures and total return swaps. See Note 17 to our Consolidated Financial Statements for further information on our derivative instruments.

Interest Rate Risk

The GMAB and the non-life contingent benefits associated with the GMWB provisions create embedded derivatives which are carried at fair value separately from the underlying host variable annuity contract. Changes in the fair value of the GMWB and GMAB liabilities are recorded through earnings with fair value calculated based on projected, discounted cash flows over the life of the contract, including projected, discounted benefits and fees. Increases in interest rates reduce the fair value of the GMWB and GMAB liabilities. The GMWB and GMAB interest rate exposure is hedged with a portfolio of longer dated put and call options, interest rate swaps and swaptions. We have entered into interest rate swaps according to risk exposures along maturities, thus creating both fixed rate payor and variable rate payor terms. If interest rates were to increase, we would have to pay more to the swap counterparty, and the fair value of our equity puts would decrease, resulting in a negative impact to our pretax income.

Fixed Annuities, Fixed Insurance and Fixed Portion of Variable Annuities and Variable Insurance Contracts

Our earnings from fixed deferred annuities, fixed insurance, and the fixed portion of variable annuities and variable insurance contracts are based upon the spread between rates earned on assets held and the rates at which interest is credited to accounts. We primarily invest in fixed rate securities to fund the rate credited to clients. We guarantee an interest rate to the holders of these products. Investment assets and client liabilities generally differ as it relates to basis, repricing or maturity characteristics. Rates credited to clients' accounts generally reset at shorter intervals than the yield on the underlying investments. Therefore, in an increasing interest rate environment, higher interest rates may be reflected in crediting rates to clients sooner than in rates earned on invested assets, which could result in a reduced spread between the two rates, reduced earned income and a negative impact on pretax income. However, the current low interest rate environment is resulting in interest rates below the level of some of our liability guaranteed minimum interest rates ("GMIRs"). Hence, a modest rise in interest rates would not necessarily result in changes to all the liability credited rates while projected asset purchases would capture the full increase in interest rates. This dynamic would result in widening spreads under a modestly rising rate scenario given the current relationship between the current level of interest rates and the underlying GMIRs on the business. Of the $30.1 billion in policyholder account balances, future policy benefits and claims on our Consolidated Balance Sheets as of December 31, 2018, $20.6 billion is related to liabilities created by these products. We do not hedge this exposure.

As a result of the low interest rate environment, our current reinvestment yields are generally lower than the current portfolio yield. We expect our portfolio income yields to continue to decline in future periods if interest rates remain low. The carrying value and weighted average yield of non-structured fixed maturity securities and commercial mortgage loans that may generate proceeds to reinvest through 2020 due to prepayment, maturity or call activity at the option of the issuer, excluding securities with a make-whole provision, were $5.5 billion and 3.6%, respectively, as of December 31, 2018. In addition, residential mortgage backed securities, which are subject to prepayment risk as a result of the low interest rate environment, totaled $6.3 billion and had a weighted average yield of 3.1% as of December 31, 2018. While these amounts represent investments that could be subject to reinvestment risk, it is also possible that these investments will be used to fund liabilities or may not be prepaid and will remain invested at their current yields. In addition to the interest rate environment, the mix of benefit payments versus product sales as well as the timing and volumes associated with such mix may impact our investment yield. Furthermore, reinvestment activities and the associated investment yield may also be impacted by corporate strategies implemented at management's discretion. The average yield for investment purchases during the year ended December 31, 2018 was approximately 3.2%.

The reinvestment of proceeds from maturities, calls and prepayments at rates below the current portfolio yield, which may be below the level of some liability GMIRs, will have a negative impact to future operating results. To mitigate the unfavorable impact that the low interest rate environment has on our spread income, we assess reinvestment risk in our investment portfolio and monitor this risk in accordance with our asset/liability management framework. In addition, we may reduce the crediting rates on our fixed products when warranted, subject to guaranteed minimums.

The following table presents the account values of fixed deferred annuities, fixed insurance, and the fixed portion of variable annuities and variable insurance contracts by range of GMIRs and the range of the difference between rates credited to policyholders and contractholders as of December 31, 2018 and the respective guaranteed minimums, as well as the percentage of account values subject to rate reset in the time period indicated. Rates are reset at our discretion, subject to guaranteed minimums.

	Account Values with Crediting Rates				
	At Guaranteed Minimum	1-49 bps above Guaranteed Minimum	50-99 bps above Guaranteed Minimum	100-150 bps above Guaranteed Minimum	Total
	(in billions, except percentages)				
Range of Guaranteed Minimum Crediting Rates					
1% - 1.99%	$1.2	$ 0.4	$ 0.4	$ 0.1	$2.1
2% - 2.99%	0.5	—	—	—	0.5
3% - 3.99%	8.4	—	—	—	8.4
4% - 5.00%	5.5	—	—	—	5.5
Total	$15.6	$ 0.4	$ 0.4	$ 0.1	$16.5
Percentage of Account Values That Reset In:					
Next 12 months [1]	98 %	90 %	40 %	40 %	96 %
> 12 months to 24 months [2]	2	2	23	2	2
> 24 months [2]	—	8	37	58	2
Total	100 %	100 %	100 %	100 %	100 %

[1] Includes contracts with annual discretionary crediting rate resets and contracts with 12 or less months until the crediting rate becomes discretionary on an annual basis.

[2] Includes contracts with more than 12 months remaining until the crediting rate becomes an annual discretionary rate.

Equity Indexed Annuities

Our equity indexed annuity ("EIA") product is a single premium annuity issued with an initial term of seven years. The annuity guarantees the contractholder a minimum return of 3% on 90% of the initial premium or end of prior term accumulation value upon renewal plus a return that is linked to the performance of the S&P 500® Index. The equity-linked return is based on a participation rate initially set at between 50% and 90% of the S&P 500® Index, which is guaranteed for the initial seven-year term when the contract is held to full term. As of December 31, 2018, we had $20 million in liabilities related to EIAs. We discontinued new sales of EIAs in 2007.

Equity Price Risk

The equity-linked return to investors creates equity price risk as the amount credited depends on changes in equity prices. To hedge this exposure, we purchase futures, which generate returns to replicate what we must credit to client accounts.

Interest Rate Risk

Most of the proceeds received from EIAs are invested in fixed income securities with the return on those investments intended to fund the 3% guarantee. We earn income from the difference between the return earned on invested assets and the 3% guarantee rate credited to customer accounts. The spread between return earned and amount credited is affected by changes in interest rates. This risk is not currently hedged and was immaterial as of December 31, 2018.

Fixed Index Annuities

The Company's fixed index annuity product is a fixed annuity that includes an indexed account. The rate of interest credited above the minimum guarantee for funds allocated to the indexed account is linked to the performance of the specific index for the indexed account (subject to a cap). We offer S&P 500® Index and MSCI® EAFE Index account options. Both options offer two crediting durations, one-year and two-year. The contractholder may allocate all or a portion of the policy value to a fixed or indexed account. The contractholder can choose to add a GMWB for life rider for an additional fee. As of December 31, 2018, we had $102 million in liabilities related to fixed index annuities.

Equity Price Risk

The equity-linked return to investors creates equity price risk as the amount credited depends on changes in equity prices. Most of the proceeds received from fixed index annuities are invested in fixed income securities. To hedge the equity exposure, a portion of the investment earnings received from the fixed income securities is used to purchase call spreads and futures which generate returns to replicate what we must credit to client accounts.

Interest Rate Risk

As mentioned above, most of the proceeds received from fixed index annuities are invested in fixed income securities with the return on those investments intended to fund the purchase of call spreads. There are two risks relating to interest rates. First, we have the risk that investment returns are such that we do not have enough investment income to purchase the needed call spreads. Second, in the event the policy is surrendered, we pay out a book value surrender amount and there is a risk that we will incur a loss upon having to sell the fixed income securities backing the liability (if interest rates have risen). This risk is not currently hedged.

Brokerage Client Cash Balances

We pay interest on certain brokerage client cash balances and have the ability to reset these rates from time to time based on prevailing economic and business conditions. We earn revenue to fund the interest paid from interest-earning assets or fees from off-balance sheet deposits at FDIC insured institutions, which are indexed to short-term interest rates. In general, the change in interest paid lags the change in revenues earned.

Certificate Products

Fixed Rate Certificates

We have interest rate risk from our investment certificates generally ranging in amounts from $1,000 to $2 million with interest crediting rate terms ranging from three to 48 months. We guarantee an interest rate to the holders of these products. Payments collected from clients are primarily invested in fixed income securities to fund the client credited rate with the spread between the rate earned from investments and the rate credited to clients recorded as earned income. Client liabilities and investment assets generally differ as it relates to basis, repricing or maturity characteristics. Rates credited to clients generally reset at shorter intervals than the yield on underlying investments. This exposure is not currently hedged although we monitor our investment strategy and make modifications based on our changing liabilities and the expected interest rate environment. Of the $11.5 billion in customer deposits as of December 31, 2018, $7.4 billion related to reserves for our fixed rate certificate products.

Stock Market Certificates

Stock market certificates are purchased for amounts generally from $1,000 to $2 million for terms of 52 weeks, 104 weeks or 156 weeks, which can be extended to a maximum of 15 years depending on the term. For each term the certificate holder can choose to participate 100% in any percentage increase in the S&P 500® Index up to a maximum return or choose partial participation in any increase in the S&P 500 Index plus a fixed rate of interest guaranteed in advance. If partial participation is selected, the total of equity-linked return and guaranteed rate of interest cannot exceed the maximum return. Liabilities for our stock market certificates are included in customer deposits on our Consolidated Balance Sheets. As of December 31, 2018, we had $482 million in reserves related to stock market certificates. The equity-linked return to investors creates equity price risk exposure. We seek to minimize this exposure with purchased futures and call spreads that replicate what we must credit to client accounts. This risk continues to be fully hedged. Stock market certificates have some interest rate risk as changes in interest rates affect the fair value of the payout to be made to the certificate holder. This risk is not currently hedged and was immaterial as of December 31, 2018.

Indexed Universal Life

IUL insurance is similar to UL in many regards, although the rate of credited interest above the minimum guarantee for funds allocated to an indexed account is linked to the performance of the specified index for the indexed account (subject to a cap and floor). We offer an S&P 500® Index account option and a blended multi-index account option comprised of the S&P 500 Index, the MSCI® EAFE Index and the MSCI EM Index. Both options offer two crediting durations, one-year and two-year. The policyholder may allocate all or a portion of the policy value to a fixed or any available indexed account. As of December 31, 2018, we had $1.5 billion in liabilities related to the indexed accounts of IUL, with the vast majority in the S&P 500® Index account option.

Equity Price Risk

The equity-linked return to investors creates equity price risk as the amount credited depends on changes in equity prices. Most of the proceeds received from IUL insurance are invested in fixed income securities. To hedge the equity exposure, a portion of the investment earnings received from the fixed income securities is used to purchase call spreads which generate returns to replicate what we must credit to client accounts.

Interest Rate Risk

As mentioned above, most of the proceeds received from IUL insurance are invested in fixed income securities with the return on those investments intended to fund the purchase of call spreads. There are two risks relating to interest rates. First, we have the risk that investment returns are such that we do not have enough investment income to purchase the needed call spreads. Second, in the event the policy is surrendered we pay out a book value surrender amount and there is a risk that we will incur a loss upon having to sell the fixed income securities backing the liability (if interest rates have risen). This risk is not currently hedged.

Foreign Currency Risk

We have foreign currency risk through our net investment in foreign subsidiaries and our operations in foreign countries. We are primarily exposed to changes in British Pounds ("GBP") related to our net investment in Threadneedle, which was 580 million GBP as of December 31, 2018. Our primary exposure related to operations in foreign countries is to the GBP, the Euro and the Indian Rupee. We monitor the foreign exchange rates that we have exposure to and enter into foreign currency forward contracts to mitigate risk when economically prudent. As of December 31, 2018, the notional value of outstanding contracts and our remaining foreign currency risk related to operations in foreign countries were not material.

Interest Rate Risk on External Debt

The stated interest rate on the $2.9 billion of our senior unsecured notes is fixed. We entered into interest rate swap agreements to effectively convert the fixed interest rate on $0.7 billion of the senior unsecured notes to floating interest rates based on six-month LIBOR. We hedged the debt in part to better align the interest expense on debt with the interest earned on cash equivalents held on our Consolidated Balance Sheets. The net interest rate risk of these items is immaterial.

Credit Risk

We are exposed to credit risk within our investment portfolio, including our loan portfolio, and through our derivative and reinsurance activities. Credit risk relates to the uncertainty of an obligor's continued ability to make timely payments in accordance with the contractual terms of the financial instrument or contract. We consider our total potential credit exposure to each counterparty and its affiliates to ensure compliance with pre-established credit guidelines at the time we enter into a transaction which would potentially increase our credit risk. These guidelines and oversight of credit risk are managed through a comprehensive enterprise risk management program that includes members of senior management.

We manage the risk of credit-related losses in the event of nonperformance by counterparties by applying disciplined fundamental credit analysis and underwriting standards, prudently limiting exposures to lower-quality, higher-yielding investments, and diversifying exposures by issuer, industry, region and underlying investment type. We remain exposed to occasional adverse cyclical economic downturns during which default rates may be significantly higher than the long-term historical average used in pricing.

We manage our credit risk related to over-the-counter derivatives by entering into transactions with creditworthy counterparties, maintaining collateral arrangements and through the use of master netting arrangements that provide for a single net payment to be made by one counterparty to another at each due date and upon termination. Generally, our current credit exposure on over-the-counter derivative contracts is limited to a derivative counterparty's net positive fair value of derivative contracts after taking into consideration the existence of netting arrangements and any collateral received. This exposure is monitored and managed to an acceptable threshold level.

The counterparty risk for centrally cleared over-the-counter derivatives is transferred to a central clearing party through contract novation. Because the central clearing party monitors open positions and adjusts collateral requirements daily, we have minimal credit exposure from such derivative instruments.

Exchange-traded derivatives are effected through regulated exchanges that require contract standardization and initial margin to transact through the exchange. Because exchange-traded futures are marked to market and generally cash settled on a daily basis, we have minimal exposure to credit-related losses in the event of nonperformance by counterparties to such derivative instruments. Other exchange-traded derivatives would be exposed to nonperformance by counterparties for amounts in excess of initial margin requirements only if the exchange is unable to fulfill the contract.

We manage our credit risk related to reinsurance treaties by evaluating the financial condition of reinsurance counterparties prior to entering into new reinsurance treaties. In addition, we regularly evaluate their financial strength during the terms of the treaties. As of December 31, 2018, our largest reinsurance credit risk is related to a LTC coinsurance treaty with life insurance subsidiaries of Genworth Financial, Inc. See Note 8 to our Consolidated Financial Statements for additional information on reinsurance.

Ameriprise Financial, Inc.

Item 8. Financial Statements and Supplementary Data
Consolidated Financial Statements:

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Ameriprise Financial, Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Ameriprise Financial, Inc. and its subsidiaries (the "Company") as of December 31, 2018 and 2017, and the related consolidated statements of operations, comprehensive income, equity and cash flows for each of the three years in the period ended December 31, 2018, including the related notes and the financial statement schedules listed in the index appearing under Item 15(a)(2) (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ PricewaterhouseCoopers LLP
Minneapolis, Minnesota
February 26, 2019

We have served as the Company's auditor since 2010.

Ameriprise Financial, Inc.

Consolidated Statements of Operations

	Years Ended December 31, 2018	2017 [1]	2016 [1]
	(in millions, except per share amounts)		
Revenues			
Management and financial advice fees	$6,776	$6,415	$5,802
Distribution fees	1,877	1,757	1,781
Net investment income	1,596	1,509	1,576
Premiums	1,426	1,394	1,491
Other revenues	1,249	1,105	1,189
Total revenues	12,924	12,180	11,839
Banking and deposit interest expense	89	48	39
Total net revenues	12,835	12,132	11,800
Expenses			
Distribution expenses	3,637	3,397	3,200
Interest credited to fixed accounts	674	656	623
Benefits, claims, losses and settlement expenses	2,302	2,233	2,646
Amortization of deferred acquisition costs	322	267	415
Interest and debt expense	245	207	241
General and administrative expense	3,171	3,158	3,084
Total expenses	10,351	9,918	10,209
Pretax income	2,484	2,214	1,591
Income tax provision	386	734	278
Net income	$2,098	$1,480	$1,313
Earnings per share			
Basic	$14.41	$9.60	$7.90
Diluted	$14.20	$9.44	$7.81
Supplemental Disclosures:			
Total other-than-temporary impairment losses on securities	$—	$(1)	$(2)
Portion of loss recognized in other comprehensive income (before taxes)	—	—	1
Net impairment losses recognized in net investment income	$—	$(1)	$(1)

[1] Certain prior period amounts have been restated. See Note 1 for more information.

See Notes to Consolidated Financial Statements.

Ameriprise Financial, Inc.

Consolidated Statements of Comprehensive Income

	Years Ended December 31,		
	2018	2017	2016 [1]
	(in millions)		
Net income	$2,098	$1,480	$1,313
Other comprehensive income (loss), net of tax:			
Foreign currency translation adjustment	(31)	(8)	(76)
Net unrealized gains (losses) on securities	(465)	7	47
Net unrealized gains (losses) on derivatives	—	3	4
Defined benefit plans	(23)	28	(34)
Other	—	(1)	—
Total other comprehensive income (loss), net of tax	(519)	29	(59)
Total comprehensive income	$1,579	$1,509	$1,254

[1] Certain prior period amounts have been restated. See Note 1 for more information.

See Notes to Consolidated Financial Statements.

Ameriprise Financial, Inc.

Consolidated Balance Sheets

	December 31, 2018	2017 [(1)]
	(in millions, except share amounts)	
Assets		
Cash and cash equivalents	$2,931	$2,484
Cash of consolidated investment entities	166	136
Investments	35,825	35,925
Investments of consolidated investment entities, at fair value	1,706	2,131
Separate account assets	77,925	87,368
Receivables	6,173	5,762
Receivables of consolidated investment entities, at fair value	12	25
Deferred acquisition costs	2,776	2,676
Restricted and segregated cash, cash equivalents and investments	2,910	3,147
Other assets	6,792	7,826
Total assets	$137,216	$147,480
Liabilities and Equity		
Liabilities:		
Policyholder account balances, future policy benefits and claims	$30,124	$29,904
Separate account liabilities	77,925	87,368
Customer deposits	11,545	10,303
Short-term borrowings	201	200
Long-term debt	2,867	2,891
Debt of consolidated investment entities, at fair value	1,743	2,206
Accounts payable and accrued expenses	1,862	1,975
Other liabilities	5,239	6,575
Other liabilities of consolidated investment entities, at fair value	122	63
Total liabilities	131,628	141,485
Equity:		
Ameriprise Financial, Inc.:		
Common shares ($.01 par value; shares authorized, 1,250,000,000; shares issued, 328,537,214 and 327,506,935, respectively)	3	3
Additional paid-in capital	8,260	8,085
Retained earnings	12,909	11,326
Treasury shares, at cost (192,206,467 and 180,872,271 shares, respectively)	(15,293)	(13,648)
Accumulated other comprehensive income (loss), net of tax	(291)	229
Total equity	5,588	5,995
Total liabilities and equity	$137,216	$147,480

(1) Certain prior period amounts have been restated. See Note 1 for more information.

See Notes to Consolidated Financial Statements.

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Ameriprise Financial, Inc.

Consolidated Statements of Equity

	Ameriprise Financial, Inc.									
	Number of Outstanding Shares	Common Shares	Additional Paid-In Capital	Retained Earnings	Appropriated Retained Earnings of Consolidated Investment Entities	Treasury Shares	Accumulated Other Com-prehensive Income	Total Ameriprise Financial, Inc. Shareholders' Equity	Non-controlling Interests	Total
	(in millions, except share data)									
Balances at January 1, 2016	171,033,260	$ 2	$ 7,611	$ 9,525	$ 137	$ (10,338)	$ 253	$ 7,191	$ 1,188	$ 8,379
Cumulative effect of adoption of consolidation guidance	—		—	1	(137)	—	6	(130)	(1,188)	(1,318)
Cumulative effect of adoption of revenue recognition guidance	—		—	(2)	—	—	—	(2)	—	(2)
Comprehensive income:										
Net income	—		—	1,313	—	—	—	1,313	—	1,313
Other comprehensive loss, net of tax	—		—	—	—	—	(59)	(59)	—	(59)
Total comprehensive income								1,254	—	1,254
Dividends to shareholders	—		—	(489)	—	—	—	(489)	—	(489)
Repurchase of common shares	(18,367,742)	—	—	—	—	(1,751)	—	(1,751)	—	(1,751)
Share-based compensation plans	2,094,381	—	154	—	—	62	—	216	—	216
Balances at December 31, 2016	154,759,899	2	7,765	10,348	—	(12,027)	200	6,289	—	6,289
Comprehensive income:										
Net income	—		—	1,480	—	—	—	1,480	—	1,480
Other comprehensive loss, net of tax	—		—	—	—	—	29	29	—	29
Total comprehensive income								1,509	—	1,509
Dividends to shareholders	—		—	(502)	—	—	—	(502)	—	(502)
Repurchase of common shares	(12,388,348)	—	—	—	—	(1,675)	—	(1,675)	—	(1,675)
Share-based compensation plans	4,263,103	—	320	—	—	54	—	374	—	374
Balances at December 31, 2017	146,634,654	2	8,085	11,326	—	(13,648)	229	5,995	—	5,995
Cumulative effect of adoption of equity securities guidance	—		—	1	—	—	(1)	—	—	—
Comprehensive income:										
Net income	—		—	2,098	—	—	—	2,098	—	2,098
Other comprehensive loss, net of tax	—		—	—	—	—	(519)	(519)	—	(519)
Total comprehensive income								1,579	—	1,579
Dividends to shareholders	—		—	(516)	—	—	—	(516)	—	(516)
Repurchase of common shares	(12,124,840)	—	—	—	—	(1,705)	—	(1,705)	—	(1,705)
Share-based compensation plans	1,820,921	—	375	—	—	60	—	235	—	235
Balances at December 31, 2018	136,330,735	$ 2	$ 8,460	$ 12,909	$ —	$ (15,293)	$ (291)	$ 5,588	$ —	$ 5,588

See Notes to Consolidated Financial Statements.

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Ameriprise Financial, Inc.
Consolidated Statements of Cash Flows

	Years Ended December 31,		
	2018	2017 [1]	2016 [1]
	(in millions)		
Cash Flows from Operating Activities			
Net income	$2,098	$1,480	$1,313
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation, amortization and accretion, net	198	234	248
Deferred income tax expense (benefit)	25	156	(34)
Share-based compensation	144	121	134
Net realized investment (gains) losses	(9)	(50)	(16)
Net trading (gains) losses	(12)	(7)	(6)
Loss from equity method investments	63	100	54
Other-than-temporary impairments and provision for loan losses	—	—	4
Net (gains) losses of consolidated investment entities	(47)	5	(38)
Changes in operating assets and liabilities:			
Restricted and segregated investments	499	(348)	(24)
Deferred acquisition costs	4	(35)	55
Policyholder account balances, future policy benefits and claims, net	528	(441)	8
Derivatives, net of collateral	(144)	595	59
Receivables	(398)	(457)	(150)
Brokerage deposits	(255)	(198)	310
Accounts payable and accrued expenses	(100)	206	174
Other operating assets and liabilities of consolidated investment entities, net	29	—	(9)
Other, net	(26)	162	249
Net cash provided by (used in) operating activities	2,597	1,523	2,331
Cash Flows from Investing Activities			
Available-for-Sale securities:			
Proceeds from sales	435	454	366
Maturities, sinking fund payments and calls	6,738	4,957	4,421
Purchases	(8,346)	(5,419)	(6,498)
Proceeds from sales, maturities and repayments of mortgage loans	295	699	810
Funding of mortgage loans	(235)	(479)	(451)
Proceeds from sales, maturities and collections of other investments	722	329	253
Purchase of other investments	(653)	(519)	(269)
Purchase of investments by consolidated investment entities	(411)	(1,268)	(845)
Proceeds from sales, maturities and repayments of investments by consolidated investment entities	1,086	1,349	1,421
Purchase of land, buildings, equipment and software	(162)	(162)	(92)
Cash paid for written options with deferred premiums	(133)	(82)	(8)
Cash received from written options with deferred premiums	133	77	78
Other, net	(56)	(107)	31
Net cash provided by (used in) investing activities	$(587)	$(171)	$(783)

[1] Certain prior period amounts have been restated. See Note 1 for more information.
See Notes to Consolidated Financial Statements.

Ameriprise Financial, Inc.
Consolidated Statements of Cash Flows (Continued)

	Years Ended December 31,		
	2018	2017 [1]	2016 [1]
	(in millions)		
Cash Flows from Financing Activities			
Investment certificates:			
Proceeds from additions	$6,238	$ 4,725	$4,250
Maturities, withdrawals and cash surrenders	(4,745)	(4,262)	(3,155)
Policyholder account balances:			
Deposits and other additions	1,933	2,059	2,086
Net transfers from (to) separate accounts	(75)	(157)	127
Surrenders and other benefits	(1,904)	(1,893)	(1,932)
Cash paid for purchased options with deferred premiums	(228)	(282)	(341)
Cash received from purchased options with deferred premiums	254	116	276
Issuance of long-term debt, net of issuance costs	—	—	496
Repayments of long-term debt	(13)	(11)	(257)
Change in short-term borrowings, net	—	—	(1)
Dividends paid to shareholders	(506)	(491)	(479)
Repurchase of common shares	(1,630)	(1,485)	(1,707)
Exercise of stock options	2	15	9
Borrowings of consolidated investment entities	936	—	—
Repayments of debt by consolidated investment entities	(1,528)	(118)	(517)
Other, net	3	(1)	3
Net cash provided by (used in) financing activities	(1,263)	(1,785)	(1,142)
Effect of exchange rate changes on cash	(8)	35	(75)
Net increase (decrease) in cash and cash equivalents, including amounts restricted	739	(398)	331
Cash and cash equivalents, including amounts restricted at beginning of period	5,144	5,542	5,557
Net cash outflows upon the deconsolidation of consolidated investment entities	—	—	(346)
Cash and cash equivalents, including amounts restricted at end of period	$5,883	$ 5,144	$5,542
Supplemental Disclosures:			
Interest paid excluding consolidated investment entities	$221	$ 181	$163
Interest paid by consolidated investment entities	120	88	127
Income taxes paid, net	538	418	155
Non-cash investing activities:			
Partnership commitments not yet remitted	1	9	108

	December 31, 2018	December 31, 2017
Reconciliation of cash and cash equivalents, including amounts restricted:		
Cash and cash equivalents	$ 2,931	$2,484
Cash of consolidated investment entities	166	136
Restricted and segregated cash, cash equivalents and investments	2,910	3,147
Less: Restricted and segregated investments	(124)	(623)
Total cash and cash equivalents, including amounts restricted per consolidated statements of cash flows	$ 5,883	$5,144

[1] Certain prior period amounts have been restated. See Note 1 for more information.

See Notes to Consolidated Financial Statements.

Ameriprise Financial, Inc.

Notes to Consolidated Financial Statements

1. Basis of Presentation

Ameriprise Financial, Inc. is a holding company, which primarily conducts business through its subsidiaries to provide financial planning, products and services that are designed to be utilized as solutions for clients' cash and liquidity, asset accumulation, income, protection and estate and wealth transfer needs. The foreign operations of Ameriprise Financial, Inc. are conducted primarily through Threadneedle Asset Management Holdings Sàrl and Ameriprise Asset Management Holdings GmbH (collectively, "Threadneedle").

The accompanying Consolidated Financial Statements include the accounts of Ameriprise Financial, Inc., companies in which it directly or indirectly has a controlling financial interest and variable interest entities ("VIEs") in which it is the primary beneficiary (collectively, the "Company"). All intercompany transactions and balances have been eliminated in consolidation. Effective January 1, 2016, the Company adopted Accounting Standards Update ("ASU") 2015-02 - Consolidation: Amendments to the Consolidation Analysis ("ASU 2015-02") and deconsolidated several collateralized loan obligations ("CLOs") and all previously consolidated property funds. The income or loss generated by consolidated entities which will not be realized by the Company's shareholders is attributed to noncontrolling interests in the Consolidated Statements of Operations. Noncontrolling interests are the ownership interests in subsidiaries not attributable, directly or indirectly, to Ameriprise Financial, Inc. and are classified as equity within the Consolidated Balance Sheets. The Company, excluding noncontrolling interests, is defined as "Ameriprise Financial." Upon adoption of ASU 2015-02, the Company no longer has noncontrolling interests primarily due to the deconsolidation of property funds. See Note 3 and Note 5 for additional information on recently adopted accounting pronouncements and VIEs.

The accompanying Consolidated Financial Statements are prepared in accordance with U.S. generally accepted accounting principles ("GAAP"). Certain reclassifications of prior period amounts have been made to conform to the current presentation.

In 2018, the Company corrected prior period errors related to the classification of certain changes in other investments and restricted cash equivalents in the Consolidated Statements of Cash Flows. For the year ended December 31, 2017, cash provided by operating activities decreased $178 million, cash used in investing activities decreased $28 million and cash and cash equivalents, including amounts restricted at beginning of period increased $150 million. For the year ended December 31, 2016, cash provided by operating activities decreased $22 million, cash used in investing activities decreased $22 million and cash and cash equivalents, including amounts restricted at both beginning of period and end of period increased$150 million.

In 2017, the Company recorded the following out-of-period corrections:

- an $87 million decrease to other comprehensive income ("OCI") related to deferred taxes on currency translations adjustments.
- a $12 million out-of-period correction related to a variable annuity model assumption that decreased amortization of deferred acquisition costs ("DAC") by $8 million and decreased benefits, claims, losses and settlement expenses by $4 million.
- a $20 million decrease to income tax provision for a reversal of a tax reserve.

In 2016, the Company recorded an out-of-period correction for a $29 million increase to benefits, claims, losses and settlement expenses related to the claim utilization factor on long term care ("LTC") reserves.

The impact of these corrections was not material to current or prior period financial statements.

The Company evaluated events or transactions that may have occurred after the balance sheet date for potential recognition or disclosure through the date the financial statements were issued. No subsequent events or transactions were identified.

On January 1, 2018, the Company retrospectively adopted the new accounting standard for revenue recognition. See Note 3 and Note 4 for further information on the new accounting standard and the Company's revenue from contracts with customers. The following tables present the impact to the consolidated statements of operations for the prior periods presented:

	December 31, 2017		
	Previously Reported	Effect of Change	As Adjusted
	(in millions)		
Revenues			
Management and financial advice fees	$6,392	$ 23	$6,415
Distribution fees	1,770	(13)	1,757
Net investment income	1,509	—	1,509
Premiums	1,394	—	1,394
Other revenues	1,010	95	1,105
Total revenues	12,075	105	12,180
Banking and deposit interest expense	48	—	48
Total net revenues	12,027	105	12,132
Expenses			
Distribution expenses	3,399	(2)	3,397
Interest credited to fixed accounts	656	—	656
Benefits, claims, losses and settlement expenses	2,233	—	2,233
Amortization of deferred acquisition costs	267	—	267
Interest and debt expense	207	—	207
General and administrative expense	3,051	107	3,158
Total expenses	9,813	105	9,918
Pretax income	2,214	—	2,214
Income tax provision	734	—	734
Net income	$1,480	$ —	$1,480

	December 31, 2016		
	Previously Reported	Effect of Change	As Adjusted
	(in millions)		
Revenues			
Management and financial advice fees	$5,778	$ 24	$5,802
Distribution fees	1,795	(14)	1,781
Net investment income	1,576	—	1,576
Premiums	1,491	—	1,491
Other revenues	1,095	94	1,189
Total revenues	11,735	104	11,839
Banking and deposit interest expense	39	—	39
Total net revenues	11,696	104	11,800
Expenses			
Distribution expenses	3,202	(2)	3,200
Interest credited to fixed accounts	623	—	623
Benefits, claims, losses and settlement expenses	2,646	—	2,646
Amortization of deferred acquisition costs	415	—	415
Interest and debt expense	241	—	241
General and administrative expense	2,977	107	3,084
Total expenses	10,104	105	10,209
Pretax income	1,592	(1)	1,591
Income tax provision	278	—	278

Net income	$1,314	$(1)	$1,313

The impact to the consolidated balance sheets as of both December 31, 2017 and 2016 was a $10 million increase to total assets, a $13 million increase to total liabilities and a $3 million decrease to retained earnings.

2. Summary of Significant Accounting Policies

Principles of Consolidation

A VIE is an entity that either has equity investors that lack certain essential characteristics of a controlling financial interest (including substantive voting rights, the obligation to absorb the entity's losses, or the rights to receive the entity's returns) or has equity investors that do not provide sufficient financial resources for the entity to support its activities.

Voting interest entities ("VOEs") are those entities that do not qualify as a VIE. The Company consolidates VOEs in which it holds a greater than 50% voting interest. The Company generally accounts for entities using the equity method when it holds a greater than 20% but less than 50% voting interest or when the Company exercises significant influence over the entity. All other investments that are not reported at fair value as trading or Available-for-Sale securities are accounted for under the cost method when the Company owns less than a 20% voting interest and does not exercise significant influence.

A VIE is consolidated by the reporting entity that determines it has both:

- the power to direct the activities of the VIE that most significantly impact the VIE's economic performance; and
- the obligation to absorb potentially significant losses or the right to receive potentially significant benefits to the VIE.

All VIEs are assessed for consolidation under this framework. When evaluating entities for consolidation, the Company considers its contractual rights in determining whether it has the power to direct the activities of the VIE that most significantly impact the VIEs economic performance. In determining whether the Company has this power, it considers whether it is acting in a role that enables it to direct the activities that most significantly impact the economic performance of an entity or if it is acting in an agent role.

In determining whether the Company has the obligation to absorb losses of the VIE or the right to receive benefits from the VIE that could potentially be significant to the VIE, the Company considers an analysis of its rights to receive benefits such as investment returns and its obligation to absorb losses associated with any investment in the VIE in conjunction with other qualitative factors. Management and incentive fees that are at market and commensurate with the level of services provided, and where the Company does not hold other interests in the VIE that would absorb more than an insignificant amount of the VIE's expected losses or receive more than an insignificant amount of the VIE's expected residual returns, are not considered a variable interest and are excluded from the analysis.

The consolidation guidance has a scope exception for reporting entities with interests in registered money market funds which do not have an explicit support agreement.

Foreign Currency Translation

Net assets of foreign subsidiaries, whose functional currency is other than the U.S. dollar, are translated into U.S. dollars based upon exchange rates prevailing at the end of each period. Revenues and expenses are translated at daily exchange rates during the period. The resulting translation adjustment, along with any related hedge and tax effects, are included in accumulated other comprehensive income ("AOCI"). The determination of the functional currency is based on the primary economic environment in which the entity operates. Gains and losses from foreign currency transactions are included in the consolidated results of operations.

Amounts Based on Estimates and Assumptions

Accounting estimates are an integral part of the Consolidated Financial Statements. In part, they are based upon assumptions concerning future events. Among the more significant are those that relate to investment securities valuation and recognition of other-than-temporary impairments, DAC and the corresponding recognition of DAC amortization, valuation of derivative instruments and hedging activities, litigation reserves, future policy benefits and claims reserves and income taxes and the recognition of deferred tax assets and liabilities. These accounting estimates reflect the best judgment of management and actual results could differ.

Cash and Cash Equivalents

Cash equivalents include time deposits and other highly liquid investments with original or remaining maturities at the time of purchase of 90 days or less.

Investments

Available-for-Sale Securities

Available-for-Sale securities are carried at fair value with unrealized gains (losses) recorded in AOCI, net of impacts to DAC, deferred sales inducement costs ("DSIC"), unearned revenue, benefit reserves, reinsurance recoverables and income taxes. Gains and losses are recognized on a trade date basis in the Consolidated Statements of Operations upon disposition of the securities.

When the fair value of an investment is less than its amortized cost, the Company assesses whether or not: (i) it has the intent to sell the security (made a decision to sell) or (ii) it is more likely than not that the Company will be required to sell the security before its anticipated recovery. If either of these conditions exist, an other-than-temporary impairment is considered to have occurred and the Company recognizes an other-than-temporary impairment for the difference between the investment's amortized cost and its fair value through earnings. For securities that do not meet the above criteria and the Company does not expect to recover a security's amortized cost, the security is also considered other-than-temporarily impaired. For these securities, the Company separates the total impairment into the credit loss component and the amount of the loss related to other factors. The amount of the total other-than-temporary impairment related to credit loss is recognized in earnings.

The amount of the total other-than-temporary impairment related to other factors is recognized in OCI, net of impacts to DAC, DSIC, unearned revenue, benefit reserves, reinsurance recoverables and income taxes. For Available-for-Sale securities that have recognized an other-than-temporary impairment through earnings, the difference between the amortized cost and the cash flows expected to be collected is accreted as interest income if through subsequent evaluation there is a sustained increase in the cash flow expected. Subsequent increases and decreases in the fair value of Available-for-Sale securities are included in OCI.

The Company provides a supplemental disclosure on the face of its Consolidated Statements of Operations that presents: (i) total other-than-temporary impairment losses recognized during the period and (ii) the portion of other-than-temporary impairment losses recognized in OCI. The sum of these amounts represents the credit-related portion of other-than-temporary impairments that were recognized in earnings during the period. The portion of other-than-temporary losses recognized in OCI includes: (i) the portion of other-than-temporary impairment losses related to factors other than credit recognized during the period and (ii) reclassifications of other-than-temporary impairment losses previously determined to be related to factors other than credit that are determined to be credit-related in the current period. The amount presented on the Consolidated Statements of Operations as the portion of other-than-temporary losses recognized in OCI excludes subsequent increases and decreases in the fair value of these securities.

For all securities that are considered temporarily impaired, the Company does not intend to sell these securities (has not made a decision to sell) and it is not more likely than not that the Company will be required to sell the security before recovery of its amortized cost basis. The Company believes that it will collect all principal and interest due on all investments that have amortized cost in excess of fair value that are considered only temporarily impaired.

Factors the Company considers in determining whether declines in the fair value of fixed maturity securities are other-than-temporary include: (i) the extent to which the market value is below amortized cost; (ii) the duration of time in which there has been a significant decline in value; (iii) fundamental analysis of the liquidity, business prospects and overall financial condition of the issuer; and (iv) market events that could impact credit ratings, economic and business climate, litigation and government actions, and similar external business factors. In order to determine the amount of the credit loss component for corporate debt securities considered other-than-temporarily impaired, a best estimate of the present value of cash flows expected to be collected discounted at the security's effective interest rate is compared to the amortized cost basis of the security. The significant inputs to cash flow projections consider potential debt restructuring terms, projected cash flows available to pay creditors and the Company's position in the debtor's overall capital structure.

For structured investments (e.g., residential mortgage backed securities, commercial mortgage backed securities, asset backed securities and other structured investments), the Company also considers factors such as overall deal structure and its position within the structure, quality of underlying collateral, delinquencies and defaults, loss severities, recoveries, prepayments and cumulative loss projections in assessing potential other-than-temporary impairments of these investments. Based upon these factors, securities that have indicators of potential other-than-temporary impairment are subject to detailed review by management. Securities for which declines are considered temporary continue to be monitored by management until management determines there is no current risk of an other-than-temporary impairment.

Other Investments

Other investments primarily reflect the Company's interests in affordable housing partnerships, trading securities, seed money investments, syndicated loans and held-to-maturity certificates of deposit with original or remaining maturities at the time of purchase of more than 90 days. As of January 1, 2018, marketable equity securities were reclassified from Available-for-Sale securities to other investments due to the adoption of a new accounting standard on the recognition and measurement of financial instruments. Subsequent to the adoption, marketable equity securities are recorded at fair value with changes in fair value reflected in net investment income. Prior to the adoption, changes in fair value were reflected in AOCI. Affordable housing partnerships and seed money investments are accounted for under the equity method. Trading securities, which primarily include common stocks and bonds, are carried at fair value with unrealized and realized gains (losses) recorded in net investment income.

Financing Receivables

Commercial Mortgage Loans and Syndicated Loans

Commercial mortgage loans and syndicated loans are reflected within investments at amortized cost less the allowance for loan losses. Syndicated loans represent the Company's investment in below investment grade loan syndications. Interest income is accrued on the unpaid principal balances of the loans as earned.

Other Loans

Other loans consist of policy and certificate loans, advisor loans and brokerage margin loans. When originated, policy and certificate loan balances do not exceed the cash surrender value of the underlying products. As there is minimal risk of loss related to policy and certificate loans, the Company does not record an allowance for loan losses. Policy and certificate loans are reflected within investments at the unpaid principal balance, plus accrued interest.

The Company offers loans to financial advisors primarily for recruiting, transitional cost assistance and retention purposes. These loans are generally repaid over a five- to nine-year period. Advisor loans are recorded within receivables at principal less an allowance for loan losses. Interest income is recognized as earned and reflected in other revenues. Recoverability of these loans is assessed through analysis of financial advisor retention, loan collection and other criteria. In the event that the financial advisor is no longer affiliated with the Company, any unpaid balance of such loan becomes immediately due.

The Company's broker dealer subsidiaries enter into lending arrangements with clients through the normal course of business, which are primarily based on customer margin levels. Margin loans are reported at the unpaid principal balance within receivables. The Company monitors the market value of collateral supporting the margin loans and requests additional collateral when necessary in order to mitigate the risk of loss.

Nonaccrual Loans

Generally, loans are evaluated for or placed on nonaccrual status when either the collection of interest or principal has become 90 days past due or is otherwise considered doubtful of collection. When a loan is placed on nonaccrual status, unpaid accrued interest is reversed. Interest payments received on loans on nonaccrual status are generally applied to principal unless the remaining principal balance has been determined to be fully collectible.

Commercial mortgage loans are evaluated for impairment when the loan is considered for nonaccrual status, restructured or foreclosure proceedings are initiated on the property. If it is determined that the fair value is less than the current loan balance, it is written down to fair value less estimated selling costs. Foreclosed property is recorded as real estate owned in other assets.

Allowance for Loan Losses

Management determines the adequacy of the allowance for loan losses based on the overall loan portfolio composition, recent and historical loss experience, and other pertinent factors, including when applicable, internal risk ratings, loan-to-value ("LTV") ratios, FICO scores of the borrower, debt service coverage and occupancy rates, along with economic and market conditions. This evaluation is inherently subjective as it requires estimates, which may be susceptible to significant change.

The Company determines the amount of the allowance based on management's assessment of relative risk characteristics of the loan portfolio. The allowance is recorded for homogeneous loan categories on a pool basis, based on an analysis of product mix and risk characteristics of the portfolio, including geographic concentration, bankruptcy experiences, and historical losses, adjusted for current trends and market conditions.

While the Company attributes portions of the allowance to specific loan pools as part of the allowance estimation process, the entire allowance is available to absorb losses inherent in the total loan portfolio. The allowance is increased through provisions charged to net investment income and reduced/increased by net charge-offs/recoveries.

In determining the allowance for loan losses for advisor loans, the Company considers its historical collection experience as well as other factors including amounts due at termination, the reasons for the terminated relationship, length of time since termination, and the former financial advisor's overall financial position. Concerns regarding the recoverability of these loans primarily arise in the event that the financial advisor is no longer affiliated with the Company. When the review of these factors indicates that further collection activity is highly unlikely, the outstanding balance of the loan is written-off and the related allowance is reduced. The provision for loan losses on advisor loans is recorded in distribution expenses.

Impaired Loans

The Company considers a loan to be impaired when, based on current information and events, it is probable the Company will not be able to collect all amounts due (both interest and principal) according to the contractual terms of the loan agreement. Impaired loans may also include loans that have been modified in troubled debt restructurings as a concession to borrowers experiencing financial difficulties. Management evaluates for impairment all restructured loans and loans with higher impairment risk factors. Factors used by the Company to determine whether all amounts due on commercial mortgage loans will be collected, include but are not limited to, the financial condition of the borrower, performance of the underlying properties, collateral and/or guarantees on the loan, and the borrower's estimated future ability to pay based on property type and geographic location. The impairment recognized is measured as the excess of the loan's recorded investment over: (i) the present value of its expected principal and interest payments discounted at the loan's effective interest rate, (ii) the fair value of collateral or (iii) the loan's observable market price.

Restructured Loans

A loan is classified as a restructured loan when the Company makes certain concessionary modifications to contractual terms for borrowers experiencing financial difficulties. When the interest rate, minimum payments, and/or due dates have been modified in an attempt to make the loan more affordable to a borrower experiencing financial difficulties, the modification is considered a troubled debt restructuring. Generally, performance prior to the restructuring or significant events that coincide with the restructuring are considered in assessing whether the borrower can meet the new terms which may result in the loan being returned to accrual status at the time of the restructuring or after a performance period. If the borrower's ability to meet the revised payment schedule is not reasonably assured, the loan remains on nonaccrual status.

Separate Account Assets and Liabilities

Separate account assets and liabilities are primarily funds held for the benefit of variable annuity contractholders and variable life insurance policyholders, who have a contractual right to receive the benefits of their contract or policy and bear the related investment risk. Gains and losses on separate account assets accrue directly to the contractholder or policyholder and are not reported in the Company's Consolidated Statements of Operations. Separate account assets are recorded at fair value. Changes in the fair value of separate account assets are offset by changes in the related separate account liabilities.

Included in separate account assets and liabilities is the fair value of the pooled pension funds that are offered by Threadneedle.

Restricted and Segregated Cash, Cash Equivalents and Investments

Amounts segregated under federal and other regulations are held in special reserve bank accounts for the exclusive benefit of the Company's brokerage customers. Cash and cash equivalents included in restricted and segregated cash, cash equivalents and investments are presented as part of cash balances in the Company's Consolidated Statements of Cash Flows.

Land, Buildings, Equipment and Software

Land, buildings, equipment and internally developed or purchased software are carried at cost less accumulated depreciation or amortization and are reflected within other assets. The Company uses the straight-line method of depreciation and amortization over periods ranging from three to 39 years. As of December 31, 2018 and 2017, land, buildings, equipment and software were $635 million and $626 million, respectively, net of accumulated depreciation of $2.0 billion and $1.9 billion, respectively. Depreciation and amortization expense for the years ended December 31, 2018, 2017 and 2016 was $146 million, $141 million and $149 million, respectively. Capitalized lease assets, net of accumulated depreciation, are included in land, buildings, equipment and software, and capital lease obligations are included in long-term debt.

Goodwill and Other Intangible Assets

Goodwill represents the amount of an acquired company's acquisition cost in excess of the fair value of assets acquired and liabilities assumed. The Company evaluates goodwill for impairment annually on the measurement date of July 1 and whenever events and circumstances indicate that an impairment may have occurred, such as a significant adverse change in the business climate or a decision to sell or dispose of a reporting unit. Impairment is the amount carrying value exceeds fair value and is evaluated at the reporting unit level. The Company assesses various qualitative factors to determine whether impairment is likely to have occurred. If impairment were to occur, the Company would use the discounted cash flow method, a variation of the income approach.

Intangible assets are amortized over their estimated useful lives unless they are deemed to have indefinite useful lives. The Company evaluates the definite lived intangible assets remaining useful lives annually and tests for impairment whenever events and circumstances indicate that an impairment may have occurred, such as a significant adverse change in the business climate. For definite lived intangible assets, impairment to fair value is recognized if the carrying amount is not recoverable. Indefinite lived intangibles are also tested for impairment annually or whenever circumstances indicate an impairment may have occurred.

Goodwill and other intangible assets are reflected in other assets.

Derivative Instruments and Hedging Activities

Freestanding derivative instruments are recorded at fair value and are reflected in other assets or other liabilities. The Company's policy is to not offset fair value amounts recognized for derivatives and collateral arrangements executed with the same counterparty under the same master netting arrangement. The accounting for changes in the fair value of a derivative instrument depends on its intended use and the resulting hedge designation, if any. The Company primarily uses derivatives as economic hedges that are not designated as accounting hedges or do not qualify for hedge accounting treatment. The Company occasionally designates derivatives as (i) hedges of changes in the fair value of assets, liabilities, or firm commitments ("fair value hedges"), (ii) hedges of a forecasted transaction or of the variability of cash flows to be received or paid related to a recognized asset or liability ("cash flow hedges"), or (iii) hedges of foreign currency exposures of net investments in foreign operations ("net investment hedges in foreign operations").

Derivative instruments that are entered into for hedging purposes are designated as such at the time the Company enters into the contract. For all derivative instruments that are designated for hedging activities, the Company documents all of the hedging relationships between the hedge instruments and the hedged items at the inception of the relationships. Management also documents its risk management objectives and strategies for entering into the hedge transactions. The Company assesses, at inception and on a quarterly basis, whether derivatives designated as hedges are highly effective in offsetting the fair value or cash flows of hedged items. If it is determined that a derivative is no longer highly effective as a hedge, the Company will discontinue the application of hedge accounting.

For derivative instruments that do not qualify for hedge accounting or are not designated as accounting hedges, changes in fair value are recognized in current period earnings. Changes in fair value of derivatives are presented in the Consolidated Statements of Operations based on the nature and use of the instrument. Changes in fair value of derivatives used as economic hedges are presented in the Consolidated Statements of Operations with the corresponding change in the hedged asset or liability.

For derivative instruments that qualify as fair value hedges, changes in the fair value of the derivatives, as well as changes in the fair value of the hedged assets, liabilities or firm commitments, are recognized on a net basis in current period earnings. The carrying value of the hedged item is adjusted for the change in fair value from the designated hedged risk. If a fair value hedge designation is removed or the hedge is terminated prior to maturity, previous adjustments to the carrying value of the hedged item are recognized into earnings over the remaining life of the hedged item.

For derivative instruments that qualify as cash flow hedges, the effective portion of the gain or loss on the derivative instruments is reported in AOCI and reclassified into earnings when the hedged item or transaction impacts earnings. The amount that is reclassified into earnings is presented in the Consolidated Statements of Operations with the hedged instrument or transaction impact. Any ineffective portion of the gain or loss is reported in current period earnings as a component of net investment income. If a hedge designation is removed or a hedge is terminated prior to maturity, the amount previously recorded in AOCI is reclassified to earnings over the period that the hedged item impacts earnings. For hedge relationships that are discontinued because the forecasted transaction is not expected to occur according to the original strategy, any related amounts previously recorded in AOCI are recognized in earnings immediately.

For derivative instruments that qualify as net investment hedges in foreign operations, the effective portion of the change in fair value of the derivatives is recorded in AOCI as part of the foreign currency translation adjustment. Any ineffective portion of the net investment hedges in foreign operations is recognized in net investment income during the period of change.

The equity component of indexed annuities, indexed universal life (“IUL”) and stock market certificate obligations are considered embedded derivatives. Additionally, certain annuities contain guaranteed minimum accumulation benefit (“GMAB”) and guaranteed minimum withdrawal benefit (“GMWB”) provisions. The GMAB and the non-life contingent benefits associated with GMWB provisions are also considered embedded derivatives.

See Note 15 for information regarding the Company’s fair value measurement of derivative instruments and Note 17 for the impact of derivatives on the Consolidated Statements of Operations.

Deferred Acquisition Costs

The Company incurs costs in connection with acquiring new and renewal insurance and annuity businesses. The portion of these costs which are incremental and direct to the acquisition of a new or renewal insurance policy or annuity contract are deferred. Significant costs capitalized include sales based compensation related to the acquisition of new and renewal insurance policies and annuity contracts, medical inspection costs for successful sales, and a portion of employee compensation and benefit costs based upon the amount of time spent on successful sales. Sales based compensation paid to advisors and employees and third-party distributors is capitalized. Employee compensation and benefits costs which are capitalized relate primarily to sales efforts, underwriting and processing. All other costs which are not incremental direct costs of acquiring an insurance policy or annuity contract are expensed as incurred. The DAC associated with insurance policies or annuity contracts that are significantly modified or internally replaced with another contract are accounted for as contract terminations. These transactions are anticipated in establishing amortization periods and other valuation assumptions.

The Company monitors other DAC amortization assumptions, such as persistency, mortality, morbidity, interest margin, variable annuity benefit utilization and maintenance expense levels each quarter and, when assessed independently, each could impact the Company’s DAC balances.

The analysis of DAC balances and the corresponding amortization is a dynamic process that considers all relevant factors and assumptions described previously. Unless the Company’s management identifies a significant deviation over the course of the quarterly monitoring, management reviews and updates these DAC amortization assumptions annually in the third quarter of each year.

Non-Traditional Long-Duration Products

For non-traditional long-duration products (including variable and fixed deferred annuity contracts, universal life (“UL”) and variable universal life (“VUL”) insurance products), DAC are amortized based on projections of estimated gross profits (“EGPs”) over amortization periods equal to the approximate life of the business.

EGPs vary based on persistency rates (assumptions at which contractholders and policyholders are expected to surrender, make withdrawals from and make deposits to their contracts), mortality levels, client asset value growth rates (based on equity and bond market performance), variable annuity benefit utilization and interest margins (the spread between earned rates on invested assets and rates credited to contractholder and policyholder accounts) and are management’s best estimates. Management regularly monitors financial market conditions and actual contractholder and policyholder behavior experience and compares them to its assumptions. These assumptions are updated whenever it appears that earlier estimates should be revised. When assumptions are changed, the percentage of EGPs used to amortize DAC might also change. A change in the required amortization percentage is applied retrospectively; an increase in amortization percentage will result in a decrease in the DAC balance and an increase in DAC amortization expense, while a decrease in amortization percentage will result in an increase in the DAC balance and a decrease in DAC amortization expense. The impact on results of operations of changing assumptions can be either positive or negative in any particular period and is reflected in the period in which such changes are made. At each balance sheet date, the DAC balance is adjusted for the effect that would result from the realization of unrealized gains or losses on securities impacting EGPs, with the related change recognized through AOCI.

The client asset value growth rates are the rates at which variable annuity and VUL insurance contract values invested in separate accounts are assumed to appreciate in the future. The rates used vary by equity and fixed income investments. Management reviews and, where appropriate, adjusts its assumptions with respect to client asset value growth rates on a regular basis. The Company typically uses a five-year mean reversion process as a guideline in setting near-term equity fund growth rates based on a long-term view of financial market performance as well as recent actual performance. The suggested near-term equity fund growth rate is reviewed quarterly to ensure consistency with management's assessment of anticipated equity market performance. DAC amortization expense recorded in a period when client asset value growth rates exceed management's near-term estimate will typically be less than in a period when growth rates fall short of management's near-term estimate.

Traditional Long-Duration Products

For traditional long-duration products (including traditional life and disability income ("DI") insurance products), DAC are generally amortized as a percentage of premiums over amortization periods equal to the premium paying period. The assumptions made in calculating the DAC balance and DAC amortization expense are consistent with those used in determining the liabilities.

For traditional life and DI insurance products, the assumptions provide for adverse deviations in experience and are revised only if management concludes experience will be so adverse that DAC are not recoverable. If management concludes that DAC are not recoverable, DAC are reduced to the amount that is recoverable based on best estimate assumptions and there is a corresponding expense recorded in the Consolidated Statements of Operations.

Deferred Sales Inducement Costs

Sales inducement costs consist of bonus interest credits and premium credits added to certain annuity contract and insurance policy values. These benefits are capitalized to the extent they are incremental to amounts that would be credited on similar contracts without the applicable feature. The amounts capitalized are amortized using the same methodology and assumptions used to amortize DAC. DSIC is recorded in other assets, and amortization of DSIC is recorded in benefits, claims, losses and settlement expenses.

Reinsurance

The Company cedes insurance risk to other insurers under reinsurance agreements. The Company evaluates the financial condition of its reinsurers prior to entering into new reinsurance contracts and on a periodic basis during the contract term.

Reinsurance premiums paid and benefits received are accounted for consistently with the basis used in accounting for the policies from which risk is reinsured and consistently with the terms of the reinsurance contracts. Reinsurance premiums for traditional life, LTC, DI and auto and home, net of the change in any prepaid reinsurance asset, are reported as a reduction of premiums. UL and VUL reinsurance premiums are reported as a reduction of other revenues. In addition, for UL and VUL insurance policies, the net cost of reinsurance ceded, which represents the discounted amount of the expected cash flows between the reinsurer and the Company, is classified as an asset or contra asset and amortized over the estimated life of the policies in proportion to the estimated gross profits and is subject to retrospective adjustment in a manner similar to retrospective adjustment of DAC. The assumptions used to project the expected cash flows are consistent with those used for DAC valuation for the same contracts. Changes in the net cost of reinsurance are reflected as a component of other revenues. Reinsurance recoveries are reported as components of benefits, claims, losses and settlement expenses.

Insurance liabilities are reported before the effects of reinsurance. Policyholder account balances, future policy benefits and claims recoverable under reinsurance contracts are recorded within receivables.

The Company also assumes life insurance and fixed annuity risk from other insurers in limited circumstances. Reinsurance premiums received and benefits paid are accounted for consistently with the basis used in accounting for the policies from which risk is reinsured and consistently with the terms of the reinsurance contracts. Liabilities for assumed business are recorded within policyholder account balances, future policy benefits and claims.

See Note 8 for additional information on reinsurance.

Policyholder Account Balances, Future Policy Benefits and Claims

The Company establishes reserves to cover the risks associated with non-traditional and traditional long-duration products and short-duration products. Reserves for non-traditional long-duration products include the liabilities related to guaranteed benefit provisions added to variable annuity contracts, variable and fixed annuity contracts and UL and VUL policies and the embedded derivatives related to variable annuity contracts, indexed annuities and IUL insurance. Reserves for traditional long-duration products are established to provide adequately for future benefits and expenses for term life, whole life, DI and long term care (“LTC”) insurance products. Reserves for short-duration products are established to provide adequately for incurred losses primarily related to auto and home policies. Changes in future policy benefits and claims are reflected in earnings in the period adjustments are made. Where applicable, benefit amounts expected to be recoverable from reinsurance companies who share in the risk are separately recorded as reinsurance recoverable within receivables.

Non-Traditional Long-Duration Products

The liabilities for non-traditional long-duration products include fixed account values on variable and fixed annuities and UL and VUL policies, liabilities for guaranteed benefits associated with variable annuities and embedded derivatives for variable annuities, indexed annuities and IUL products.

Liabilities for fixed account values on variable and fixed deferred annuities and UL and VUL policies are equal to accumulation values, which are the cumulative gross deposits and credited interest less withdrawals and various charges.

A portion of the Company's UL and VUL policies have product features that result in profits followed by losses from the insurance component of the contract. These profits followed by losses can be generated by the cost structure of the product or secondary guarantees in the contract. The secondary guarantee ensures that, subject to specified conditions, the policy will not terminate and will continue to provide a death benefit even if there is insufficient policy value to cover the monthly deductions and charges. The liability for these future losses is determined by estimating the death benefits in excess of account value and recognizing the excess over the estimated life based on expected assessments (e.g. cost of insurance charges, contractual administrative charges, similar fees and investment margin). See Note 12 for information regarding the liability for contracts with secondary guarantees.

Liabilities for indexed annuity products and indexed accounts of IUL products are equal to the accumulation of host contract values covering guaranteed benefits and the fair value of embedded equity options.

The guaranteed minimum death benefit ("GMDB") and gain gross-up ("GGU") liability is determined by estimating the expected value of death benefits in excess of the projected contract accumulation value and recognizing the excess over the estimated life based on expected assessments (e.g., mortality and expense fees, contractual administrative charges and similar fees).

If elected by the contract owner and after a stipulated waiting period from contract issuance, a guaranteed minimum income benefit ("GMIB") guarantees a minimum lifetime annuity based on a specified rate of contract accumulation value growth and predetermined annuity purchase rates. The GMIB liability is determined each period by estimating the expected value of annuitization benefits in excess of the projected contract accumulation value at the date of annuitization and recognizing the excess over the estimated life based on expected assessments.

The liability for the life contingent benefits associated with GMWB provisions is determined by estimating the expected value of benefits that are contingent upon survival after the account value is equal to zero and recognizing the benefits over the estimated life based on expected assessments (e.g., mortality and expense fees, contractual administrative charges and similar fees).

In determining the liabilities for GMDB, GGU, GMIB and the life contingent benefits associated with GMWB, the Company projects these benefits and contract assessments using actuarial models to simulate various equity market scenarios. Significant assumptions made in projecting future benefits and assessments relate to customer asset value growth rates, mortality, persistency, benefit utilization and investment margins and are consistent with those used for DAC valuation for the same contracts. As with DAC, unless the Company's management identifies a significant deviation over the course of quarterly monitoring, management reviews and updates these assumptions annually in the third quarter of each year.

See Note 12 for information regarding variable annuity guarantees.

Liabilities for fixed annuities in a benefit or payout status are based on future estimated payments using established industry mortality tables and interest rates.

Embedded Derivatives

The fair value of embedded derivatives related to GMAB and the non-life contingent benefits associated with GMWB provisions, indexed annuities and IUL fluctuate based on equity, interest rate and credit markets and the estimate of the Company's nonperformance risk, which can cause these embedded derivatives to be either an asset or a liability. See Note 15 for information regarding the fair value measurement of embedded derivatives.

Traditional Long-Duration Products

The liabilities for traditional long-duration products include liabilities for unpaid amounts on reported claims, estimates of benefits payable on claims incurred but not yet reported and estimates of benefits that will become payable on term life, whole life, DI and LTC policies as claims are incurred in the future.

Liabilities for unpaid amounts on reported life insurance claims are equal to the death benefits payable under the policies.

Liabilities for unpaid amounts on reported DI and LTC claims include any periodic or other benefit amounts due and accrued, along with estimates of the present value of obligations for continuing benefit payments. These unpaid amounts are calculated using anticipated claim continuance rates based on established industry tables, adjusted as appropriate for the Company’s experience. The discount rates used to calculate present values are based on average interest rates earned on assets supporting the liability for unpaid amounts.

Liabilities for estimated benefits payable on claims that have been incurred but not yet reported are based on periodic analysis of the actual time lag between when a claim occurs and when it is reported.

Liabilities for estimates of benefits that will become payable on future claims on term life, whole life and DI insurance policies are based on the net level premium and LTC policies are based on a gross premium valuation reflecting management’s current best estimate assumptions. Both include anticipated premium payments, mortality and morbidity rates, policy persistency and interest rates earned on assets supporting the liability. Anticipated mortality and morbidity rates are based on established industry mortality and morbidity tables, with modifications based on the Company’s experience. Anticipated premium payments and persistency rates vary by policy form, issue age, policy duration and certain other pricing factors.

For term life, whole life, DI and LTC policies, the Company utilizes best estimate assumptions as of the date the policy is issued with provisions for the risk of adverse deviation, as appropriate. After the liabilities are initially established, management performs premium deficiency tests using best estimate assumptions without provisions for adverse deviation annually in the third quarter of each year unless management identifies a material deviation over the course of quarterly monitoring. If the liabilities determined based on these best estimate assumptions are greater than the net reserves (i.e., GAAP reserves net of any DAC balance), the existing net reserves are adjusted by first reducing the DAC balance by the amount of the deficiency or to zero through a charge to current period earnings. If the deficiency is more than the DAC balance, then the net reserves are increased by the excess through a charge to current period earnings. If a premium deficiency is recognized, the assumptions as of the date of the loss recognition are locked in and used in subsequent periods. The assumptions for LTC insurance products are management's best estimate as of the date of loss recognition and thus no longer provide for adverse deviations in experience.

See Note 11 for information regarding the liabilities for traditional long-duration products.

Short-Duration Products

The liabilities for short-duration products primarily include auto and home reserves comprised of amounts determined from loss reports on individual claims, as well as amounts based on historical loss experience for losses incurred but not yet reported. Such liabilities are based on estimates. The Company's methods for making such estimates and for establishing the resulting liabilities are continually reviewed, and any adjustments are reflected in earnings in the period such adjustments are made.

Unearned Revenue Liability

The Company's UL and VUL policies require payment of fees or other policyholder assessments in advance for services to be provided in future periods. These charges are deferred as unearned revenue and amortized using EGPs, similar to DAC. The unearned revenue liability is recorded in other liabilities and the amortization is recorded in other revenues.

For clients who pay financial planning fees prior to the advisor's delivery of the financial plan, the financial planning fees received in advance are deferred as unearned revenue until the plan is delivered to the client.

Share-Based Compensation

The Company measures and recognizes the cost of share-based awards granted to employees and directors based on the grant-date fair value of the award and recognizes the expense (net of estimated forfeitures) on a straight-line basis over the vesting period. Excess tax benefits or deficiencies are created upon distribution or exercise of awards. In 2016 and prior years, excess tax benefits were recognized in additional paid-in-capital and excess tax deficiencies were recognized either as an offset to accumulated excess tax benefits, if any, or in the income statement. Beginning in 2017, all excess tax benefits and tax deficiencies are recognized as income tax expense or benefit in the income statement. The fair value of each option is estimated on the grant date using a Black-Scholes option-pricing model. The Company recognizes the cost of performance share units granted to the Company's Executive Leadership Team on a fair value basis until fully vested.

Income Taxes

The Company's provision for income taxes represents the net amount of income taxes that the Company expects to pay or to receive from various taxing jurisdictions in connection with its operations. The Company provides for income taxes based on amounts that the Company believes it will ultimately owe taking into account the recognition and measurement for uncertain tax positions. Inherent in the provision for income taxes are estimates and judgments regarding the tax treatment of certain items.

In connection with the provision for income taxes, the Consolidated Financial Statements reflect certain amounts related to deferred tax assets and liabilities, which result from temporary differences between the assets and liabilities measured for financial statement purposes versus the assets and liabilities measured for tax return purposes.

The Company is required to establish a valuation allowance for any portion of its deferred tax assets that management believes will not be realized. Significant judgment is required in determining if a valuation allowance should be established and the amount of such allowance if required. Factors used in making this determination include estimates relating to the performance of the business. Consideration is given to, among other things in making this determination: (i) future taxable income exclusive of reversing temporary differences and carryforwards; (ii) future reversals of existing taxable temporary differences; (iii) taxable income in prior carryback years; and (iv) tax planning strategies. Management may need to identify and implement appropriate planning strategies to ensure its ability to realize deferred tax assets and reduce the likelihood of the establishment of a valuation allowance with respect to such assets. See Note 22 for additional information on the Company’s valuation allowance.

Changes in tax rates and tax law are accounted for in the period of enactment. Deferred tax assets and liabilities are adjusted for the effect of a change in tax laws or rates and the effect is included in income from continuing operations. See Note 22 for further discussion on the enactment of the legislation commonly referred to as the Tax Cuts and Jobs Act (“Tax Act”) and the impact to the Company’s provision for income taxes for the year ended December 31, 2017.

Revenue Recognition

See Note 4 for discussion of accounting policies on revenue from contracts with customers in accordance with ASU 2014-09 Revenue from Contracts with Customers (“ASU 2014-09”). The following discussion includes the Company’s accounting policies on recognition of revenues outside the scope of ASU 2014-09.

Mortality and expense risk fees are generally calculated as a percentage of the fair value of assets held in separate accounts and recognized when assessed.

Interest income is accrued as earned using the effective interest method, which makes an adjustment of the yield for security premiums and discounts on all performing fixed maturity securities classified as Available-for-Sale so that the related security or loan recognizes a constant rate of return on the outstanding balance throughout its term. When actual prepayments differ significantly from originally anticipated prepayments, the retrospective effective yield is recalculated to reflect actual payments to date and updated future payment assumptions and a catch-up adjustment is recorded in the current period. In addition, the new effective yield, which reflects anticipated future payments, is used prospectively. Realized gains and losses on securities, other than trading securities and equity method investments, are recognized using the specific identification method on a trade date basis.

Premiums on auto and home insurance are net of reinsurance premiums and recognized ratably over the coverage period. Premiums on traditional life, health insurance and immediate annuities with a life contingent feature are net of reinsurance ceded and are recognized as revenue when due.

Variable annuity guaranteed benefit rider charges and cost of insurance charges on UL and VUL insurance (net of reinsurance premiums and cost of reinsurance for universal life insurance products) are recognized as revenue when assessed.

3. Recent Accounting Pronouncements

Adoption of New Accounting Standards

Revenue from Contracts with Customers

In May 2014, the Financial Accounting Standards Board (“FASB”) updated the accounting standards for revenue from contracts with customers. The update provides a five-step revenue recognition model for all revenue arising from contracts with customers and affects all entities that enter into contracts to provide goods or services to their customers (unless the contracts are in the scope of other standards). The standard also updates the accounting for certain costs associated with obtaining and fulfilling a customer contract and requires disclosure of quantitative and qualitative information that enables users of financial statements to understand the nature, amount, timing, and uncertainty of revenues and cash flows arising from contracts with customers. The standard was effective for interim and annual periods beginning after December 15, 2017. The standard was permitted to be applied retrospectively for all periods presented or retrospectively with a cumulative-effect adjustment at the date of adoption. The Company adopted the revenue recognition guidance on a retrospective basis on January 1, 2018. The update does not apply to revenue associated with the manufacturing of insurance and annuity products or financial instruments as these revenues are in the scope of other standards. Therefore, the update did not have an impact on these revenues. The Company’s implementation efforts included the identification of revenue within the guidance and the review of the customer contracts to determine the Company’s performance obligation and the associated timing of each performance obligation. The Company determined that certain payments received primarily related to franchise advisor fees should be presented as revenue rather than a reduction of expense. The impact of the change was an increase to revenues of $105 million and $104 million and an increase to expenses of $105 million and $105 million for the years ended December 31, 2017 and 2016, respectively. See Note 4 for new disclosures on revenue from contracts with customers.

Financial Instruments – Recognition and Measurement of Financial Assets and Financial Liabilities

In January 2016, the FASB updated the accounting standards on the recognition and measurement of financial instruments. The update requires entities to carry marketable equity securities, excluding investments in securities that qualify for the equity method of accounting, at fair value with changes in fair value reflected in net income each reporting period. The update affects other aspects of accounting for equity instruments, as well as the accounting for financial liabilities utilizing the fair value option. The update eliminates the requirement to disclose the methods and assumptions used to estimate the fair value of financial assets or liabilities held at cost on the balance sheet and requires entities to use the exit price notion when measuring the fair value of these financial instruments. The standard was effective for interim and annual periods beginning after December 15, 2017. The Company adopted the standard on January 1, 2018 using a modified retrospective approach. The adoption of the standard did not have a material impact on the Company’s consolidated results of operations or financial condition.

Compensation – Retirement Benefits – Defined Benefit Plans – General – Disclosure Framework – Changes to the Disclosure Requirements for Defined Benefit Plans

In August 2018, the FASB updated the accounting standards related to disclosures for sponsors of defined benefit plans. The update requires disclosure of the weighted-average interest crediting rate for cash balance plans and an explanation of the reasons for significant gains and losses related to changes in the benefit obligation for the period. The update also eliminates the disclosure of the amounts in AOCI expected to be recognized as components of net period benefit cost over the next fiscal year. The update is effective for annual periods ending after December 15, 2020, and should be applied retrospectively. The Company early adopted the standard in the fourth quarter of 2018 on a retrospective basis and updated the disclosures in Note 23. The adoption did not have an impact on the Company's consolidated results of operations or financial condition.

Fair Value Measurement – Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement

In August 2018, the FASB updated the accounting standards related to disclosures for fair value measurements. The update eliminates the following disclosures: 1) the amount of and reasons for transfers between Level 1 and Level 2 of the fair value hierarchy, 2) the policy of timing of transfers between levels of the fair value hierarchy, and 3) the valuation processes for Level 3 fair value measurements. The new disclosures include changes in unrealized gains and losses for the period included in OCI for recurring Level 3 fair value measurements of instruments held at the end of the reporting period and the range and weighted average used to develop significant unobservable inputs and how the weighted average was calculated. The new disclosures are required on a prospective basis; all other provisions should be applied retrospectively. The update is effective for interim and annual periods beginning after December 15, 2019. Early adoption is permitted for the entire standard or only the provisions to eliminate or modify disclosure requirements. The Company early adopted the provisions of the standard to eliminate or modify disclosure requirements in the fourth quarter of 2018. The update does not have an impact on the Company's consolidated results of operations or financial condition.

Statement of Cash Flows – Restricted Cash

In November 2016, the FASB updated the accounting standards related to the classification of restricted cash on the statement of cash flows. The update requires entities to include restricted cash and restricted cash equivalents in cash and cash equivalent balances on the statement of cash flows and disclose a reconciliation between the balances on the statement of cash flows and the balance sheet. The standard was effective for interim and annual periods beginning after December 15, 2017. The Company early adopted the standard for the interim period ended March 31, 2017 on a retrospective basis. As a result of the adoption of the standard, restricted cash balances of $2.5 billion and $2.9 billion as of December 31, 2017 and 2016, respectively, are included in the cash and cash equivalents balances on the Company's consolidated statements of cash flows. The impact of the change in restricted cash resulted in a $358 million increase to the Company's operating cash flows for the year ended December 31, 2016.

Statement of Cash Flows – Classification of Certain Cash Receipts and Cash Payments

In August 2016, the FASB updated the accounting standards related to classification of certain cash receipts and cash payments on the statement of cash flows. The update includes amendments to address diversity in practice for the classification of eight specific cash flow activities. The specific amendments the Company evaluated include the classification of debt prepayment and extinguishment costs, contingent consideration payments, proceeds from insurance settlements and corporate owned life insurance settlements, distributions from equity method investees and the application of the predominance principle to separately identifiable cash flows. The standard was effective for interim and annual periods beginning after December 15, 2017. The Company early adopted the standard for the interim period ended March 31, 2017 on a retrospective basis. The adoption of the standard did not have a material impact on the Company's operating, investing or financing cash flows.

Compensation – Stock Compensation

In March 2016, the FASB updated the accounting standards related to employee share-based payments. The update requires all excess tax benefits and tax deficiencies to be recognized as income tax expense or benefit in the income statement. This change is required to be applied prospectively to excess tax benefits and tax deficiencies resulting from settlements after the date of adoption. No adjustment is recorded for any excess tax benefits or tax deficiencies previously recorded in additional paid in capital. The update also requires excess tax benefits to be classified along with other income tax cash flows as an operating activity in the statement of cash flows. This provision can be applied on either a prospective or retrospective basis. The update permits entities to make an accounting policy election to recognize forfeitures as they occur rather than estimating forfeitures to determine the recognition of expense for share-based payment awards. The standard was effective for interim and annual periods beginning after December 15, 2016. The Company adopted the standard on January 1, 2017 on a prospective basis, except for the cash flow statement provision, which the Company applied on a retrospective basis. During periods in which the settlement date value differs materially from the grant date fair value of certain share-based payment awards, the Company may experience volatility in income tax recognized in its consolidated results of operations. During the year ended December 31, 2017, the Company recognized net excess tax benefits of $70 million as a reduction to the income tax provision in the consolidated statements of operations. The Company maintained its accounting policy of estimating forfeitures. As a result of the adoption of the standard, net excess tax benefits of $70 million and $14 million for the years ended December 31, 2017 and 2016, respectively, are included in the Other, net line within operating cash flows on the Company's consolidated statements of cash flows.

Consolidation

In February 2015, the FASB updated the accounting standard for consolidation. The update changes the accounting for the consolidation model for limited partnerships and VIEs and excludes certain money market funds from the consolidation analysis. Specific to the consolidation analysis of a VIE, the update clarifies consideration of fees paid to a decision maker and amends the related party guidance. The Company adopted the standard on January 1, 2016 using the modified retrospective approach. The adoption resulted in the deconsolidation of several CLOs and all property funds with a decrease of approximately $6.2 billion of assets, $4.9 billion of liabilities and $1.3 billion of equity (noncontrolling interests and appropriated retained earnings of consolidated investment entities). Effective January 1, 2016, intercompany amounts between the Company and the deconsolidated CLOs and property funds are no longer eliminated in consolidation.

In August 2014, the FASB updated the accounting standard related to consolidation of collateralized financing entities. The update applies to reporting entities that consolidate a collateralized financing entity and measures all financial assets and liabilities of the collateralized financing entity at fair value. The update provides a measurement alternative which would allow an entity to measure both the financial assets and financial liabilities at the fair value of the more observable of the fair value of the financial assets or financial liabilities. When the measurement alternative is elected, the reporting entity’s net income should reflect its own economic interests in the collateralized financing entity, including changes in the fair value of the beneficial interests retained by the reporting entity and beneficial interests that represent compensation for services. If the measurement alternative is not elected, the financial assets and financial liabilities should be measured separately in accordance with the requirements of the fair value accounting standard. Any difference in the fair value of the assets and liabilities would be recorded to net income attributable to the reporting entity. The Company adopted the standard on January 1, 2016 and elected the measurement alternative using the modified retrospective approach. The adoption of the standard did not have a material impact on the Company’s consolidated results of operations and financial condition after the deconsolidation of several CLOs noted above.

Future Adoption of New Accounting Standards

Leases – Recognition of Lease Assets and Liabilities on Balance Sheet

In February 2016, the FASB updated the accounting standards for leases. The update was issued to increase transparency and comparability for the accounting of lease transactions. The standard will require most lease transactions for lessees to be recorded on the balance sheet as lease assets and lease liabilities and both quantitative and qualitative disclosures about leasing arrangements. The standard is effective for interim and annual periods beginning after December 15, 2018 with early adoption permitted. Entities may elect to adopt the standard using a modified retrospective approach at either the beginning of the earliest period presented or as of the date of adoption. The Company adopted the standard using a modified retrospective approach as of January 1, 2019. The Company also elected the package of practical expedients permitted under the transition guidance within the accounting standard that allows entities to carryforward their historical lease classification and to not reassess contracts for embedded leases among other things. The Company recorded a right-of-use asset of approximately $280 million and a corresponding lease liability of approximately $300 million substantially related to real estate leases. The amount the lease liability exceeds the right-of-use asset primarily reflects lease incentives recorded as a reduction of the right-of-use asset that were previously recorded as a liability. The adoption of the standard did not have other material impacts on the Company’s consolidated results of operations and financial condition.

Income Statement – Reporting Comprehensive Income – Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income

In February 2018, the FASB updated the accounting standards related to the presentation of tax effects stranded in AOCI. The update allows a reclassification from AOCI to retained earnings for tax effects stranded in AOCI resulting from the Tax Act. The update is optional and entities may elect not to reclassify the stranded tax effects. The update is effective for fiscal years beginning after December 15, 2018. Entities may elect to record the impacts either in the period of adoption or retrospectively to each period (or periods) in which the effect of the change in the U.S. federal corporate income tax rate in the Tax Act is recognized. Early adoption is permitted in any period. The Company adopted the standard on January 1, 2019 and elected not to reclassify the stranded tax effects in AOCI. The stranded effects are released from AOCI when an entire portfolio of the type of item related to the stranded effect is liquidated, sold or extinguished (i.e., portfolio approach). As such, the update did not have an impact on the Company’s consolidated results of operations and financial condition.

Derivatives and Hedging – Targeted Improvements to Accounting for Hedging Activities

In August 2017, the FASB updated the accounting standards to amend the hedge accounting recognition and presentation requirements. The objectives of the update are to better align the financial reporting of hedging relationships to the economic results of an entity’s risk management activities and simplify the application of the hedge accounting guidance. The update also adds new disclosures and amends existing disclosure requirements. The standard is effective for interim and annual periods beginning after December 15, 2018, and should be applied on a modified retrospective basis. The Company adopted the standard on January 1, 2019. The adoption did not have a material impact on the Company’s consolidated results of operations and financial condition.

Receivables – Nonrefundable Fees and Other Costs – Premium Amortization on Purchased Callable Debt Securities

In March 2017, the FASB updated the accounting standards to shorten the amortization period for certain purchased callable debt securities held at a premium. Under current guidance, premiums are generally amortized over the contractual life of the security. The amendments require the premium to be amortized to the earliest call date. The update applies to securities with explicit, non-contingent call features that are callable at fixed prices and on preset dates. The standard is effective for interim and annual periods beginning after December 15, 2018, and should be applied on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings as of the beginning of the period of adoption. The Company adopted the standard on January 1, 2019. The adoption did not have a material impact on the Company's consolidated results of operations or financial condition.

Financial Services – Insurance – Targeted Improvements to the Accounting for Long-Duration Contracts

In August 2018, the FASB updated the accounting standard related to long-duration insurance contracts. The guidance revises key elements of the measurement models and disclosure requirements for long-duration insurance contracts issued by insurers and reinsurers.

The guidance establishes a significant new category of benefit features called market risk benefits that protect the contract holder from other-than-nominal capital market risk and expose the insurer to that risk. Insurers will have to measure market risk benefits at fair value. Market risk benefits include variable annuity guaranteed benefits (i.e. guaranteed minimum death, withdrawal, withdrawal for life, accumulation and income benefits). The portion of the change in fair value attributable to a change in the instrument-specific credit risk of market risk benefits in a liability position will be recorded in OCI.

Significant changes also relate to the measurement of the liability for future policy benefits for nonparticipating traditional long-duration insurance contracts and immediate annuities with a life contingent feature include the following:

- Insurers will be required to review and update the cash flow assumptions used to measure the liability for future policy benefits rather than using assumptions locked in at contract inception. The review of assumptions to measure the liability for all future policy benefits will be required annually at the same time each year, or more frequently if suggested by experience. The effect of updating assumptions will be measured on a retrospective catch-up basis and presented separate from the ongoing policyholder benefit expense in the statement of operations in the period the update is made. This new unlocking process will be required for the Company's term and whole life insurance, DI and LTC insurance and immediate annuities with a life contingent feature.
- The discount rate used to measure the liability for future policy benefits will be standardized. The current requirement to use a discount rate reflecting expected investment yields will change to an upper-medium grade (low credit risk) fixed income corporate instrument yield (generally interpreted as an "A" rating) reflecting the duration characteristics of the liability. Entities will be required to update the discount rate at each reporting date with the effect of discount rate changes reflected in OCI.
- The current premium deficiency test is being replaced with a net premium ratio cap of 100%. If the net premium ratio (i.e. the ratio of the present value of total expected benefits and related expenses to the present value of total expected premiums) exceeds 100%, insurers are required to recognize a loss in the statement of operations in the period. Contracts from different issue years will no longer be permitted to be grouped to determine contracts in a loss position.

In addition, the update requires DAC and DSIC relating to all long-duration contracts and most investment contracts to be amortized on a straight-line basis over the expected life of the contract independent of profit emergence. Under the new guidance, interest will not accrue to the deferred balance and DAC and DSIC will not be subject to an impairment test.

The update requires significant additional disclosures, including disaggregated rollforwards of the liability for future policy benefits, policyholder account balances, market risk benefits, DAC and DSIC, as well as qualitative and quantitative information about expected cash flows, estimates and assumptions. The update is effective for interim and annual periods beginning after December 15, 2020. The standard should be applied to the liability for future policy benefits and DAC and DSIC on a modified retrospective basis and applied to market risk benefits on a retrospective basis with the option to apply full retrospective transition if certain criteria are met. Early adoption is permitted. The Company is currently evaluating the impact of the standard on its consolidated results of operations, financial condition and disclosures.

Intangibles – Goodwill and Other – Internal-Use Software – Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract

In August 2018, the FASB updated the accounting standards related to customer's accounting for implementation costs incurred in a cloud computing arrangement ("CCA") that is a service contract. The update requires implementation costs for a CCA to be evaluated for capitalization using the same approach as implementation costs associated with internal-use software. The update also addresses presentation, measurement and impairment of capitalized implementation costs in a CCA that is a service contract. The update requires new disclosures on the nature of hosting arrangements that are service contracts, significant judgements made when applying the guidance and quantitative disclosures, including amounts capitalized, amortized and impaired. The update is effective for interim and annual periods beginning after December 15, 2019, and can be applied either prospectively or retrospectively. Early adoption is permitted. The update is not expected to have a material impact on the Company's consolidated results of operations or financial condition.

Intangibles – Goodwill and Other – Simplifying the Test for Goodwill Impairment

In January 2017, the FASB updated the accounting standards to simplify the accounting for goodwill impairment. The update removes the hypothetical purchase price allocation (Step 2) of the goodwill impairment test. Goodwill impairment will now be the amount by which a reporting unit's carrying value exceeds its fair value. The standard is effective for interim and annual periods beginning after December 15, 2019, and should be applied prospectively with early adoption permitted for any impairment tests performed after January 1, 2017. The update is not expected to have a material impact on the Company's consolidated results of operations or financial condition.

Financial Instruments – Credit Losses – Measurement of Credit Losses on Financial Instruments

In June 2016, the FASB updated the accounting standards related to accounting for credit losses on certain types of financial instruments. The update replaces the current incurred loss model for estimating credit losses with a new model that requires an entity to estimate the credit losses expected over the life of the asset. Generally, the initial estimate of the expected credit losses and subsequent changes in the estimate will be reported in current period earnings and recorded through an allowance for credit losses on the balance sheet. The current credit loss model for Available-for-Sale debt securities does not change; however, the credit loss calculation and subsequent recoveries are required to be recorded through an allowance. The standard is effective for interim and annual periods beginning after December 15, 2019. Early adoption will be permitted for interim and annual periods beginning after December 15, 2018. A modified retrospective cumulative adjustment to retained earnings should be recorded as of the first reporting period in which the guidance is effective for loans, receivables, and other financial instruments subject to the new expected credit loss model. Prospective adoption is required for establishing an allowance related to Available-for-Sale debt securities, certain beneficial interests, and financial assets purchased with a more-than-insignificant amount of credit deterioration since origination. The Company is currently evaluating the impact of the standard on its consolidated results of operations and financial condition.

4. Revenue from Contracts with Customers

On January 1, 2018, the Company adopted the new accounting standard for revenue from contracts with customers on a retrospective basis. See Note 3 for additional information on the adoption of the new accounting standard.

The following tables present revenue disaggregated by segment on an adjusted operating basis with a reconciliation of segment revenues to those reported on the Consolidated Statements of Operations for the years ended:

	December 31, 2018							
	Advice & Wealth Management	Asset Management	Annuities	Protection	Corporate & Other	Total Segments	Non-operating Revenue	Total
	(in millions)							
Management and financial advice fees:								
Asset management fees:								
Retail	$—	$ 1,874	$—	$—	$—	$1,874	$ —	$1,874
Institutional	—	453	—	—	—	453	—	453
Advisory fees	2,865	—	—	—	—	2,865	—	2,865
Financial planning fees	318	—	—	—	—	318	—	318
Transaction and other fees	355	190	57	8	—	610	—	610
Total management and financial advice fees	3,538	2,517	57	8	—	6,120	—	6,120
Distribution fees:								
Mutual funds	729	260	—	—	—	989	—	989
Insurance and annuity	890	173	332	35	—	1,430	—	1,430
Other products	622	—	—	—	—	622	—	622
Total distribution fees	2,241	433	332	35	—	3,041	—	3,041
Other revenues	171	3	—	1	—	175	—	175
Total revenue from contracts with customers	5,950	2,953	389	44	—	9,336	—	9,336
Revenue from other sources [(1)]	328	58	2,087	2,162	232	4,867	158	5,025
Total segment gross revenues	6,278	3,011	2,476	2,206	232	14,203	158	14,361
Less: Banking and deposit interest expense	89	—	—	—	6	95	—	95
Total segment net revenues	6,189	3,011	2,476	2,206	226	14,108	158	14,266
Less: intersegment revenues	952	50	356	61	(5)	1,414	17	1,431
Total net revenues	$5,237	$ 2,961	$2,120	$2,145	$231	$12,694	$ 141	$12,835

	December 31, 2017							
	Advice & Wealth Management	Asset Management	Annuities	Protection	Corporate & Other	Total Segments	Non-operating Revenue	Total
	(in millions)							
Management and financial advice fees:								
Asset management fees:								
Retail	$—	$ 1,851	$—	$—	$—	$1,851	$ —	$1,851
Institutional	—	495	—	—	—	495	—	495
Advisory fees	2,494	—	—	—	—	2,494	—	2,494
Financial planning fees	297	—	—	—	—	297	—	297
Transaction and other fees	362	202	57	8	—	629	—	629
Total management and financial advice fees	3,153	2,548	57	8	—	5,766	—	5,766
Distribution fees:								
Mutual funds	765	289	—	—	—	1,054	—	1,054
Insurance and annuity	855	169	327	33	—	1,384	—	1,384
Other products	475	—	—	—	—	475	—	475
Total distribution fees	2,095	458	327	33	—	2,913	—	2,913
Other revenues	164	2	—	—	—	166	—	166
Total revenue from contracts with customers	5,412	3,008	384	41	—	8,845	—	8,845
Revenue from other sources [(1)]	252	64	2,115	2,003	176	4,610	154	4,764
Total segment gross revenues	5,664	3,072	2,499	2,044	176	13,455	154	13,609
Less: Banking and deposit interest expense	48	—	—	—	3	51	—	51
Total segment net revenues	5,616	3,072	2,499	2,044	173	13,404	154	13,558
Less: intersegment revenues	953	47	351	62	(2)	1,411	15	1,426
Total net revenues	$4,663	$ 3,025	$2,148	$1,982	$175	$11,993	$ 139	$12,132

	December 31, 2016 Advice & Wealth Management (in millions)	Asset Management	Annuities	Protection	Corporate & Other	Total Segments	Non-operating Revenue	Total
Management and financial advice fees:								
Asset management fees:								
Retail	$—	$ 1,754	$—	$—	$ —	$1,754	$ —	$1,754
Institutional	—	455	—	—	—	455	—	455
Advisory fees	2,078	—	—	—	—	2,078	—	2,078
Financial planning fees	275	—	—	—	—	275	—	275
Transaction and other fees	358	220	56	8	—	642	—	642
Total management and financial advice fees	2,711	2,429	56	8	—	5,204	—	5,204
Distribution fees:								
Mutual funds	954	327	—	—	—	1,281	—	1,281
Insurance and annuity	827	160	310	30	—	1,327	—	1,327
Other products	338	—	—	—	—	338	—	338
Total distribution fees	2,119	487	310	30	—	2,946	—	2,946
Other revenues	158	2	—	—	—	160	—	160
Total revenue from contracts with customers	4,988	2,918	366	38	—	8,310	—	8,310
Revenue from other sources (1)	195	42	2,097	2,203	238	4,775	195	4,970
Total segment gross revenues	5,183	2,960	2,463	2,241	238	13,085	195	13,280
Less: Banking and deposit interest expense	39	—	—	—	1	40	—	40
Total segment net revenues	5,144	2,960	2,463	2,241	237	13,045	195	13,240
Less: intersegment revenues	982	44	333	46	1	1,406	34	1,440
Total net revenues	$4,162	$ 2,916	$2,130	$2,195	$ 236	$11,639	$ 161	$11,800

(1) Revenues not included in the scope of the revenue from contracts with customers standard. The amounts primarily consist of revenue associated with the manufacturing of insurance and annuity products or financial instruments.

The following discussion describes the nature, timing, and uncertainty of revenues and cash flows arising from the Company's contracts with customers on a consolidated basis.

Management and Financial Advice Fees

Asset Management Fees

The Company earns revenue for performing asset management services for retail and institutional clients. The revenue is earned based on a fixed or tiered rate applied, as a percentage, to assets under management. Assets under management vary with market fluctuations and client behavior. The asset management performance obligation is considered a series of distinct services that are substantially the same and are satisfied each day over the contract term. Asset management fees are accrued, invoiced and collected on a monthly or quarterly basis.

The Company's asset management contracts for Open Ended Investment Companies ("OEICs") in the UK and Société d'Investissement à Capital Variable ("SICAVs") in Europe include performance obligations for asset management and fund distribution services. The amounts received for these services are reported as management and financial advice fees. The revenue recognition pattern is the same for both performance obligations as the fund distribution services revenue is variably constrained due to factors outside the Company's control including market volatility and client behavior (such as how long clients hold their investment) and not recognized until assets under management are known.

The Company may also earn performance-based management fees on institutional accounts, hedge funds, collateralized loan obligations ("CLOs"), OEICs, SICAVs and property funds based on a percentage of account returns in excess of either a benchmark index or a contractually specified level. This revenue is variable and impacted primarily by the performance of the assets being managed compared to the benchmark index or contractually specified level. The revenue is not recognized until it is probable that a significant reversal will not occur. Performance-based management fees are invoiced on a quarterly or annual basis.

Advisory Fees

The Company earns revenue for performing investment advisory services for certain brokerage customer's discretionary and non-discretionary managed accounts. The revenue is earned based on a contractual fixed rate applied, as a percentage, to the market value of assets held in the account. The investment advisory performance obligation is considered a series of distinct services that are substantially the same and are satisfied each day over the contract term. Advisory fees are accrued daily and invoiced or charged on a monthly or quarterly basis.

Financial Planning Fees

The Company earns revenue for providing financial plans to its clients. The revenue earned for each financial plan is either a fixed fee (received monthly, quarterly or annually) or a variable fee (received monthly or quarterly) based on a contractual fixed rate applied, as a percentage, to assets held in a client's investment advisory account. The financial planning fee is based on the complexity of a client's financial and life situation and his or her advisor's experience. The performance obligation is satisfied at the time the financial plan is delivered to the customer. The Company records a contract liability for the unearned revenue when cash is received before the plan is delivered. The financial plan contracts with clients are annual contracts. Amounts recorded as a contract liability are recognized as revenue when the financial plan is delivered, which occurs within the annual contract period.

For fixed fee arrangements, revenue is recognized when the financial plan is delivered. The Company accrues revenue for any amounts that have not been received at the time the financial plan is delivered.

For variable fee arrangements, revenue is recognized for cash that has been received when the financial plan is delivered. The amount received after the plan is delivered is variably constrained due to factors outside the Company's control including market volatility and client behavior. The revenue is recognized when it is probable that a significant reversal will not occur that is generally each month or quarter end as the advisory account balance uncertainty is resolved.

Contract liabilities for financial planning fees, which are included in other liabilities in the Consolidated Balance Sheets, were $138 million and $134 million as of December 31, 2018 and 2017, respectively.

The Company pays sales commissions to advisors when a new financial planning contract is obtained or when an existing contract is renewed. The sales commissions paid to the advisors prior to financial plan delivery are considered costs to obtain a contract with a customer and are initially capitalized. When the performance obligation to deliver the financial plan is satisfied, the commission is recognized as distribution expense. Capitalized costs to obtain these contracts are reported in other assets in the Consolidated Balance Sheets, and were $112 million and $109 million as of December 31, 2018 and 2017, respectively.

Transaction and Other Fees

The Company earns revenue for providing customer support, shareholder and administrative services (including transfer agent services) for affiliated mutual funds and networking, sub-accounting and administrative services for unaffiliated mutual funds. The Company also receives revenue for providing custodial services and account maintenance services on brokerage and retirement accounts that are not included in an advisory relationship. Transfer agent and administrative revenue is earned based on either a fixed rate applied, as a percentage, to assets under management or an annual fixed fee for each fund position. Networking and sub-accounting revenue is earned based on either an annual fixed fee for each account or an annual fixed fee for each fund position. Custodial and account maintenance revenue is generally earned based on a quarterly or annual fixed fee for each account. Each of the customer support and administrative services performance obligations are considered a series of distinct services that are substantially the same and are satisfied each day over the contract term. Transaction and other fees (other than custodial service fees) are invoiced or charged to brokerage accounts on a monthly or quarterly basis. Custodial service fees are invoiced or charged to brokerage accounts on an annual basis. Contract liabilities for custodial service

fees, which are included in other liabilities in the Consolidated Balance Sheets, were nil as of both December 31, 2018 and 2017.
The Company earns revenue for providing trade execution services to franchise advisors. The trade execution performance obligation is satisfied at the time of each trade and the revenue is primarily earned based on a fixed fee per trade. These fees are invoiced and collected on a semi-monthly basis.
Distribution Fees
Mutual Funds and Insurance and Annuity Products
The Company earns revenue for selling affiliated and unaffiliated mutual funds, fixed and variable annuities and insurance products. The performance obligation is satisfied at the time of each individual sale. A portion of the revenue is based on a fixed rate applied, as a percentage, to amounts invested at the time of sale. The remaining revenue is recognized over the time the client owns the investment or holds the contract and is generally earned based on a fixed rate applied, as a percentage, to the net asset value of the fund, or the value of the insurance policy or annuity contract. The ongoing revenue is not recognized at the time of sale because it is variably constrained due to factors outside the Company’s control including market volatility and client behavior (such as how long

clients hold their investment, insurance policy or annuity contract). This ongoing revenue may be recognized for many years after the initial sale. The revenue will not be recognized until it is probable that a significant reversal will not occur.

The Company earns revenue for providing unaffiliated partners an opportunity to educate the Company’s advisors or to support availability and distribution of their products on the Company’s platforms. These payments allow the outside parties to train and support the advisors, explain the features of their products and distribute marketing and educational materials, and support trading and operational systems necessary to enable the Company’s client servicing and production distribution efforts. The Company earns revenue for placing and maintaining unaffiliated fund partners and insurance companies’ products on the Company’s sales platform (subject to the Company’s due diligence standards). The revenue is primarily earned based on a fixed fee or a fixed rate applied, as a percentage, to the market value of assets invested. These performance obligations are considered a series of distinct services that are substantially the same and are satisfied each day over the contract term. These fees are invoiced and collected on monthly basis.

Other Products

The Company earns revenue for selling unaffiliated alternative products. The performance obligation is satisfied at the time of each individual sale. A portion of the revenue is based on a fixed rate applied, as a percentage, to amounts invested at the time of sale. The remaining revenue is recognized over the time the client owns the investment and is earned generally based on a fixed rate applied, as a percentage, to the market value of the investment. The ongoing revenue is not recognized at the time of sale because it is variably constrained due to factors outside the Company’s control including market volatility and client behavior (such as how long clients hold their investment). The revenue will not be recognized until it is probable that a significant reversal will not occur.

The Company earns revenue from brokerage clients for the execution of requested trades. The performance obligation is satisfied at the time of trade execution and amounts are received on the settlement date. The revenue varies for each trade based on various factors that include the type of investment, dollar amount of the trade and how the trade is executed (online or broker assisted).

The Company earns revenue for placing clients’ deposits in its brokerage sweep program with third-party banks. The amount received from the third-party banks is impacted by short-term interest rates. The performance obligation with the financial institutions that participate in the sweep program is considered a series of distinct services that are substantially the same and are satisfied each day over the contract term. The revenue is earned daily and settled monthly based on a rate applied, as a percentage, to the deposits placed.

Other Revenues

The Company earns revenue from fees charged to franchise advisors for providing various services the advisors need to manage and grow their practices. The primary services include: licensing of intellectual property and software, compliance supervision, insurance coverage, technology services and support, consulting and other services. The services are either provided by the Company or third- party providers. The Company controls the services provided by third parties as it has the right to direct the third parties to perform the services, is primarily responsible for performing the services and sets the prices the advisors are charged. The Company recognizes revenue for the gross amount of the fees received from the advisors. The fees are primarily collected monthly as a reduction of commission payments. Intellectual property and software licenses, along with compliance supervision, insurance coverage, and technology services and support are primarily earned based on a monthly fixed fee. These services are considered a series of distinct services that are substantially the same and are satisfied each day over the contract term. The consulting and other services performance obligations are satisfied as the services are delivered and revenue is earned based upon the level of service requested. Prior to the implementation of the revenue recognition standard, fees received from the advisors for software licenses, compliance supervision, technology services and support, consulting, and other services were recorded as a reduction to the Company’s expenses to provide the services and totaled $106 million, $103 million and $102 million for the years ended December 31, 2018, 2017 and 2016, respectively.

Receivables

Receivables for revenue from contracts with customers are recognized when the performance obligation is satisfied and the Company has an unconditional right to the revenue. Receivables related to revenues from contracts with customers were $644 million and $657 million as of December 31, 2018 and 2017, respectively.

5. Variable Interest Entities

The Company provides asset management services to investment entities which are considered to be VIEs, such as CLOs, hedge funds, property funds, and certain non-U.S. series funds OEICs and SICAVs (collectively, "investment entities"), which are sponsored by the Company. In addition, the Company invests in structured investments other than CLOs and certain affordable housing partnerships which are considered VIEs. The Company consolidates certain investment entities (collectively, "consolidated investment entities") if the Company is deemed to be the primary beneficiary. The Company has no obligation to provide financial or other support to the non-consolidated VIEs beyond its investment nor has the Company provided any support to these entities.

See Note 2 for further discussion of the Company's accounting policy on consolidation.

CLOs

CLOs are asset backed financing entities collateralized by a pool of assets, primarily syndicated loans and, to a lesser extent, high-yield bonds. Multiple tranches of debt securities are issued by a CLO, offering investors various maturity and credit risk characteristics. The debt securities issued by the CLOs are non-recourse to the Company. The CLO's debt holders have recourse only to the assets of the CLO. The assets of the CLOs cannot be used by the Company. Scheduled debt payments are based on the performance of the CLO's collateral pool. The Company earns management fees from the CLOs based on the CLO's collateral pool and, in certain instances, may also receive incentive fees. The fee arrangement is at market and commensurate with the level of effort required to provide those services. The Company has invested in a portion of the unrated, junior subordinated notes of certain CLOs. The Company consolidates certain CLOs where it is the primary beneficiary and has the power to direct the activities that most significantly impact the economic performance of the CLO.

The Company's maximum exposure to loss with respect to non-consolidated CLOs is limited to its amortized cost, which was $5 million and $6 million as of December 31, 2018 and 2017, respectively. The Company classifies these investments as Available-for-Sale securities. See Note 6 for additional information on these investments.

Property Funds

The Company provides investment advice and related services to property funds some of which are considered VIEs. For investment management services, the Company generally earns management fees based on the market value of assets under management, and in certain instances may also receive performance-based fees. The fee arrangement is at market and commensurate with the level of effort required to provide those services. The Company does not have a significant economic interest and is not required to consolidate any of the property funds. The carrying value of the Company's investment in property funds is reflected in other investments and was $18 million and $24 million as of December 31, 2018 and 2017, respectively.

Hedge Funds and other Private Funds

The Company does not consolidate hedge funds and other private funds which are sponsored by the Company and considered VIEs. For investment management services, the Company earns management fees based on the market value of assets under management, and in certain instances may also receive performance-based fees. The fee arrangement is at market and commensurate with the level of effort required to provide those services and the Company does not have a significant economic interest in any fund. The Company's maximum exposure to loss with respect to its investment in these entities is limited to its carrying value. The carrying value of the Company's investment in these entities is reflected in other investments and was $7 million as of both December 31, 2018 and 2017.

Non-U.S. Series Funds

The Company manages non-U.S. series funds, which are considered VIEs. For investment management services, the Company earns management fees based on the market value of assets under management, and in certain instances may also receive performance-based fees. The fee arrangement is at market and commensurate with the level of effort required to provide those services. The Company does not consolidate these funds and its maximum exposure to loss is limited to its carrying value. The carrying value of the Company's investment in these funds is reflected in other investments and was $30 million and $25 million as of December 31, 2018 and 2017, respectively.

Affordable Housing Partnerships and Other Real Estate Partnerships

The Company is a limited partner in affordable housing partnerships that qualify for government-sponsored low income housing tax credit programs and partnerships that invest in multi-family residential properties that were originally developed with an affordable housing component. The Company has determined it is not the primary beneficiary and therefore does not consolidate these partnerships.

A majority of the limited partnerships are VIEs. The Company’s maximum exposure to loss as a result of its investment in the VIEs is limited to the carrying value. The carrying value is reflected in other investments and was $352 million and $408 million as of December 31, 2018 and 2017, respectively. The Company had a $43 million and a $97 million liability recorded as of December 31, 2018 and 2017, respectively, related to original purchase commitments not yet remitted to the VIEs. The Company has not provided any additional support and is not contractually obligated to provide additional support to the VIEs beyond the above mentioned funding commitments.

Structured Investments

The Company invests in structured investments which are considered VIEs for which it is not the sponsor. These structured investments typically invest in fixed income instruments and are managed by third parties and include asset backed securities, commercial and residential mortgage backed securities. The Company classifies these investments as Available-for-Sale securities. The Company has determined that it is not the primary beneficiary of these structures due to the size of the Company's investment in the entities and position in the capital structure of these entities. The Company's maximum exposure to loss as a result of its investment in these structured investments is limited to its amortized cost. See Note 6 for additional information on these structured investments.

Fair Value of Assets and Liabilities

The Company categorizes its fair value measurements according to a three-level hierarchy. See Note 15 for the definition of the three levels of the fair value hierarchy.

The following tables present the balances of assets and liabilities held by consolidated investment entities measured at fair value on a recurring basis:

	December 31, 2018			
	Level 1	Level 2	Level 3	Total
	(in millions)			
Assets				
Investments:				
Corporate debt securities	$—	$9	$—	$9
Common stocks	1	1	—	2
Other investments	4	—	—	4
Syndicated loans	—	1,465	226	1,691
Total investments	5	1,475	226	1,706
Receivables	—	12	—	12
Total assets at fair value	$5	$1,487	$226	$1,718
Liabilities				
Debt [(1)]	$—	$1,743	$—	$1,743
Other liabilities	—	122	—	122
Total liabilities at fair value	$—	$1,865	$—	$1,865

	December 31, 2017			
	Level 1	Level 2	Level 3	Total
	(in millions)			
Assets				
Investments:				
Corporate debt securities	$—	$27	$—	$27
Common stocks	18	8	4	30
Other investments	5	—	—	5
Syndicated loans	—	1,889	180	2,069
Total investments	23	1,924	184	2,131
Receivables	—	25	—	25
Total assets at fair value	$23	$1,949	$184	$2,156
Liabilities				
Debt [(1)]	$—	$2,206	$—	$2,206
Other liabilities	—	63	—	63
Total liabilities at fair value	$—	$2,269	$—	$2,269

[(1)] The carrying value of the CLOs' debt is set equal to the fair value of the CLOs' assets. The estimated fair value of the CLOs' debt was $1.7 billion and $2.2 billion as of December 31, 2018 and 2017, respectively.

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The following tables provide a summary of changes in Level 3 assets and liabilities held by consolidated investment entities measured at fair value on a recurring basis:

	Common Stocks	Syndicated Loans
	(in millions)	
Balance, January 1, 2018	$4	$ 180
Total gains (losses) included in:		
Net income	6 [1]	(1) [1]
Purchases	—	97
Sales	(10)	(41)
Settlements	—	(52)
Transfers into Level 3	4	173
Transfers out of Level 3	(2)	(160)
Consolidation of consolidated investment entities	—	54
Deconsolidation of consolidated investment entities	(2)	(24)
Balance, December 31, 2018	$—	$ 226
Changes in unrealized gains (losses) included in income relating to assets held at December 31, 2018	$—	$ (4) [1]

	Corporate Debt Securities	Common Stocks	Syndicated Loans
	(in millions)		
Balance, January 1, 2017	$—	$ 5	$ 254
Total gains (losses) included in:			
Net income	—	(1) [1]	—
Purchases	—	3	146
Sales	(2)	(2)	(28)
Settlements	—	—	(70)
Transfers into Level 3	2	7	266
Transfers out of Level 3	—	(8)	(388)
Balance, December 31, 2017	$—	$ 4	$ 180
Changes in unrealized gains (losses) included in income relating to assets held at December 31, 2017	$—	$ (1) [1]	$ (1) [1]

	Common Stocks	Syndicated Loans	Other Assets	Debt
	(in millions)			
Balance, January 1, 2016	$3	$ 529	$2,065	$(6,630)
Cumulative effect of change in accounting policies [2]	(2)	(304)	(2,065)	6,630
Balance, January 1, 2016, as adjusted	1	225	—	—
Total gains (losses) included in:				
Net income	2 [1]	7 [1]	1 [3]	—
Purchases	1	145	—	—
Sales	—	(24)	(1)	—
Settlements	—	(69)	—	—
Transfers into Level 3	3	405	—	—
Transfers out of Level 3	(2)	(435)	—	—
Balance, December 31, 2016	$5	$ 254	$—	$—
Changes in unrealized gains (losses) included in income relating to assets held at December 31, 2016	$1 [1]	$ 3 [1]	$—	$—

[1] Included in net investment income in the Consolidated Statements of Operations.

[2] The cumulative effect of change in accounting policies includes the adoption impact of ASU 2015-02 and *ASU 2014-13 – Consolidation: Measuring the Financial Assets and the Financial Liabilities of a Consolidated Collateralized Financing Entity* (“ASU 2014-13”).

[3] Included in other revenues in the Consolidated Statements of Operations.

Securities and loans transferred from Level 3 primarily represent assets with fair values that are now obtained from a third-party pricing service with observable inputs or priced in active markets. Securities and loans transferred to Level 3 represent assets with fair values that are now based on a single non-binding broker quote.

All Level 3 measurements as of December 31, 2018 and 2017 were obtained from non-binding broker quotes where unobservable inputs utilized in the fair value calculation are not reasonably available to the Company.

Determination of Fair Value

Assets

Investments

The fair value of syndicated loans obtained from third-party pricing services using a market approach with observable inputs is classified as Level 2. The fair value of syndicated loans obtained from third-party pricing services with a single non-binding broker quote as the underlying valuation source is classified as Level 3. The underlying inputs used in non-binding broker quotes are not readily available to the Company. See Note 15 for a description of the Company’s determination of the fair value of corporate debt securities, common stocks and other investments.

Receivables

For receivables of the consolidated CLOs, the carrying value approximates fair value as the nature of these assets has historically been short term and the receivables have been collectible. The fair value of these receivables is classified as Level 2.

Other Assets

Other assets primarily consisted of properties held in consolidated property funds managed by Threadneedle and were classified as Level 3. The property funds were deconsolidated effective January 1, 2016 upon the adoption of ASU 2015-02.

Liabilities

Debt

Effective January 1, 2016, the Company adopted ASU 2014-13 and elected the measurement alternative, which allows an entity to measure both the financial assets and financial liabilities at the fair value of the more observable of the fair value of the financial assets or financial liabilities. See Note 3 for additional information on ASU 2014-13. The fair value of the CLOs’ assets, typically syndicated bank loans, is more observable than the fair value of the CLOs’ debt tranches for which market activity is limited and less transparent. As a result, the fair value of the CLOs’ debt is set equal to the fair value of the CLOs' assets and is classified as Level 2.

Prior to adoption of ASU 2014-13, the fair value of the CLOs' debt was determined using a discounted cash flow model. Inputs used to determine the expected cash flows included assumptions about default, discount, prepayment and recovery rates of the CLOs' underlying assets. Given the significance of the unobservable inputs to this fair value measurement, the fair value of the CLOs' debt was classified as Level 3 prior to adoption of ASU 2014-13.

Other Liabilities

Other liabilities consist primarily of securities purchased but not yet settled held by consolidated CLOs. The carrying value approximates fair value as the nature of these liabilities has historically been short term. The fair value of these liabilities is classified as Level 2.

Fair Value Option

The Company has elected the fair value option for the financial assets and liabilities of the consolidated CLOs. Management believes that the use of the fair value option better matches the changes in fair value of assets and liabilities related to the CLOs.

The following table presents the fair value and unpaid principal balance of loans and debt for which the fair value option has been elected:

	December 31, 2018 (in millions)	December 31, 2017 (in millions)
Syndicated loans		
Unpaid principal balance	$1,743	$2,140
Excess unpaid principal over fair value	(52)	(71)
Fair value	$1,691	$2,069
Fair value of loans more than 90 days past due	$—	$24
Fair value of loans in nonaccrual status	—	24
Difference between fair value and unpaid principal of loans more than 90 days past due, loans in nonaccrual status or both	—	35
Debt		
Unpaid principal balance	$1,951	$2,340
Excess unpaid principal over fair value	(208)	(134)
Carrying value [(1)]	$1,743	$2,206

[(1)] The carrying value of the CLOs' debt is set equal to the fair value of the CLOs' assets. The estimated fair value of the CLOs' debt was $1.7 billion and $2.2 billion as of December 31, 2018 and December 31, 2017, respectively.

Interest income from syndicated loans, bonds and structured investments is recorded based on contractual rates in net investment income. Gains and losses related to changes in the fair value of investments and gains and losses on sales of investments are also recorded in net investment income. Interest expense on debt is recorded in interest and debt expense with gains and losses related to changes in the fair value of debt recorded in net investment income.

Total net gains (losses) recognized in net investment income related to changes in the fair value of financial assets and liabilities for which the fair value option was elected were $47 million, $(5) million and $(38) million for the years ended December 31, 2018, 2017 and 2016, respectively.

Debt of the consolidated investment entities and the stated interest rates were as follows:

	Carrying Value December 31, 2018 (in millions)	Carrying Value December 31, 2017 (in millions)	Weighted Average Interest Rate December 31, 2018	Weighted Average Interest Rate December 31, 2017
Debt of consolidated CLOs due 2019-2030	$1,743	$2,206	3.7%	2.8%

The debt of the consolidated CLOs has both fixed and floating interest rates, which range from 0% to 11.2%. The interest rates on the debt of CLOs are weighted average rates based on the outstanding principal and contractual interest rates.

As of December 31, 2018, future maturities of debt were as follows:

	(in millions)
2019	$ 54
2020	—
2021	—

2022	—
2023	—
Thereafter	1,897
Total future maturities	$ 1,951

6. Investments

The following is a summary of investments:

	December 31, 2018	December 31, 2017
	(in millions)	
Available-for-Sale securities, at fair value	$31,058	$30,927
Mortgage loans, net	2,696	2,756
Policy and certificate loans	861	845
Other investments	1,210	1,397
Total	$35,825	$35,925

The carrying value of held-to-maturity certificates of deposit, which are included in other investments, was $7 million and $205 million as of December 31, 2018 and December 31, 2017, respectively, which approximates fair value due to the short time between the purchase of the instrument and its expected realization.

The following is a summary of net investment income:

	Years Ended December 31, 2018	2017	2016
	(in millions)		
Investment income on fixed maturities	$1,353	$1,349	$1,368
Net realized gains (losses)	10	46	6
Affordable housing partnerships	(58)	(100)	(44)
Other	154	108	91
Consolidated investment entities	137	106	155
Total	$1,596	$1,509	$1,576

Available-for-Sale securities distributed by type were as follows:

December 31, 2018 Description of Securities	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Noncredit OTTI [1]
	(in millions)				
Corporate debt securities	$13,741	$ 555	$(230)	$14,066	$ —
Residential mortgage backed securities	6,373	34	(78)	6,329	—
Commercial mortgage backed securities	4,975	18	(116)	4,877	—
Asset backed securities	1,373	36	(11)	1,398	1
State and municipal obligations	2,166	192	(13)	2,345	—
U.S. government	1,745	—	—	1,745	—

and agency obligations					
Foreign government bonds and obligations	298	9	(9)	298	—
Total	$30,671	$ 844	$(457)	$31,058	$ 1

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December 31, 2017

Description of Securities	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Noncredit OTTI [1]
(in millions)					
Corporate debt securities	$ 13,976	$ 1,131	$ (32)	$ 15,075	$ —
Residential mortgage backed securities	6,585	63	(37)	6,611	—
Commercial mortgage backed securities	4,362	48	(36)	4,374	—
Asset backed securities	1,549	36	(5)	1,580	1
State and municipal obligations	2,215	259	(11)	2,463	—
U.S. government and agency obligations	502	1	—	503	—
Foreign government bonds and obligations	298	20	(4)	314	—
Common stocks	5	3	(1)	7	—
Total	$ 29,492	$ 1,561	$ (126)	$ 30,927	$ 1

[1] Represents the amount of other-than-temporary impairment ("OTTI") losses in AOCI. Amount includes unrealized gains and losses on impaired securities subsequent to the initial impairment measurement date. These amounts are included in gross unrealized gains and losses as of the end of the period.

As of December 31, 2018 and 2017, investment securities with a fair value of $1.5 billion and $1.7 billion, respectively, were pledged to meet contractual obligations under derivative contracts and short-term borrowings, of which $510 million and $803 million, respectively, may be sold, pledged or rehypothecated by the counterparty.

As of December 31, 2018 and 2017, fixed maturity securities comprised approximately 87% and 86%, respectively, of Ameriprise Financial investments. Rating agency designations are based on the availability of ratings from Nationally Recognized Statistical Rating Organizations ("NRSROs"), including Moody's Investors Service ("Moody's"), Standard & Poor's Ratings Services ("S&P") and Fitch Ratings Ltd. ("Fitch"). The Company uses the median of available ratings from Moody's, S&P and Fitch, or, if fewer than three ratings are available, the lower rating is used. When ratings from Moody's, S&P and Fitch are unavailable, the Company may utilize ratings from other NRSROs or rate the securities internally. As of December 31, 2018 and 2017, the Company's internal analysts rated $755 million and $979 million, respectively, of securities using criteria similar to those used by NRSROs.

A summary of fixed maturity securities by rating was as follows:

	December 31, 2018			December 31, 2017		
Ratings	Amortized Cost	Fair Value	Percent of Total Fair Value	Amortized Cost	Fair Value	Percent of Total Fair Value
	(in millions, except percentages)					
AAA	$13,399	$13,252	43 %	$11,293	$11,331	37 %
AA	1,571	1,723	5	1,898	2,114	7
A	3,667	3,899	13	4,760	5,243	17
BBB	11,102	11,290	36	10,317	10,989	35
Below investment grade (1)	932	894	3	1,219	1,243	4
Total fixed maturities	$30,671	$31,058	100	$29,487	$30,920	100%

(1) The amortized cost and fair value of below investment grade securities includes interest in CLOs managed by the Company of $5 million and $6 million, respectively, as of December 31, 2018, and $6 million and $7 million, respectively, as of December 31, 2017.

As of December 31, 2018 and 2017, approximately 36% and 37%, respectively, of the securities rated AAA were GNMA, FNMA and FHLMC mortgage backed securities. No holdings of any other issuer were greater than 10% of total equity.

The following tables provide information about Available-for-Sale securities with gross unrealized losses and the length of time that individual securities have been in a continuous unrealized loss position:

December 31, 2018

	Less than 12 months			**12 months or more**			**Total**		
Description of Securities	**Number of Securities**	**Fair Value**	**Unrealized Losses**	**Number of Securities**	**Fair Value**	**Unrealized Losses**	**Number of Securities**	**Fair Value**	**Unrealized Losses**
(in millions, except number of securities)									
Corporate debt securities	345	$5,522	$(152)	148	$1,717	$(78)	493	$7,239	$(230)
Residential mortgage backed securities	142	2,029	(18)	175	2,132	(60)	317	4,161	(78)
Commercial mortgage backed securities	104	2,062	(30)	112	1,806	(86)	216	3,868	(116)
Asset backed securities	38	491	(6)	35	396	(5)	73	887	(11)
State and municipal obligations	81	255	(4)	100	254	(9)	181	509	(13)
Foreign government bonds and obligations	17	86	(4)	14	17	(5)	31	103	(9)
Total	727	$10,445	$(214)	584	$6,322	$(243)	1,311	$16,767	$(457)

December 31, 2017

	Less than 12 months			**12 months or more**			**Total**		
Description of Securities	**Number of Securities**	**Fair Value**	**Unrealized Losses**	**Number of Securities**	**Fair Value**	**Unrealized Losses**	**Number of Securities**	**Fair Value**	**Unrealized Losses**
(in millions, except number of securities)									
Corporate debt securities	150	$1,791	$(8)	70	$740	$(24)	220	$2,531	$(32)
Residential mortgage backed securities	102	1,772	(11)	130	1,467	(26)	232	3,239	(37)
Commercial mortgage backed securities	67	1,178	(12)	58	783	(24)	125	1,961	(36)
Asset backed securities	36	424	(2)	26	187	(3)	62	611	(5)

State and municipal obligations	76	141	(1)	34	180	(10)	110	321	(11)
Foreign government bonds and obligations	3	6	—	15	23	(4)	18	29	(4)
Common and preferred stocks	—	—	—	4	1	(1)	4	1	(1)
Total	434	$5,312	$ (34)	337	$3,381	$ (92)	771	$8,693	$ (126)

As part of Ameriprise Financial's ongoing monitoring process, management determined that the change in gross unrealized losses on its Available-for-Sale securities is primarily attributable to a rise in interest rates as well as wider credit spreads.

The following table presents a rollforward of the cumulative amounts recognized in the Consolidated Statements of Operations for other-than-temporary impairments related to credit losses on Available-for-Sale securities for which a portion of the securities' total other-than-temporary impairments was recognized in OCI:

	December 31,		
	2018	**2017**	**2016**
	(in millions)		
Beginning balance	$2	$69	$85
Credit losses for which an other-than-temporary impairment was not previously recognized	—	—	1
Credit losses for which an other-than-temporary impairment was previously recognized	—	1	1
Reductions for securities sold during the period (realized)	—	(68)	(18)
Ending balance	$2	$2	$69

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Net realized gains and losses on Available-for-Sale securities, determined using the specific identification method, recognized in earnings were as follows:

	Years Ended December 31,		
	2018	2017	2016
	(in millions)		
Gross realized gains	$18	$63	$37
Gross realized losses	(9)	(7)	(13)
Other-than-temporary impairments	—	(1)	(2)
Total	$9	$55	$22

Other-than temporary impairments for the years ended December 31, 2017 and 2016 primarily related to credit losses on asset backed securities.

See Note 19 for a rollforward of net unrealized investment gains (losses) included in AOCI.

Available-for-Sale securities by contractual maturity as of December 31, 2018 were as follows:

	Amortized Cost	Fair Value
	(in millions)	
Due within one year	$3,621	$3,624
Due after one year through five years	5,967	5,954
Due after five years through 10 years	3,899	3,870
Due after 10 years	4,463	5,006
	17,950	18,454
Residential mortgage backed securities	6,373	6,329
Commercial mortgage backed securities	4,975	4,877
Asset backed securities	1,373	1,398
Total	$30,671	$31,058

Actual maturities may differ from contractual maturities because issuers may have the right to call or prepay obligations. Residential mortgage backed securities, commercial mortgage backed securities and asset backed securities are not due at a single maturity date. As such, these securities were not included in the maturities distribution.

7. Financing Receivables

The Company's financing receivables primarily include commercial mortgage loans, syndicated loans, policy loans, certificate loans, advisor loans and margin loans. See Note 2 for information regarding the Company's accounting policies related to loans and the allowance for loan losses.

Allowance for Loan Losses

Commercial Mortgage Loans and Syndicated Loans

The following table presents a rollforward of the allowance for loan losses for the years ended and the ending balance of the allowance for loan losses by impairment method:

	December 31,		
	2018	2017	2016
	(in millions)		
Beginning balance	$26	$29	$32
Charge-offs	(2)	(2)	(5)
Provisions	—	(1)	2
Ending balance	$24	$26	$29
Individually evaluated for impairment	$—	$—	$2
Collectively evaluated for impairment	24	26	27

The recorded investment in financing receivables by impairment method was as follows:

	December 31, 2018	December 31, 2017
	(in millions)	
Individually evaluated for impairment	$24	$17
Collectively evaluated for impairment	3,239	3,258
Total	$3,263	$3,275

As of December 31, 2018 and 2017, the Company's recorded investment in financing receivables individually evaluated for impairment for which there was no related allowance for loan losses was $24 million and $17 million, respectively. Unearned income, unamortized premiums and discounts, and net unamortized deferred fees and costs are not material to the Company's total loan balance.

During the years ended December 31, 2018, 2017 and 2016, the Company purchased $221 million, $200 million and $92 million, respectively, and sold $51 million, $267 million and $271 million, respectively, of loans. The loans purchased consisted of syndicated loans. The loans sold during 2018 consisted of syndicated loans. The loans sold during 2017 and 2016 primarily consisted of consumer mortgage loans. The Company recorded a loss of $7 million and $11 million on the sale of consumer mortgage loans during the years ended December 31, 2017 and 2016, respectively.

The Company has not acquired any loans with deteriorated credit quality as of the acquisition date.

Loans to Financial Advisors

As of December 31, 2018 and 2017, principal amounts outstanding for advisor loans were $558 million and $509 million, respectively, and allowance for loan losses were $25 million and $23 million, respectively. The allowance for loan losses related to loans to financial advisors is not included in the table disclosures above. Of the gross balance outstanding, the portion associated with financial advisors who are no longer affiliated with the Company was $18 million and $19 million as of December 31, 2018 and 2017, respectively. The allowance for loan losses on these loans was $13 million and $12 million as of December 31, 2018 and 2017, respectively.

Credit Quality Information

Nonperforming loans, which are generally loans 90 days or more past due, were $16 million and $19 million as of December 31, 2018 and 2017, respectively. All other loans were considered to be performing.

Commercial Mortgage Loans

The Company reviews the credit worthiness of the borrower and the performance of the underlying properties in order to determine the risk of loss on commercial mortgage loans. Based on this review, the commercial mortgage loans are assigned an internal risk rating, which management updates as necessary. Commercial mortgage loans which management has assigned its highest risk rating were nil of total commercial mortgage loans as of both December 31, 2018 and 2017. Loans with the highest risk rating represent distressed loans which the Company has identified as impaired or expects to become delinquent or enter into foreclosure within the next six months. In addition, the Company reviews the concentrations of credit risk by region and property type.

Concentrations of credit risk of commercial mortgage loans by U.S. region were as follows:

	Loans December 31, 2018	Loans December 31, 2017	Percentage December 31, 2018	Percentage December 31, 2017
	(in millions)			
East North Central	$216	$215	8 %	8 %
East South Central	107	90	4	3
Middle Atlantic	187	192	7	7
Mountain	237	256	9	9
New England	62	74	2	3
Pacific	814	812	30	29
South Atlantic	731	768	27	28
West North Central	213	235	8	8
West South Central	148	133	5	5

	2,715	2,775	100%	100%
Less: allowance for loan losses	19	19		
Total	$2,696	$2,756		

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Concentrations of credit risk of commercial mortgage loans by property type were as follows:

	Loans		Percentage	
	December 31,		December 31,	
	2018	2017	2018	2017
	(in millions)			
Apartments	$621	$566	23 %	20 %
Hotel	43	40	1	1
Industrial	453	476	17	17
Mixed use	54	44	2	2
Office	435	492	16	18
Retail	897	937	33	34
Other	212	220	8	8
	2,715	2,775	100%	100%
Less: allowance for loan losses	19	19		
Total	$2,696	$2,756		

Syndicated Loans

The recorded investment in syndicated loans as of December 31, 2018 and 2017 was $548 million and $498 million, respectively. The Company's syndicated loan portfolio is diversified across industries and issuers. The primary credit indicator for syndicated loans is whether the loans are performing in accordance with the contractual terms of the syndication. Total nonperforming syndicated loans as of December 31, 2018 and 2017 were nil and $5 million, respectively.

Troubled Debt Restructurings

The recorded investment in restructured loans was not material as of both December 31, 2018 and 2017. Troubled debt restructurings did not have a material impact to the Company's allowance for loan losses or income recognized for the years ended December 31, 2018, 2017 and 2016. There are no commitments to lend additional funds to borrowers whose loans have been restructured.

8. Reinsurance

The Company reinsures a portion of the insurance risks associated with its traditional life, DI and LTC insurance products through reinsurance agreements with unaffiliated reinsurance companies. Reinsurance contracts do not relieve the Company from its primary obligation to policyholders.

The Company generally reinsures 90% of the death benefit liability for new term life insurance policies beginning in 2001 and new individual UL and VUL insurance policies beginning in 2002. Policies issued prior to these dates are not subject to these same reinsurance levels.

However, for IUL policies issued after September 1, 2013 and VUL policies issued after January 1, 2014, the Company generally reinsures 50% of the death benefit liability. Similarly, the Company reinsures 50% of the death benefit and morbidity liabilities related to its universal life product with long term care benefits.

The maximum amount of life insurance risk the Company will retain is $10 million on a single life and $10 million on any flexible premium survivorship life policy; however, reinsurance agreements are in place such that retaining more than $1.5 million of insurance risk on a single life or a flexible premium survivorship life policy is very unusual. Risk on UL and VUL policies is reinsured on a yearly renewable term basis. Risk on most term life policies starting in 2001 is reinsured on a coinsurance basis, a type of reinsurance in which the reinsurer participates proportionally in all material risks and premiums associated with a policy.

For existing LTC policies, the Company has continued ceding 50% of the risk on a coinsurance basis to subsidiaries of Genworth Financial, Inc. ("Genworth") and retains the remaining risk. For RiverSource Life of NY, this reinsurance arrangement applies for 1996 and later issues only. Under these agreements, the Company has the right, but never the obligation, to recapture some, or all, of the risk ceded to Genworth.

Generally, the Company retains at most $5,000 per month of risk per life on DI policies sold on policy forms introduced in most states starting in 2007 and reinsures the remainder of the risk on a coinsurance basis with unaffiliated reinsurance companies. The Company retains all risk for new claims on DI contracts sold on other policy forms introduced prior to 2007. The Company also retains all risk on accidental death benefit claims and substantially all risk associated with waiver of premium provisions.

As of December 31, 2018 and 2017, traditional life and UL insurance policies in force were $195.1 billion and $195.9 billion, respectively, of which $142.4 billion as of both December 31, 2018 and 2017 were reinsured at the respective year ends.

The effect of reinsurance on premiums for the Company’s traditional long-duration contracts was as follows:

	Years Ended December 31,		
	2018	2017	2016
	(in millions)		
Direct premiums	$621	$637	$642
Reinsurance ceded	(225)	(227)	(225)
Net premiums	$396	$410	$417

Cost of insurance and administrative charges for non-traditional long-duration products are reflected in other revenues and were net of reinsurance ceded of $126 million, $114 million and $110 million for the years ended December 31, 2018, 2017 and 2016, respectively.

The Company reinsures a portion of the risks associated with its personal auto, home and umbrella insurance products through reinsurance agreements with unaffiliated reinsurance companies. The primary reinsurance programs in 2018 include:

- auto and home reinsurance with a limit of $5 million per loss and the Company retained $1 million per loss.
- catastrophe reinsurance with a limit of $200 million for the first event and $180 million for a second event and the Company retained $20 million per event.
- ceding 90% of every personal umbrella loss with a limit of $5 million per loss.
- ceding 90% of home insurance products originating from a certain agency.

The effect of reinsurance on premiums for the Company’s short-duration contracts was as follows:

	Years Ended December 31,		
	2018	2017	2016
	(in millions)		
Written premiums			
Direct	$1,101	$1,119	$1,085
Ceded	(55)	(171)	(20)
Total net written premiums	$1,046	$948	$1,065
Earned premiums			
Direct	$1,124	$1,107	$1,094
Ceded	(94)	(123)	(20)
Total net earned premiums	$1,030	$984	$1,074

The amount of claims recovered through reinsurance on all contracts was $402 million, $357 million and $323 million for the years ended December 31, 2018, 2017 and 2016, respectively.

Receivables included $3.2 billion and $3.0 billion of reinsurance recoverables as of December 31, 2018 and 2017, respectively, including $2.5 billion and $2.3 billion related to LTC risk ceded to Genworth, respectively.

Policyholder account balances, future policy benefits and claims include $484 million and $509 million related to previously assumed reinsurance arrangements as of December 31, 2018 and 2017, respectively.

9. Goodwill and Other Intangible Assets

Goodwill and intangible assets deemed to have indefinite lives are not amortized but are instead subject to impairment tests. There were no impairments for the years ended December 31, 2018, 2017 and 2016.

The changes in the carrying amount of goodwill reported in the Company's main operating segments were as follows:

	Advice & Wealth Management	Asset Management	Annuities	Protection	Consolidated
	(in millions)				
Balance at January 1, 2017	$252	$ 761	$ 46	$ 45	$ 1,104
Acquisitions [(1)]	27	22	—	—	49
Foreign currency translation	—	24	—	—	24
Purchase price adjustments	—	(2)	—	—	(2)
Balance at December 31, 2017	279	805	46	45	1,175
Foreign currency translation	—	(16)	—	—	(16)
Purchase price adjustments	—	(1)	—	—	(1)
Balance at December 31, 2018	$279	$ 788	$ 46	$ 45	$ 1,158

[(1)] Relates to the Company's acquisitions of Investment Professionals, Inc. ("IPI") and Lionstone Partners, LLC.

As of December 31, 2018 and 2017, the carrying amount of indefinite-lived intangible assets included $646 million and $647 million, respectively, of investment management contracts. As of December 31, 2018 and 2017, the carrying amount of indefinite-lived intangible assets included $69 million and $67 million, respectively, of trade names.

Definite-lived intangible assets consisted of the following:

	December 31, 2018			December 31, 2017		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
	(in millions)					
Customer relationships	$184	$ (134)	$ 50	$194	$ (124)	$ 70
Contracts	215	(193)	22	222	(194)	28
Other	168	(124)	44	156	(116)	40
Total	$567	$ (451)	$ 116	$572	$ (434)	$ 138

Definite-lived intangible assets acquired during the year ended December 31, 2018 were $9 million with a weighted average amortization period of 5 years. The aggregate amortization expense for definite-lived intangible assets during the years ended December 31, 2018, 2017 and 2016 was $30 million, $27 million and $28 million, respectively. In 2018, 2017 and 2016, the Company did not record any impairment charges on definite-lived intangible assets.

Estimated intangible amortization expense as of December 31, 2018 for the next five years is as follows:

	(in millions)
2019	$ 28
2020	22
2021	19
2022	16
2023	13

10. Deferred Acquisition Costs and Deferred Sales Inducement Costs

In the third quarter of the year, management updated market-related inputs and implemented model changes related to the living benefit valuation. In addition, management conducted its annual review of life insurance and annuity valuation assumptions relative to current experience and management expectations including modeling changes. These aforementioned changes are collectively referred to as unlocking. The impact of unlocking to DAC for the year ended December 31, 2018 primarily reflected updated mortality assumptions on UL and VUL insurance products and lower surrender rate assumptions on variable annuities, partially offset by an unfavorable impact from updates to assumptions on utilization of guaranteed withdrawal benefits. The impact of unlocking to DAC for the year ended

December 31, 2017 primarily reflected improved persistency and mortality on UL and VUL insurance products and a correction related to a variable annuity model assumption partially offset by updates to market-related inputs to the living benefit valuation. The impact of unlocking to DAC for the year ended December 31, 2016 primarily reflected low interest rates that more than offset benefits from persistency on annuity contracts without living benefits. In addition, the Company's review of its closed LTC business in 2016 resulted in the write-off of DAC, which was included in the impact of unlocking.

The balances of and changes in DAC were as follows:

	2018	2017	2016
	(in millions)		
Balance at January 1	$2,676	$2,648	$2,730
Capitalization of acquisition costs	318	302	360 [1]
Amortization, excluding the impact of valuation assumptions review	(355)	(279)	(334)
Amortization, impact of valuation assumptions review	33	12	(81) [2]
Impact of change in net unrealized (gains) losses on securities	104	(7)	(27)
Balance at December 31	$2,776	$2,676	$2,648

(1) Includes a $27 million benefit related to the write-off of the deferred reinsurance liability in connection with the loss recognition on LTC business. The benefit was reported in distribution expenses on the Consolidated Statements of Operations.

(2) Includes a $58 million expense related to the loss recognition on LTC business.

The balances of and changes in DSIC, which is included in other assets, were as follows:

	2018	2017	2016
	(in millions)		
Balance at January 1	$276	$302	$335
Capitalization of sales inducement costs	2	4	5
Amortization, excluding the impact of valuation assumptions review	(43)	(35)	(42)
Amortization, impact of valuation assumptions review	—	(1)	4
Impact of change in net unrealized (gains) losses on securities	16	6	—
Balance at December 31	$251	$276	$302

11. Policyholder Account Balances, Future Policy Benefits and Claims and Separate Account Liabilities

Policyholder account balances, future policy benefits and claims consisted of the following:

	December 31,	
	2018	2017
	(in millions)	
Policyholder account balances		
Fixed annuities [1]	$9,338	$9,934
Variable annuity fixed sub-accounts	5,129	5,166
UL/VUL insurance	3,063	3,047
IUL insurance	1,728	1,384
Other life insurance	683	720
Total policyholder account balances	19,941	20,251
Future policy benefits		
Variable annuity GMWB	875	463
Variable annuity GMAB [2]	(19)	(80)
Other annuity liabilities	26	78
Fixed annuity life contingent liabilities	1,459	1,484
Life and DI insurance	1,221	1,221
LTC insurance	4,981	4,896
UL/VUL and other life insurance additional liabilities	749	688
Total future policy benefits	9,292	8,750
Policy claims and other policyholders' funds	891	903
Total policyholder account balances, future policy benefits and claims	$30,124	$29,904

(1) Includes fixed deferred annuities, non-life contingent fixed payout annuities and indexed annuity host contracts.

(2) Includes the fair value of GMAB embedded derivatives that was a net asset as of both December 31, 2018 and 2017 reported as a contra liability.

Fixed Annuities

Fixed annuities include deferred, payout and indexed annuity contracts.

Deferred contracts offer a guaranteed minimum rate of interest and security of the principal invested. Payout contracts guarantee a fixed income payment for life or the term of the contract. Liabilities for fixed annuities in a benefit or payout status are based on future estimated payments using established industry mortality tables and interest rates, ranging from 2.71% to 9.38% as of December 31, 2018, depending on year of issue, with an average rate of approximately 3.94%. The Company generally invests the proceeds from the annuity contracts in fixed rate securities.

The Company's equity indexed annuity ("EIA") product is a single premium fixed deferred annuity. The Company discontinued new sales of EIAs in 2007. The contract was issued with an initial term of seven years and interest earnings are linked to the performance of the S&P 500® Index. This annuity has a minimum interest rate guarantee of 3% on 90% of the initial premium, adjusted for any surrenders. The Company generally invests the proceeds from the annuity contracts in fixed rate securities and hedges the equity risk with derivative instruments.

The Company's fixed index annuity product is a fixed annuity that includes an indexed account. The rate of interest credited above the minimum guarantee for funds allocated to the indexed account is linked to the performance of the specific index for the indexed account (subject to a cap). The Company offers S&P 500® Index and MSCI® EAFE Index account options. Both options offer two crediting durations, one-year and two-year. The contractholder may allocate all or a portion of the policy value to a fixed or indexed account. The portion of the policy allocated to the indexed account is accounted for as an embedded derivative. The Company hedges the interest credited rate including equity and interest rate risk related to the indexed account with derivative instruments. The contractholder can choose to add a GMWB for life rider for an additional fee.

See Note 17 for additional information regarding the Company's derivative instruments used to hedge the risk related to indexed annuities.

Variable Annuities

Purchasers of variable annuities can select from a variety of investment options and can elect to allocate a portion to a fixed account. A vast majority of the premiums received for variable annuity contracts are held in separate accounts where the assets are held for the exclusive benefit of those contractholders.

Most of the variable annuity contracts currently issued by the Company contain one or more guaranteed benefits, including GMWB, GMAB, GMDB and GGU provisions. The Company previously offered contracts with GMIB provisions. See Note 2 and Note 12 for additional information regarding the Company's variable annuity guarantees. The Company does not currently hedge its risk under the GGU and GMIB provisions. See Note 15 and Note 17 for additional information regarding the Company's derivative instruments used to hedge risks related to GMWB, GMAB and GMDB provisions.

Insurance Liabilities

UL/VUL is the largest group of insurance policies written by the Company. Purchasers of UL accumulate cash value that increases by a fixed interest rate. Purchasers of VUL can select from a variety of investment options and can elect to allocate a portion to a fixed account or a separate account. A vast majority of the premiums received for VUL policies are held in separate accounts where the assets are held for the exclusive benefit of those policyholders.

IUL is a universal life policy that includes an indexed account. The rate of credited interest above the minimum guarantee for funds allocated to the indexed account is linked to the performance of the specific index for the indexed account (subject to a cap and floor). The Company offers an S&P 500® Index account option and a blended multi-index account option comprised of the S&P 500 Index, the MSCI® EAFE Index and the MSCI EM Index. Both options offer two crediting durations, one-year and two-year. The policyholder may allocate all or a portion of the policy value to a fixed or any available indexed account. The portion of the policy allocated to the indexed account is accounted for as an embedded derivative at fair value. The Company hedges the interest credited rate including equity and interest rate risk related to the indexed account with derivative instruments. See Note 17 for additional information regarding the Company's derivative instruments used to hedge the risk related to IUL.

The Company also offers term life insurance as well as DI products. The Company no longer offers standalone LTC products and whole life insurance but has in force policies from prior years.

Insurance liabilities include accumulation values, incurred but not reported claims, obligations for anticipated future claims, unpaid reported claims and claim adjustment expenses.

The liability for estimates of benefits that will become payable on future claims on term life, whole life and DI policies is based on the net level premium and LTC policies is based on a gross premium valuation reflecting management's current best estimate assumptions. Both include the anticipated interest rates earned on assets supporting the liability. Anticipated interest rates for term and whole life ranged from 3% to 10% as of December 31, 2018. Anticipated interest rates for DI policies ranged from 4% to 7.5% as of December 31, 2018 and for LTC policies ranged from 5.9% to 6.8% as of December 31, 2018.

The liability for unpaid reported claims on DI and LTC policies includes an estimate of the present value of obligations for continuing benefit payments. The discount rates used to calculate present values are based on average interest rates earned on assets supporting the liability for unpaid amounts and were 4.5% and 6.2% for DI and LTC claims, respectively, as of December 31, 2018.

The balance of insurance liabilities related to unpaid reported and unreported claims and claim adjustment expenses for auto and home was $714 million and $722 million as of December 31, 2018 and 2017, respectively. The balance of insurance liabilities related to unpaid reported claims and claim adjustment expenses for life, DI and LTC policies was $1.4 billion and $1.3 billion as of December 31, 2018 and 2017, respectively.

The change in the liability for prior year incurred unpaid reported and unreported claims and claim adjustment expenses related to auto and home, life, DI and LTC policies was a decrease of $30 million, $41 million and $24 million for the years 2018, 2017 and 2016, respectively.

- In 2018, there was a $28 million decrease primarily reflecting favorable closed claim trends of DI and LTC policies and a decrease of $2 million related to favorable prior year catastrophe reserve development.
- In 2017, there was a $50 million decrease primarily reflecting favorable closed claim trends of LTC policies partially offset by an increase of $9 million related to updated estimates for prior year catastrophes recognized in the current year along with a slight increase in non-catastrophe claims.
- In 2016, there was a $6 million decrease primarily reflecting favorable closed claim trends of DI and LTC policies and a decrease of $18 million related to favorable prior year reserve development for auto and home business of $20 million partially offset by unfavorable prior year catastrophe reserve development of $2 million.

Portions of the Company’s UL and VUL policies have product features that result in profits followed by losses from the insurance component of the policy. These profits followed by losses can be generated by the cost structure of the product or secondary guarantees in the policy. The secondary guarantee ensures that, subject to specified conditions, the policy will not terminate and will continue to provide a death benefit even if there is insufficient policy value to cover the monthly deductions and charges.

Separate Account Liabilities

Separate account liabilities consisted of the following:

	December 31,	
	2018	2017
	(in millions)	
Variable annuity	$66,913	$75,174
VUL insurance	6,451	7,352
Other insurance	29	34
Threadneedle investment liabilities	4,532	4,808
Total	$77,925	$87,368

Threadneedle Investment Liabilities

Threadneedle provides a range of unitized pooled pension funds, which invest in property, stocks, bonds and cash. The investments are selected by the clients and are based on the level of risk they are willing to assume. All investment performance, net of fees, is passed through to the investors. The value of the liabilities represents the fair value of the pooled pension funds.

12. Variable Annuity and Insurance Guarantees

The majority of the variable annuity contracts offered by the Company contain GMDB provisions. The Company also offers variable annuities with GGU, GMWB and GMAB provisions. The Company previously offered contracts containing GMIB provisions. See Note 2 and Note 11 for additional information regarding the Company’s variable annuity guarantees.

The GMDB and GGU provisions provide a specified minimum return upon death of the contractholder. The death benefit payable is the greater of (i) the contract value less any purchase payment credits subject to recapture less a pro-rata portion of any rider fees, or (ii) the GMDB provisions specified in the contract. The Company has the following primary GMDB provisions:

- Return of premium — provides purchase payments minus adjusted partial surrenders.
- Reset — provides that the value resets to the account value every sixth contract anniversary minus adjusted partial surrenders. This provision was often provided in combination with the return of premium provision and is no longer offered.

- Ratchet — provides that the value ratchets up to the maximum account value at specified anniversary intervals, plus subsequent purchase payments less adjusted partial surrenders.

The variable annuity contracts with GMWB riders typically have account values that are based on an underlying portfolio of mutual funds, the values of which fluctuate based on fund performance. At issue, the guaranteed amount is equal to the amount deposited but the guarantee may be increased annually to the account value (a "step-up") in the case of favorable market performance or by a benefit credit if the contract includes this provision.

The Company has GMWB riders in force, which contain one or more of the following provisions:

- Withdrawals at a specified rate per year until the amount withdrawn is equal to the guaranteed amount.
- Withdrawals at a specified rate per year for the life of the contractholder ("GMWB for life").

- Withdrawals at a specified rate per year for joint contractholders while either is alive.
- Withdrawals based on performance of the contract.
- Withdrawals based on the age withdrawals begin.
- Credits are applied annually for a specified number of years to increase the guaranteed amount as long as withdrawals have not been taken.

Variable annuity contractholders age 79 or younger at contract issue can also obtain a principal-back guarantee by purchasing the optional GMAB rider for an additional charge. The GMAB rider guarantees that, regardless of market performance at the end of the 10-year waiting period, the contract value will be no less than the original investment or a specified percentage of the highest anniversary value, adjusted for withdrawals. If the contract value is less than the guarantee at the end of the 10-year period, a lump sum will be added to the contract value to make the contract value equal to the guarantee value.

Certain UL policies offered by the Company provide secondary guarantee benefits. The secondary guarantee ensures that, subject to specified conditions, the policy will not terminate and will continue to provide a death benefit even if there is insufficient policy value to cover the monthly deductions and charges.

The following table provides information related to variable annuity guarantees for which the Company has established additional liabilities:

Variable Annuity Guarantees by Benefit Type (1)	December 31, 2018 Total Contract Value	Contract Value in Separate Accounts	Net Amount at Risk	Weighted Average Attained Age	December 31, 2017 Total Contract Value	Contract Value in Separate Accounts	Net Amount at Risk	Weighted Average Attained Age
(in millions, except age)								
GMDB:								
Return of premium	$55,810	$ 53,872	$417	67	$61,418	$ 59,461	$ 9	66
Five/six-year reset	7,670	4,941	112	67	8,870	6,149	12	66
One-year ratchet	5,560	5,210	417	70	6,548	6,187	11	69
Five-year ratchet	1,307	1,251	23	66	1,563	1,506	1	65
Other	1,033	1,014	148	72	1,099	1,075	50	72
Total — GMDB	$71,380	$ 66,288	$1,117	67	$79,498	$ 74,378	$ 83	66
GGU death benefit	$992	$ 940	$112	70	$1,118	$ 1,067	$ 133	70
GMIB	$180	$ 164	$12	69	$233	$ 216	$ 7	69
GMWB:								
GMWB	$1,990	$ 1,984	$3	72	$2,508	$ 2,500	$ 1	71
GMWB for life	40,966	40,876	742	68	44,375	44,259	129	67
Total — GMWB	$42,956	$ 42,860	$745	68	$46,883	$ 46,759	$ 130	67

GMAB	$2,450	$	2,450	$24	59	$3,086	$ 3,083	$ —	59

(1) Individual variable annuity contracts may have more than one guarantee and therefore may be included in more than one benefit type. Variable annuity contracts for which the death benefit equals the account value are not shown in this table.

The net amount at risk for GMDB, GGU and GMAB is defined as the current guaranteed benefit amount in excess of the current contract value. The net amount at risk for GMIB is defined as the greater of the present value of the minimum guaranteed annuity payments less the current contract value or zero. The net amount at risk for GMWB is defined as the greater of the present value of the minimum guaranteed withdrawal payments less the current contract value or zero.

The following table provides information related to insurance guarantees for which the Company has established additional liabilities:

	December 31, 2018		**December 31, 2017**	
	Net Amount at Risk	**Weighted Average Attained Age**	**Net Amount at Risk**	**Weighted Average Attained Age**
	(in millions, except age)			
UL secondary guarantees	$6,513	66	$6,460	65

The net amount at risk for UL secondary guarantees is defined as the current guaranteed death benefit amount in excess of the current policyholder account balance.

Changes in additional liabilities (contra liabilities) for variable annuity and insurance guarantees were as follows:

	GMDB & GGU	GMIB	GMWB [(1)]	GMAB [(1)]	UL
	(in millions)				
Balance at January 1, 2016	$14	$ 8	$1,057	$—	$332
Incurred claims	11	1	(40)	(23)	127
Paid claims	(9)	(1)	—	(1)	(25)
Balance at December 31, 2016	16	8	1,017	(24)	434
Incurred claims	5	—	(554)	(56)	84
Paid claims	(4)	(2)	—	—	(29)
Balance at December 31, 2017	17	6	463	(80)	489
Incurred claims	8	2	412	61	201
Paid claims	(6)	—	—	—	(31)
Balance at December 31, 2018	$19	$ 8	$875	$(19)	$659

(1) The incurred claims for GMWB and GMAB include the change in the fair value of the liabilities (contra liabilities) less paid claims.

The liabilities for guaranteed benefits are supported by general account assets.

The following table summarizes the distribution of separate account balances by asset type for variable annuity contracts providing guaranteed benefits:

	December 31, 2018	2017
	(in millions)	
Mutual funds:		
Equity	$39,764	$46,038
Bond	21,190	23,529
Other	5,568	5,109
Total mutual funds	$66,522	$74,676

No gains or losses were recognized on assets transferred to separate accounts for the years ended December 31, 2018, 2017 and 2016.

13. Customer Deposits

Customer deposits consisted of the following:

	December 31, 2018	2017
	(in millions)	
Fixed rate certificates	$7,377	$5,837
Stock market certificates	476	520
Stock market embedded derivative	6	10
Other	33	33
Less: accrued interest classified in other liabilities	(7)	(12)
Total investment certificate reserves	7,885	6,388
Brokerage deposits	3,660	3,915
Total	$11,545	$10,303

Investment Certificates

The Company offers fixed rate investment certificates primarily in amounts ranging from $1,000 to $2 million with interest crediting rate terms ranging from 3 to 48 months. Investment certificates may be purchased either with a lump sum payment or installment payments. Certificate owners are entitled to receive a definite sum of money at either maturity or upon demand depending on the type of certificate. Payments from certificate owners are credited to investment certificate reserves. Investment certificate reserves generally accumulate interest at specified percentage rates. Reserves are maintained for advance payments made by certificate owners, accrued interest thereon and for additional credits in excess of minimum guaranteed rates and accrued interest thereon. On certificates allowing for the deduction of a surrender charge, the cash surrender values may be less than accumulated investment certificate reserves prior to maturity dates. Cash surrender values on certificates allowing for no surrender charge are equal to certificate reserves. The Company generally invests the proceeds from investment certificates in fixed and variable rate securities.

Certain investment certificate products have returns tied to the performance of equity markets. The Company guarantees the principal for purchasers who hold the certificate for the full term and purchasers may participate in increases in the stock market based on the S&P 500® Index, up to a maximum return. Purchasers can choose 100% participation in the market index up to the cap or 25% participation plus fixed interest with a combined total up to the cap. Current first term certificates have maximum returns of 2.5% to 13.0%, depending on the term length. The equity component of these certificates is considered an embedded derivative and is accounted for separately. See Note 17 for additional information about derivative instruments used to economically hedge the equity price risk related to the Company's stock market certificates.

Brokerage Deposits

Brokerage deposits are amounts payable to brokerage customers related to free credit balances, funds deposited by customers and funds accruing to customers as a result of trades or contracts. The Company pays interest on certain customer credit balances and the interest is included in banking and deposit interest expense.

14. Debt

The balances and the stated interest rates of outstanding debt of Ameriprise Financial were as follows:

	Outstanding Balance		Stated Interest Rate	
	December 31,		December 31,	
	2018	2017	2018	2017
	(in millions)			
Long-term debt:				
Senior notes due 2019	$300	$300	7.3%	7.3%
Senior notes due 2020	750	750	5.3	5.3
Senior notes due 2023	750	750	4.0	4.0
Senior notes due 2024	550	550	3.7	3.7
Senior notes due 2026	500	500	2.9	2.9
Capitalized lease obligations	25	38		
Other [(1)]	(8)	3		
Total long-term debt	2,867	2,891		
Short-term borrowings:				
Federal Home Loan Bank ("FHLB") advances	151	150	2.6	1.5
Repurchase agreements	50	50	2.6	1.4
Total short-term borrowings	201	200		
Total	$3,068	$3,091		

(1) Amounts include adjustments for fair value hedges on the Company's long-term debt and unamortized discount and debt issuance costs. See Note 17 for information on the Company's fair value hedges.

Long-Term Debt

On August 11, 2016, the Company issued $500 million of unsecured senior notes due September 15, 2026, and incurred debt issuance costs of $4 million. Interest payments are due semi-annually in arrears on March 15 and September 15, commencing on March 15, 2017.

In the first quarter of 2016, the Company extinguished $16 million of its junior subordinated notes due 2066 in open market transactions and recognized a gain of less than $1 million. In the second quarter of 2016, the Company redeemed the remaining $229 million of its junior subordinated notes due 2066 at a redemption price equal to 100% of the principal balance of the notes plus accrued and compounded interest.

The Company's senior notes due 2019, 2020, 2023, 2024 and 2026 may be redeemed, in whole or in part, at any time prior to maturity at a price equal to the greater of the principal amount and the present value of remaining scheduled payments, discounted to the redemption date, plus accrued and unpaid interest.

As of December 31, 2018, future maturities of Ameriprise Financial long-term debt were as follows:

	(in millions)
2019	$314
2020	761
2021	—
2022	—
2023	750
Thereafter	1,050
Total future maturities	$2,875

Short-term Borrowings
The Company enters into repurchase agreements in exchange for cash, which it accounts for as secured borrowings and has pledged Available-for-Sale securities to collateralize its obligations under the repurchase agreements. As of December 31, 2018 and 2017, the Company has pledged $52 million and $43 million, respectively, of agency residential mortgage backed securities and nil and $8 million, respectively, of commercial mortgage backed securities. The remaining maturity of outstanding repurchase agreements was less than three months as of December 31, 2018 and less than one month as of December 31, 2017. The stated interest rate of the repurchase agreements is a weighted average annualized interest rate on repurchase agreements held as of the balance sheet date.
The Company's life insurance subsidiary is a member of the FHLB of Des Moines which provides access to collateralized borrowings. The Company has pledged Available-for-Sale securities consisting of commercial mortgage backed securities to collateralize its obligation under these borrowings. The fair value of the securities pledged is recorded in investments and was $780 million and $750 million as of December 31, 2018 and 2017, respectively. The remaining maturity of outstanding FHLB advances was less than three months as of December 31, 2018 and less than four months as of December 31, 2017. The stated interest rate of the FHLB advances is a weighted average annualized interest rate on the outstanding borrowings as of the balance sheet date.
On October 12, 2017, the Company entered into an amended and restated credit agreement that provides for an unsecured revolving credit facility of up to $750 million that expires in October 2022. Under the terms of the credit agreement for the facility, the Company may increase the amount of this facility up to $1 billion upon satisfaction of certain approval requirements. This agreement replaced the Company's unsecured revolving credit facility that was to expire in May 2020. As of both December 31, 2018 and 2017, the Company had no borrowings outstanding and $1 million of letters of credit issued against these facilities. The Company's credit facility contains various administrative, reporting, legal and financial covenants. The Company was in compliance with all such covenants as of both December 31, 2018 and 2017.

15. Fair Values of Assets and Liabilities

GAAP defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date; that is, an exit price. The exit price assumes the asset or liability is not exchanged subject to a forced liquidation or distressed sale.

Valuation Hierarchy

The Company categorizes its fair value measurements according to a three-level hierarchy. The hierarchy prioritizes the inputs used by the Company's valuation techniques. A level is assigned to each fair value measurement based on the lowest level input that is significant to the fair value measurement in its entirety. The three levels of the fair value hierarchy are defined as follows:

Level 1	Unadjusted quoted prices for identical assets or liabilities in active markets that are accessible at the measurement date.
Level 2	Prices or valuations based on observable inputs other than quoted prices in active markets for identical assets and liabilities.
Level 3	Prices or valuations that require inputs that are both significant to the fair value measurement and unobservable.

The following tables present the balances of assets and liabilities of Ameriprise Financial measured at fair value on a recurring basis:

	December 31, 2018				
	Level 1	Level 2	Level 3	Total	
	(in millions)				
Assets					
Cash equivalents	$155	$2,350	$—	$2,505	
Available-for-Sale securities:					
Corporate debt securities	—	13,153	913	14,066	
Residential mortgage backed securities	—	6,193	136	6,329	
Commercial mortgage backed securities	—	4,857	20	4,877	
Asset backed securities	—	1,392	6	1,398	
State and municipal obligations	—	2,345	—	2,345	
U.S. government and agency obligations	1,745	—	—	1,745	
Foreign government bonds and obligations	—	298	—	298	
Total Available-for-Sale securities	1,745	28,238	1,075	31,058	
Equity securities	—	1	—	1	
Equity securities at net asset value (“NAV”)				6	(1)
Trading securities	36	38	—	74	
Separate account assets at NAV				77,925	(1)
Investments and cash equivalents segregated for regulatory purposes	301	—	—	301	
Other assets:					
Interest rate derivative contracts	—	796	—	796	
Equity derivative contracts	191	1,527	—	1,718	
Foreign exchange derivative contracts	5	55	—	60	
Total other assets	196	2,378	—	2,574	
Total assets at fair value	$2,433	$33,005	$1,075	$114,444	
Liabilities					
Policyholder account balances, future policy benefits and claims:					
Indexed annuity embedded derivatives	$—	$3	$14	$17	
IUL embedded derivatives	—	—	628	628	
GMWB and GMAB embedded derivatives	—	—	328	328	(2)
Total policyholder account balances, future policy benefits and claims	—	3	970	973	(3)
Customer deposits	—	6	—	6	
Other liabilities:					
Interest rate derivative contracts	—	424	—	424	
Equity derivative contracts	78	2,076	—	2,154	
Credit derivative contracts	—	18	—	18	
Foreign exchange derivative contracts	4	31	—	35	
Other	13	6	30	49	
Total other liabilities	95	2,555	30	2,680	
Total liabilities at fair value	$95	$2,564	$1,000	$3,659	

	December 31, 2017				
	Level 1	Level 2	Level 3	Total	
	(in millions)				
Assets					
Cash equivalents	$147	$2,025	$—	$2,172	
Available-for-Sale securities:					
Corporate debt securities	—	13,936	1,139	15,075	
Residential mortgage backed securities	—	6,456	155	6,611	
Commercial mortgage backed securities	—	4,374	—	4,374	
Asset backed securities	—	1,573	7	1,580	
State and municipal obligations	—	2,463	—	2,463	
U.S. government and agency obligations	503	—	—	503	
Foreign government bonds and obligations	—	314	—	314	
Common stocks	1	—	—	1	
Common stocks at NAV				6	(1)
Total Available-for-Sale securities	504	29,116	1,301	30,927	
Trading securities	10	34	—	44	
Separate account assets at NAV				87,368	(1)
Investments and cash equivalents segregated for regulatory purposes	623	—	—	623	
Other assets:					
Interest rate derivative contracts	—	1,104	—	1,104	
Equity derivative contracts	63	2,360	—	2,423	
Foreign exchange derivative contracts	2	34	—	36	
Total other assets	65	3,498	—	3,563	
Total assets at fair value	$1,349	$34,673	$1,301	$124,697	
Liabilities					
Policyholder account balances, future policy benefits and claims:					
Indexed annuity embedded derivatives	$—	$5	$—	$5	
IUL embedded derivatives	—	—	601	601	
GMWB and GMAB embedded derivatives	—	—	(49)	(49)	(4)
Total policyholder account balances, future policy benefits and claims	—	5	552	557	(5)
Customer deposits	—	10	—	10	
Other liabilities:					
Interest rate derivative contracts	1	415	—	416	
Equity derivative contracts	7	2,876	—	2,883	
Credit derivative contracts	—	2	—	2	
Foreign exchange derivative contracts	4	23	—	27	
Other	9	6	28	43	
Total other liabilities	21	3,322	28	3,371	
Total liabilities at fair value	$21	$3,337	$580	$3,938	

(1) Amounts are comprised of certain financial instruments that are measured at fair value using the NAV per share (or its equivalent) as a practical expedient and have not been classified in the fair value hierarchy.

(2) The fair value of the GMWB and GMAB embedded derivatives included $646 million of individual contracts in a liability position and $318 million of individual contracts in an asset position as of December 31, 2018.

(3) The Company's adjustment for nonperformance risk resulted in a$(726) million cumulative increase (decrease) to the embedded derivatives as of December 31, 2018.

(4) The fair value of the GMWB and GMAB embedded derivatives included $443 million of individual contracts in a liability position and

$492 million of individual contracts in an asset position as of December 31, 2017.

(5) The Company's adjustment for nonperformance risk resulted in a$(399) million cumulative increase (decrease) to the embedded derivatives as of December 31, 2017.

The following tables provide a summary of changes in Level 3 assets and liabilities of Ameriprise Financial measured at fair value on a recurring basis:

	Available-for-Sale Securities					
	Corporate Debt Securities	Residential Mortgage Backed Securities	Commercial Mortgage Backed Securities	Asset Backed Securities	Total	Other Derivatives Contracts
	(in millions)					
Balance, January 1, 2018	$1,139	$ 155	$ —	$ 7	$1,301	$ —
Total gains (losses) included in:						
Net income	(1)	—	—	—	(1) (1)	(3) (2)
Other comprehensive income (loss)	(26)	1	—	1	(24)	—
Purchases	15	70	72	32	189	3
Settlements	(214)	(29)	—	(1)	(244)	—
Transfers into Level 3	—	—	—	2	2	—
Transfers out of Level 3	—	(61)	(52)	(35)	(148)	—
Balance, December 31, 2018	$913	$ 136	$ 20	$ 6	$1,075	$ —
Changes in unrealized gains (losses) relating to assets held at December 31, 2018	$(1)	$ —	$ —	$ —	$(1) (1)	$ —

	Policyholder Account Balances, Future Policy Benefits and Claims				
	Indexed Annuity Embedded Derivatives	IUL Embedded Derivatives	GMWB and GMAB Embedded Derivatives	Total	Other Liabilities
	(in millions)				
Balance, January 1, 2018	$—	$ 601	$ (49)	$552	$ 28
Total (gains) losses included in:					
Net income	(3) (3)	(9) (3)	49 (2)	37	2 (4)
Issues	17	90	350	457	—
Settlements	—	(54)	(22)	(76)	—
Balance, December 31, 2018	$14	$ 628	$ 328	$970	$ 30
Changes in unrealized (gains) losses relating to liabilities held at December 31, 2018	$—	$ (9) (3)	$ 47 (2)	$38	$ —

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	Available-for-Sale Securities					
	Corporate Debt Securities	Residential Mortgage Backed Securities	Commercial Mortgage Backed Securities	Asset Backed Securities	Common Stocks	Total
	(in millions)					
Balance, January 1, 2017	$1,311	$ 268	$ —	$ 68	$ 1	$1,648
Total gains (losses) included in:						
Net income	—	—	—	—	1	1 (1)
Other comprehensive income (loss)	(8)	1	—	(4)	—	(11)
Purchases	138	132	65	64	—	399
Sales	—	—	—	—	(1)	(1)
Settlements	(302)	(43)	—	(29)	—	(374)
Transfers into Level 3	—	20	—	27	8	55
Transfers out of Level 3	—	(223)	(65)	(119)	(9)	(416)
Balance, December 31, 2017	$1,139	$ 155	$ —	$ 7	$ —	$1,301
Changes in unrealized gains (losses) relating to assets held at December 31, 2017	$—	$—	$ —	$ (1)	$ —	$(1) (1)

	Policyholder Account Balances, Future Policy Benefits and Claims			
	IUL Embedded Derivatives	GMWB and GMAB Embedded Derivatives	Total	Other Liabilities
	(in millions)			
Balance, January 1, 2017	$464	$ 614	$1,078	$ 13
Total (gains) losses included in:				
Net income	87 (3)	(977) (2)	(890)	2 (4)
Issues	92	326	418	13
Settlements	(42)	(12)	(54)	—
Balance, December 31, 2017	$601	$ (49)	$552	$ 28
Changes in unrealized (gains) losses relating to liabilities held at December 31, 2017	$87 (3)	$ (946) (2)	$(859)	$ —

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	Available-for-Sale Securities						
	Corporate Debt Securities	Residential Mortgage Backed Securities	Commercial Mortgage Backed Securities	Asset Backed Securities	Common Stocks	Total	Other Derivative Contracts
	(in millions)						
Balance, January 1, 2016	$1,425	$ 218	$ 3	$ 162	$ —	$1,808	$ —
Cumulative effect of change in accounting policies	—	—	—	21	—	21	—
Total gains (losses) included in:							
Net income	(1)	1	—	(1)	—	(1) (1)	(2) (2)
Other comprehensive income (loss)	—	(1)	—	(4)	—	(5)	—
Purchases	54	209	42	58	—	363	2
Settlements	(168)	(67)	(3)	(2)	—	(240)	—
Transfers into Level 3	1	—	—	12	1	14	—
Transfers out of Level 3	—	(92)	(42)	(178)	—	(312)	—
Balance, December 31, 2016	$1,311	$ 268	$ —	$ 68	$ 1	$1,648	$ —
Changes in unrealized gains (losses) relating to assets held at December 31, 2016	$1	$ 1	$ —	$ (1)	$ —	$1 (1)	$ (2) (2)

	Policyholder Account Balances, Future Policy Benefits and Claims			
	IUL Embedded Derivatives	GMWB and GMAB Embedded Derivatives	Total	Other Liabilities
	(in millions)			
Balance, January 1, 2016	$364	$ 851	$1,215	$ —
Total (gains) losses included in:				
Net income	13 (3)	(511) (2)	(498)	—
Issues	115	295	410	13
Settlements	(28)	(21)	(49)	—
Balance, December 31, 2016	$464	$ 614	$1,078	$ 13
Changes in unrealized (gains) losses relating to liabilities held at December 31, 2016	$13 (3)	$ (448) (2)	$(435)	$ —

(1) Included in net investment income in the Consolidated Statements of Operations.
(2) Included in benefits, claims, losses and settlement expenses in the Consolidated Statements of Operations.
(3) Included in interest credited to fixed accounts in the Consolidated Statements of Operations.
(4) Included in general and administrative expense in the Consolidated Statements of Operations.

The increase (decrease) to pretax income of the Company's adjustment for nonperformance risk on the fair value of its embedded derivatives was $281 million, $(71) million and $98 million, net of DAC, DSIC, unearned revenue amortization and the reinsurance accrual, for the years ended December 31, 2018, 2017 and 2016, respectively.
Securities transferred from Level 3 primarily represent securities with fair values that are now obtained from a third-party pricing service with observable inputs. Securities transferred to Level 3 represent securities with fair values that are now based on a single non-binding broker quote.

The following tables provide a summary of the significant unobservable inputs used in the fair value measurements developed by the Company or reasonably available to the Company of Level 3 assets and liabilities:

	December 31, 2018				
	Fair Value (in millions)	Valuation Technique	Unobservable Input	Range	Weighted Average
Corporate debt securities (private placements)	$912	Discounted cash flow	Yield/spread to U.S. Treasuries	1.0 % – 3.6%	1.5 %
Asset backed securities	$6	Discounted cash flow	Annual short-term default rate	2.3%	
			Annual long-term default rate	2.5% – 3.0%	2.9 %
			Discount rate	11.5%	
			Constant prepayment rate	5.0 % – 10.0%	10.0 %
			Loss recovery	36.4 % – 63.6%	63.6 %
IUL embedded derivatives	$628	Discounted cash flow	Nonperformance risk (1)	119 bps	
Indexed annuity embedded derivatives	$14	Discounted cash flow	Surrender rate	0.0 % – 50.0%	
			Nonperformance risk (1)	119 bps	
GMWB and GMAB embedded derivatives	$328	Discounted cash flow	Utilization of guaranteed withdrawals (2)	0.0% – 36.0%	
			Surrender rate	0.1% – 73.4%	
			Market volatility (3)	4.0% – 16.1%	
			Nonperformance risk (1)	119 bps	
Contingent consideration liabilities	$30	Discounted cash flow	Discount rate	9.0%	

	December 31, 2017				
	Fair Value (in millions)	Valuation Technique	Unobservable Input	Range	Weighted Average
Corporate debt securities (private placements)	$1,138	Discounted cash flow	Yield/spread to U.S. Treasuries	0.7 % – 2.3%	1.1%
Asset backed securities	$7	Discounted cash flow	Annual short-term default rate	3.8%	
			Annual long-term default rate	2.5 % – 3.0%	2.7%

			Discount rate	10.5%	
			Constant prepayment rate	5.0 % – 10.0%	9.9%
			Loss recovery	36.4 % – 63.6%	63.2%
IUL embedded derivatives	$601	Discounted cash flow	Nonperformance risk [1]	71 bps	
GMWB and GMAB embedded derivatives	$(49)	Discounted cash flow	Utilization of guaranteed withdrawals [2]	0.0% – 42.0%	
			Surrender rate	0.1% – 74.7%	
			Market volatility [3]	3.7% – 16.1%	
			Nonperformance risk [1]	71 bps	
Contingent consideration liabilities	$28	Discounted cash flow	Discount rate	9.0%	

[1] The nonperformance risk is the spread added to the observable interest rates used in the valuation of the embedded derivatives.
[2] The utilization of guaranteed withdrawals represents the percentage of contractholders that will begin withdrawing in any given year.
[3] Market volatility is implied volatility of fund of funds and managed volatility funds.

Level 3 measurements not included in the table above are obtained from non-binding broker quotes where unobservable inputs utilized in the fair value calculation are not reasonably available to the Company.

Uncertainty of Fair Value Measurements

Significant increases (decreases) in the yield/spread to U.S. Treasuries used in the fair value measurement of Level 3 corporate debt securities in isolation would have resulted in a significantly lower (higher) fair value measurement.

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Significant increases (decreases) in the annual default rate and discount rate used in the fair value measurement of Level 3 asset backed securities in isolation, generally, would have resulted in a significantly lower (higher) fair value measurement and significant increases (decreases) in loss recovery in isolation would have resulted in a significantly higher (lower) fair value measurement. Significant increases (decreases) in the constant prepayment rate in isolation would have resulted in a significantly lower (higher) fair value measurement.
Significant increases (decreases) in nonperformance risk used in the fair value measurement of the IUL embedded derivatives in isolation would have resulted in a significantly lower (higher) fair value measurement.
Significant increases (decreases) in nonperformance risk and surrender rate used in the fair value measurement of the indexed annuity embedded derivatives in isolation would have resulted in a significantly lower (higher) liability value.
Significant increases (decreases) in utilization and volatility used in the fair value measurement of the GMWB and GMAB embedded derivatives in isolation would have resulted in a significantly higher (lower) liability value.
Significant increases (decreases) in nonperformance risk and surrender rate used in the fair value measurement of the GMWB and GMAB embedded derivatives in isolation would have resulted in a significantly lower (higher) liability value. Utilization of guaranteed withdrawals and surrender rates vary with the type of rider, the duration of the policy, the age of the contractholder, the distribution channel and whether the value of the guaranteed benefit exceeds the contract accumulation value.
Significant increases (decreases) in the discount rate used in the fair value measurement of the contingent consideration liability in isolation would have resulted in a significantly lower (higher) fair value measurement.

Determination of Fair Value

The Company uses valuation techniques consistent with the market and income approaches to measure the fair value of its assets and liabilities. The Company's market approach uses prices and other relevant information generated by market transactions involving identical or comparable assets or liabilities. The Company's income approach uses valuation techniques to convert future projected cash flows to a single discounted present value amount. When applying either approach, the Company maximizes the use of observable inputs and minimizes the use of unobservable inputs.
The following is a description of the valuation techniques used to measure fair value and the general classification of these instruments pursuant to the fair value hierarchy.

Assets

Cash Equivalents

Cash equivalents include time deposits and other highly liquid investments with original or remaining maturities at the time of purchase of 90 days or less. Actively traded money market funds are measured at their NAV and classified as Level 1. The Company's remaining cash equivalents are classified as Level 2 and measured at amortized cost, which is a reasonable estimate of fair value because of the short time between the purchase of the instrument and its expected realization.

Investments (Available-for-Sale Securities, Equity Securities and Trading Securities)

When available, the fair value of securities is based on quoted prices in active markets. If quoted prices are not available, fair values are obtained from third-party pricing services, non-binding broker quotes, or other model-based valuation techniques. Level 1 securities primarily include U.S. Treasuries. Level 2 securities primarily include corporate bonds, residential mortgage backed securities, commercial mortgage backed securities, asset backed securities, state and municipal obligations and foreign government securities. The fair value of these Level 2 securities is based on a market approach with prices obtained from third-party pricing services. Observable inputs used to value these securities can include, but are not limited to, reported trades, benchmark yields, issuer spreads and non-binding broker quotes. Level 3 securities primarily include certain corporate bonds, non-agency residential mortgage backed securities, commercial mortgage backed securities and asset backed securities. The fair value of corporate bonds, non-agency residential mortgage backed securities, commercial mortgage backed securities and certain asset backed securities classified as Level 3 is typically based on a single non-binding broker quote. The underlying inputs used for some of the non-binding broker quotes are not readily available to the Company. The Company's privately placed corporate bonds are typically based on a single non-binding broker quote. The fair value of certain asset backed securities is determined using a discounted cash flow model. Inputs used to determine the expected cash flows include assumptions about discount rates and default, prepayment and recovery rates of the underlying assets. Given the significance of the unobservable inputs to this fair value measurement, the fair value of the investment in certain asset backed securities is classified as Level 3.

In consideration of the above, management is responsible for the fair values recorded on the financial statements. Prices received from third-party pricing services are subjected to exception reporting that identifies investments with significant daily price movements as well as no movements. The Company reviews the exception reporting and resolves the exceptions through reaffirmation of the price or recording an appropriate fair value estimate. The Company also performs subsequent transaction testing. The Company performs annual due diligence of third-party pricing services. The Company's due diligence procedures include assessing the vendor's valuation qualifications, control environment, analysis of asset-class specific valuation methodologies, and understanding of sources of market observable assumptions and unobservable assumptions, if any, employed in the valuation methodology. The Company also considers the results of its exception reporting controls and any resulting price challenges that arise.

Separate Account Assets

The fair value of assets held by separate accounts is determined by the NAV of the funds in which those separate accounts are invested. The NAV is used as a practical expedient for fair value and represents the exit price for the separate account. Separate account assets are excluded from classification in the fair value hierarchy.

Investments and Cash Equivalents Segregated for Regulatory Purposes

Investments and cash equivalents segregated for regulatory purposes includes U.S. Treasuries that are classified as Level 1.

Other Assets

Derivatives that are measured using quoted prices in active markets, such as foreign currency forwards, or derivatives that are exchange-traded are classified as Level 1 measurements. The variation margin on futures contracts is also classified as Level 1. The fair value of derivatives that are traded in less active over-the-counter ("OTC") markets is generally measured using pricing models with market observable inputs such as interest rates and equity index levels. These measurements are classified as Level 2 within the fair value hierarchy and include swaps and the majority of options. The fair value of certain derivatives measured using pricing models which include significant unobservable inputs are classified as Level 3 within the fair value hierarchy. Other derivative contracts consist of the Company's macro hedge derivatives that contain settlement provisions linked to both equity returns and interest rates. See Note 17 for further information on the macro hedge program. The counterparties' nonperformance risk associated with uncollateralized derivative assets was immaterial as of December 31, 2018 and 2017. See Note 16 and Note 17 for further information on the credit risk of derivative instruments and related collateral.

Liabilities

Policyholder Account Balances, Future Policy Benefits and Claims

The Company values the embedded derivatives attributable to the provisions of certain variable annuity riders using internal valuation models. These models calculate fair value by discounting expected cash flows from benefits plus margins for profit, risk and expenses less embedded derivative fees. The projected cash flows used by these models include observable capital market assumptions and incorporate significant unobservable inputs related to contractholder behavior assumptions, implied volatility, and margins for risk, profit and expenses that the Company believes an exit market participant would expect. The fair value also reflects a current estimate of the Company's nonperformance risk specific to these embedded derivatives. Given the significant unobservable inputs to this valuation, these measurements are classified as Level 3. The embedded derivatives attributable to these provisions are recorded in policyholder account balances, future policy benefits and claims.

The Company uses various Black-Scholes calculations to determine the fair value of the embedded derivatives associated with the provisions of its indexed annuity and IUL products. Significant inputs to the EIA calculation include observable interest rates, volatilities and equity index levels and, therefore, are classified as Level 2. The fair value of fixed index annuity and IUL embedded derivatives includes significant observable interest rates, volatilities and equity index levels and the significant unobservable estimate of the Company's nonperformance risk. Given the significance of the nonperformance risk assumption to the fair value, the fixed index annuity and IUL embedded derivatives are classified as Level 3. The embedded derivatives attributable to these provisions are recorded in policyholder account balances, future policy benefits and claims.

Customer Deposits

The Company uses various Black-Scholes calculations to determine the fair value of the embedded derivative liability associated with the provisions of its stock market certificates ("SMC"). The inputs to these calculations are primarily market observable and include interest rates, volatilities and equity index levels. As a result, these measurements are classified as Level 2.

Other Liabilities

Derivatives that are measured using quoted prices in active markets, such as foreign currency forwards, or derivatives that are exchange-traded, are classified as Level 1 measurements. The variation margin on futures contracts is also classified as Level 1. The fair value of derivatives that are traded in less active OTC markets is generally measured using pricing models with market observable inputs such as interest rates and equity index levels. These measurements are classified as Level 2 within the fair value hierarchy and include swaps and the majority of options.

The Company’s nonperformance risk associated with uncollateralized derivative liabilities was immaterial as of December 31, 2018 and 2017. See Note 16 and Note 17 for further information on the credit risk of derivative instruments and related collateral.

Securities sold but not yet purchased include highly liquid investments which are short-term in nature. Securities sold but not yet purchased are measured using amortized cost, which is a reasonable estimate of fair value because of the short time between the purchase of the instrument and its expected realization and are classified as Level 2.

Contingent consideration liabilities consist of earn-outs and/or deferred payments related to the Company’s acquisitions. Contingent consideration liabilities are recorded at fair value using a discounted cash flow model under multiple scenarios and an unobservable input (discount rate). Given the use of a significant unobservable input, the fair value of contingent consideration liabilities is classified as Level 3 within the fair value hierarchy.

Fair Value on a Nonrecurring Basis

The Company assesses its investment in affordable housing partnerships for other-than-temporary impairment. The investments that are determined to be other-than-temporarily impaired are written down to their fair value. The Company uses a discounted cash flow model to measure the fair value of these investments. Inputs to the discounted cash flow model are estimates of future net operating losses and tax credits available to the Company and discount rates based on market condition and the financial strength of the syndicator (general partner). The balance of affordable housing partnerships measured at fair value on a nonrecurring basis was $112 million and $166 million as of December 31, 2018 and 2017, respectively, and is classified as Level 3 in the fair value hierarchy.

Asset and Liabilities Not Reported at Fair Value

The following tables provide the carrying value and the estimated fair value of financial instruments that are not reported at fair value:

	December 31, 2018				
	Carrying Value	Fair Value Level 1	Level 2	Level 3	Total
	(in millions)				
Financial Assets					
Mortgage loans, net	$2,696	$—	$—	$2,661	$2,661
Policy and certificate loans	861	—	—	810	810
Receivables	1,677	179	965	489	1,633
Restricted and segregated cash	2,609	2,609	—	—	2,609
Other investments and assets	572	—	491	60	551
Financial Liabilities					
Policyholder account balances, future policy benefits and claims	$9,609	$—	$—	$9,672	$9,672
Investment certificate reserves	7,886	—	—	7,845	7,845
Brokerage customer deposits	3,660	3,660	—	—	3,660
Separate account liabilities at NAV	4,843				4,843 (1)
Debt and other liabilities	3,296	188	3,059	57	3,304

	December 31, 2017				
	Carrying Value	Fair Value Level 1	Level 2	Level 3	Total
	(in millions)				
Financial Assets					
Mortgage loans, net	$2,756	$—	$—	$2,752	$2,752
Policy and certificate loans	845	—	—	801	801
Receivables	1,537	103	946	487	1,536
Restricted and segregated cash	2,524	2,524	—	—	2,524
Other investments and assets (2)	725	—	677	49	726
Financial Liabilities					
Policyholder account balances, future policy benefits and claims	$10,246	$—	$—	$10,755	$10,755
Investment certificate reserves	6,390	—	—	6,374	6,374
Brokerage customer deposits	3,915	3,915	—	—	3,915
Separate account liabilities at NAV	5,177				5,177 (1)
Debt and other liabilities	3,290	118	3,180	119	3,417

(1) Amounts are comprised of certain financial instruments that are measured at fair value using the NAV per share (or its equivalent) as a practical expedient and have not been classified in the fair value hierarchy.

(2) Amounts have been corrected to include certificates of deposit with original or remaining maturities at the time of purchase of more than 90 days but less than 12 months of $205 million as of December 31, 2017. The certificates of deposit are classified as Level 2 and recorded at cost, which is a reasonable estimate of fair value because of the short time between the purchase of the instrument and its expected realization.

See Note 7 for additional information on mortgage loans, policy loans and certificate loans. Receivables include brokerage margin loans, securities borrowed and loans to financial advisors. Restricted and segregated cash includes cash segregated under federal and other regulations held in special reserve bank accounts for the exclusive benefit of the Company’s brokerage customers. Other investments and assets primarily include syndicated loans, certificate of deposits with original or remaining maturities at the time of purchase of more than 90 days but less than 12 months, the Company’s membership in the FHLB and investments related to the Community Reinvestment Act. See Note 7 for additional information on syndicated loans. Policyholder account balances, future policy benefit and claims includes fixed annuities in deferral status, non-life contingent fixed annuities in payout status, indexed annuity host contracts and the fixed portion of a small number of variable annuity contracts classified as investment contracts. See Note 11 for additional information on these liabilities. Investment certificate reserves represent customer deposits for fixed rate certificates and stock market certificates. Brokerage customer deposits are amounts payable to brokerage customers related to free credit balances, funds deposited by customers and funds accruing to customers as a result of trades or contracts. Separate account liabilities primarily relate to investment contracts in pooled pension funds offered by Threadneedle. Debt and other liabilities include the Company’s long-term debt, short-term borrowings, securities loaned and future funding commitments to affordable housing partnerships and other real estate partnerships. See Note 14 for further information on the Company’s long-term debt and short-term borrowings.

16. Offsetting Assets and Liabilities

Certain financial instruments and derivative instruments are eligible for offset in the Consolidated Balance Sheets. The Company’s derivative instruments, repurchase agreements and securities borrowing and lending agreements are subject to master netting arrangements and collateral arrangements and qualify for offset. A master netting arrangement with a counterparty creates a right of offset for amounts due to and from that same counterparty that is enforceable in the event of a default or bankruptcy. Securities borrowed and loaned result from transactions between the Company’s broker dealer subsidiary and other financial institutions and are recorded at the amount of cash collateral advanced or received. Securities borrowed and securities loaned are primarily equity securities. The Company’s securities borrowed and securities loaned transactions generally do not have a fixed maturity date and may be terminated by either party under customary terms.

The Company’s policy is to recognize amounts subject to master netting arrangements on a gross basis in the Consolidated Balance Sheets.

The following tables present the gross and net information about the Company’s assets subject to master netting arrangements:

	December 31, 2018						
				Gross Amounts Not Offset in the Consolidated Balance Sheets			
	Gross Amounts of Recognized Assets	Gross Amounts Offset in the Consolidated Balance Sheets	Amounts of Assets Presented in the Consolidated Balance Sheets	Financial Instruments (1)	Cash Collateral	Securities Collateral	Net Amount
	(in millions)						
Derivatives:							
OTC	$2,525	$ —	$ 2,525	$(2,075)	$(403)	$(26)	$ 21
OTC cleared	34	—	34	(23)	—	—	11
Exchange-traded	15	—	15	(1)	—	—	14
Total derivatives	2,574	—	2,574	(2,099)	(403)	(26)	46
Securities borrowed	179	—	179	(37)	—	(139)	3
Total	$2,753	$ —	$ 2,753	$(2,136)	$(403)	$(165)	$ 49

	December 31, 2017						
				Gross Amounts Not Offset in the Consolidated Balance Sheets			
	Gross Amounts of Recognized Assets	Gross Amounts Offset in the Consolidated Balance Sheets	Amounts of Assets Presented in the Consolidated Balance Sheets	Financial Instruments (1)	Cash Collateral	Securities Collateral	Net Amount
	(in millions)						
Derivatives:							
OTC	$3,520	$ —	$ 3,520	$(2,653)	$(760)	$(88)	$ 19
OTC cleared	21	—	21	(15)	—	—	6

Exchange-traded	22	—	22	(1)	—	—	21
Total derivatives	3,563	—	3,563	(2,669)	(760)	(88)	46
Securities borrowed	103	—	103	(19)	—	(82)	2
Total	$3,666	$ —	$ 3,666	$(2,688)	$(760)	$(170)	$ 48

(1) Represents the amount of assets that could be offset by liabilities with the same counterparty under master netting or similar arrangements that management elects not to offset on the Consolidated Balance Sheets.

The following tables present the gross and net information about the Company's liabilities subject to master netting arrangements:

	December 31, 2018						
	Gross Amounts of Recognized Liabilities	Gross Amounts Offset in the Consolidated Balance Sheets	Amounts of Liabilities Presented in the Consolidated Balance Sheets	Gross Amounts Not Offset in the Consolidated Balance Sheets			Net Amount
				Financial Instruments [1]	Cash Collateral	Securities Collateral	
	(in millions)						
Derivatives:							
OTC	$2,597	$ —	$ 2,597	$(2,075)	$ (89)	$(430)	$ 3
OTC cleared	24	—	24	(23)	—	—	1
Exchange-traded	10	—	10	(1)	—	—	9
Total derivatives	2,631	—	2,631	(2,099)	(89)	(430)	13
Securities loaned	188	—	188	(37)	—	(146)	5
Repurchase agreements	50	—	50	—	—	(50)	—
Total	$2,869	$ —	$ 2,869	$(2,136)	$ (89)	$(626)	$ 18

	December 31, 2017						
	Gross Amounts of Recognized Liabilities	Gross Amounts Offset in the Consolidated Balance Sheets	Amounts of Liabilities Presented in the Consolidated Balance Sheets	Gross Amounts Not Offset in the Consolidated Balance Sheets			Net Amount
				Financial Instruments [1]	Cash Collateral	Securities Collateral	
	(in millions)						
Derivatives:							
OTC	$3,309	$ —	$ 3,309	$(2,653)	$ (70)	$(579)	$ 7
OTC cleared	16	—	16	(15)	—	—	1
Exchange-traded	3	—	3	(1)	—	—	2
Total derivatives	3,328	—	3,328	(2,669)	(70)	(579)	10
Securities loaned	118	—	118	(19)	—	(94)	5
Repurchase agreements	50	—	50	—	—	(50)	—
Total	$3,496	$ —	$ 3,496	$(2,688)	$ (70)	$(723)	$ 15

[1] Represents the amount of liabilities that could be offset by assets with the same counterparty under master netting or similar arrangements that management elects not to offset on the Consolidated Balance Sheets.

In the tables above, the amount of assets or liabilities presented are offset first by financial instruments that have the right of offset under master netting or similar arrangements, then any remaining amount is reduced by the amount of cash and securities collateral. The actual collateral may be greater than amounts presented in the tables.

When the fair value of collateral accepted by the Company is less than the amount due to the Company, there is a risk of loss if the counterparty fails to perform or provide additional collateral. To mitigate this risk, the Company monitors collateral values regularly and requires additional collateral when necessary. When the value of collateral pledged by the Company declines, it may be required to post additional collateral.

Freestanding derivative instruments are reflected in other assets and other liabilities. Cash collateral pledged by the Company is reflected in other assets and cash collateral accepted by the Company is reflected in other liabilities. Repurchase agreements are reflected in short-term borrowings. Securities borrowing and lending agreements are reflected in receivables and other liabilities, respectively. See Note 17 for additional disclosures related to the Company's derivative instruments, Note 14 for additional disclosures related to the Company's repurchase agreements and Note 5 for information related to derivatives held by consolidated investment entities.

17. Derivatives and Hedging Activities

Derivative instruments enable the Company to manage its exposure to various market risks. The value of such instruments is derived from an underlying variable or multiple variables, including equity, foreign exchange and interest rate indices or prices. The Company primarily enters into derivative agreements for risk management purposes related to the Company's products and operations.

The Company's freestanding derivative instruments are all subject to master netting arrangements. The Company's policy on the recognition of derivatives on the Consolidated Balance Sheets is to not offset fair value amounts recognized for derivatives and collateral arrangements executed with the same counterparty under the same master netting arrangement. See Note 16 for additional information regarding the estimated fair value of the Company's freestanding derivatives after considering the effect of master netting arrangements and collateral.

The Company uses derivatives as economic hedges and accounting hedges. The following table presents the notional value and gross fair value of derivative instruments, including embedded derivatives:

	December 31, 2018			December 31, 2017		
	Notional	Gross Fair Value Assets [1]	Gross Fair Value Liabilities [2][3]	Notional	Gross Fair Value Assets [1]	Gross Fair Value Liabilities [2][3]
	(in millions)					
Derivatives designated as hedging instruments						
Interest rate contracts	$675	$7	$ —	$675	$23	$ —
Foreign exchange contracts	103	1	—	87	—	4
Total qualifying hedges	778	8	—	762	23	4
Derivatives not designated as hedging instruments						
Interest rate contracts	58,244	789	424	66,043	1,081	416
Equity contracts	54,079	1,718	2,154	59,292	2,423	2,883
Credit contracts	1,209	—	18	721	—	2
Foreign exchange contracts	4,908	59	35	4,163	36	23
Other contracts	2	—	—	452	—	—
Total non-designated hedges	118,442	2,566	2,631	130,671	3,540	3,324
Embedded derivatives						
GMWB and GMAB [4]	N/A	—	328	N/A	—	(49)
IUL	N/A	—	628	N/A	—	601
Indexed annuities	N/A	—	17	N/A	—	5
SMC	N/A	—	6	N/A	—	10
Total embedded derivatives	N/A	—	979	N/A	—	567
Total derivatives	$119,220	$2,574	$ 3,610	$131,433	$3,563	$ 3,895

N/A Not applicable.

(1) The fair value of freestanding derivative assets is included in Other assets on the Consolidated Balance Sheets.

(2) The fair value of freestanding derivative liabilities is included in Other liabilities on the Consolidated Balance Sheets. The fair value of GMWB and GMAB, IUL, and indexed annuity embedded derivatives is included in Policyholder account balances, future policy benefits and claims on the Consolidated Balance Sheets. The fair value of the SMC embedded derivative liability is included in Customer deposits on the Consolidated Balance Sheets.

(3) The fair value of the Company's derivative liabilities after considering the effects of master netting arrangements, cash collateral held by the same counterparty and the fair value of net embedded derivatives was $1.4 billion and $1.3 billion as of December 31, 2018 and 2017, respectively. See Note 16 for additional information related to master netting arrangements and cash collateral. See Note 5 for information about derivatives held by consolidated VIEs.

(4) The fair value of the GMWB and GMAB embedded derivatives as of December 31, 2018 included $646 million of individual contracts in a liability position and $318 million of individual contracts in an asset position. The fair value of the GMWB and GMAB embedded derivatives as of December 31, 2017 included $443 million of individual contracts in a liability position and $492 million of individual contracts in an asset position.

See Note 15 for additional information regarding the Company's fair value measurement of derivative instruments.

As of December 31, 2018 and 2017, investment securities with a fair value of $28 million and $89 million, respectively, were received as collateral to meet contractual obligations under derivative contracts, of which $28 million and $89 million, respectively, may be sold, pledged or rehypothecated by the Company. As of both December 31, 2018 and 2017, the Company had sold, pledged or rehypothecated nil of these securities. In addition, as of both December 31, 2018 and 2017, non-cash collateral accepted was held in separate custodial accounts and was not included in the Company's Consolidated Balance Sheets.

Derivatives Not Designated as Hedges

The following table presents a summary of the impact of derivatives not designated as hedging instruments, including embedded derivatives, on the Consolidated Statements of Operations:

(in millions)	Net Investment Income	Banking and Deposit Interest Expense	Distribution Expenses	Interest Credited to Fixed Accounts	Benefits, Claims, Losses and Settlement Expenses	General and Administrative Expense
Year Ended December 31, 2018						
Interest rate contracts	$ 12	$ —	$ —	$ —	$ (312)	$ —
Equity contracts	—	(4)	(42)	(49)	302	(7)
Credit contracts	—	—	—	—	7	—
Foreign exchange contracts	(2)	—	—	—	1	(9)
Other contracts	—	—	—	—	(3)	—
GMWB and GMAB embedded derivatives	—	—	—	—	(377)	—
IUL embedded derivatives	—	—	—	63	—	—
Indexed annuity embedded derivatives	—	—	—	3	—	—
SMC embedded derivatives	—	4	—	—	—	—
Total gain (loss)	$ 10	$ —	$ (42)	$ 17	$ (382)	$ (16)
Year Ended December 31, 2017						
Interest rate contracts	$ (3)	$ —	$ —	$ —	$ 1	$ —
Equity contracts	(10)	4	54	75	(1,081)	11
Credit contracts	—	—	—	—	(22)	—
Foreign exchange contracts	—	—	3	—	(23)	6
Other contracts	—	—	—	—	(2)	—
GMWB and GMAB embedded derivatives	—	—	—	—	663	—
IUL embedded derivatives	—	—	—	(45)	—	—
SMC embedded derivatives	—	(4)	—	—	—	—
Total gain (loss)	$ (13)	$ —	$ 57	$ 30	$ (464)	$ 17
Year Ended December 31, 2016						
Interest rate contracts	$ 3	$ —	$ —	$ —	$ 36	$ —
Equity contracts	(1)	2	23	20	(897)	6
Credit contracts	—	—	—	—	2	—
Foreign exchange contracts	—	—	(1)	—	—	14
Other contracts	—	—	—	—	(2)	—
GMWB and GMAB embedded derivatives	—	—	—	—	237	—
IUL embedded derivatives	—	—	—	15	—	—
SMC embedded derivatives	—	(2)	—	—	—	—
Total gain (loss)	$ 2	$ —	$ 22	$ 35	$ (624)	$ 20

The Company holds derivative instruments that either do not qualify or are not designated for hedge accounting treatment. These derivative instruments are used as economic hedges of equity, interest rate, credit and foreign currency exchange rate risk related to various products and transactions of the Company.

Certain annuity contracts contain GMWB or GMAB provisions, which guarantee the right to make limited partial withdrawals each contract year regardless of the volatility inherent in the underlying investments or guarantee a minimum accumulation value of consideration received at the beginning of the contract period, after a specified holding period, respectively. The GMAB and non-life contingent GMWB provisions are considered embedded derivatives, which are bifurcated from their host contracts for valuation purposes and reported on the Consolidated Balance Sheets at fair value with changes in fair value reported in earnings. The Company economically hedges the exposure related to GMAB and non-life contingent GMWB provisions using options (equity index, interest rate swaptions, etc.), swaps (interest rate, total return, etc.) and futures.

The deferred premium associated with certain of the above options and swaptions is paid or received semi-annually over the life of the contract or at maturity. The following is a summary of the payments the Company is scheduled to make and receive for these options and swaptions as of December 31, 2018:

	Premiums Payable	Premiums Receivable
	(in millions)	
2019	$294	$ 170
2020	216	132
2021	187	119
2022	226	200
2023	142	42
2024-2028	404	17
Total	$1,469	$ 680

Actual timing and payment amounts may differ due to future settlements, modifications or exercises of the contracts prior to the full premium being paid or received.

The Company has a macro hedge program to provide protection against the statutory tail scenario risk arising from variable annuity reserves on its statutory surplus and to cover some of the residual risks not covered by other hedging activities. As a means of economically hedging these risks, the Company may use a combination of futures, options, swaps and swaptions. Certain of the macro hedge derivatives contain settlement provisions linked to both equity returns and interest rates. The Company's macro hedge derivatives that contain settlement provisions linked to both equity returns and interest rates are shown in Other contracts in the tables above.

Indexed annuity, IUL and stock market certificate products have returns tied to the performance of equity markets. As a result of fluctuations in equity markets, the obligation incurred by the Company related to indexed annuity, IUL and stock market certificate products will positively or negatively impact earnings over the life of these products.

The equity component of indexed annuity, IUL and stock market certificate product obligations are considered embedded derivatives, which are bifurcated from their host contracts for valuation purposes and reported on the Consolidated Balance Sheets at fair value with changes in fair value reported in earnings. As a means of economically hedging its obligations under the provisions of these products, the Company enters into index options and futures contracts.

The Company enters into futures, credit default swaps and commodity swaps to manage its exposure to price risk arising from seed money investments in proprietary investment products. The Company enters into foreign currency forward contracts to economically hedge its exposure to certain foreign transactions. The Company enters into futures contracts to economically hedge its exposure related to compensation plans. In 2015, the Company entered into interest rate swaps to offset interest rate changes on unrealized gains or losses for certain investments.

Cash Flow Hedges

The Company has designated derivative instruments as a cash flow hedge of interest rate exposure on forecasted debt interest payments. The change in the fair value of the derivative instruments from the date of the hedge designation to the date the debt is issued is recorded in AOCI. Amounts are reclassified from AOCI into earnings when the forecasted interest payments occur.

For the years ended December 31, 2018, 2017 and 2016, the amounts reclassified from AOCI to earnings related to the cash flow hedges were immaterial and no amounts were recorded in earnings for hedge ineffectiveness. The estimated net amount recorded in AOCI as of December 31, 2018 that the Company expects to reclassify to earnings as a reduction to interest and debt expense within the next twelve months is $2 million. Currently, the longest period of time over which the Company is hedging exposure to the variability in future cash flows is 16 years and relates to forecasted debt interest payments. See Note 19 for a rollforward of net unrealized derivative gains (losses) included in AOCI related to cash flow hedges.

Fair Value Hedges

The Company entered into and designated as fair value hedges two interest rate swaps to convert senior notes due 2019 and 2020 from fixed rate debt to floating rate debt. The swaps have identical terms as the underlying debt being hedged so no ineffectiveness is expected to be realized. The Company recognizes gains and losses on the derivatives and the related hedged items within interest and debt expense. The following table presents the amounts recognized in income related to fair value hedges:

Derivatives Designated as Hedging Instruments	Location of Gain Recognized into Income	Amount of Gain Recognized in Income on Derivatives Years Ended December 31,		
		2018	2017	2016
		(in millions)		
Interest rate contracts	Interest and debt expense	$ 11	$ 16	$ 19

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Net Investment Hedges

The Company entered into, and designated as net investment hedges in foreign operations, forward contracts to hedge a portion of the Company's foreign currency exchange rate risk associated with its investment in Threadneedle. As the Company determined that the forward contracts are effective, the change in fair value of the derivatives is recognized in AOCI as part of the foreign currency translation adjustment. For the years ended December 31, 2018 and 2017, the Company recognized a gain of $14 million and a loss of $4 million, respectively, in OCI.

Credit Risk

Credit risk associated with the Company's derivatives is the risk that a derivative counterparty will not perform in accordance with the terms of the applicable derivative contract. To mitigate such risk, the Company has established guidelines and oversight of credit risk through a comprehensive enterprise risk management program that includes members of senior management. Key components of this program are to require preapproval of counterparties and the use of master netting and collateral arrangements whenever practical. See Note 16 for additional information on the Company's credit exposure related to derivative assets.

Certain of the Company's derivative contracts contain provisions that adjust the level of collateral the Company is required to post based on the Company's debt rating (or based on the financial strength of the Company's life insurance subsidiaries for contracts in which those subsidiaries are the counterparty). Additionally, certain of the Company's derivative contracts contain provisions that allow the counterparty to terminate the contract if the Company's debt does not maintain a specific credit rating (generally an investment grade rating) or the Company's life insurance subsidiary does not maintain a specific financial strength rating. If these termination provisions were to be triggered, the Company's counterparty could require immediate settlement of any net liability position. As of December 31, 2018 and 2017, the aggregate fair value of derivative contracts in a net liability position containing such credit contingent provisions was $171 million and $372 million, respectively. The aggregate fair value of assets posted as collateral for such instruments as of December 31, 2018 and 2017 was $170 million and $369 million, respectively. If the credit contingent provisions of derivative contracts in a net liability position as of December 31, 2018 and 2017 were triggered, the aggregate fair value of additional assets that would be required to be posted as collateral or needed to settle the instruments immediately would have been $1 million and $3 million, respectively.

18. Share-Based Compensation

The Company's share-based compensation plans consist of the Amended and Restated Ameriprise Financial 2005 Incentive Compensation Plan (the "2005 ICP"), the Ameriprise Financial 2008 Employment Incentive Equity Award Plan (the "2008 Plan"), the Ameriprise Financial Franchise Advisor Deferred Compensation Plan ("Franchise Advisor Deferral Plan") and the Ameriprise Advisor Group Deferred Compensation Plan ("Advisor Group Deferral Plan").

The components of the Company's share-based compensation expense, net of forfeitures, were as follows:

	December 31,		
	2018	2017	2016
	(in millions)		
Stock option	$35	$32	$34
Restricted stock	24	24	24
Restricted stock units	85	65	76
Liability awards	2	45	4
Total	$146	$166	$138

For the years ended December 31, 2018, 2017 and 2016, total income tax benefit recognized by the Company related to share-based compensation expense was $31 million, $58 million and $48 million, respectively.

As of December 31, 2018, there was $111 million of total unrecognized compensation cost related to non-vested awards under the Company's share-based compensation plans, which is expected to be recognized over a weighted-average period of 2.8 years.

Amended and Restated Ameriprise Financial 2005 Incentive Compensation Plan

The 2005 ICP, which was amended and approved by shareholders on April 30, 2014, provides for the grant of cash and equity incentive awards to directors, employees and independent contractors, including stock options, restricted stock awards, restricted stock units, stock appreciation rights, performance shares and similar awards designed to comply with the applicable federal regulations and laws of jurisdiction. Under the 2005 ICP, a maximum of 54.4 million shares may be issued. Of this total, no more than 4.5 million shares may be issued after April 30, 2014 for full value awards, which are awards other than stock options and stock appreciation rights. Shares issued under the 2005 ICP may be authorized and unissued shares or treasury shares.

Ameriprise Financial 2008 Employment Incentive Equity Award Plan

The 2008 Plan is designed to align employees' interests with those of the shareholders of the Company and attract and retain new employees. The 2008 Plan provides for the grant of equity incentive awards to new employees, primarily those, who became employees in connection with a merger or acquisition, including stock options, restricted stock awards, restricted stock units, and other equity-based awards designed to comply with the applicable federal and foreign regulations and laws of jurisdiction. Under the 2008 Plan, a maximum of 6.0 million shares may be issued.

Stock Options

Stock options granted under the 2005 ICP and the 2008 Plan have an exercise price not less than 100% of the current fair market value of a share of the Company's common stock on the grant date and a maximum term of 10 years. Stock options granted generally vest ratably over three to four years. Vesting of option awards may be accelerated based on age and length of service. Stock options granted are expensed on a straight-line basis over the vesting period based on the fair value of the awards on the date of grant. The grant date fair value of the options is calculated using a Black-Scholes option-pricing model.

The following weighted average assumptions were used for stock option grants:

	2018	2017	2016
Dividend yield	2.3%	2.3%	2.3%
Expected volatility	24 %	30 %	27 %
Risk-free interest rate	2.4%	1.9%	1.3%
Expected life of stock option (years)	5.0	5.0	5.0

The dividend yield assumption represents the Company's expected dividend yield based on its historical dividend payouts and management's expectations. The expected volatility is based on the Company's historical and implied volatilities. The risk-free interest rate for periods within the expected option life is based on the U.S. Treasury yield curve at the grant date. The expected life of the option is based on the Company's past experience and other considerations.

The weighted average grant date fair value for options granted during 2018, 2017 and 2016 was $35.01, $28.33 and $17.00, respectively.

A summary of the Company's stock option activity for 2018 is presented below (shares and intrinsic value in millions):

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value
Outstanding at January 1	6.0	$100.38	7.0	$ 413
Granted	1.0	179.23		
Exercised	(0.8)	83.21		
Forfeited	(0.1)	128.08		
Outstanding at December 31	6.1	115.73	6.7	57
Exercisable at December 31	3.8	101.61	5.7	48

The intrinsic value of a stock option is the amount by which the fair value of the underlying stock exceeds the exercise price of the option. The total intrinsic value of options exercised was $58 million, $222 million and $37 million during the years ended December 31, 2018, 2017 and 2016, respectively.

Restricted Stock Awards

Restricted stock awards granted under the 2005 ICP and 2008 Plan generally vest ratably over three to four years or at the end of five years. Vesting of restricted stock awards may be accelerated based on age and length of service. Compensation expense for restricted stock awards is based on the market price of Ameriprise Financial common stock on the date of grant and is amortized on a straight-line basis over the vesting period. Quarterly dividends are paid on restricted stock, as declared by the Company's Board of Directors, during the vesting period and are not subject to forfeiture.

Restricted Stock Units and Deferred Share Units

The 2005 ICP provides for the grant of deferred share units to non-employee directors of the Company and the 2005 ICP and 2008 Plan provide for the grant of restricted stock units to employees. The director awards are fully vested upon issuance and are settled for Ameriprise Financial common stock upon the director's termination of service. The employee awards generally vest ratably over three to four years. Compensation expense for deferred share units and restricted stock units is based on the market price of Ameriprise Financial stock on the date of grant. Restricted stock units granted to employees are expensed on a straight-line basis over the vesting period or on an accelerated basis if certain age and length of service requirements are met. Deferred share units granted to non-employee directors are expensed immediately. Dividends are paid on restricted stock units, as declared by the Company’s Board of Directors, during the vesting period and are not subject to forfeiture. Dividend equivalents are issued on deferred share units, as dividends are declared by the Company's Board of Directors, until distribution and are not subject to forfeiture.

Ameriprise Financial Deferred Compensation Plan

The Ameriprise Financial Deferred Compensation Plan (“DCP”) under the 2005 ICP gives certain employees the choice to defer a portion of their eligible compensation, which can be invested in investment options as provided by the DCP, including the Ameriprise Financial Stock Fund. The DCP is an unfunded non-qualified deferred compensation plan under section 409A of the Internal Revenue Code. The Company provides a match on certain deferrals. Participant deferrals vest immediately and the Company match vests after three years. Distributions are made in shares of the Company's common stock for the portion of the deferral invested in the Ameriprise Financial Stock Fund and the Company match, for which the Company has recorded in equity. The DCP does allow for accelerated vesting of the share-based awards in cases of death, disability and qualified retirement. Compensation expense related to the Company match is recognized on a straight-line basis over the vesting period or on an accelerated basis if certain age and length of service requirements are met. Dividend equivalents are issued on deferrals into the Ameriprise Financial Stock Fund and the Company match. Dividend equivalents related to deferrals are not subject to forfeiture, whereas dividend equivalents related to the Company match are subject to forfeiture until fully vested.

Ameriprise Financial Franchise Advisor Deferral Plan

The Franchise Advisor Deferral Plan gives certain advisors the choice to defer a portion of their commissions into Ameriprise Financial stock or other investment options. The Franchise Advisor Deferral Plan is an unfunded non-qualified deferred compensation plan under section 409A of the Internal Revenue Code. The Franchise Advisor Deferral Plan allows for the grant of share-based awards of up to 12.5 million shares of common stock. The number of units awarded is based on the performance measures, deferral percentage and the market value of Ameriprise Financial common stock on the deferral date as defined by the plan. Share-based awards are fully vested and are not subject to forfeitures.

In addition to the voluntary deferral, certain advisors are eligible to earn additional deferred stock awards on commissions over a specified threshold or based on the success of the advisors they coach. The awards vest ratably over three or four years. The Franchise Advisor Deferral Plan allows for accelerated vesting of the share-based awards based on age and years as an advisor. Commission expense is recognized on a straight-line basis over the vesting period. However, as franchise advisors are not employees of the Company, the expense is adjusted each period based on the stock price of the Company's common stock up to the vesting date. Share units receive dividend equivalents, as dividends are declared by the Company's Board of Directors, until distribution and are subject to forfeiture until vested.

Ameriprise Advisor Group Deferred Compensation Plan

The Advisor Group Deferral Plan, which was created in April 2009, allows for employee advisors to receive share-based bonus awards which are subject to future service requirements and forfeitures. The Advisor Group Deferral Plan is an unfunded non-qualified deferred compensation plan under section 409A of the Internal Revenue Code. The Advisor Group Deferral Plan also gives qualifying employee advisors the choice to defer a portion of their base salary or commissions. This deferral can be in the form of Ameriprise Financial stock or other investment options. Deferrals are not subject to future service requirements or forfeitures. Under the Advisor Group Deferral Plan, a maximum of 3.0 million shares may be issued. Awards granted under the Advisor Group Deferral Plan may be settled in cash and/or shares of the Company's common stock according to the award's terms. Share units receive dividend equivalents, as dividends are declared by the Company's Board of Directors, until distribution and are subject to forfeiture until vested.

Full Value Share Award Activity

A summary of activity for the Company's restricted stock awards, restricted stock units granted to employees (including advisors), compensation and commission deferrals into stock and deferred share units for 2018 is presented below (shares in millions):

	Shares	Weighted Average Grant-date Fair Value
Non-vested shares at January 1	1.2	$ 107.52
Granted	0.6	165.42
Deferred	0.2	139.64
Vested	(0.8)	124.28

Forfeited	(0.1)	124.49
Non-vested shares at December 31	1.1	130.17

The deferred shares in the table above primarily relate to franchise advisor voluntary deferrals of their commissions into Ameriprise Financial stock under the Franchise Advisor Deferral Plan that are fully vested at the deferral date. The fair value of full value share awards vested during the years ended December 31, 2018, 2017 and 2016 was $128 million, $97 million and $103 million, respectively.

The weighted average grant date fair value for restricted shares, restricted stock units and deferred share units during 2018, 2017 and 2016 was $172.69, $124.51 and $88.61, respectively. The weighted average grant date fair value for franchise advisor and advisor group deferrals during 2018, 2017 and 2016 was $144.37, $134.58 and $94.55, respectively.

Performance Share Units

Under the 2005 ICP, the Company's Executive Leadership Team may be awarded a target number of performance share units ("PSUs"). PSUs will be earned only to the extent that the Company attains certain goals relating to the Company's performance and relative total shareholder returns against peers over a three-year period. The awards also have a three-year service condition with cliff vesting with an accelerated service condition based on age and length of service. The actual number of PSUs ultimately earned could vary from zero, if performance goals are not met, to as much as 200% of the target for awards made prior to 2018 and 175% of the target for awards made in 2018, if performance goals are significantly exceeded. The value of each target PSU is equal to the value of one share of Ameriprise Financial common stock. The total amount of target PSUs outstanding at the end of December 31, 2018, 2017 and 2016 was 0.3 million, 0.2 million and 0.2 million, respectively. The PSUs are liability awards. During the years ended December 31, 2018, 2017 and 2016, the value of shares settled for PSU awards was $16 million, $13 million and $15 million, respectively.

19. Shareholders' Equity

The following tables provide the amounts related to each component of OCI:

	Year Ended December 31, 2018		
	Pretax	Income Tax Benefit (Expense)	Net of Tax
	(in millions)		
Net unrealized gains (losses) on securities:			
Net unrealized gains (losses) on securities arising during the period [1]	$(1,039)	$ 237	$(802)
Reclassification of net (gains) losses on securities included in net income [2]	(9)	2	(7)
Impact of DAC, DSIC, unearned revenue, benefit reserves and reinsurance recoverables	435	(91)	344
Net unrealized gains (losses) on securities	(613)	148	(465)
Defined benefit plans:			
Net gain (loss) arising during the period	(30)	7	(23)
Defined benefit plans	(30)	7	(23)
Foreign currency translation	(32)	1	(31)
Total other comprehensive income (loss)	$(675)	$ 156	$(519)

	Year Ended December 31, 2017		
	Pretax	Income Tax Benefit (Expense)	Net of Tax
	(in millions)		
Net unrealized gains (losses) on securities:			
Net unrealized gains (losses) on securities arising during the period [1]	$243	$ (77)	$166
Reclassification of net (gains) losses on securities included in net income [2]	(55)	19	(36)
Impact of DAC, DSIC, unearned revenue, benefit reserves and reinsurance recoverables	(180)	57	(123)
Net unrealized gains (losses) on securities	8	(1)	7
Net unrealized gains (losses) on derivatives:			
Reclassification of net (gains) losses on derivatives included in net income [3]	5	(2)	3
Net unrealized gains (losses) on derivatives	5	(2)	3
Defined benefit plans:			
Prior service credit	2	(1)	1
Net gain (loss) arising during the period	38	(11)	27
Defined benefit plans	40	(12)	28
Foreign currency translation	74	(82) [4]	(8)
Other	(1)	—	(1)
Total other comprehensive income (loss)	$126	$ (97)	$29

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	Year Ended December 31, 2016		
	Pretax	Income Tax Benefit (Expense)	Net of Tax
	(in millions)		
Net unrealized gains (losses) on securities:			
Net unrealized gains (losses) on securities arising during the period [1]	$339	$(121)	$218
Reclassification of net (gains) losses on securities included in net income [2]	(22)	8	(14)
Impact of DAC, DSIC, unearned revenue, benefit reserves and reinsurance recoverables	(242)	85	(157)
Net unrealized gains (losses) on securities	75	(28)	47
Net unrealized gains (losses) on derivatives:			
Reclassification of net (gains) losses on derivatives included in net income [3]	6	(2)	4
Net unrealized gains (losses) on derivatives	6	(2)	4
Defined benefit plans:			
Net gain (loss) arising during the period	(45)	11	(34)
Defined benefit plans	(45)	11	(34)
Foreign currency translation	(117)	41	(76)
Total other comprehensive income (loss)	$(81)	$22	$(59)

(1) Includes other-than-temporary impairment losses on Available-for-Sale securities related to factors other than credit that were recognized in other comprehensive income (loss) during the period.
(2) Reclassification amounts are recorded in net investment income.
(3) Includes a $2 million, $2 million and $1 million pretax gain reclassified to interest and debt expenses and a $2 million, $5 million and $6 million pretax loss reclassified to net investment income for the years ended December 31, 2018, 2017 and 2016, respectively.
(4) Includes an $87 million decrease to OCI related to deferred taxes on currency translations adjustments.

Other comprehensive income (loss) related to net unrealized securities gains (losses) includes three components: (i) unrealized gains (losses) that arose from changes in the market value of securities that were held during the period; (ii) (gains) losses that were previously unrealized, but have been recognized in current period net income due to sales of Available-for-Sale securities and due to the reclassification of noncredit other-than-temporary impairment losses to credit losses; and (iii) other adjustments primarily consisting of changes in insurance and annuity asset and liability balances, such as DAC, DSIC, unearned revenue, benefit reserves and reinsurance recoverables, to reflect the expected impact on their carrying values had the unrealized gains (losses) been realized as of the respective balance sheet dates.

The following table presents the changes in the balances of each component of AOCI, net of tax:

	Net Unrealized Gains (Losses) on Securities	Net Unrealized Gains (Losses) on Derivatives	Defined Benefit Plans	Foreign Currency Translation	Other	Total
	(in millions)					
Balance, January 1, 2016	$426	$ 1	$(91)	$ (83)	$—	$253
Cumulative effect of change in accounting policies	6	—	—	—	—	6
OCI before reclassifications	61	—	(39)	(76)	—	(54)
Amounts reclassified from AOCI	(14)	4	5	—	—	(5)
Total OCI	47	4	(34)	(76)	—	(59)
Balance, December 31, 2016	479 [1]	5	(125)	(159)	—	200
OCI before reclassifications	43	—	20	(8)	(1)	54
Amounts reclassified from AOCI	(36)	3	8	—	—	(25)
Total OCI	7	3	28	(8)	(1)	29
Balance, December 31, 2017	486 [1]	8	(97)	(167)	(1)	229
Cumulative effect of change in accounting policies	(1)	—	—	—	—	(1)

OCI before reclassifications	(458)	—	(36)	(31)	—	(525)
Amounts reclassified from AOCI	(7)	—	13	—	—	6
Total OCI	(465)	—	(23)	(31)	—	(519)
Balance, December 31, 2018	$20 [1]	$ 8	$(120)	$ (198)	$(1)	$(291)

[1] Includes $1 million, $1 million and $4 million of noncredit related impairments on securities and net unrealized gains (losses) on previously impaired securities as of December 31, 2018, 2017 and 2016, respectively.

For the years ended December 31, 2018, 2017 and 2016, the Company repurchased a total of 11.3 million shares, 9.9 million shares and 17.6 million shares, respectively, of its common stock for an aggregate cost of $1.6 billion, $1.3 billion and $1.7 billion, respectively. In April 2017, the Company's Board of Directors authorized an expenditure of up to $2.5 billion for the repurchase of shares of the Company’s common stock through June 30, 2019. As of December 31, 2018, the Company had $509 million remaining under its share repurchase authorizations. In February 2019, the Company’s Board of Directors authorized an additional repurchase up to $2.5 billion of the Company’s common stock through March 31, 2021.

The Company may also reacquire shares of its common stock under its share-based compensation plans related to restricted stock awards and certain option exercises. The holders of restricted shares may elect to surrender a portion of their shares on the vesting date to cover their income tax obligation. These vested restricted shares are reacquired by the Company and the Company’s payment of the holders’ income tax obligations are recorded as a treasury share purchase.

For the years ended December 31, 2018, 2017 and 2016, the Company reacquired 0.3 million shares, 0.3 million shares and 0.3 million shares, respectively, of its common stock through the surrender of shares upon vesting and paid in the aggregate $44 million, $33 million and $29 million, respectively, related to the holders’ income tax obligations on the vesting date. Option holders may elect to net settle their vested awards resulting in the surrender of the number of shares required to cover the strike price and tax obligation of the options exercised. These shares are reacquired by the Company and recorded as treasury shares. For the years ended December 31, 2018, 2017 and 2016, the Company reacquired 0.5 million shares, 2.2 million shares and 0.5 million shares, respectively, of its common stock through the net settlement of options for an aggregate value of $85 million, $298 million and $48 million, respectively.

For the years ended December 31, 2018, 2017 and 2016, respectively, the Company reissued 0.8 million, 0.8 million and 0.9 million treasury shares, respectively, for restricted stock award grants, PSUs, and issuance of shares vested under advisor deferred compensation plans.

20. Earnings per Share

The computations of basic and diluted earnings per share is as follows:

	Years Ended December 31,		
	2018	2017	2016
	(in millions, except per share amounts)		
Numerator:			
Net income	$2,098	$1,480	$1,313
Denominator:			
Basic: Weighted-average common shares outstanding	145.6	154.1	166.3
Effect of potentially dilutive nonqualified stock options and other share-based awards	2.1	2.6	1.9
Diluted: Weighted-average common shares outstanding	147.7	156.7	168.2
Earnings per share attributable to Ameriprise Financial, Inc. common shareholders:			
Basic	$14.41	$9.60	$7.90
Diluted	$14.20	$9.44	$7.81

The calculation of diluted earnings per share excludes the incremental effect of 3.2 million, nil and 1.5 million options as of December 31, 2018, 2017 and 2016, respectively, due to their anti-dilutive effect.

21. Regulatory Requirements

Restrictions on the transfer of funds exist under regulatory requirements applicable to certain of the Company’s subsidiaries. As of December 31, 2018, the aggregate amount of unrestricted net assets was approximately $1.6 billion.

The National Association of Insurance Commissioners (“NAIC”) defines Risk-Based Capital (“RBC”) requirements for insurance companies. The RBC requirements are used by the NAIC and state insurance regulators to identify companies that merit regulatory actions designed to protect policyholders. These requirements apply to both the

Company's life and property casualty insurance companies. In addition, IDS Property Casualty is subject to the statutory surplus requirements of the State of Wisconsin. The Company's life and property casualty companies each met their respective minimum RBC requirements.

The Company's life and property casualty insurance companies are required to prepare statutory financial statements in accordance with the accounting practices prescribed or permitted by the insurance departments of their respective states of domicile, which vary materially from GAAP. Prescribed statutory accounting practices include publications of the NAIC, as well as state laws, regulations and general administrative rules. The more significant differences from GAAP include charging policy acquisition costs to expense as incurred, establishing annuity and insurance reserves using different actuarial methods and assumptions, valuing investments on a different basis and excluding certain assets from the balance sheet by charging them directly to surplus, such as a portion of the net deferred income tax assets.

RiverSource Life received approval from the Minnesota Department of Commerce to apply a permitted statutory accounting practice, effective July 1, 2017 through June 30, 2019, for certain derivative instruments used to economically hedge the interest rate exposure of certain variable annuity products that do not qualify for statutory hedge accounting. The permitted practice is intended to mitigate the impact to statutory surplus from the misalignment between variable annuity statutory reserves, which are not carried at fair value, and the fair value of derivatives used to economically hedge the interest rate exposure of non-life contingent living benefit guarantees. The permitted practice allows RiverSource Life to defer a portion of the change in fair value, net investment income and realized gains or losses generated from designated derivatives to the extent the amounts do not offset the current period interest-rate related change in the variable annuity statutory reserve liability. The deferred amount is amortized over ten years using the straight-line method with the ability to accelerate amortization at management's discretion. As of December 31, 2018 and 2017, application of this permitted practice resulted in an increase (decrease) to RiverSource Life's statutory surplus of approximately $92 million and $(3) million, respectively.

State insurance statutes contain limitations as to the amount of dividends that insurers may make without providing prior notification to state regulators. For RiverSource Life, payments in excess of unassigned surplus, as determined in accordance with accounting practices prescribed by the State of Minnesota, require advance notice to the Minnesota Department of Commerce, RiverSource Life's primary regulator, and are subject to potential disapproval. RiverSource Life's statutory unassigned surplus (deficit) aggregated $642 million and $(306) million as of December 31, 2018 and 2017, respectively.

In addition, dividends whose fair market value, together with that of other dividends made within the preceding 12 months, exceed the greater of the previous year's statutory net gain from operations or 10% of the previous year-end statutory capital and surplus are referred to as "extraordinary dividends." Extraordinary dividends also require advance notice to the Minnesota Department of Commerce, and are subject to potential disapproval. Statutory capital and surplus for RiverSource Life was $3.3 billion and $2.4 billion as of December 31, 2018 and 2017, respectively. Statutory capital and surplus for IDS Property Casualty was $789 million and $781 million as of December 31, 2018 and 2017, respectively.

Statutory net gain from operations and net income (loss) are summarized as follows:

	Years Ended December 31,		
	2018	2017	2016
	(in millions)		
RiverSource Life			
Statutory net gain from operations	$1,686	$958	$834
Statutory net income (loss)	1,628	222	322
IDS Property Casualty			
Statutory net income (loss)	9	(10)	(8)

Government debt securities of $4 million as of both December 31, 2018 and 2017 held by the Company's life insurance subsidiaries were on deposit with various states as required by law.

Ameriprise Certificate Company ("ACC") is registered as an investment company under the Investment Company Act of 1940 (the "1940 Act"). ACC markets and sells investment certificates to clients. ACC is subject to various capital requirements under the 1940 Act, laws of the State of Minnesota and understandings with the Securities and Exchange Commission ("SEC") and the Minnesota Department of Commerce. The terms of the investment certificates issued by ACC and the provisions of the 1940 Act also require the maintenance by ACC of qualified assets. Under the provisions of its certificates and the 1940 Act, ACC was required to have qualified assets (as that term is defined in Section 28(b) of the 1940 Act) in the amount of $7.9 billion and $6.4 billion as of December 31, 2018 and 2017, respectively. ACC had qualified assets of $8.4 billion and $6.9 billion as of December 31, 2018 and 2017, respectively.

Ameriprise Financial and ACC entered into a Capital Support Agreement on March 2, 2009, pursuant to which Ameriprise Financial agrees to commit such capital to ACC as is necessary to satisfy applicable minimum capital requirements. Effective April 30, 2014, this agreement was amended to revise the maximum commitment to $50

million. For the years ended December 31, 2018 and 2017, ACC did not draw upon the Capital Support Agreement and had met all applicable capital requirements.
Threadneedle's required capital is predominantly based on the requirements specified by its regulator, the Financial Conduct Authority ("FCA"), under its Capital Adequacy Requirements for asset managers.
The Company has four broker-dealer subsidiaries as of December 31, 2018, American Enterprise Investment Services Inc., Ameriprise Financial Services, Inc., RiverSource Distributors, Inc. and Columbia Management Investment Distributors, Inc. The broker-dealers are subject to the net capital requirements of the Financial Industry Regulatory Authority ("FINRA") and the Uniform Net Capital requirements of the SEC under Rule 15c3-1 of the Securities Exchange Act of 1934.
Ameriprise Trust Company is subject to capital adequacy requirements under the laws of the State of Minnesota as enforced by the Minnesota Department of Commerce.
Ameriprise National Trust Bank is currently subject to regulation by the Comptroller of Currency ("OCC") and, to a limited extent, by the Federal Deposit Insurance Corporation. As a limited powers national association, Ameriprise National Trust Bank is subject to supervision under various laws and regulations enforced by the OCC, including those related to capital adequacy, liquidity and

conflicts of interest. Upon conversion to a federal savings bank, Ameriprise National Trust Bank, FSB (to become Ameriprise Bank, FSB) (“Ameriprise Bank”) will be subject to regulation by both the OCC and by the Federal Deposit Insurance Corporation in its role as insurer of its deposits. Ameriprise Bank will be required to maintain sufficient capital under specific capital rules in compliance with OCC regulations and polices, in addition to other rules and regulations governing all aspects of the banking business.

22. Income Taxes

The components of income tax provision attributable to continuing operations were as follows:

	Years Ended December 31,		
	2018	2017	2016
	(in millions)		
Current income tax			
Federal	$275	$468	$245
State and local	45	58	44
Foreign	41	52	23
Total current income tax	361	578	312
Deferred income tax			
Federal	20	169	(36)
State and local	2	(5)	3
Foreign	3	(8)	(1)
Total deferred income tax	25	156	(34)
Total income tax provision	$386	$734	$278

On December 22, 2017, the Tax Act was signed into law. The provision for income taxes for the year ended December 31, 2017 included an expense of $286 million due to the enactment of the Tax Act. The $286 million expense included: 1) a $221 million expense for the remeasurement of deferred tax assets and liabilities to the Tax Act’s statutory rate of 21%; 2) a $57 million expense for the foreign provisions of the Tax Act, including a deemed repatriation tax of the Company’s total post-1986 earnings and profits (“E&P”); and 3) an $8 million expense for the remeasurement of tax contingencies, specifically state tax contingencies and interest accrued for tax contingencies. In 2018, the Company finalized its accounting related to the Tax Act and recorded a $3 million benefit related to foreign provisions.

The geographic sources of pretax income from continuing operations were as follows:

	Years Ended December 31,		
	2018	2017	2016
	(in millions)		
United States	$2,263	$1,988	$1,411
Foreign	221	226	180
Total	$2,484	$2,214	$1,591

The principal reasons that the aggregate income tax provision attributable to continuing operations is different from that computed by using the U.S. statutory rates of 21% for 2018 and 35% for 2017 and 2016 were as follows:

	Years Ended December 31,		
	2018	2017	2016
Tax at U.S. statutory rate	21.0 %	35.0 %	35.0 %
Changes in taxes resulting from:			
Low income housing tax credits	(3.2)	(3.4)	(4.2)
Dividends received deduction	(1.6)	(5.8)	(7.6)
State taxes, net of federal benefit	1.5	—	1.9
Foreign tax credits, net of addback	(1.1)	—	(1.6)

Impact of the Tax Act	—	13.0	—
Incentive compensation	—	(3.0)	—
Foreign taxes	—	(2.0)	(2.5)
Taxes applicable to prior years	—	—	(3.1)
Other, net	(1.1)	(0.7)	(0.5)
Income tax provision	15.5 %	33.1 %	17.4 %

The decrease in the Company’s effective tax rate for the year ended December 31, 2018 compared to 2017 is primarily the result of the decrease in the federal statutory rate and a $286 million expense in 2017 due to provisions of the Tax Act, partially offset by lower levels of the dividends received deduction and a decrease in the benefit for net excess tax benefits related to employee share-based payments. The increase in the Company’s effective tax rate for the year ended December 31, 2017 compared to 2016 was primarily due to a $286 million expense in 2017 due to provisions of the Tax Act, including remeasurement of net deferred tax assets, a deemed repatriation of E&P and remeasurement of tax contingencies, partially offset by a $70 million benefit for net excess tax benefits related to the adoption of a new accounting standard for employee share-based payments.

Accumulated earnings of certain foreign subsidiaries, which totaled $13 million as of December 31, 2018, are intended to be permanently reinvested outside the United States. The expected incremental tax expense on these earnings relates to potential unrecoverable foreign withholding taxes if the earnings are distributed. As of December 31, 2018, this potential future cost is estimated to be immaterial.

Deferred income tax assets and liabilities result from temporary differences between the assets and liabilities measured for GAAP reporting versus income tax return purposes. Deferred income tax assets and liabilities are measured at the statutory rate of 21% as of both December 31, 2018 and 2017. The significant components of the Company’s deferred income tax assets and liabilities, which are included net within other assets or other liabilities on the Consolidated Balance Sheets, were as follows:

	December 31,	
	2018	2017
	(in millions)	
Deferred income tax assets		
Liabilities for policyholder account balances, future policy benefits and claims	$725	$620
Deferred compensation	329	345
Investment related	145	245
Postretirement benefits	44	34
Other	57	66
Gross deferred income tax assets	1,300	1,310
Less: valuation allowance	20	17
Total deferred income tax assets	1,280	1,293
Deferred income tax liabilities		
Deferred acquisition costs	437	446
Intangible assets	104	93
Depreciation expense	101	93
Goodwill	60	52
Deferred sales inducement costs	53	62
Net unrealized gains on Available-for-Sale securities	30	162
Other	6	7
Gross deferred income tax liabilities	791	915
Net deferred income tax assets	$489	$378

Included in the Company’s deferred income tax assets are tax benefits primarily related to state net operating losses of $20 million, net of federal benefit, which will expire beginning December 31, 2019. Based on analysis of the Company’s tax position, management believes it is more likely than not that the Company will not realize certain state net operating losses and state deferred tax assets; therefore, a valuation allowance of $20 million has been established.

A reconciliation of the beginning and ending amount of gross unrecognized tax benefits was as follows:

	2018	2017	2016
	(in millions)		
Balance at January 1	$76	$115	$161
Additions based on tax positions related to the current year	22	16	15

Additions for tax positions of prior years	9	3	33
Reductions for tax positions of prior years	(3)	(57)	(87)
Audit settlements	(12)	(1)	(7)
Balance at December 31	$92	$76	$115

If recognized, approximately $70 million, $58 million and $46 million, net of federal tax benefits, of unrecognized tax benefits as of

December 31, 2018, 2017, and 2016, respectively, would affect the effective tax rate.
It is reasonably possible that the total amounts of unrecognized tax benefits will change in the next 12 months. The Company estimates that the total amount of gross unrecognized tax benefits may decrease by $30 million to $40 million in the next 12 months primarily due to Internal Revenue Service ("IRS") settlements and state exams.
The Company recognizes interest and penalties related to unrecognized tax benefits as a component of the income tax provision. The Company recognized a net increase of $2 million, nil, and a net decrease of $43 million in interest and penalties for the years ended December 31, 2018, 2017, and 2016, respectively. As of December 31, 2018 and 2017, the Company had a payable of $10 million and $8 million, respectively, related to accrued interest and penalties.
The Company or one or more of its subsidiaries files income tax returns in the U.S. federal jurisdiction, and various state and foreign jurisdictions. In the first quarter of 2018, the Company received cash settlements for final resolution of the 2008 through 2010 IRS audits. In the third quarter of 2018, the Company reached an agreement with IRS appeals to resolve the 2012 and 2013 audits. Accordingly, the Company's IRS audits are effectively settled through 2013. The IRS is currently auditing the Company's U.S. income tax returns for 2014 and 2015. The Company's state income tax returns are currently under examination by various jurisdictions for years ranging from 2009 through 2017. In the United Kingdom ("UK"), Her Majesty's Revenue and Customs is performing a business risk review of the company's UK subsidiaries for the 2016 tax year.

23. Retirement Plans and Profit Sharing Arrangements

Defined Benefit Plans

Pension Plans and Other Postretirement Benefits

The Company's U.S. non-advisor employees are generally eligible for the Ameriprise Financial Retirement Plan (the "Retirement Plan"), a noncontributory defined benefit plan which is a qualified plan under the Employee Retirement Income Security Act of 1974, as amended ("ERISA"). Funding of costs for the Retirement Plan complies with the applicable minimum funding requirements specified by ERISA and is held in a trust. The Retirement Plan is a cash balance plan by which the employees' accrued benefits are based on notional account balances, which are maintained for each individual. Each pay period these balances are credited with an amount equal to a percentage of eligible compensation as defined by the Retirement Plan (which includes, but is not limited to, base pay, performance based incentive pay, commissions, shift differential and overtime). Prior to March 1, 2010, the percentage ranged from 2.5% to 10% based on employees' age plus years of service. Effective March 1, 2010, the percentage ranges from 2.5% to 5% based on employees' years of service. Employees eligible for the plan at the time of the change will continue to receive the same percentage they were receiving until the new schedule becomes more favorable. Employees' balances are also credited with a fixed rate of interest that is updated each January 1 and is based on the average of the daily five-year U.S. Treasury Note yields for the previous October 1 through November 30, with a minimum crediting rate of 5%. Employees are fully vested after three years of service or upon retirement at or after age 65, disability or death while employed. Employees have the option to receive annuity payments or a lump sum payout of vested balance at termination or retirement. The Retirement Plan's year-end is September 30.
In addition, the Company sponsors the Ameriprise Financial Supplemental Retirement Plan (the "SRP"), an unfunded non-qualified deferred compensation plan subject to Section 409A of the Internal Revenue Code. This plan is for certain highly compensated employees to replace the benefit that cannot be provided by the Retirement Plan due to IRS limits. The SRP generally parallels the Retirement Plan but offers different payment options.
The Company also sponsors unfunded defined benefit postretirement plans that provide health care and life insurance to retired U.S. employees. On December 31, 2016, the access to retiree health care coverage was closed to all active employees who had previously met the qualification requirements. Instead, only existing retirees, as of January 1, 2017, qualifying for the plan and electing coverage will be provided a fixed amount to subsidize health care insurance purchased through other providers. Net periodic postretirement benefit costs were not material for the years ended December 31, 2018, 2017 and 2016.
Most employees outside the U.S. are covered by local retirement plans, some of which are funded, while other employees receive payments at the time of retirement or termination under applicable labor laws or agreements.

All components of the net periodic benefit cost are recorded in general and administrative expense and were as follows:

	Years Ended December 31,		
	2018	2017	2016
	(in millions)		
Service cost	$48	$47	$44
Interest cost	30	28	29
Expected return on plan assets	(48)	(45)	(41)
Amortization of prior service costs	—	(1)	(1)
Amortization of net loss	11	10	6
Other	5	3	4
Net periodic benefit cost	$46	$42	$41

The prior service costs are amortized on a straight-line basis over the average remaining service period of active participants. Actuarial gains and losses in excess of 10% of the greater of the projected benefit obligation or the market-related value of assets are amortized on a straight-line basis over the expected average remaining service period of active participants.

The following table provides a reconciliation of changes in the benefit obligation:

	Pension Plans		Other Postretirement Plans	
	2018	2017	2018	2017
	(in millions)			
Benefit obligation, January 1	$995	$899	$15	$15
Service cost	48	47	—	—
Interest cost	30	28	1	—
Benefits paid	(9)	(12)	(1)	(1)
Actuarial (gain) loss	(59)	39	(1)	1
Settlements	(29)	(21)	—	—
Foreign currency rate changes	(9)	15	—	—
Benefit obligation, December 31	$967	$995	$14	$15

The actuarial gain for pension plans for 2018 was primarily due to an increase in the discount rate assumption as of December 31, 2018 compared to the prior year-end, partially offset by demographic experience during the Retirement Plan year.

The actuarial loss for pension plans for 2017 was primarily due to demographic experience during the Retirement Plan year and a decrease in the discount rate assumption as of December 31, 2017 compared to the prior year-end.

The following table provides a reconciliation of changes in the fair value of assets:

	Pension Plans	
	2018	2017
	(in millions)	
Fair value of plan assets, January 1	$748	$628
Actual return on plan assets	(59)	107
Employer contributions	86	32
Benefits paid	(9)	(12)
Settlements	(29)	(21)
Foreign currency rate changes	(9)	14
Fair value of plan assets, December 31	$728	$748

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The Company complies with the minimum funding requirements in all countries. The following table provides the amounts recognized in the Consolidated Balance Sheets as of December 31, which equal the funded status of the plans:

	Pension Plans		Other Postretirement Plans	
	2018	2017	2018	2017
	(in millions)			
Benefit liability	$(256)	$(253)	$(14)	$(15)
Benefit asset	17	6	—	—
Net amount recognized	$(239)	$(247)	$(14)	$(15)

The accumulated benefit obligation for all pension plans as of December 31, 2018 and 2017 was $905 million and $916 million, respectively. The following table provides information for pension plans with benefit obligations in excess of plan assets:

	December 31,	
	2018	2017
	(in millions)	
Pension plans with accumulated benefit obligations in excess of plan assets		
Accumulated benefit obligation	$762	$759
Fair value of plan assets	559	562
Pension plans with projected benefit obligations in excess of plan assets		
Projected benefit obligation	$815	$816
Fair value of plan assets	559	562

The weighted average assumptions used to determine benefit obligations were as follows:

	Pension Plans		Other Postretirement Plans	
	2018	2017	2018	2017
Discount rates	4.01%	3.32%	4.11%	3.41%
Rates of increase in compensation levels	4.25	4.29	N/A	N/A
Interest crediting rates for cash balance plans	5.00	5.00	N/A	N/A

The weighted average assumptions used to determine net periodic benefit cost of pension plans were as follows:

	2018	2017	2016
Discount rates	3.30%	3.64%	3.67%
Rates of increase in compensation levels	4.29	4.39	4.43
Expected long-term rates of return on assets	7.11	7.13	6.98
Interest crediting rates for cash balance plans	5.00	5.00	5.00

In developing the expected long-term rate of return on assets, management evaluated input from an external consulting firm, including their projection of asset class return expectations and long-term inflation assumptions. The Company also considered historical returns on the plans' assets. Discount rates are based on yields available on high-quality corporate bonds that would generate cash flows necessary to pay the benefits when due.

The Company's pension plans' assets are invested in an aggregate diversified portfolio to minimize the impact of any adverse or unexpected results from a security class on the entire portfolio. Diversification is interpreted to include diversification by asset type, performance and risk characteristics and number of investments. When appropriate and consistent with the objectives of the plans, derivative instruments may be used to mitigate risk or provide further diversification, subject to the investment policies of the plans. Asset classes and ranges considered appropriate for investment of the plans' assets are determined by each plan's investment committee. The target allocations are 70%

equity securities, 20% debt securities and 10% all other types of investments, except for the assets in pooled pension funds which are 83% equity securities and 17% debt securities and additional voluntary contribution assets outside the U.S. which are allocated at the discretion of the individual and will be converted at retirement into the defined benefit pension plan. Actual allocations will generally be within 5% of these targets. As of December 31, 2018, there were no significant holdings of any single issuer and the exposure to derivative instruments was not significant.

The following tables present the Company's pension plan assets measured at fair value on a recurring basis:

December 31, 2018					
Asset Category	Level 1	Level 2	Level 3	Total	
(in millions)					
Equity securities:					
U.S. large cap stocks	$90	$—	$ —	$90	
U.S. small cap stocks	70	—	—	70	
Non-U.S. large cap stocks	25	—	—	25	
Non-U.S. small cap stocks	22	—	—	22	
Debt securities:					
U.S. investment grade bonds	39	23	—	62	
U.S. high yield bonds	5	—	—	5	
Non-U.S. investment grade bonds	15	—	—	15	
Cash equivalents at NAV				36	(1)
Collective investment funds at NAV				188	(1)
Real estate investment trusts				19	(1)

at NAV				
Hedge funds at NAV				27 (1)
Pooled pension funds at NAV				169 (1)
Total	$266	$23	$ —	$728

Asset Category	December 31, 2017 Level 1	Level 2	Level 3	Total
(in millions)				
Equity securities: (2)				
U.S. large cap stocks	$98	$—	$ —	$98
U.S. small cap stocks	80	—	—	80
Non-U.S. large cap stocks	28	—	—	28
Non-U.S. small cap stocks	28	—	—	28
Emerging markets	25	—	—	25
Debt securities: (2)				
U.S. investment grade bonds	27	11	—	38
U.S. high yield bonds	5	—	—	5
Non-U.S. investment grade bonds	16	—	—	16

Cash equivalents at NAV [2]				18 [1]
Collective investment funds at NAV [2]				181 [1]
Real estate investment trusts at NAV				18 [1]
Hedge funds at NAV				27 [1]
Pooled pension funds at NAV [2]				186 [1]
Total	$307	$11	$ —	$748

[1] Amounts are comprised of certain investments that are measured at fair value using the NAV per share (or its equivalent) as a practical expedient and have not been classified in the fair value hierarchy.

[2] The fair value of cash equivalents, collective investment funds and pooled pension funds as of December 31, 2017 were previously reported in Level 2 in error. As the fair value of these investments is measured at NAV as a practical expedient, they have been removed from the fair value classification in the fair value hierarchy. In addition, the fair value of certain equity securities was reclassified from Level 2 to Level 1 as the fair value is based on quoted prices in active markets. The amount of equity securities reclassified to correct this error was $13 million as of December 31, 2017.

Equity securities are managed to track the performance of common market indices for both U.S. and non-U.S. securities, primarily across large cap, small cap and emerging market asset classes. Debt securities are managed to track the performance of common market indices for both U.S. and non-U.S. investment grade bonds as well as a pool of U.S. high yield bonds. Collective investment funds include equity and debt securities. Real estate funds are managed to track the performance of a broad population of investment grade non-agricultural income producing properties. The Company’s investments in hedge funds include investments in a multi-strategy fund and an off-shore fund managed to track the performance of broad fund of fund indices. Pooled pension funds are managed to track a specific benchmark based on the investment objectives of the fund. Cash equivalents consist of holdings in a money market fund that seeks to equal the return of the three month U.S. Treasury bill.

The fair value of equity securities using quoted prices in active markets is classified as Level 1. Level 1 debt securities include U.S. Treasuries and actively traded mutual funds. Level 2 debt securities include mortgage and asset backed securities, agency securities and corporate debt securities. The fair value of the Level 2 securities is determined based on a market approach using observable inputs.

The amounts recognized in AOCI, net of tax, as of December 31, 2018 but not recognized as components of net periodic benefit cost included an unrecognized actuarial loss of $122 million, an unrecognized prior service credit of nil, and a currency exchange rate adjustment loss of $2 million related to the Company’s pension plans. The Company’s other postretirement plans included an unrecognized actuarial gain of $3 million and an unrecognized prior service credit of $1 million. See Note 19 for a rollforward of AOCI related to the Company’s defined benefit plans.

The Company’s pension plans expect to make benefit payments to retirees as follows:

	Pension Plans	Other Postretirement Plans
	(in millions)	
2019	$ 82	$ 1
2020	74	1
2021	62	1
2022	65	1
2023	69	1
2024-2028	374	5

The Company expects to contribute $14 million and $1 million to its pension plans and other postretirement plans, respectively, in 2019.

Defined Contribution Plans

The Company’s employees are generally eligible to participate in the Ameriprise Financial 401(k) Plan (the “401(k) Plan”). The 401(k) Plan allows eligible employees to make contributions through payroll deductions up to IRS limits and invest their contributions in one or more of the 401(k) Plan investment options, which include the Ameriprise Financial Stock Fund. The Company provides a dollar for dollar match up to the first 5% of eligible compensation an employee contributes on a pretax and/or Roth 401(k) basis for each annual period.

Under the 401(k) Plan, employees become eligible for contributions under the plan during the pay period they reach 60 days of service. Match contributions are fully vested after five years of service, vesting ratably over the first five years of service, or upon retirement at or after age 65, disability or death while employed. The Company’s defined contribution plan expense was $56 million, $49 million and $48 million in 2018, 2017 and 2016, respectively.

Employees outside the U.S. who are not covered by the 401(k) may be covered by local defined contribution plans which are subject to applicable laws and rules of the country where the plan is administered. The Company’s expense related to defined contribution plans outside the U.S. was $6 million, $5 million and $6 million in 2018, 2017 and 2016, respectively.

24. Commitments, Guarantees and Contingencies

Commitments

The Company is committed to pay aggregate minimum rentals under noncancelable operating leases for office facilities in future years as of December 31, 2018 as follows:

	(in millions)
2019	$ 61
2020	53
2021	40
2022	33
2023	26
Thereafter	65

Total [1]	$ 278

[1] Minimum payments have not been reduced by minimum sublease rentals due in the future under noncancelable subleases.

For the years ended December 31, 2018, 2017 and 2016, operating lease expense was $83 million, $84 million and $59 million, respectively.
The following table presents the Company’s funding commitments as of December 31:

	2018	2017
	(in millions)	
Commercial mortgage loans	$57	$31
Consumer lines of credit	1	2
Affordable housing and other real estate partnerships	59	123
Total funding commitments	$117	$156

Guarantees
The Company’s life and annuity products all have minimum interest rate guarantees in their fixed accounts. As of December 31, 2018, these guarantees range from 1% to 5%.
Contingencies
The Company and its subsidiaries are involved in the normal course of business in legal, regulatory and arbitration proceedings, including class actions, concerning matters arising in connection with the conduct of its activities as a diversified financial services firm. These include proceedings specific to the Company as well as proceedings generally applicable to business practices in the industries in which it operates. The Company can also be subject to litigation arising out of its general business activities, such as its investments, contracts, leases and employment relationships. Uncertain economic conditions, heightened and sustained volatility in the financial markets and significant financial reform legislation may increase the likelihood that clients and other persons or regulators may present or threaten legal claims or that regulators increase the scope or frequency of examinations of the Company or the financial services industry generally.
As with other financial services firms, the level of regulatory activity and inquiry concerning the Company’s businesses remains elevated. From time to time, the Company receives requests for information from, and/or has been subject to examination or claims by, the SEC, FINRA, the OCC, the UK Financial Conduct Authority, state insurance and securities regulators, state attorneys general and various other domestic or foreign governmental and quasi-governmental authorities on behalf of themselves or clients concerning the Company’s business activities and practices, and the practices of the Company’s financial advisors. The Company has numerous pending matters which include information requests, exams or inquiries that the Company has received during recent periods regarding certain matters, including: sales and distribution of mutual funds, exchange traded funds, annuities, equity and fixed income securities, real estate investment trusts, insurance products, and financial advice offerings, including managed accounts; supervision of the Company’s financial advisors; administration of insurance and annuity claims; security of client information; trading activity and the Company’s monitoring and supervision of such activity; and transaction monitoring systems and controls. The Company has cooperated and will continue to cooperate with the applicable regulators.
These legal and regulatory proceedings and disputes are subject to uncertainties and, as such, it is inherently difficult to determine whether any loss is probable or even reasonably possible, or to reasonably estimate the amount of any loss. The Company cannot predict with certainty if, how or when any such proceedings will be initiated or resolved or what the eventual settlement, fine, penalty or other relief, if any, may be, particularly for proceedings that are in their early stages of development or where plaintiffs seek indeterminate damages. Numerous issues may need to be resolved, including through potentially lengthy discovery and determination of important factual matters, and by addressing unsettled legal questions relevant to the proceedings in question, before a loss or range of loss can be reasonably estimated for any proceeding. An adverse outcome in one or more proceeding could eventually result in adverse judgments, settlements, fines, penalties or other sanctions, in addition to further claims, examinations or adverse publicity that could have a material adverse effect on the Company’s consolidated financial condition, results of operations or liquidity.
In accordance with applicable accounting standards, the Company establishes an accrued liability for contingent litigation and regulatory matters when those matters present loss contingencies that are both probable and can be

reasonably estimated. In such cases, there still may be an exposure to loss in excess of any amounts reasonably estimated and accrued. When a loss contingency is not both probable and estimable, the Company does not establish an accrued liability, but continues to monitor, in conjunction with any outside counsel handling a matter, further developments that would make such loss contingency both probable and reasonably estimable. Once the Company establishes an accrued liability with respect to a loss contingency, the Company continues to monitor the matter for further developments that could affect the amount of the accrued liability that has been previously established, and any appropriate adjustments are made each quarter.

RiverSource Life and RiverSource Life of NY are required by law to be a member of the guaranty fund association in every state where they are licensed to do business. In the event of insolvency of one or more unaffiliated insurance companies, the Company could be adversely affected by the requirement to pay assessments to the guaranty fund associations.

The Company projects its cost of future guaranty fund assessments based on estimates of insurance company insolvencies provided by the National Organization of Life and Health Insurance Guaranty Associations (“NOLHGA”) and the amount of its premiums written relative to the industry-wide premium in each state. The Company accrues the estimated cost of future guaranty fund assessments when it is considered probable that an assessment will be imposed, the event obligating the Company to pay the assessment has occurred and the amount of the assessment can be reasonably estimated.

The Company has a liability for estimated guaranty fund assessments and a related premium tax asset. As of December 31, 2018 and 2017, the estimated liability was $12 million and $14 million, respectively, and the related premium tax asset was $11 million and $12 million, respectively. The expected period over which guaranty fund assessments will be made and the related tax credits recovered is not known.

25. Related Party Transactions

The Company may engage in transactions in the ordinary course of business with significant shareholders or their subsidiaries, between the Company and its directors and officers or with other companies whose directors or officers may also serve as directors or officers for the Company or its subsidiaries. The Company carries out these transactions on customary terms. The transactions have not had a material impact on the Company’s consolidated results of operations or financial condition.

The Company’s executive officers and directors may have transactions with the Company or its subsidiaries involving financial products and insurance services. All obligations arising from these transactions are in the ordinary course of the Company’s business and are on the same terms in effect for comparable transactions with the general public. Such obligations involve normal risks of collection and do not have features or terms that are unfavorable to the Company or its subsidiaries.

26. Segment Information

The Company’s reporting segments are Advice & Wealth Management, Asset Management, Annuities, Protection and Corporate & Other.

Beginning in the first quarter of 2017, the long term care business, which had been reported as part of the Protection segment, is reflected in the Corporate & Other segment. The Company discontinued underwriting long term care insurance in 2002 and the transfer of this closed block to the Corporate & Other segment allows investors to better understand the performance of the Company’s on-going Protection businesses. Prior periods presented have been restated to reflect the change.

The accounting policies of the segments are the same as those of the Company, except for operating adjustments defined below, the method of capital allocation, the accounting for gains (losses) from intercompany revenues and expenses and not providing for income taxes on a segment basis.

The largest source of intersegment revenues and expenses is retail distribution services, where segments are charged transfer pricing rates that approximate arm’s length market prices for distribution through the Advice & Wealth Management segment. The Advice & Wealth Management segment provides distribution services for affiliated and non-affiliated products and services. The Asset Management segment provides investment management services for the Company’s owned assets and client assets, and accordingly charges investment and advisory management fees to the other segments.

All costs related to shared services are allocated to the segments based on a rate times volume or fixed basis.

The Advice & Wealth Management segment provides financial planning and advice, as well as full-service brokerage services, primarily to retail clients through the Company’s advisors. These services are centered on long-term, personal relationships between the Company’s advisors and its clients and focus on helping clients achieve their financial goals. The Company’s advisors provide a distinctive approach to financial planning and have access to a broad selection of both affiliated and non-affiliated products to help clients meet their financial needs. A significant portion of revenues in this segment is fee-based, driven by the level of client assets, which is impacted by both market movements and net asset flows. The Company also earns net investment income on invested assets primarily from certificate products. This segment earns revenues (distribution fees) for distributing non-affiliated products and intersegment revenues (distribution fees) for distributing the Company’s affiliated products and services provided to its retail clients. Intersegment expenses for this segment include expenses for investment management services provided by the Asset Management segment.

The Asset Management segment provides investment management and advice and investment products to retail, high net worth and institutional clients on a global scale through the *Columbia Threadneedle Investments* brand, which represents the combined capabilities, resources and reach of Columbia Management Investment Advisers, LLC

("Columbia Management") and Threadneedle. Columbia Management primarily provides products and services in the U.S. and Threadneedle primarily provides products and services internationally. The Company provides U.S. retail clients with products through unaffiliated third party financial institutions and through the Advice & Wealth Management segment, and provides institutional products and services through its institutional sales force. Retail products for non-U.S. investors are primarily distributed through third-party financial institutions and unaffiliated financial advisors. Retail products include U.S. mutual funds and their non-U.S. equivalents, exchange-traded funds and variable product funds underlying insurance and annuity separate accounts. Institutional asset management services are designed to meet specific client objectives and may involve a range of products, including those that focus on traditional asset classes, separately managed accounts, individually managed accounts, CLOs, hedge fund or alternative strategies, collective funds and property funds. CLOs, hedge fund or alternative strategies and certain private funds are often classified as alternative assets. Revenues in this segment are primarily earned as fees based on managed asset balances, which are impacted by market movements, net asset flows, asset allocation and product mix. The Company may also earn performance fees from certain accounts where investment performance meets or exceeds certain pre-identified targets. The Asset Management segment also provides intercompany asset management services for Ameriprise Financial subsidiaries. The fees for all such services are reflected within the Asset Management segment results through intersegment transfer pricing. Intersegment expenses for this segment include distribution expenses for services provided by the Advice & Wealth Management, Annuities and Protection segments.

The Annuities segment provides variable and fixed annuity products of RiverSource Life companies to individual clients. The Company provides variable annuity products through its advisors and its fixed annuity products are distributed through both affiliated and unaffiliated advisors and financial institutions. Revenues for the Company’s variable annuity products are primarily earned as fees based on underlying account balances, which are impacted by both market movements and net asset flows. Revenues for the Company’s fixed deferred annuity products are primarily earned as net investment income on the RiverSource Life companies’ general account assets supporting fixed account balances, with profitability significantly impacted by the spread between net investment income earned and interest credited on the fixed account balances. The Company also earns net investment income on general account assets supporting reserves for immediate annuities with a non-life contingent feature and for certain guaranteed benefits offered with variable annuities and on capital supporting the business. Revenues for the Company’s immediate annuities with a life contingent feature are earned as premium revenue. Intersegment revenues for this segment reflect fees paid by the Asset Management segment for marketing support and other services provided in connection with the availability of variable insurance trust funds (“VIT Funds”) under the variable annuity contracts. Intersegment expenses for this segment include distribution expenses for services provided by the Advice & Wealth Management segment, as well as expenses for investment management services provided by the Asset Management segment.

The Protection segment offers a variety of products to address the protection and risk management needs of the Company’s retail clients including life, DI and property casualty insurance. Life and DI products are primarily provided through the Company’s advisors. The Company’s property casualty products are sold through affinity relationships. The Company issues insurance policies through its life insurance subsidiaries and the Property Casualty companies. The primary sources of revenues for this segment are premiums, fees, and charges that the Company receives to assume insurance-related risk. The Company earns net investment income on owned assets supporting insurance reserves and capital supporting the business. The Company also receives fees based on the level of the RiverSource Life companies’ separate account assets supporting VUL investment options. This segment earns intersegment revenues from fees paid by the Asset Management segment for marketing support and other services provided in connection with the availability of VIT Funds under the VUL contracts. Intersegment expenses for this segment include distribution expenses for services provided by the Advice & Wealth Management segment, as well as expenses for investment management services provided by the Asset Management segment.

The Corporate & Other segment consists of net investment income or loss on corporate level assets, including excess capital held in the Company’s subsidiaries and other unallocated equity and other revenues as well as unallocated corporate expenses. The Corporate & Other segment also includes the results of the Company’s closed block long term care business. The Corporate & Other segment also includes revenues and expenses of consolidated investment entities, which are excluded on an operating basis.

Management uses segment adjusted operating measures in goal setting, as a basis for determining employee compensation and in evaluating performance on a basis comparable to that used by some securities analysts and investors. Consistent with GAAP accounting guidance for segment reporting, adjusted operating earnings is the Company’s measure of segment performance. Adjusted operating earnings should not be viewed as a substitute for GAAP pretax income. The Company believes the presentation of segment adjusted operating earnings, as the Company measures it for management purposes, enhances the understanding of its business by reflecting the underlying performance of its core operations and facilitating a more meaningful trend analysis.

Adjusted operating earnings is defined as adjusted operating net revenues less adjusted operating expenses. Adjusted operating net revenues and adjusted operating expenses exclude the market impact on IUL benefits (net of hedges and the related DAC amortization, unearned revenue amortization, and the reinsurance accrual), integration and restructuring charges and the impact of consolidating investment entities. Adjusted operating net revenues also exclude net realized investment gains or losses (net of unearned revenue amortization and the reinsurance accrual) and the market impact of hedges to offset interest rate changes on unrealized gains or losses for certain investments. Adjusted operating expenses also exclude the market impact on variable annuity guaranteed benefits (net of hedges and the related DSIC and DAC amortization), the market impact on fixed index annuity benefits (net of hedges and the related DAC amortization), and the DSIC and DAC amortization offset to net realized investment gains or losses. The market impact on variable annuity guaranteed benefits, fixed index annuity benefits and IUL benefits includes changes in embedded derivative values caused by changes in financial market conditions, net of changes in economic hedge values and unhedged items including the difference between assumed and actual underlying separate account investment performance, fixed income credit exposures, transaction costs and certain policyholder contract elections, net of related impacts on DAC and DSIC amortization. The market impact also includes certain valuation adjustments made in accordance with FASB Accounting Standards Codification 820, Fair Value Measurements and Disclosures, including the impact on embedded derivative values of discounting projected benefits to reflect a current estimate of the Company's life insurance subsidiary's nonperformance spread.

The following tables summarize selected financial information by segment and reconcile segment totals to those reported on the consolidated financial statements:

	December 31, 2018	December 31, 2017
	(in millions)	
Advice & Wealth Management	$14,480	$13,270
Asset Management	7,558	8,401
Annuities	88,771	98,276
Protection	17,126	18,039
Corporate & Other	9,281	9,494
Total assets	$137,216	$147,480

	Years Ended December 31, 2018	2017	2016
	(in millions)		
Adjusted operating net revenues:			
Advice & Wealth Management	$6,189	$5,616	$5,144
Asset Management	3,011	3,072	2,960
Annuities	2,476	2,499	2,463
Protection	2,206	2,044	2,241
Corporate & Other	226	173	237
Less: Eliminations [1]	1,414	1,411	1,406
Total segment adjusted operating net revenues	12,694	11,993	11,639
Net realized gains (losses)	10	46	6
Revenue attributable to consolidated investment entities	127	94	128
Market impact on IUL benefits, net	(7)	1	24
Market impact of hedges on investments	11	(2)	3
Total net revenues per consolidated statements of operations	$12,835	$12,132	$11,800

[1] Represents the elimination of intersegment revenues recognized for the years ended December 31, 2018, 2017 and 2016 in each segment as follows: Advice and Wealth Management ($952, $953 and $982, respectively); Asset Management ($50, $47 and $44, respectively); Annuities ($356, $351 and $333, respectively); Protection ($61, $62 and $46, respectively); and Corporate & Other ($(5), $(2) and $1, respectively).

	Years Ended December 31, 2018	2017	2016
	(in millions)		
Adjusted operating earnings:			
Advice & Wealth Management	$1,389	$1,163	$910
Asset Management	728	740	621
Annuities	465	710	329
Protection	243	216	263
Corporate & Other	(294)	(426)	(359)
Total segment adjusted operating earnings	2,531	2,403	1,764
Net realized gains (losses)	9	44	6
Net income (loss) attributable to consolidated investment entities	(1)	2	(2)
Market impact on variable annuity guaranteed benefits, net	(31)	(232)	(216)
Market impact on IUL benefits, net	(17)	4	36
Market impact on fixed annuity benefits	1	—	—
Market impact of hedges on investments	11	(2)	3
Integration and restructuring charges	(19)	(5)	—
Pretax income per consolidated statements of operations	$2,484	$2,214	$1,591

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27. Quarterly Financial Data (Unaudited)

	2018				2017			
	12/31	9/30	6/30	3/31	12/31	9/30	6/30	3/31
	(in millions, except per share data)							
Net revenues	$3,179	$3,292	$3,196	$3,168	$3,180	$3,014	$3,012	$2,926
Pretax income	652	588	548	696	595	633	511	475
Net income	539	503	462	594	177	507	393	403
Earnings per share:								
Basic	$3.81	$3.48	$3.14	$3.97	$1.17	$3.31	$2.53	$2.56
Diluted	$3.76	$3.43	$3.10	$3.91	$1.15	$3.26	$2.50	$2.52
Weighted average common shares outstanding:								
Basic	141.5	144.4	147.0	149.5	151.0	153.0	155.1	157.5
Diluted	143.2	146.5	149.0	152.1	153.8	155.4	157.5	160.1
Cash dividends declared per common share	$0.90	$0.90	$0.90	$0.83	$0.83	$0.83	$0.83	$0.75

Item 9. Changes in and Disagreements With Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

Disclosure Controls and Procedures

We maintain disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) of the Securities Exchange Act of 1934, as amended (the "Exchange Act")) designed to provide reasonable assurance that the information required to be reported in the Exchange Act filings is recorded, processed, summarized and reported within the time periods specified in and pursuant to SEC regulations, including controls and procedures designed to ensure that this information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding the required disclosure. It should be noted that, because of inherent limitations, our company's disclosure controls and procedures, however well designed and operated, can provide only reasonable, and not absolute, assurance that the objectives of the disclosure controls and procedures are met.

Our management, under the supervision and with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of the disclosure controls and procedures as of the end of the period covered by this report. Based upon that evaluation, our company's Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures were effective at a reasonable level of assurance as of December 31, 2018.

Changes in Internal Control over Financial Reporting

There have not been any changes in our internal control over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the fourth fiscal quarter of the year to which this report relates that have materially affected, or are reasonably likely to materially affect, our company's internal control over financial reporting.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting for the Company.

The Company's internal control over financial reporting is a process designed by, or under the supervision of, the Company's principal executive and principal financial officers and effected by the Company's Board of Directors, management and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles in the United States of America, and includes those policies and procedures that:

- Pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company;
- Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and
- Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

The Company's management, with the participation of our Chief Executive Officer and Chief Financial Officer, assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2018. In making this assessment, the Company's management used the criteria set forth in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

Based on management's assessment and those criteria, we believe that, as of December 31, 2018, the Company's internal control over financial reporting is effective.

PricewaterhouseCoopers LLP, the Company's independent registered public accounting firm, has issued an audit report on the effectiveness of the Company's internal control over financial reporting as of December 31, 2018.

Item 9B. Other Information

None.

PART III.

Item 10. Directors, Executive Officers and Corporate Governance

The following portions of the Proxy Statement are incorporated herein by reference:

- information included under the caption "Items to be Voted on by Shareholders-Item 1-Election of the Eight Director Nominees Named Below";
- information included under the caption "Requirements, Including Deadlines, for Submission of Proxy Proposals, Nomination of Directors and Other Business by Shareholders";
- information under the caption "Corporate Governance-Codes of Conduct";
- information included under the caption "Corporate Governance-Membership on Board Committees";
- information under the caption "Corporate Governance-Nominating and Governance Committee-Director Nomination Process";
- information included under the caption "Corporate Governance-Audit Committee";
- information included under the caption "Corporate Governance-Audit Committee Financial Experts"; and
- information under the caption "Section 16(a) Beneficial Ownership Reporting Compliance."

EXECUTIVE LEADERSHIP TEAM

Set forth below is a list of the members of our Executive Leadership Team as of the date this Annual Report on Form 10-K has been filed with the SEC. Also included in this list is David K. Stewart, our principal accounting officer. Each such person's age is indicated by the number in parentheses next to his or her name.

Each individual with an asterisk next to his or her name has been designated as an "executive officer" for purposes of the Exchange Act. None of the below individuals have any family relationship with any other member of the Executive Leadership Team or our principal accounting officer, and none of such individuals became a member of the Executive Leadership Team pursuant to any arrangement or understanding with any other person. Each executive officer has been elected to serve until the next annual election of officers or until his or her successor is elected and qualified.

***James M. Cracchiolo-Chairman and Chief Executive Officer, Ameriprise Financial**

Mr. Cracchiolo (60) has been our Chairman and Chief Executive Officer since September 2005 when the Company completed its spinoff from American Express. Prior to his current role, Mr. Cracchiolo held a number of senior-level positions at American Express, including group president of American Express Global Financial Services (2000 - 2005); CEO and president of American Express Financial Corporation (AEFC) (2000 - 2005) and chairman of AEFC (2001 - 2005); chairman of American Express Bank Ltd. (2000 - 2005); president and CEO of Travel Related Services International (TRS) (1998 - 2003); president of Global Network Services (1997 -1998); senior vice president of TRS Quality, Global Reengineering (1993 - 1997); and executive vice president and chief financial officer of Shearson Lehman Brothers (then a unit of American Express) (1990 -1993). In addition, he is an advisor to the March of Dimes and previously served on the boards of the American Council of Life Insurers and The Financial Services Roundtable and on the board of advisors to the March of Dimes.

***Walter S. Berman-Executive Vice President and Chief Financial Officer**

Mr. Berman (76) has been our Executive Vice President and Chief Financial Officer since September 2005. Prior to that, Mr. Berman served as Executive Vice President and Chief Financial Officer of AEFC, a position he held since January 2003. From April 2001 to January 2004, Mr. Berman served as Corporate Treasurer of American Express.

Scott E. Couto-Head of North America

Mr. Couto (49) has been our Head of North America for Columbia Threadneedle Investments since February 2018. He was previously President of Fidelity Institutional Asset Management and held executive positions across distribution, product and marketing at Fidelity Investments. Mr. Couto joined Fidelity in 2009 from Evergreen Investments. Prior to that, he was with Liberty Funds, a predecessor fund family of Columbia. Mr. Couto received a degree in finance and investments from Babson College and holds the Chartered Financial Analyst® designation.

Kelli A. Hunter Petruzillo-Executive Vice President of Human Resources

Ms. Hunter Petruzillo (57) has been our Executive Vice President of Human Resources since September 2005. Prior to that, Ms. Hunter Petruzillo served as Executive Vice President of Human Resources of AEFC since joining our company in June 2005. Prior to joining AEFC, Ms. Hunter Petruzillo was Senior Vice President-Global Human Capital for Crown Castle International Corporation in Houston, Texas. Prior to that, she held a variety of senior level positions in human resources for Software Spectrum, Inc., Mary Kay, Inc., as well as Morgan Stanley Inc. and Bankers Trust New York Corporation.

***Karen Wilson Thissen-Executive Vice President and General Counsel**

Ms. Wilson Thissen (52) has been our Executive Vice President and General Counsel since January 2017. Prior to that, Ms. Wilson Thissen served as our Executive Vice President and Deputy General Counsel since January 2014 and in other positions within the Company since November 2004. Before joining the Company, Ms. Wilson Thissen was a partner at the law firm Faegre & Benson LLP (now Faegre Baker Daniels LLP).

***Randy Kupper-Executive Vice President and Chief Information Officer**

Mr. Kupper (60) has been our Executive Vice President and Chief Information Officer since June 2012. Prior to that, Mr. Kupper had served as Executive Vice President-Applications Development since January 2010 and as Senior Vice President-Applications Development since November 2008. Prior to joining Ameriprise in 2008, he served as a Senior Vice President-Technology of U.S. Consumer and Small Business Services at American Express, where he spent approximately ten years holding leadership positions in the technologies organization.

Neal Maglaque-President-Advice & Wealth Management, Business Development and Chief Operating Officer

Mr. Maglaque (62) has been our President-Advice & Wealth Management, Business Development and Chief Operating Officer since June 2012. Prior to that time, Mr. Maglaque served as Executive Vice President and Advice & Wealth Management Chief Operating Officer since 2009, Senior Vice President-USAG Business Planning and Operations since 2006 and as Senior Vice President-Lead Financial Officer Enterprise Finance since 2005. Prior thereto, Mr. Maglaque held several leadership positions at American Express.

Deirdre D. McGraw-Executive Vice President-Marketing, Corporate Communications and Community Relations

Ms. McGraw (48) has been our Executive Vice President-Marketing, Corporate Communications and Community Relations since May 2014. Previously, Ms. McGraw served as Executive Vice President, Corporate Communications and Community Relations since February 2010. Prior to that, Ms. McGraw served as Senior Vice President-Corporate Communications and Community Relations since February 2007 and as Vice President-Corporate Communications since May 2006. Prior thereto, Ms. McGraw served as Vice President-Business Planning and Communications for the Group President, Global Financial Services at American Express.

***Colin Moore-Executive Vice President and Global Chief Investment Officer**

Mr. Moore (60) has been our Executive Vice President and Global Chief Investment Officer since June 2013. Mr. Moore also continues to serve as Chief Investment Officer-Columbia Management, a position he has held since 2010. Prior thereto, he was head of fixed income and liquidity strategies from 2009 to 2010. Mr. Moore joined Columbia Management in 2002 as head of equity and has been a member of the investment community since 1983.

Patrick H. O’Connell-Executive Vice President, Ameriprise Advisor Group

Patrick H. O'Connell (49) has been our Executive Vice President of the Ameriprise Advisor Group since February 2013. Prior to that, he was Senior Vice President for the employee advisor business in the eastern half of the United States and in other senior leadership positions within the company before that. Mr. O'Connell earned his M.B.A. and B.S. from Widener University.

Michelle Scrimgeour-Chief Executive Officer, EMEA

Ms. Scrimgeour (55) has been our Chief Executive Officer, EMEA since April 2017. She was previously Chief Risk Officer at M&G Investments and a Director of M&G Group Limited. She joined M&G in 2012 from BlackRock (previously Merrill Lynch Investment Managers and Mercury Asset Management), where Ms. Scrimgeour held several roles across the business and across asset classes, including Chief Operating Officer for International Fixed Income; Global Head of Fixed Income Product; Head of Alternative Investments and senior roles in the Quantitative Equity and Transition Management businesses. Ms. Scrimgeour holds a BA (Hons) in French from the University of Sheffield. On February 25, 2019, we announced that Ms. Scrimgeour will be leaving the firm in the coming months. William F. ("Ted") Truscott, CEO-Global Asset Management, will work closely with her and our regional leadership team during the transition.

***Joseph E. Sweeney-President-Advice & Wealth Management, Products and Service Delivery**
Mr. Sweeney (57) has been our President-Advice & Wealth Management, Products and Service Delivery since June 2012. Prior to that time, Mr. Sweeney served as President-Advice and Wealth Management, Products and Services since May 2009 and as President-Financial Planning, Products and Services since 2005. Prior to that, Mr. Sweeney served as Senior Vice President and General Manager of Banking, Brokerage and Managed Products of AEFC since April 2002. Prior thereto, he served as Senior Vice President and Head, Business Transformation, Global Financial Services of American Express from March 2001 until April 2002. Mr. Sweeney is currently on the board of directors of the Securities Industry and Financial Markets Association.
***David K. Stewart-Senior Vice President and Controller (Principal Accounting Officer)**
Mr. Stewart (65) has been our Senior Vice President and Controller since September 2005. Prior to that, Mr. Stewart served as Vice President and Controller of AEFC and its subsidiaries since June 2002, when he joined American Express. Prior thereto, Mr. Stewart held various management and officer positions in accounting, financial reporting and treasury operations at Lutheran Brotherhood, now known as Thrivent Financial for Lutherans, where he was Vice President-Treasurer from 1997 until 2001.
***William F. Truscott-CEO-Global Asset Management**
Mr. Truscott (58) has been our CEO - Global Asset Management since September 2012. Prior to that time, Mr. Truscott had served as CEO - U.S. Asset Management and President, Annuities since May 2010, as President - U.S. Asset Management, Annuities and Chief Investment Officer since February 2008 and as President - U.S. Asset Management and Chief Investment Officer since September 2005. Prior to that, Mr. Truscott served as Senior Vice President and Chief Investment Officer of AEFC, a position he held since he joined the company in September 2001.
Bill Williams-Executive Vice President, Ameriprise Franchise Group
Bill Williams (51) has been our Executive Vice President, Ameriprise Franchise Group since February 2013. Mr. Williams joined Ameriprise in 1989 as an advisor. Mr. Williams has held a number of management roles within Ameriprise before assuming his current position. Williams is a graduate of Bentley University with a BA in Finance.
***John R. Woerner-President-Insurance & Annuities and Chief Strategy Officer**
Mr. Woerner (49) has been our President - Insurance and Annuities and Chief Strategy Officer since September 2012. Prior to that time, he served as President - Insurance and Chief Strategy Officer since February 2008 and, as Senior Vice President - Strategy and Business Development since September 2005. Prior to that, Mr. Woerner served as Senior Vice President - Strategic Planning and Business Development of AEFC since March 2005. Prior to joining AEFC, Mr. Woerner was a Principal at McKinsey & Co., where he spent approximately ten years serving leading U.S. and European financial services firms, and co-led McKinsey's U.S. Asset Management Practice.

CORPORATE GOVERNANCE

We have adopted a set of Corporate Governance Principles and Categorical Standards of Director Independence which, together with the charters of the three standing committees of the Board of Directors (Audit; Compensation and Benefits; and Nominating and Governance) and our Code of Conduct (which constitutes the Company's code of ethics), provide the framework for the governance of our company. A complete copy of our Corporate Governance Principles and Categorical Standards of Director Independence, the charters of each of the Board committees, the Code of Conduct (which applies not only to our Chief Executive Officer, Chief Financial Officer and Controller, but also to all other employees of our company) and the Code of Business Conduct for the Members of the Board of Directors may be found by clicking the "Corporate Governance" link found on our Investor Relations website at ir.ameriprise.com. You may also access our Investor Relations website through our main website at ameriprise.com by clicking on the "Investor Relations" link, which is located at the bottom of the page. (Information from such sites is not incorporated by reference into this report.) You may also obtain free copies of these materials by writing to our Corporate Secretary at our principal executive offices.

Item 11. Executive Compensation

The following portions of the Proxy Statement are incorporated herein by reference:

- information under the caption "Corporate Governance-Compensation and Benefits Committee-Compensation Committee Interlocks and Insider Participation";
- information included under the caption "Compensation of Executive Officers"; and

• information included under the caption "Compensation of Directors."

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters
Equity Compensation Plan Information

Plan category	(a) Number of securities to be issued upon exercise of outstanding options, warrants and rights		(b) Weighted-average exercise price of outstanding options, warrants and rights	(c) Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) – shares	
Equity compensation plans approved by security holders	8,034,670	(1)	$ 115.79	11,977,882	
Equity compensation plans not approved by security holders	2,872,278	(2)	$ 47.50	6,807,639	(3)
Total	10,906,948		$ 115.73	18,785,521	

(1) Includes 1,913,440 share units subject to vesting per the terms of the applicable plan which could result in the issuance of common stock. As the terms of these share based awards do not provide for an exercise price, they have been excluded from the weighted average exercise price in column B.

(2) Includes 2,867,203 share units subject to vesting per the terms of the applicable plans which could result in the issuance of common stock. As the terms of these share based awards do not provide for an exercise price, they have been excluded from the weighted average exercise price in column B. For additional information on the Company's equity compensation plans see Note 18 — Share-Based Compensation to our Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K. The non-shareholder approved plans consist of the Ameriprise Financial 2008 Employment Incentive Equity Award Plan, the Ameriprise Advisor Group Deferred Compensation Plan and the Ameriprise Financial Franchise Advisor Deferred Compensation Plan.

(3) Consists of 3,258,635 shares of common stock issuable under the terms of the Ameriprise Financial 2008 Employment Incentive Equity Award Plan, 1,685,994 shares of common stock issuable under the Ameriprise Advisor Group Deferred Compensation Plan, and 1,863,009 shares of common stock issuable under the Ameriprise Financial Franchise Advisor Deferred Compensation Plan.

Descriptions of our equity compensation plans can be found in Note 18 to our Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K. Information concerning the market for our common shares and our shareholders can be found in Part II, Item 5 of this Annual Report on Form 10-K. The information included under the caption "Ownership of Our Common Shares" in the Proxy Statement is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information under the captions "Corporate Governance-Director Independence," "Corporate Governance-Categorical Standards of Director Independence," "Corporate Governance-Independence of Committee Members" and "Certain Transactions" in the Proxy Statement is incorporated herein by reference.

Item 14. Principal Accountant Fees and Services

The information set forth under the heading "Items to be Voted on by Shareholders-Item 3-Ratification of the Audit Committee's Selection of PricewaterhouseCoopers LLP as the Company's Independent Registered Public Accounting Firm for 2019, "-Independent Registered Public Accounting Firm Fees"; "-Services to Associated Organizations"; and "-Policy on Pre-Approval of Services Provided by Independent Registered Public Accounting Firm," in the Proxy Statement is incorporated herein by reference.

PART IV.

Item 15. Exhibits and Financial Statement Schedules

(a) 1. Financial Statements:
The information required herein has been provided in Item 8, which is incorporated herein by reference.

2. Financial schedules required to be filed by Item 8 of this form, and by Item 15(b):

Schedule I-Condensed Financial Information of Registrant (Parent Company Only)

All other financial schedules are not required under the related instructions, or are inapplicable and therefore have been omitted.

3. Exhibits:
Pursuant to the rules and regulations of the Securities and Exchange Commission, we have filed certain agreements as exhibits to this Annual Report on Form 10-K. These agreements may contain representations and warranties by the parties. These representations and warranties have been made solely for the benefit of the other party or parties to such agreements and (i) may have been qualified by disclosures made to such other party or parties, (ii) were made only as of the date of such agreements or such other date(s) as may be specified in such agreements and are subject to more recent developments, which may not be fully reflected in our public disclosure, (iii) may reflect the allocation of risk among the parties to such agreements and (iv) may apply materiality standards different from what may be viewed as material to investors. Accordingly, these representations and warranties may not describe our actual state of affairs at the date hereof and should not be relied upon.
The following exhibits are filed as part of this Annual Report on Form 10-K. The exhibit numbers followed by an asterisk (*) indicate exhibits electronically filed herewith. All other exhibit numbers indicate exhibits previously filed and are hereby incorporated herein by reference. Exhibits numbered 10.2 through 10.23 are management contracts or compensation plans or arrangements.

Exhibit	Description
3.1	Amended Restated Certificate of Incorporation of Ameriprise Financial, Inc. (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K, File No. 1-32525, filed on May 1, 2014).
3.2	Amended and Restated Bylaws of Ameriprise Financial, Inc. (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K, File No. 1-32525, filed on October 5, 2018).
4.1	Form of Specimen Common Stock Certificate (incorporated by reference to Exhibit 4.1 to Amendment No. 3 to Form 10 Registration Statement, File No. 1-32525, filed on August 19, 2005). Other instruments defining the rights of holders of long-term debt securities of the registrant are omitted pursuant to Section (b)(4)(iii)(A) of Item 601 of Regulation S-K. The registrant agrees to furnish copies of these instruments to the SEC upon request.
4.2	Indenture dated as of October 5, 2005, between Ameriprise Financial, Inc. and U.S. Bank National Association, trustee (incorporated by reference to Exhibit 4(a) to the Registration Statement on Form S-3, File No. 333-128834, filed on October 5, 2005).
4.3	Indenture dated as of May 5, 2006, between Ameriprise Financial, Inc. and U.S. Bank National Association, trustee (incorporated by reference to Exhibit 4.A to the Registration Statement on Form S-3ASR, File No. 333-133860, filed on May 5, 2006).
4.4	

	Junior Subordinated Debt Indenture, dated as of May 5, 2006, between Ameriprise Financial, Inc. and U.S. Bank National Association, trustee (incorporated by reference to Exhibit 4.C to the Registration Statement on Form S-3ASR, File No. 333-133860, filed on May 5, 2006).
4.5	Subordinated Debt Indenture, dated as of May 5, 2006, between Ameriprise Financial, Inc. and U.S. Bank National Association, trustee (incorporated by reference to Exhibit 4.B to the Registration Statement on Form S-3ASR, File No. 333-133860, filed on May 5, 2006).
10.1	Tax Allocation Agreement by and between American Express and Ameriprise Financial, Inc., dated as of September 30, 2005 (incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K, File No. 1-32525, filed on October 4, 2005).

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Exhibit	Description
10.2	Ameriprise Financial 2005 Incentive Compensation Plan, as amended and restated effective April 30, 2014 (incorporated by reference to Exhibit B to the Proxy Statement for the Annual Meeting of Shareholders held on April 30, 2014, File No. 001-32525, filed on March 17, 2014).
10.3	Ameriprise Financial Deferred Compensation Plan, as amended and restated effective January 1, 2012 (incorporated by reference to Exhibit 10.3 of the Annual Report on Form 10-K, File No. 1-32525, filed on February 24, 2012).
10.4	Ameriprise Financial Supplemental Retirement Plan, as amended and restated effective October 3, 2017 (incorporated by reference to Exhibit 10.4 of the Annual Report on Form 10-K, File No. 1-32525, filed on February 23, 2018).
10.5	Form of Ameriprise Financial 2005 Incentive Compensation Plan Master Agreement for Substitution Awards (incorporated by reference to Exhibit 10.8 to Amendment No. 2 to Form 10 Registration Statement, File No. 1-32525, filed on August 15, 2005).
10.6	Ameriprise Financial Form of Award Certificate — Non-Qualified Stock Option Award (incorporated by reference to Exhibit 10.4 to the Current Report on Form 8-K, File No. 1-32525, filed on October 4, 2005).
10.7	Ameriprise Financial Form of Award Certificate — Restricted Stock Award (incorporated by reference to Exhibit 10.5 to the Current Report on Form 8-K, File No. 1-32525, filed on October 4, 2005).
10.8	Ameriprise Financial Form of Award Certificate — Restricted Stock Unit Award (incorporated by reference to Exhibit 10.6 to the Current Report on Form 8-K, File No. 1-32525, filed on October 4, 2005).
10.9	Ameriprise Financial Form of Agreement — Cash Incentive Award (incorporated by reference to Exhibit 10.7 to the Current Report on Form 8-K, File No. 1-32525, filed on October 4, 2005).
10.10	Ameriprise Financial Long-Term Incentive Award Program Guide (incorporated by reference to Exhibit 10.10 of the Annual Report on Form 10-K, File No. 1-32525, filed on February 23, 2017).
10.11*	Ameriprise Financial Performance Cash Unit Plan Supplement to the Long Term Incentive Award Program Guide
10.12	Ameriprise Financial Form of Award Certificate — Performance Cash Unit Plan Award (incorporated by reference to Exhibit 10.12 of the Annual Report on Form 10-K File No. 1-32525, filed on February 25, 2016)
10.13	Ameriprise Financial Performance Share Unit Plan Supplement to the Long-Term Incentive Award Program Guide (incorporated by reference to Exhibit 10.3 of the Quarterly Report on Form 10-Q, File No. 1-32525, filed on May 2, 2011).
10.14	Ameriprise Financial Form of Award Certificate — Performance Share Unit Plan Award (incorporated by reference to Exhibit 10.14 of the Annual Report on Form 10-K File No. 1-32525, filed on February 25, 2016).
10.15	Ameriprise Financial Deferred Share Plan for Outside Directors, as amended and restated effective December 3, 2014 (incorporated by reference to Exhibit 10.15 of the Annual Report on Form 10-K File No. 1-32525, filed on February 24, 2015).
10.16	CEO Security and Compensation Arrangements (incorporated by reference to Item 1.01 of the Current Report on Form 8-K, File No. 1-32525, filed on October 31, 2005).
10.17	Ameriprise Financial Senior Executive Severance Plan, as amended and restated effective January 1, 2012 (incorporated by reference to Exhibit 10.17 of the Annual Report on Form 10-K, File No. 1-32525, filed on February 24, 2012).
10.18	Restricted Stock Awards in lieu of Key Executive Life Insurance Program (incorporated by reference to Item 1.01 of the Current Report on Form 8-K, File No. 1-32525, filed on November 18, 2005).
10.19	Ameriprise Financial Annual Incentive Award Plan, adopted effective as of September 30, 2005 (incorporated by reference to Exhibit 10.28 of the Annual Report on Form 10-K, File No. 1-32525, filed on March 8, 2006).
10.20	Form of Indemnification Agreement for directors, Chief Executive Officer, Chief Financial Officer, General Counsel and Principal Accounting Officer and any other officers designated by the Chief Executive Officer (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K, File No. 1-32525, filed on April 26, 2012).

10.21*	Ameriprise Financial 2008 Employment Incentive Equity Award Plan, as amended and restated effective November 20, 2018.
10.22	Ameriprise Advisor Group Deferred Compensation Plan, as amended and restated effective January 1, 2016 (incorporated by reference to Exhibit 10.23 of the Annual Report on Form 10-K File No. 1-32525, filed on February 25, 2016).
10.23	Ameriprise Financial Annual Incentive Award Plan, as amended and restated as of January 1, 2009 (incorporated by reference to Exhibit 10.1 of the Quarterly Report on Form 10-Q, File No. 1-32525, filed on May 2, 2018).

Exhibit	Description
10.24	Third Amended and Restated Credit Agreement, dated as of October 12, 2017, among Ameriprise Financial, Inc., as Borrower, the lenders party thereto, Wells Fargo Bank, National Association as Administrative Agent, Swingline Lender and Issuing Lender, Bank of America, N.A. and Citibank, N.A. as Co-Syndication Agents, Credit Suisse AG, Cayman Islands Branch, Goldman Sachs Bank USA, HSBC Bank USA, National Association, JPMorgan Chase Bank, N.A. and U.S. Bank National Association as Co-Documentation Agents, and Wells Fargo Securities, LLC, Merrill Lynch, Pierce, Fenner & Smith, Incorporated, and Citigroup Global Markets Inc., as Joint Lead Arrangers and Joint Bookrunners (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K, File No. 1-32525, filed on October 16, 2017).
13*	Portions of the Ameriprise Financial, Inc. 2018 Annual Report to Shareholders, which, except for those sections incorporated herein by reference, are furnished solely for the information of the SEC and are not to be deemed "filed."
21*	Subsidiaries of Ameriprise Financial, Inc.
23*	Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm.
24	Powers of attorney (included on Signature Page).
31.1*	Certification of James M. Cracchiolo pursuant to Rule 13a-14(a) promulgated under the Securities Exchange Act of 1934, as amended.
31.2*	Certification of Walter S. Berman pursuant to Rule 13a-14(a) promulgated under the Securities Exchange Act of 1934, as amended.
32*	Certification of James M. Cracchiolo and Walter S. Berman pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101	The following materials from Ameriprise Financial, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2018, formatted in XBRL: (i) Consolidated Statements of Operations for the years ended December 31, 2018, 2017 and 2016; (ii) Consolidated Statements of Comprehensive Income for the years ended December 31, 2018, 2017 and 2016; (iii) Consolidated Balance Sheets at December 31, 2018 and 2017; (iv) Consolidated Statements of Equity for the years ended December 31, 2018, 2017 and 2016; (v) Consolidated Statements of Cash Flows for the years ended December 31, 2018, 2017 and 2016; (vi) Notes to the Consolidated Financial Statements; and (vii) Schedule I - Condensed Financial Information of Registrant (Parent Only).

** Filed electronically herewithin.*

Item 16. Form 10-K Summary

None.

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Signatures

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

AMERIPRISE FINANCIAL, INC.

Registrant

Date:	February 26, 2019	By	/s/ Walter S. Berman Walter S. Berman Executive Vice President and Chief Financial Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each of the undersigned directors and officers of Ameriprise Financial, Inc., a Delaware corporation, does hereby make, constitute and appoint James M. Cracchiolo, Walter S. Berman and Karen Wilson Thissen, and each of them, the undersigned's true and lawful attorneys-in-fact, with power of substitution, for the undersigned and in the undersigned's name, place and stead, to sign and affix the undersigned's name as such director and/or officer of said corporation to an Annual Report on Form 10-K or other applicable form, and all amendments thereto, to be filed by such corporation with the Securities and Exchange Commission, Washington, D.C., under the Securities Exchange Act of 1934, as amended, with all exhibits thereto and other supporting documents, with said Commission, granting unto said attorneys-in-fact, and any of them, full power and authority to do and perform any and all acts necessary or incidental to the performance and execution of the powers herein expressly granted.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacity and on the dates indicated.

Date:	February 26, 2019	By	/s/ James M. Cracchiolo James M. Cracchiolo Chairman and Chief Executive Officer (Principal Executive Officer and Director)
Date:	February 26, 2019	By	/s/ Walter S. Berman Walter S. Berman Executive Vice President and Chief Financial Officer (Principal Financial Officer)
Date:	February 26, 2019	By	/s/ David K. Stewart David K. Stewart Senior Vice President and Controller (Principal Accounting Officer)
Date:	February 26, 2019	By	/s/ Amy DiGeso Amy DiGeso Director
Date:	February 26, 2019	By	/s/ Lon R. Greenberg Lon R. Greenberg Director
Date:	February 26, 2019	By	/s/ W. Edward Walter W. Edward Walter Director
Date:	February 26, 2019	By	/s/ Jeffrey Noddle Jeffrey Noddle Director
Date:	February 26, 2019	By	/s/ Robert F. Sharpe, Jr. Robert F. Sharpe, Jr. Director
Date:	February 26, 2019	By	/s/ Christopher J. Williams

Christopher J. Williams
Director

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Schedule I - Condensed Financial Information of Registrant
(Parent Company Only)

Schedule I — Condensed Financial Information of Registrant
Condensed Statements of Operations
(Parent Company Only)

	Years Ended December 31,		
	2018	2017 [1]	2016 [1]
	(in millions)		
Revenues			
Management and financial advice fees	$(1)	$(1)	$(1)
Net investment income	34	11	14
Other revenues	4	8	5
Total revenues	37	18	18
Banking and deposit interest expense	7	5	1
Total net revenues	30	13	17
Expenses			
Benefits, claims, losses and settlement expenses	4	76	41
Distribution expenses	4	18	—
Interest and debt expense	120	116	113
General and administrative expense	210	246	189
Total expenses	338	456	343
Pretax loss before equity in earnings of subsidiaries	(308)	(443)	(326)
Income tax benefit	(73)	(47)	(146)
Loss before equity in earnings of subsidiaries	(235)	(396)	(180)
Equity in earnings of subsidiaries	2,333	1,876	1,493
Net income	2,098	1,480	1,313
Other comprehensive income (loss), net of tax	(519)	29	(59)
Total comprehensive income	$1,579	$1,509	$1,254

[1] Certain prior period amounts have been restated. See Note 1 in the Consolidated Financial Statements for more information.

See Notes to Condensed Financial Information of Registrant.

Schedule I — Condensed Financial Information of Registrant
Condensed Balance Sheets
(Parent Company Only)

	December 31, 2018	December 31, 2017 [(1)]
	(in millions, except share amounts)	
Assets		
Cash and cash equivalents	$476	$494
Investments	467	341
Loans to subsidiaries	372	227
Due from subsidiaries	288	382
Receivables	5	5
Land, buildings, equipment, and software, net of accumulated depreciation of $1,168 and $1,111, respectively	237	236
Investments in subsidiaries	7,231	8,066
Other assets	1,209	1,150
Total assets	$10,285	$10,901
Liabilities and Shareholders' Equity		
Liabilities:		
Accounts payable and accrued expenses	$636	$640
Due to subsidiaries	146	74
Borrowings from subsidiaries	346	363
Long-term debt	2,867	2,891
Other liabilities	702	938
Total liabilities	4,697	4,906
Shareholders' Equity:		
Common shares ($.01 par value; shares authorized, 1,250,000,000; shares issued, 328,537,214 and 327,506,935, respectively)	3	3
Additional paid-in capital	8,260	8,085
Retained earnings	12,909	11,326
Treasury shares, at cost (192,206,467 and 180,872,271 shares, respectively)	(15,293)	(13,648)
Accumulated other comprehensive income, net of tax, including amounts applicable to equity investments in subsidiaries	(291)	229
Total shareholders' equity	5,588	5,995
Total liabilities and equity	$10,285	$10,901

(1) Certain prior period amounts have been restated. See Note 1 in the Consolidated Financial Statements for more information.

See Notes to Condensed Financial Information of Registrant.

Schedule I — Condensed Financial Information of Registrant
Condensed Statements of Cash Flows
(Parent Company Only)

	Years Ended December 31, 2018 (in millions)	2017 [1]	2016 [1]
Cash Flows from Operating Activities			
Net income	$2,098	$1,480	$1,313
Equity in earnings of subsidiaries	(2,333)	(1,876)	(1,493)
Dividends received from subsidiaries	2,093	1,589	1,465
Other operating activities, primarily with subsidiaries	57	712	529
Net cash provided by operating activities	1,915	1,905	1,814
Cash Flows from Investing Activities			
Available-for-Sale securities:			
Proceeds from sales	—	—	55
Maturities, sinking fund payments and calls	94	44	277
Purchases	(222)	(77)	(129)
Proceeds from sale of other investments	—	3	—
Purchase of land, buildings, equipment and software	(62)	(69)	(49)
Contributions to subsidiaries	(73)	(79)	(197)
Return of capital from subsidiaries	454	47	187
Repayment of loans to subsidiaries	1,623	1,277	1,910
Issuance of loans to subsidiaries	(1,768)	(1,337)	(1,910)
Other, net	2	(91)	59
Net cash provided by investing activities	48	(282)	203
Cash Flows from Financing Activities			
Dividends paid to shareholders	(506)	(491)	(479)
Repurchase of common shares	(1,630)	(1,485)	(1,707)
Cash paid for purchased options with deferred premiums	(20)	(19)	(22)
Issuance of long-term debt, net of issuance costs	—	—	496
Repayments of long-term debt	(13)	(11)	(257)
Borrowings from subsidiaries	472	124	—
Repayments of borrowings from subsidiaries	(273)	(15)	—
Exercise of stock options	2	15	9
Other, net	(13)	(1)	36
Net cash used in financing activities	(1,981)	(1,883)	(1,924)
Net increase (decrease) in cash and cash equivalents	(18)	(260)	93
Cash and cash equivalents at beginning of year	494	754	661
Cash and cash equivalents at end of year	$476	$494	$754
Supplemental Disclosures:			
Interest paid on debt	$126	$128	$121
Income taxes paid (received), net	(27)	(368)	(112)
Non-cash dividends from subsidiaries	195	109	11

[1] Certain prior period amounts have been restated. See Note 1 for more information.

See Notes to Condensed Financial Information of Registrant.

Schedule I — Condensed Financial Information of Registrant

Notes to Condensed Financial Information of Registrant (Parent Company Only)

1. Basis of Presentation

The accompanying Condensed Financial Statements include the accounts of Ameriprise Financial, Inc. (the "Registrant," "Ameriprise Financial" or "Parent Company") and, on an equity basis, its subsidiaries and affiliates. The financial statements have been prepared in accordance with U.S. generally accepted accounting principles. Certain prior year amounts have been reclassified to conform to the current year's presentation. On January 1, 2018, the Company retrospectively adopted the new accounting standard for revenue recognition. The financial information of the Parent Company should be read in conjunction with the Consolidated Financial Statements and Notes of Ameriprise Financial. Parent Company revenues and expenses, other than compensation and benefits and debt and interest expense, are primarily related to intercompany transactions with subsidiaries and affiliates.

The change in the fair value of derivative instruments used as hedges is reflected in the Parent Company Only Condensed Statements of Operations. For certain of these derivatives, the change in the hedged item is reflected in the subsidiaries' Statements of Operations. The change in fair value of certain derivatives used to economically hedge risk related to GMWB provisions is included in benefits, claims, losses and settlement expenses, while the underlying benefits, claims, losses and settlement expenses are reflected in equity in earnings of subsidiaries.

In 2018, the Parent Company corrected a prior period error in the Condensed Statements of Cash Flows for the year ended December 31, 2017, which related to the classification of loan proceeds from a subsidiary and the subsequent forgiveness of the loan. The correction was a $109 million decrease to Dividends received from subsidiaries and a $109 million increase in Borrowings from subsidiaries. The forgiveness of the loan is reflected in Non-cash dividends from subsidiaries in the Supplemental Disclosures to the Condensed Statements of Cash Flows. The impact of the correction was not material to the prior period financial statement.

The changes to the Condensed Statements of Cash Flows for the year ended December 31, 2016 reflect the impact of the retrospective adoption of the revenue recognition standard as of January 1, 2018.

2. Investments

In December 2018, the Parent Company invested in the residual tranche of an asset backed security structure issued by Ameriprise Advisor Financing, LLC, a subsidiary of the Parent Company. The asset backed securities are collateralized by a portfolio of loans issued to advisors affiliated with AFSI, a subsidiary of the Parent Company. As of December 31, 2018, the fair value of the residual tranche was $90 million and is reported in Investments on the Parent Company's Condensed Balance Sheets.

3. Debt

All of the debt of Ameriprise Financial is borrowings of the Parent Company, except as indicated below.

- As of both December 31, 2018 and 2017, the debt of Ameriprise Financial included $50 million of repurchase agreements, which are accounted for as secured borrowings.
- As of both December 31, 2018 and 2017, Ameriprise Financial had $150 million of borrowings from the Federal Home Loan Bank of Des Moines, which is collateralized with commercial mortgage backed securities.

4. Borrowings from Subsidiaries

The Parent Company has intercompany lending arrangements with its subsidiaries. At the end of each business day, taking into consideration all legal and regulatory requirements associated with its subsidiaries, Ameriprise Financial is entitled to draw on all funds in specified bank accounts. Repayment of all or a portion of the funds is due on demand. The Parent Company also has revolving credit agreements with its subsidiaries as the borrower aggregating $1.2 billion and $1.0 billion as of December 31, 2018 and 2017, respectively, of which nil was outstanding as of both December 31, 2018 and 2017.

5. Guarantees, Commitments and Contingencies

The Parent Company is the guarantor for operating leases of IDS Property Casualty Insurance Company and certain other subsidiaries.

All consolidated legal, regulatory and arbitration proceedings, including class actions of Ameriprise Financial, Inc. and its consolidated subsidiaries are potential or current obligations of the Parent Company.

The Parent Company has committed revolving credit agreements with its subsidiaries as the lender aggregating $363 million as of December 31, 2018.

The Parent Company and Ameriprise Certificate Company (“ACC”) entered into a Capital Support Agreement on March 2, 2009, pursuant to which the Parent Company agrees to commit such capital to ACC as is necessary to satisfy applicable minimum capital requirements. Effective April 30, 2014, this agreement was amended to revise the maximum commitment to $50 million. For the years ended December 31, 2018, 2017 and 2016, ACC did not draw upon the Capital Support Agreement and had met all applicable capital requirements.

The Parent Company and IDS Property Casualty Insurance Company (“IDS Property Casualty”) entered into a Capital Support Agreement on September 30, 2015, pursuant to which the Parent Company agrees to commit such capital to IDS Property Casualty as is necessary to maintain IDS Property Casualty’s current financial strength ratings by AM Best. The maximum capital amount is $150 million. Effective February 1, 2018, this agreement was amended to revise the expiration date to be April 1, 2019. For the year ended December 31, 2018, IDS Property Casualty did not draw upon the Capital Support Agreement.

Ameriprise Financial Services Inc. (“AFSI”) entered into a FINRA approved subordinated loan agreement with the Parent Company on December 15, 2014 for regulatory net capital purposes. The agreement consists of a $200 million secured demand note. The note is secured by cash and securities equal to the principal value of the note pledged by the Parent Company. For the year ended December 31, 2018, AFSI had not made a demand of the principal amount.

Ameriprise Enterprise Investment Services, Inc. (“AEIS”) entered into a FINRA approved subordinated loan agreement with the Parent Company on January 25, 2017 for regulatory net capital purposes. Under this agreement, AEIS borrowed $60 million from the Parent Company with an initial term of five years to repaid no later than January 22, 2022. Both companies have the option to renew the agreement in one year increments in perpetuity.

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