

NUVEEN MISSOURI PREMIUM INCOME MUNICIPAL FUND

Form N-Q

October 28, 2016

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 811-07616

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: 8/31/16

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

Nuveen Missouri Premium Income Municipal Fund (NOM)
August 31, 2016 (Unaudited)

Principal Amount (000)	Description (1)	Optional Call Provisions (2)	Ratings (3)	Value
	LONG-TERM INVESTMENTS – 157.3% (100.0% of Total Investments)			
	MUNICIPAL BONDS – 157.3% (100.0% of Total Investments)			
	Consumer Staples – 4.0% (2.5% of Total Investments)			
\$ 1,055	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. Call	AA–	\$ 1,372,945
	Education and Civic Organizations – 23.3% (14.8% of Total Investments)			
300	Curators of the University of Missouri, System Facilities Revenue Bonds, Refunding Series 2014A, 4.000%, 11/01/33	11/24 at 100.00	AA+	341,118
250	Lincoln University, Missouri, Auxiliary System Revenue Bonds, Series 2007, 5.125%, 6/01/37 – AGC Insured	6/17 at 100.00	AA	257,980
410	Missouri Health and Educational Facilities Authority, Educational Facilities Revenue Bonds, Kansas City University of Medicine and Biosciences, Series 2013A, 5.000%, 6/01/33	6/23 at 100.00	A1	473,837
750	Missouri Health and Educational Facilities Authority, Educational Facilities Revenue Bonds, Saint Louis College of Pharmacy, Series 2013, 5.500%, 5/01/43	5/23 at 100.00	BBB+	858,113
600	Missouri Health and Educational Facilities Authority, Educational Facilities Revenue Bonds, Southwest Baptist University Project, Series 2012, 5.000%, 10/01/33	10/22 at 100.00	BBB–	656,538
725	Missouri Health and Educational Facilities Authority, Educational Facilities Revenue Bonds, University of Central Missouri, Series 2013C-2, 5.000%, 10/01/34	10/23 at 100.00	A+	857,465
630	Missouri Health and Educational Facilities Authority, Revenue Bonds, A.T. Still University of Health Sciences, Series 2011, 5.250%, 10/01/41	10/21 at 100.00	A–	731,795
510	Missouri Health and Educational Facilities Authority, Revenue Bonds, A.T. Still University of	10/23 at 100.00	A–	598,067

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	Health Sciences, Series 2014, 5.000%, 10/01/39			
700	Missouri Health and Educational Facilities Authority, Revenue Bonds, Rockhurst University, Series 2011A, 6.500%, 10/01/35	10/18 at 103.00	BBB-	778,253
1,000	Missouri Health and Educational Facilities Authority, Revenue Bonds, Saint Louis University, Series 2015A, 4.000%, 10/01/42	10/25 at 100.00	AA-	1,114,310
550	Missouri Health and Educational Facilities Authority, Revenue Bonds, Washington University, Series 2011B, 5.000%, 11/15/37	11/21 at 100.00	AAA	644,985
600	Missouri Health and Educational Facilities Authority, Revenue Bonds, Webster University, Series 2011, 5.000%, 4/01/36	4/21 at 100.00	A2	679,296
7,025	Total Education and Civic Organizations Health Care – 36.9% (23.4% of Total Investments)			7,991,757
525	Cape Girardeau County Industrial Development Authority, Missouri, Health Facilities Revenue Bonds, Saint Francis Medical Center, Series 2009A, 5.750%, 6/01/39	6/19 at 100.00	AA-	585,480
760	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 100.00	BB+	762,272
560	5.000%, 6/01/36	6/17 at 100.00	BB+	560,403
930	Cass County, Missouri, Hospital Revenue Bonds, Series 2007, 5.625%, 5/01/38	11/16 at 100.00	BBB	934,669
480	Clinton County Industrial Development Authority, Missouri, Revenue Bonds, Cameron Regional Medical Center, Series 2007, 5.000%, 12/01/37	12/17 at 100.00	N/R	486,413
200	Joplin Industrial Development Authority, Missouri, Health Facilities Revenue Bonds, Freeman Health System, Series 2011, 5.500%, 2/15/31	2/21 at 100.00	A-	227,818
315	Joplin Industrial Development Authority, Missouri, Health Facilities Revenue Bonds, Freeman Health System, Series 2015, 5.000%, 2/15/35	2/24 at 100.00	A-	368,843
250	Missouri Health and Educational Facilities Authority, Health Facilities Revenue Bonds, BJC Health System, Series 2015A, 4.000%, 1/01/45	No Opt. Call	AA	273,320
540	Missouri Health and Educational Facilities Authority, Health Facilities Revenue Bonds, Capital Region Medical Center, Series 2011, 5.000%, 11/01/27	11/20 at 100.00	A3	609,325
1,730	Missouri Health and Educational Facilities Authority, Health Facilities Revenue Bonds, CoxHealth, Series 2013A, 5.000%, 11/15/44	11/23 at 100.00	A2	2,004,239
415	Missouri Health and Educational Facilities Authority, Health Facilities Revenue Bonds, CoxHealth, Series 2015A, 5.000%, 11/15/32	11/25 at 100.00	A2	502,677
335	Missouri Health and Educational Facilities Authority, Health Facilities Revenue Bonds, Heartland	2/22 at 100.00	A1	384,547

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290	Regional Medical Center, Series 2012, 5.000%, 2/15/37 Missouri Health and Educational Facilities Authority, Health Facilities Revenue Bonds, Mercy	No Opt. Call	AA-	310,541
500	Health, Series 2012, 4.000%, 11/15/42 Missouri Health and Educational Facilities Authority, Health Facilities Revenue Bonds, Saint	12/21 at 100.00	A+	585,310
500	Luke's Episcopal and Presbyterian Hospitals, Series 2011, 5.000%, 12/01/25 Missouri Health and Educational Facilities Authority, Health Facilities Revenue Bonds, SSM	6/24 at 100.00	AA-	604,185
2,000	Health Care, Series 2014A, 5.000%, 6/01/31 Missouri Health and Educational Facilities Authority, Health Facility Revenue Bonds, Saint	11/20 at 100.00	A+	2,263,679
350	Luke's Health System, Series 2010A, 5.000%, 11/15/30 Saint Louis County Industrial Development Authority, Missouri, Health Facilities Revenue Bonds, Ranken-Jordan Project, Refunding Series 2007, 5.000%, 11/15/27	11/16 at 100.00	N/R	350,798
720	Saline County Industrial Development Authority, Missouri, Health Facilities Revenue Bonds, John Fitzgibbon Memorial Hospital Inc., Series 2010, 5.600%, 12/01/28	12/20 at 100.00	BBB-	813,312
11,400	Total Health Care			12,627,831
155	Housing/Single Family – 0.6% (0.4% of Total Investments) 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 100.00	AA+	155,259
55	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 100.00	AA+	55,004
210	Total Housing/Single Family			210,263
250	Long-Term Care – 14.4% (9.2% of Total Investments) Bridgeton Industrial Development Authority, Missouri, Senior Housing Revenue Bonds, The Sarah Community Project, Series 2013, 4.500%, 5/01/28	5/18 at 100.00	N/R	253,315
500	Joplin Industrial Development Authority, Missouri, Revenue Bonds, Christian Homes Inc., Series 2007F, 5.750%, 5/15/31	5/17 at 100.00	BBB-	507,250
475	Lees Summit Industrial Development Authority, Missouri, Revenue Bonds, John Knox Village Obligated Group, Series 2007A, 5.125%, 8/15/32	8/17 at 100.00	BBB-	485,631
250	Lees Summit Industrial Development Authority, Missouri, Revenue Bonds, John Knox Village Obligated Group, Series 2014A, 5.250%, 8/15/39	No Opt. Call	BBB-	287,560
250	Missouri Health and Educational Facilities Authority, Revenue Bonds, Lutheran Senior Services Projects, Series 2011, 6.000%, 2/01/41 Missouri Health and Educational Facilities Authority, Revenue Bonds, Lutheran Senior Services	2/21 at 100.00	BBB+	288,233

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Projects, Series 2014A				
250	5.000%, 2/01/35	2/24 at 100.00	BBB+	282,045
500	5.000%, 2/01/44	2/24 at 100.00	BBB+	561,620
190	Missouri Health and Educational Facilities Authority, Revenue Bonds, Lutheran Senior Services Projects, Series 2016A, 5.000%, 2/01/46	2/26 at 100.00	BBB+	221,223
100	St. Louis County Industrial Development Authority, Missouri, Revenue Bonds, Friendship Village of Chesterfield, Series 2012, 5.000%, 9/01/42 St. Louis County Industrial Development Authority, Missouri, Revenue Bonds, Friendship Village of Sunset Hills, Series 2012:	No Opt. Call	BBB-	107,522
250	5.000%, 9/01/32	No Opt. Call	A-	279,963
425	5.000%, 9/01/42	9/22 at 100.00	A-	471,725
430	St. Louis County Industrial Development Authority, Missouri, Revenue Bonds, Friendship Village of Sunset Hills, Series 2013A, 5.875%, 9/01/43	9/23 at 100.00	A-	507,387
570	St. Louis County Industrial Development Authority, Missouri, Revenue Bonds, Friendship Village of West County, Series 2007A, 5.500%, 9/01/28	9/17 at 100.00	BBB-	581,696
100	St. Louis County Industrial Development Authority, Missouri, Revenue Bonds, Saint Andrew's Resources for Seniors, Series 2015A, 5.125%, 12/01/45	12/25 at 100.00	N/R	107,340
4,540	Total Long-Term Care Tax Obligation/General – 10.6% (6.7% of Total Investments)			4,942,510
500	Branson Reorganized School District R-4, Taney County, Missouri, General Obligation Bonds, School Building Series 2012, 4.375%, 3/01/32	3/22 at 100.00	A+	550,735
500	Fort Zumwalt School District, Callaway County, Missouri, General Obligation Bonds, Refunding & Improvement Series 2015, 4.000%, 3/01/32	3/24 at 100.00	AA+	561,180
1,685	Independence School District, Jackson County, Missouri, General Obligation Bonds, Series 2010, 5.000%, 3/01/27	3/20 at 100.00	AA+	1,908,582
500	Jackson County Reorganized School District 4, Blue Springs, Missouri, General Obligation Bonds, School Building Series 2013A, 5.000%, 3/01/31	3/21 at 100.00	AA	577,140
3,185	Total Tax Obligation/General Tax Obligation/Limited – 22.7% (14.5% of Total Investments)			3,597,637
910	Bi-State Development Agency of the Missouri-Illinois Metropolitan District, Mass Transit Sales Tax Appropriation Bonds, Refunding Combined Lien Series 2013A, 5.000%, 10/01/33	10/22 at 100.00	AA+	1,066,975
350	Blue Springs, Missouri, Special Obligation Tax Increment Bonds, Adams Farm Project, Special Districts Refunding & Improvement Series 2015A, 4.750%, 6/01/30	6/24 at 100.00	N/R	364,760
315			N/R	289,154

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	Fulton, Missouri, Tax Increment Revenue Bonds, Fulton Commons Redevelopment Project, Series 2006, 5.000%, 6/01/28	11/16 at 100.00		
430	Government of Guam, Business Privilege Tax Bonds, Series 2012B-1, 5.000%, 1/01/42 Howard Bend Levee District, St. Louis County, Missouri, Levee District Improvement Bonds, Series 2013B:	1/22 at 100.00	A	470,523
180	4.875%, 3/01/33	3/23 at 100.00	BB+	194,278
115	5.000%, 3/01/38	3/23 at 100.00	BB+	124,882
485	Jackson County, Missouri, Special Obligation Bonds, Truman Medical Center Project, Series 2011B, 4.350%, 12/01/23	12/21 at 100.00	Aa3	552,109
300	Kansas City Industrial Development Authority, Missouri, Downtown Redevelopment District Revenue Bonds, Series 2011A, 5.000%, 9/01/32	9/21 at 100.00	AA-	338,658
155	Kansas City Industrial Development Authority, Missouri, Sales Tax Revenue Bonds, Ward Parkway Center Community Improvement District, Senior Refunding & Improvement Series 2016, 4.250%, 4/01/26	No Opt. Call	N/R	155,253
475	Kansas City Tax Increment Financing Commission, Missouri, Tax Increment Revenue Bonds, Briarcliff West Project, Series 2006A, 5.400%, 6/01/24	11/16 at 100.00	N/R	475,922
110	Kansas City, Missouri, Special Obligation Bonds, Downtown Arena Project, Refunding & Improvement Series 2016E, 4.000%, 4/01/36	4/25 at 100.00	AA-	120,712
325	Kansas City, Missouri, Special Obligation Bonds, Downtown Redevelopment District, Series 2014C, 5.000%, 9/01/33	9/23 at 100.00	AA-	384,664
245	Missouri Development Finance Board, Infrastructure Facilities Revenue Bonds, City of Branson – Branson Landing Project, Series 2015A, 4.000%, 6/01/34	6/23 at 100.00	A	259,247
110	Monarch-Chesterfield Levee District, Saint Louis County, Missouri, Levee District Improvement Bonds, Series 1999, 5.750%, 3/01/19 – NPFQ Insured	9/16 at 100.00	AA-	110,468
500	Osage Beach, Missouri, Tax Increment Revenue Bonds, Prewitts Point Transportation Development District, Series 2006, 5.000%, 5/01/23	11/16 at 100.00	N/R	500,115
140	Plaza at Noah's Ark Community Improvement District, Saint Charles, Missouri, Tax Increment and Improvement District Revenue Bonds, Series 2015, 5.000%, 5/01/30	5/21 at 100.00	N/R	147,811
1,500	Puerto Rico Sales Tax Financing Corporation, Sales Tax Revenue Bonds, Series 2007A, 0.000%, 8/01/41 – NPFQ Insured	No Opt. Call	AA-	363,090
250	Saint Louis County Industrial Development Authority, Missouri, Sales Tax Revenue Bonds,	7/24 at 100.00	N/R	263,758

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	Chesterfield Blue Valley Community Improvement District Project, Series 2014A, 5.250%, 7/01/44			
600	Springfield, Missouri, Special Obligation Bonds, Sewer System Improvements Project, Series 2015, 4.000%, 4/01/35	4/25 at 100.00	Aa2	665,700
	St. Joseph Industrial Development Authority, Missouri, Tax Increment Bonds, Shoppes at North Village Project, Series 2005A:			
340	5.375%, 11/01/24	11/16 at 100.00	N/R	340,388
400	5.500%, 11/01/27	11/16 at 100.00	N/R	400,452
200	St. Joseph Industrial Development Authority, Missouri, Tax Increment Bonds, Shoppes at North Village Project, Series 2005B, 5.500%, 11/01/27	11/16 at 100.00	N/R	200,362
8,435	Total Tax Obligation/Limited Transportation – 11.9% (7.6% of Total Investments)			7,789,281
335	Guam International Airport Authority, Revenue Bonds, Series 2013B, 5.500%, 10/01/33 – AGM Insured	10/23 at 100.00	AA	412,569
1,000	Saint Louis, Missouri, Airport Revenue Bonds, Lambert-St. Louis International Airport, Series 2005, 5.500%, 7/01/18 – NPFQ Insured	No Opt. Call	AA–	1,085,360
2,500	Saint Louis, Missouri, Airport Revenue Bonds, Lambert-St. Louis International Airport, Series 2007A, 5.000%, 7/01/21 – AGM Insured	7/17 at 100.00	AA	2,587,746
3,835	Total Transportation U.S. Guaranteed – 9.9% (6.3% of Total Investments) (4)			4,085,675
600	Carroll County Public Water Supply District 1, Missouri, Water System Revenue Bonds, Refunding Series 2009, 6.000%, 3/01/39 (Pre-refunded 3/01/18)	3/18 at 100.00	A– (4)	648,612
200	Metropolitan St. Louis Sewerage District, Missouri, Wastewater System Revenue Bonds, Series 2006C, 5.000%, 5/01/36 (Pre-refunded 5/01/17) – NPFQ Insured	5/17 at 100.00	AAA	205,878
500	Missouri School Boards Association, Lease Participation Certificates, Clay County School District 53 Liberty, Series 2007, 5.250%, 3/01/27 (Pre-refunded 3/01/17) – AGM Insured	3/17 at 100.00	AA (4)	511,755
1,235	Springfield Public Building Corporation, Missouri, Lease Revenue Bonds, Jordan Valley Park Projects, Series 2000A, 6.125%, 6/01/21 – AMBAC Insured (ETM)	11/16 at 100.00	N/R (4)	1,448,050
500	St. Louis County, Missouri, GNMA Collateralized Mortgage Revenue Bonds, Series 1993D, 5.650%, 7/01/20 (Alternative Minimum Tax) (ETM)	No Opt. Call	AA+ (4)	580,965
3,035	Total U.S. Guaranteed Utilities – 14.3% (9.1% of Total Investments)			3,395,260
2,965	Missouri Environmental Improvement and Energy Resources Authority, Water Facility Revenue Bonds, Missouri-American Water Company, Series 2006, 4.600%, 12/01/36 – BHAC Insured	12/16 at 100.00	AA+	2,982,197

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	(Alternative Minimum Tax) (UB) (5)			
350	Missouri Joint Municipal Electric Utility Commission, Power Project Revenue Bonds, Plum Point Project, Refunding Series 2014A, 5.000%, 1/01/32	1/25 at 100.00	A	420,105
500	Missouri Joint Municipal Electric Utility Commission, Power Project Revenue Bonds, Plum Point Project, Refunding Series 2015A, 4.000%, 1/01/35	1/26 at 100.00	A	561,190
	Missouri Joint Municipal Electric Utility Commission, Power Supply System Revenue Bonds, MoPEP Facilities, Series 2012:			
400	5.000%, 1/01/32	1/21 at 100.00	A2	451,872
425	5.000%, 1/01/37	1/21 at 100.00	A2	476,723
4,640	Total Utilities			4,892,087
	Water and Sewer – 8.7% (5.5% of Total Investments)			
2,000	Metropolitan St. Louis Sewerage District, Missouri, Wastewater System Revenue Bonds, Series 2012A, 5.000%, 5/01/42	5/22 at 100.00	AAA	2,384,879
500	Missouri Environmental Improvement and Energy Resources Authority, Water Facility Revenue Bonds, Tri-County Water Authority, Series 2015, 5.000%, 1/01/40	1/25 at 100.00	Aa3	597,225
2,500	Total Water and Sewer			2,982,104
\$ 49,860	Total Long-Term Investments (cost \$49,197,226)			53,887,350
	Floating Rate Obligations – (6.5)%			(2,225,000)
	Variable Rate MuniFund Term Preferred Shares, at Liquidation Preference – (52.5)% (6)			(18,000,000)
	Other Assets Less Liabilities – 1.7%			599,866
	Net Assets Applicable to Common Shares – 100%			\$ 34,262,216

Fair Value Measurements

Fair value is defined as the price that would be received upon selling an investment or transferring a liability in an orderly transaction to an independent buyer in the principal or most advantageous market for the investment. A three-tier hierarchy is used to maximize the use of observable market data and minimize the use of unobservable inputs and to establish classification of fair value measurements for disclosure purposes. Observable inputs reflect the assumptions market participants would use in pricing the asset or liability. Observable inputs are based on market data obtained from sources independent of the reporting entity. Unobservable inputs reflect the reporting entity's own assumptions about the assumptions market participants would use in pricing the asset or liability. Unobservable inputs are based on the best information available in the circumstances. The following is a summary of the three-tiered hierarchy of valuation input levels.

Level 1 – Inputs are unadjusted and prices are determined using quoted prices in active markets for identical securities.
 Level 2 – Prices are determined using other significant observable inputs (including quoted prices for similar securities, interest rates, prepayment speeds, credit risk, etc.).

Level 3 – Prices are determined using significant unobservable inputs (including management's assumptions in determining the fair value of investments).

The inputs or methodologies 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 the end of the reporting period:

	Level 1	Level 2	Level 3	Total
Long-Term Investments:				
Municipal Bonds	\$ —	\$53,887,350	\$ —	\$53,887,350

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 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 securities reflected as financing transactions, if any. 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.

As of August 31, 2016, the cost of investments was \$46,877,398.

Gross unrealized appreciation and gross unrealized depreciation of investments as of August 31, 2016, were as follows:

Gross unrealized:	
Appreciation	\$4,934,366
Depreciation	(149,450)
Net unrealized appreciation (depreciation) of investments	\$4,784,916

- (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) For financial reporting purposes, the ratings disclosed are the highest of Standard & Poor's Group ("Standard & Poor's"), Moody's Investors Service, Inc. ("Moody's") or Fitch, Inc. ("Fitch") rating. This treatment of split-rated securities may differ from that used for other purposes, such as for Fund investment policies. Ratings below BBB by Standard & Poor's, Baa by Moody's or BBB by Fitch are considered to be below investment grade. Holdings designated N/R are not rated by any of these

national rating agencies.

- (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. Certain bonds backed by U.S. Government or agency securities are regarded as having an implied rating equal to the rating of such securities.
 - (5) Investment, or portion of investment, has been pledged to collateralize the net payment obligations for investments in inverse floating rate transactions.
 - (6) Variable Rate MuniFund Term Preferred Shares, at Liquidation Preference as a percentage of Total Investments is 33.4%.
 - (ETM) Escrowed to maturity.
 - (UB) Underlying bond of an inverse floating rate trust reflected as a financing transaction.
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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/ Gifford R. Zimmerman
Gifford R. Zimmerman
Vice President and Secretary

Date: October 28, 2016

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/ Cedric H. Antosiewicz
Cedric H. Antosiewicz
Chief Administrative Officer (principal executive officer)

Date: October 28, 2016

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

Date: October 28, 2016