

NUVEEN MISSOURI PREMIUM INCOME MUNICIPAL FUND
Form N-Q
October 30, 2007

**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: 8/31/07

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, 2007

Principal	Optional C
Amount (000) Description (1)	Provisions (1)

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Consumer Staples □ 3.3% (2.2% 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)	No Opt. C
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Education and Civic Organizations □ 3.6% (2.3% of Total Investments)

250	Lincoln University, Missouri, Auxillary System Revenue Bonds, Series 2007, 5.125%, 6/01/37 □ AGC Insured	6/17 at 100.
500	Missouri Health and Educational Facilities Authority, Revenue Bonds, St. Louis Priory School, Series 2000, 5.650%, 2/01/25	2/08 at 101.
365	Missouri Health and Educational Facilities Authority, Revenue Bonds, Webster University, Series 2001, 5.500%, 4/01/18 □ MBIA Insured	4/11 at 100.

1,115 Total Education and Civic Organizations

Health Care □ 18.8% (12.1% 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	6/17 at 100.
480	Clinton County Industrial Development Authority, Missouri, Revenue Bonds, Cameron Regional Medical Center, Series 2007, 5.000%, 12/01/37	12/17 at 100.
750	Joplin Industrial Development Authority, Missouri, Health Facilities Revenue Bonds, Freeman Health System, Series 2004, 5.500%, 2/15/29	2/15 at 102.
500	Missouri Health & Educational Facilities Authority, Saint Lukes Episcopal-Presbyterian Hospitals Revenue Bonds, Series 2001, 5.250%, 12/01/26 □ FSA Insured	6/11 at 101.
1,500	Missouri Health and Educational Facilities Authority, Revenue Bonds, BJC Health System, Series 2003: 5.125%, 5/15/25	5/13 at 100.
1,155	5.250%, 5/15/32	5/13 at 100.
425	Missouri Health and Educational Facilities Authority, Revenue Bonds, Lake Regional Health System, Series 1996, 6.500%, 2/15/21	2/08 at 100.
500	Missouri Health and Educational Facilities Authority, Revenue Bonds, Lake Regional Health System, Series 2003, 5.700%, 2/15/34	2/14 at 100.

6,020 Total Health Care

Housing/Multifamily □ 6.6% (4.3% of Total Investments)

425	Missouri Housing Development Commission, Multifamily Housing Revenue Bonds, Series 2001II, 5.250%, 12/01/16	12/11 at 100.
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)	4/08 at 102.
545	St. Louis County Industrial Development Authority, Missouri, GNMA Collateralized Multifamily Housing Revenue Refunding Bonds, South Summit Apartments, Series 1997A, 5.950%, 4/20/17	10/07 at 102.
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 (Alternative Minimum Tax)	10/07 at 102.

2,070 Total Housing/Multifamily

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Housing/Single Family ☐ 8.8% (5.7% of Total Investments)

35	Missouri Housing Development Commission, Single Family Mortgage Revenue Bonds, Homeownership Loan Program, Series 1995C, 7.250%, 9/01/26 (Alternative Minimum Tax)	9/07 at 104.
100	Missouri Housing Development Commission, Single Family Mortgage Revenue Bonds, Homeownership Loan Program, Series 2000B-1, 6.250%, 3/01/31 (Alternative Minimum Tax)	3/10 at 100.
745	Missouri Housing Development Commission, Single Family Mortgage Revenue Bonds, Homeownership Loan Program, Series 2006E-1, 5.600%, 3/01/37 (Alternative Minimum Tax)	3/16 at 104.
1,000	Missouri Housing Development Commission, Single Family Mortgage Revenue Bonds, Homeownership Loan Program, Series 2007A-1, 4.700%, 9/01/27 (Alternative Minimum Tax)	9/16 at 100.
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)	3/17 at 100.

2,880 Total Housing/Single Family

Long-Term Care ☐ 8.5% (5.5% 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	2/14 at 100.
475	Lees Summit Industrial Development Authority, Missouri, Revenue Bonds, John Knox Village Obligated Group, Series 2007A, 5.125%, 8/15/32	8/17 at 100.
500	St. Louis County Industrial Development Authority, Missouri, Revenue Bonds, Friendship Village of West County, Series 2007A, 5.500%, 9/01/28	9/17 at 100.

2,725 Total Long-Term Care

Materials ☐ 2.4% (1.5% 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)	6/13 at 101.
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Tax Obligation/General ☐ 29.7% (19.2% 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	No Opt. C
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	3/12 at 100.
500	Missouri School Boards Association, Lease Participation Certificates, Clay County School District 53 Liberty, Series 2007, 5.250%, 3/01/27 (WI/DD, Settling 9/20/07) ☐ FSA Insured	3/17 at 100.
1,630	North Kansas City School District, Missouri, General Obligation Bonds, Series 2003A, 5.000%, 3/01/23	3/13 at 100.
1,000	Puerto Rico, General Obligation and Public Improvement Bonds, Series 2001A, 5.500%, 7/01/20 ☐ MBIA Insured	No Opt. C
2,020	Ritenour Consolidated School District, St. Louis County, Missouri, General Obligation Bonds, Series 1995, 7.375%, 2/01/12 ☐ FGIC Insured	No Opt. C
1,405	St. Louis Board of Education, Missouri, General Obligation Refunding Bonds, Series 2003A, 5.000%, 4/01/19 ☐ FSA Insured	4/13 at 100.
270	St. Louis County Pattonville School District R3, Missouri, General Obligation Bonds, Series 2004, 5.250%, 3/01/20 ☐ FSA Insured	3/14 at 100.

8,825 Total Tax Obligation/General

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Tax Obligation/Limited ☐ 26.2% (16.9% of Total Investments)

600	Chesterfield, Missouri, Certificates of Participation, Series 2005, 5.000%, 12/01/24 ☐ FGIC Insured	12/15 at 100.
80	Cottleville, Missouri, Certificates of Participation, Series 2006, 5.250%, 8/01/31	8/14 at 100.
490	Fenton, Missouri, Tax Increment Revenue Bonds, Gravois Bluffs Redevelopment Project, Series 2006, 4.500%, 4/01/21	4/14 at 100.
315	Fulton, Missouri, Tax Increment Revenue Bonds, Fulton Commons Redevelopment Project, Series 2006, 5.000%, 6/01/28	6/16 at 100.
475	Kansas City Tax Increment Financing District, Missouri, Tax Increment Revenue Bonds, Briarcliff West Project, Series 2006A, 5.400%, 6/01/24	6/14 at 102.
415	Missouri Development Finance Board, Independence, Infrastructure Facilities Revenue Bonds, Crackerneck Creek Project, Series 2006C, 5.000%, 3/01/28	3/16 at 100.
360	Missouri Development Finance Board, Infrastructure Facilities Revenue Bonds, Branson Landing Project, Series 2005A, 5.000%, 6/01/35	6/15 at 100.
450	Monarch-Chesterfield Levee District, St. Louis County, Missouri, Levee District Improvement Bonds, Series 1999, 5.750%, 3/01/19 ☐ MBIA Insured	3/10 at 101.
500	Osage Beach, Missouri, Tax Increment Revenue Bonds, Prewitts Point Transportation Development District, Series 2006, 5.000%, 5/01/23	5/12 at 102.
200	Riverside Industrial Development Authority, Missouri, Industrial Development Revenue Bonds, Riverside Horizon, Series 2007A, 5.000%, 5/01/27 ☐ ACA Insured	5/17 at 100.
600	Riverside, Missouri, L-385 Levee Redevelopment Plan Tax Increment Revenue Bonds, Series 2004, 5.250%, 5/01/20	5/15 at 100.
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	11/11 at 100.
2,000	Springfield Public Building Corporation, Missouri, Lease Revenue Bonds, Jordan Valley Park Projects, Series 2000A, 6.125%, 6/01/21 ☐ AMBAC Insured	6/10 at 100.
400	St. Joseph Industrial Development Authority, Missouri, Tax Increment Bonds, Shoppes at North Village Project, Series 2005A, 5.500%, 11/01/27	11/14 at 100.

8,265 Total Tax Obligation/Limited

Transportation ☐ 4.8% (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)	4/11 at 101.
1,000	St. Louis Land Clearance Redevelopment Authority, Missouri, Revenue Refunding and Improvement Bonds, LCRA Parking Facilities, Series 1999C, 7.000%, 9/01/19	9/09 at 102.

1,500 Total Transportation

U.S. Guaranteed ☐ 27.0% (17.4% 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)	10/12 at 100.
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	6/11 at 101.
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)	12/10 at 101.
1,135	Puerto Rico Public Finance Corporation, Commonwealth Appropriation Bonds, Series 2002E, 6.000%, 8/01/26 ☐ AGC Insured (ETM)	No Opt. C

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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	3/14 at 100.
500	St. Louis County, Missouri, GNMA Collateralized Mortgage Revenue Bonds, Series 1993D, 5.650%, 7/01/20 (Alternative Minimum Tax) (ETM)	No Opt. C
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	2/12 at 100.
950	Texas County, Missouri, Hospital Revenue Bonds, Texas County Memorial Hospital, Series 2000, 7.250%, 6/15/25 (Pre-refunded 6/15/10)	6/10 at 100.

7,850 Total U.S. Guaranteed

Water and Sewer □ 15.2% (9.8% of Total Investments)

640	Metropolitan St. Louis Sewerage District, Missouri, Revenue Bonds, Wastewater System, Series 2004A, 5.000%, 5/01/20 □ MBIA Insured	5/14 at 100.
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)	12/16 at 100.
1,000	Missouri Environmental Improvement and Energy Resources Authority, Water Pollution Control and Drinking Water Revenue Bonds, Series 2003B, 5.125%, 1/01/21	1/13 at 100.
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	No Opt. C

4,955 Total Water and Sewer

\$ 47,955 Total Investments (cost \$48,716,777) □ 154.9%

Floating Rate Obligations □ (6.2)%

Other Assets Less Liabilities □ 1.6%

Preferred Shares, at Liquidation Value □ (50.3)%

Net Assets Applicable to Common Shares □ 100%

- (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 or Moody's rating. Ratings below BBB by Standard & Poor's Group or Baa by Moody's Investor Service, Inc. are considered to be below investment grade.
- (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.

- N/R Not rated.
- WI/DD Purchased on a when-issued or delayed delivery basis.
- (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.

Income Tax Information

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 the treatment of paydown gains and losses, 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.

At August 31, 2007, the cost of investments was \$46,726,874.

Gross unrealized appreciation and gross unrealized depreciation of investments at August 31, 2007, were as follows:

Gross unrealized:	
Appreciation	\$1,360,005
Depreciation	(785,583)
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Net unrealized appreciation (depreciation) of investments	\$ 574,422

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: 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.

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(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, 2007

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, 2007

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

Date October 30, 2007

* Print the name and title of each signing officer under his or her signature.