

NUVEEN MISSOURI PREMIUM INCOME MUNICIPAL FUND

Form N-Q

October 30, 2008

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549**

FORM N-Q

QUARTERLY SCHEDULE OF PORTFOLIO HOLDINGS OF REGISTERED MANAGEMENT INVESTMENT COMPANY

Investment Company Act file number 811-7616

Nuveen Missouri Premium Income Municipal Fund

(Exact name of registrant as specified in charter)

Nuveen Investments

333 West Wacker Drive, Chicago, Illinois 60606

(Address of principal executive offices) (Zip code)

Kevin J. McCarthy Vice President and Secretary

333 West Wacker Drive, Chicago, Illinois 60606

(Name and address of agent for service)

Registrant's telephone number, including area code: 312-917-7700

Date of fiscal year end: 5/31

Date of reporting period: 8/31/08

Form N-Q is to be used by management investment companies, other than small business investment companies registered on Form N-5 (§§ 239.24 and 274.5 of this chapter), to file reports with the Commission, not later than 60 days after the close of the first and third fiscal quarters, pursuant to rule 30b1-5 under the Investment Company Act of 1940 (17 CFR 270.30b1-5). The Commission may use the information provided on Form N-Q in its regulatory, disclosure review, inspection, and policymaking roles.

A registrant is required to disclose the information specified by Form N-Q, and the Commission will make this information public. A registrant is not required to respond to the collection of information contained in Form N-Q unless the Form displays a currently valid Office of Management and Budget ("OMB") control number. Please direct comments concerning the accuracy of the information collection burden estimate and any suggestions for reducing the burden to the Secretary, Securities and Exchange Commission, 450 Fifth Street, NW, Washington, DC 20549-0609. The OMB has reviewed this collection of information under the clearance requirements of 44 U.S.C. § 3507.

Item 1. Schedule of Investments

Portfolio of Investments (Unaudited)

Nuveen Missouri Premium Income Municipal Fund (NOM)

August 31, 2008

Principal

Amount (000) Description (1)

Consumer Staples □ 3.2% (2.1% of Total Investments)

\$ 1,000 Missouri Development Finance Board, Solid Waste Disposal Revenue Bonds, Procter and Gamble Inc., Series 1999, 5.200%, 3/15/29 (Alternative Minimum Tax)

Education and Civic Organizations □ 3.7% (2.4% of Total Investments)

250 Lincoln University, Missouri, Auxillary System Revenue Bonds, Series 2007, 5.125%, 6/01/37 □ AGC Insured
 500 Missouri Health and Educational Facilities Authority, Revenue Bonds, St. Louis Priory School, Series 2000, 5.650%, 2/01/25
 365 Missouri Health and Educational Facilities Authority, Revenue Bonds, Webster University, Series 2001, 5.500%, 4/01/18 □ MBIA Insured

1,115 Total Education and Civic Organizations

Health Care □ 20.6% (13.2% of Total Investments)

710 Cape Girardeau County Industrial Development Authority, Missouri, Health Facilities Revenue Bonds, Southeast Missouri Hospital Association, Series 2007, 5.000%, 6/01/27
 480 Cass County, Missouri, Hospital Revenue Bonds, Series 2007, 5.625%, 5/01/38
 480 Clinton County Industrial Development Authority, Missouri, Revenue Bonds, Cameron Regional Medical Center, Series 2007, 5.000%, 12/01/37
 750 Joplin Industrial Development Authority, Missouri, Health Facilities Revenue Bonds, Freeman Health System, Series 2004, 5.500%, 2/15/29
 500 Missouri Health & Educational Facilities Authority, Saint Lukes Episcopal-Presbyterian Hospitals Revenue Bonds, Series 2001, 5.250%, 12/01/26 □ FSA Insured
 Missouri Health and Educational Facilities Authority, Revenue Bonds, BJC Health System, Series 2003:
 1,500 5.125%, 5/15/25
 1,155 5.250%, 5/15/32
 425 Missouri Health and Educational Facilities Authority, Revenue Bonds, Lake Regional Health System, Series 1996, 6.500%, 2/15/21
 500 Missouri Health and Educational Facilities Authority, Revenue Bonds, Lake Regional Health System, Series 2003, 5.700%, 2/15/34

6,500 Total Health Care

Housing/Multifamily □ 7.5% (4.8% of Total Investments)

410 Jefferson County Industrial Development Authority, Missouri, Multifamily Housing Revenue Bonds, Lakewood Apartments Project, Series 2001B, 5.750%, 11/01/34 (Mandatory put 11/01/16) (Alternative Minimum Tax)
 295 Missouri Housing Development Commission, Multifamily Housing Revenue Bonds, Series 2001II, 5.250%, 12/01/16
 500 St. Charles County Industrial Development Authority, Missouri, FHA-Insured Multifamily Housing Revenue Bonds, Ashwood Apartments, Series 1998A, 5.600%, 4/01/30 □ FSA Insured (Alternative Minimum Tax)
 485 St. Louis County Industrial Development Authority, Missouri, GNMA Collateralized Multifamily Housing Revenue Refunding Bonds, South Summit Apartments, Series 1997A, 5.950%, 4/20/17
 600 St. Louis County Industrial Development Authority, Missouri, GNMA Collateralized Multifamily Housing Revenue Refunding Bonds, South Summit Apartments, Series 1997B, 6.000%, 10/20/15

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(Alternative Minimum Tax)

2,290 Total Housing/Multifamily

Housing/Single Family □ 8.0% (5.1% of Total Investments)

- 85 Missouri Housing Development Commission, Single Family Mortgage Revenue Bonds, Homeownership Loan Program, Series 2000B-1, 6.250%, 3/01/31 (Alternative Minimum Tax)
- 675 Missouri Housing Development Commission, Single Family Mortgage Revenue Bonds, Homeownership Loan Program, Series 2006E-1, 5.600%, 3/01/37 (Alternative Minimum Tax)
- 955 Missouri Housing Development Commission, Single Family Mortgage Revenue Bonds, Homeownership Loan Program, Series 2007A-1, 4.700%, 9/01/27 (Alternative Minimum Tax)
- 1,000 Missouri Housing Development Commission, Single Family Mortgage Revenue Bonds, Homeownership Loan Program, Series 2007C-1, 4.800%, 9/01/38 (Alternative Minimum Tax)

2,715 Total Housing/Single Family

Long-Term Care □ 8.3% (5.3% of Total Investments)

- 1,750 Cole County Industrial Development Authority, Missouri, Revenue Bonds, Lutheran Senior Services □ Heisinger Project, Series 2004, 5.500%, 2/01/35
- 475 Lees Summit Industrial Development Authority, Missouri, Revenue Bonds, John Knox Village Obligated Group, Series 2007A, 5.125%, 8/15/32
- 500 St. Louis County Industrial Development Authority, Missouri, Revenue Bonds, Friendship Village of West County, Series 2007A, 5.500%, 9/01/28

2,725 Total Long-Term Care

Materials □ 2.2% (1.4% of Total Investments)

- 750 Sugar Creek, Missouri, Industrial Development Revenue Bonds, Lafarge North America Inc., Series 2003A, 5.650%, 6/01/37 (Alternative Minimum Tax)

Tax Obligation/General □ 30.8% (19.7% of Total Investments)

- 1,500 Camdenton Reorganized School District R3, Camden County, Missouri, General Obligation Bonds, Series 2005, 5.250%, 3/01/24 □ FSA Insured
- 500 Jackson County School District R-7, Lees Summit, Missouri, General Obligation Refunding and Improvement Bonds, Series 2002, 5.250%, 3/01/18 □ FSA Insured
- 500 Missouri School Boards Association, Lease Participation Certificates, Clay County School District 53 Liberty, Series 2007, 5.250%, 3/01/27 □ FSA Insured
- 1,630 North Kansas City School District, Missouri, General Obligation Bonds, Series 2003A, 5.000%, 3/01/23
- 1,000 Puerto Rico, General Obligation and Public Improvement Bonds, Series 2001A, 5.500%, 7/01/20 □ MBIA Insured
- 2,020 Ritenour Consolidated School District, St. Louis County, Missouri, General Obligation Bonds, Series 1995, 7.375%, 2/01/12 □ FGIC Insured
- 1,405 St. Louis Board of Education, Missouri, General Obligation Refunding Bonds, Series 2003A, 5.000%, 4/01/19 □ FSA Insured
- 270 St. Louis County Pattonville School District R3, Missouri, General Obligation Bonds, Series 2004, 5.250%, 3/01/20 □ FSA Insured

8,825 Total Tax Obligation/General

Tax Obligation/Limited ☐ 28.0% (17.9% of Total Investments)

600	Chesterfield, Missouri, Certificates of Participation, Series 2005, 5.000%, 12/01/24 ☐ FGIC Insured
80	Cottleville, Missouri, Certificates of Participation, Series 2006, 5.250%, 8/01/31
465	Fenton, Missouri, Tax Increment Revenue Bonds, Gravois Bluffs Redevelopment Project, Series 2006, 4.500%, 4/01/21
315	Fulton, Missouri, Tax Increment Revenue Bonds, Fulton Commons Redevelopment Project, Series 2006, 5.000%, 6/01/28
475	Kansas City Tax Increment Financing District, Missouri, Tax Increment Revenue Bonds, Briarcliff West Project, Series 2006A, 5.400%, 6/01/24
415	Missouri Development Finance Board, Independence, Infrastructure Facilities Revenue Bonds, Crackerneck Creek Project, Series 2006C, 5.000%, 3/01/28
360	Missouri Development Finance Board, Infrastructure Facilities Revenue Bonds, Branson Landing Project, Series 2005A, 5.000%, 6/01/35
450	Monarch-Chesterfield Levee District, St. Louis County, Missouri, Levee District Improvement Bonds, Series 1999, 5.750%, 3/01/19 ☐ MBIA Insured
500	Osage Beach, Missouri, Tax Increment Revenue Bonds, Prewitts Point Transportation Development District, Series 2006, 5.000%, 5/01/23
200	Riverside Industrial Development Authority, Missouri, Industrial Development Revenue Bonds, Riverside Horizon, Series 2007A, 5.000%, 5/01/27 ☐ ACA Insured
600	Riverside, Missouri, L-385 Levee Redevelopment Plan Tax Increment Revenue Bonds, Series 2004, 5.250%, 5/01/20
1,380	Springfield Center City Development Corporation, Missouri, Lease Revenue Bonds, Jordan Valley Park Parking Garage, Series 2002D, 5.000%, 11/01/22 ☐ AMBAC Insured
2,000	Springfield Public Building Corporation, Missouri, Lease Revenue Bonds, Jordan Valley Park Projects, Series 2000A, 6.125%, 6/01/21 ☐ AMBAC Insured
	St. Joseph Industrial Development Authority, Missouri, Tax Increment Bonds, Shoppes at North Village Project, Series 2005A:
340	5.375%, 11/01/24
400	5.500%, 11/01/27
200	St. Joseph Industrial Development Authority, Missouri, Tax Increment Bonds, Shoppes at North Village Project, Series 2005B, 5.500%, 11/01/27

8,780 Total Tax Obligation/Limited

Transportation ☐ 4.9% (3.1% of Total Investments)

500	Kansas City, Missouri, Passenger Facility Charge Revenue Bonds, Kansas City International Airport, Series 2001, 5.000%, 4/01/23 ☐ AMBAC Insured (Alternative Minimum Tax)
1,000	St. Louis Land Clearance Redevelopment Authority, Missouri, Revenue Refunding and Improvement Bonds, LCRA Parking Facilities, Series 1999C, 7.000%, 9/01/19

1,500 Total Transportation

U.S. Guaranteed ☐ 24.1% (15.4% of Total Investments) (4)

685	Fenton, Missouri, Tax Increment Refunding and Improvement Revenue Bonds, Gravois Bluffs Redevelopment Project, Series 2002, 6.125%, 10/01/21 (Pre-refunded 10/01/12)
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2,500	Missouri Health and Educational Facilities Authority, Revenue Bonds, SSM Healthcare System, Series 2001A, 5.250%, 6/01/28 (Pre-refunded 6/01/11) □ AMBAC Insured
1,000	Missouri Health and Educational Facilities Authority, Revenue Bonds, St. Anthony's Medical Center, Series 2000, 6.250%, 12/01/30 (Pre-refunded 12/01/10)
80	St. Louis County Pattonville School District R3, Missouri, General Obligation Bonds, Series 2004, 5.250%, 3/01/20 (Pre-refunded 3/01/14) □ FSA Insured
500	St. Louis County, Missouri, GNMA Collateralized Mortgage Revenue Bonds, Series 1993D, 5.650%, 7/01/20 (Alternative Minimum Tax) (ETM)
1,000	St. Louis Municipal Finance Corporation, Missouri, Leasehold Revenue Bonds, Carnahan Courthouse, Series 2002A, 5.750%, 2/15/16 (Pre-refunded 2/15/12) □ FGIC Insured
950	Texas County, Missouri, Hospital Revenue Bonds, Texas County Memorial Hospital, Series 2000, 7.250%, 6/15/25 (Pre-refunded 6/15/10)

6,715 Total U.S. Guaranteed

Water and Sewer □ 15.1% (9.6% of Total Investments)

640	Metropolitan St. Louis Sewerage District, Missouri, Revenue Bonds, Wastewater System, Series 2004A, 5.000%, 5/01/20 □ MBIA Insured
2,965	Missouri Environmental Improvement and Energy Resources Authority, Water Facility Revenue Bonds, Missouri-American Water Company, Series 2006, 4.600%, 12/01/36 □ AMBAC Insured (Alternative Minimum Tax) (UB)
1,000	Missouri Environmental Improvement and Energy Resources Authority, Water Pollution Control and Drinking Water Revenue Bonds, Series 2003B, 5.125%, 1/01/21
350	Missouri Environmental Improvement and Energy Resources Authority, Water Pollution Control Revenue Bonds, State Revolving Fund Program □ Kansas City Project, Series 1997C, 6.750%, 1/01/12

4,955 Total Water and Sewer

\$ 47,870 Total Investments (cost \$48,227,527) □ 156.4%

Floating Rate Obligations □ (7.3)%

Other Assets Less Liabilities □ 3.3%

Preferred Shares, at Liquidation Value □ (52.4)% (5)

Net Assets Applicable to Common Shares □ 100%

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- (1) All percentages shown in the Portfolio of Investments are based on net assets applicable to Common shares unless otherwise noted.
- (2) Optional Call Provisions: Dates (month and year) and prices of the earliest optional call or redemption. There may be other call provisions at varying prices at later dates. Certain mortgage-backed securities may be subject to periodic principal paydowns.
- (3) Ratings: Using the higher of Standard & Poor's Group ("Standard & Poor's") or Moody's Investor Service, Inc. ("Moody's") rating. Ratings below BBB by Standard & Poor's or Baa by Moody's are considered to be below investment grade.
The Portfolio of Investments may reflect the ratings on certain bonds insured by ACA, AMBAC, CIFG, FGIC, MBIA, RAAI and XLCA as of August 31, 2008. Subsequent to August 31, 2008, and during the period this Portfolio of Investments was prepared, there may have been reductions to the ratings of certain bonds resulting from changes to the ratings of the underlying insurers both during the period and after period end. Such reductions would likely reduce the effective rating of many of the bonds insured by that insurer or insurers presented at period end.
- (4) Backed by an escrow or trust containing sufficient U.S. Government or U.S. Government agency securities which ensure the timely payment of principal and interest. Such investments are normally considered to be equivalent to AAA rated securities.
- (5) Preferred Shares, at Liquidation Value as a percentage of total investments is (33.5)%.

N/R Not rated.

(ETM) Escrowed to maturity.

(UB) Underlying bond of an inverse floating rate trust reflected as a financing transaction pursuant to the provisions of SFAS No. 140.

Fair Value Measurements

During the current fiscal period, the Fund adopted the provisions of Statement of Financial Accounting Standards No. 157, Fair Value Measurements (SFAS 157). SFAS 157 defines fair value, establishes a framework for measuring fair value in generally accepted accounting principles, and expands disclosure about fair value measurements. In determining the value of the Fund's investments various inputs are used. These inputs are summarized in the three broad levels listed below:

Level 1 □ Quoted prices in active markets for identical securities.

Level 2 □ Other significant observable inputs (including quoted prices for similar securities, interest rates, prepayment speeds, credit risk, etc.).

Level 3 □ Significant unobservable inputs (including management's assumptions in determining the fair value of investments).

The inputs or methodology used for valuing securities are not an indication of the risk associated with investing in those securities.

The following is a summary of the Fund's fair value measurements as of August 31, 2008:

	Level 1	Level 2	Level 3	Total
Investments	\$ □	\$47,736,454	\$ □	\$47,736,454

Income Tax Information

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The following information is presented on an income tax basis. Differences between amounts for financial statement and federal income tax purposes are primarily due to timing differences in recognizing taxable market discount, timing differences in recognizing certain gains and losses on investment transactions and the treatment of investments in inverse floating rate transactions subject to SFAS No. 140. To the extent that differences arise that are permanent in nature, such amounts are reclassified within the capital accounts on the Statement of Assets and Liabilities presented in the annual report, based on their federal tax basis treatment; temporary differences do not require reclassification. Temporary and permanent differences do not impact the net asset value of the Fund.

At August 31, 2008, the cost of investments was \$45,986,362.

Gross unrealized appreciation and gross unrealized depreciation of investments at August 31, 2008, were as follows:

Gross unrealized:	
Appreciation	\$ 1,387,887
Depreciation	(1,862,009)

Net unrealized appreciation (depreciation) of investments	\$ (474,122)
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Item 2. Controls and Procedures.

- a. The registrant's principal executive and principal financial officers, or persons performing similar functions, have concluded that the registrant's disclosure controls and procedures (as defined in Rule 30a-3(c) under the Investment Company Act of 1940, as amended (the "1940 Act") (17 CFR 270.30a-3(c))) are effective, as of a date within 90 days of the filing date of this report that includes the disclosure required by this paragraph, based on their evaluation of the controls and procedures required by Rule 30a-3(b) under the 1940 Act (17 CFR 270.30a-3(b)) and Rule 13a-15(b) or 15d-15(b) under the Securities Exchange Act of 1934 (17 CFR 240.13a-15(b) or 240.15d-15(b)).
- b. There were no changes in the registrant's internal control over financial reporting (as defined in Rule 30a-3(d) under the 1940 Act (17 CFR 270.30a-3(d))) that occurred during the registrant's last fiscal quarter that have materially affected, or are reasonably likely to materially affect, the registrant's internal control over financial reporting.

Item 3. Exhibits.

File as exhibits as part of this Form a separate certification for each principal executive officer and principal financial officer of the registrant as required by Rule 30a-2(a) under the 1940 Act (17 CFR 270.30a-2(a)), exactly as set forth below: See EX-99 CERT attached hereto.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

(Registrant) Nuveen Missouri Premium Income Municipal Fund

By (Signature and Title) /s/ Kevin J. McCarthy
Kevin J. McCarthy
Vice President and Secretary

Date October 30, 2008

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

By (Signature and Title) /s/ Gifford R. Zimmerman
Gifford R. Zimmerman
Chief Administrative Officer (principal executive officer)

Date October 30, 2008

By (Signature and Title) /s/ Stephen D. Foy
Stephen D. Foy
Vice President and Controller (principal financial officer)

Date October 30, 2008