

NUVEEN MASSACHUSETTS PREMIUM INCOME MUNICIPAL FUND

Form N-Q

April 29, 2010

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 811-7484

Nuveen Massachusetts 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: 2/28/10

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 Massachusetts Premium Income Municipal Fund (NMT)

February 28, 2010

Principal

Amount (000) Description (1)

Consumer Discretionary 1.2% (0.8% of Total Investments)

\$ 1,425 Boston Industrial Development Financing Authority, Massachusetts, Senior Revenue Bonds, Crosstown Center Project, Series 2002, 6.500%, 9/01/35 (Alternative Minimum Tax)

Education and Civic Organizations 33.9% (22.4% of Total Investments)

- 375 Massachusetts Development Finance Agency, Revenue Bonds, Boston University, Series 2009V-1, 5.000%, 10/01/29
- 1,045 Massachusetts Development Finance Agency, Revenue Bonds, Worcester Polytechnic Institute, Series 2007, 5.000%, 9/01/37 NPFPG Insured
- 830 Massachusetts Development Finance Authority, Revenue Bonds, Curry College, Series 2000A, 6.000%, 3/01/20 ACA Insured
- 1,745 Massachusetts Development Finance Authority, Revenue Bonds, Massachusetts College of Pharmacy and Allied Health Sciences, Series 2005D, 5.000%, 7/01/27 AGC Insured
- 750 Massachusetts Development Finance Authority, Revenue Bonds, Milton Academy, Series 2003A, 5.000%, 9/01/19
- 1,500 Massachusetts Development Finance Authority, Revenue Bonds, WGBH Educational Foundation, Series 2002A, 5.750%, 1/01/42 AMBAC Insured
- 4,900 Massachusetts Development Finance Authority, Revenue Bonds, WGBH Educational Foundation, Series 2008A, 5.000%, 1/01/42 AGC Insured (UB)
- 1,090 Massachusetts Development Finance Authority, Revenue Refunding Bonds, Boston University, Series 1999P, 6.000%, 5/15/29
- 1,550 Massachusetts Educational Finance Authority, Educational Loan Revenue Bonds, Series 2002E, 5.000%, 1/01/13 AMBAC Insured (Alternative Minimum Tax)
- 2,000 Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Boston College, Series 2003N, 5.250%, 6/01/18
- 500 Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Hebrew College, Series 1999A,, 0.560%, 7/01/31 RAAI Insured (5)
- 1,000 Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Springfield College Issue, Series 2010, 5.500%, 10/15/31
- 500 Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Wellesley College, Series 2003H, 5.000%, 7/01/26
- 555 Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Williams College, Series 2003H, 5.000%, 7/01/21
- 1,380 Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Williams College,

	Series 2007L, 5.000%, 7/01/31	
500	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Worcester State College, Series 2002, 5.000%, 11/01/32	11
	AMBAC Insured	
1,645	Massachusetts Industrial Finance Agency, Revenue Bonds, Whitehead Institute for Biomedical Research, Series 1993, 5.125%, 7/01/26	7
375	Puerto Rico Industrial, Tourist, Educational, Medical and Environmental Control Facilities Financing Authority, Higher Education Revenue Bonds, Ana G. Mendez University System, Series 1999, 5.375%, 2/01/19	8
22,240	Total Education and Civic Organizations	
	Health Care 25.8% (17.0% of Total Investments)	
1,000	Massachusetts Health and Educational Facilities Authority Revenue Bonds, Children s Hospital Issue, Series M (2009), 5.500%, 12/01/39	12
1,250	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Berkshire Health System, Series 2001E, 6.250%, 10/01/31	10
1,000	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Cape Cod Health Care Inc., Series 2001C, 5.250%, 11/15/31	11
	RAAI Insured	
	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Capital Asset Program, Series 1998B-1:	
1,800	5.375%, 2/01/26	8
	MBIA Insured	
770	5.375%, 2/01/28	8
	MBIA Insured	
1,500	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Capital Asset Program, Series 1998B-2, 5.375%, 2/01/27	8
	MBIA Insured	
1,000	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Caritas Christi Obligated Group, Series 2002B, 6.250%, 7/01/22	7
935	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Emerson Hospital, Series 2005E, 5.000%, 8/15/35	8
	RAAI Insured	
1,000	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Lahey Clinic Medical Center, Series 2005C, 5.000%, 8/15/21	8
	FGIC Insured	
2,000	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Lahey Medical Center, Series 2007D, 5.250%, 8/15/28	8
585	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Milford Regional Medical Center, Series 2007E, 5.000%, 7/15/32	7
1,000	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Milton Hospital Project, Series 2005D, 5.250%, 7/01/30	7
750	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, New England Medical Center Hospitals, Series 1993G-1, 5.375%, 7/01/24	7
	MBIA Insured	
75	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Partners HealthCare System Inc., Series 2001C, 5.750%, 7/01/32	7
375	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, UMass Memorial Health Care, Series 2001C, 6.625%, 7/01/32	7
1,445	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, UMass Memorial	7

Health Care, Series 2005D, 5.000%, 7/01/33

2,000 Massachusetts State, Health and Educational Facilities Authority, Partners HealthCare System Inc., Series 2007G, 5.000%, 7/01/32

18,485 Total Health Care

Housing/Multifamily 7.0% (4.6% of Total Investments)

1,320 Massachusetts Development Finance Authority, Multifamily Housing Revenue Bonds, Emerson Manor Project, Series 2007, 4.800%, 7/20/48

1,795 Massachusetts Development Financing Authority, Assisted Living Revenue Bonds, Prospect House Apartments, Series 1999, 7.000%, 12/01/31

500 Massachusetts Housing Finance Agency, Housing Revenue Bonds, Series 2003S, 5.050%, 12/01/23 (Alternative Minimum Tax)

250 Massachusetts Housing Finance Agency, Rental Housing Mortgage Revenue Bonds, Series 1999D, 5.500%, 7/01/13 AMBAC Insured (Alternative Minimum Tax)

1,000 Somerville Housing Authority, Massachusetts, GNMA Collateralized Mortgage Revenue Bonds, Clarendon Hill Towers, Series 2002, 5.200%, 11/20/22

4,865 Total Housing/Multifamily

Housing/Single Family 3.6% (2.4% of Total Investments)

1,500 Massachusetts Housing Finance Agency, Single Family Housing Revenue Bonds, Series 2006-126, 4.625%, 6/01/32 (Alternative Minimum Tax)

985 Massachusetts Housing Finance Agency, Single Family Housing Revenue Bonds, Series 2008, Trust 3145, 14.374%, 12/01/28 (IF)

2,485 Total Housing/Single Family

Industrials 1.0% (0.7% of Total Investments)

305 Massachusetts Development Finance Agency, Pioneer Valley Resource Recovery Revenue Bonds, Eco/Springfield LLC, Series 2006, 5.875%, 7/01/14 (Alternative Minimum Tax)

400 Massachusetts Development Finance Agency, Solid Waste Disposal Revenue Bonds, Waste Management Inc., Series 2003, 5.450%, 6/01/14

705 Total Industrials

Long-Term Care 6.8% (4.5% of Total Investments)

1,270 Boston, Massachusetts, FHA-Insured Mortgage Revenue Bonds, Deutsches Altenheim Inc., Series 1998A, 6.125%, 10/01/31

1,685 Massachusetts Development Finance Agency, Revenue Bonds, Orchard Cove, Series 2007, 5.250%, 10/01/26

1,500 Massachusetts Development Finance Authority, GNMA Collateralized Assisted Living Facility Revenue Bonds, Arbors at Chicopee, Series 2001A, 6.250%, 9/20/42 (Alternative Minimum Tax)

400 Massachusetts Industrial Finance Agency, First Mortgage Revenue Bonds, Berkshire Retirement Community, Series 1994B, 4.750%, 7/01/17

4,855 Total Long-Term Care

Tax Obligation/General 18.3% (12.1% of Total Investments)

500 Ashland, Massachusetts, General Obligation Bonds, Series 2004, 5.250%, 5/15/23 AMBAC Insured

1,250 Boston, Massachusetts, General Obligation Bonds, Series 2005A, 5.000%, 1/01/17

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1,000	Fall River, Massachusetts, General Obligation Bonds, Series 2003, 5.000%, 2/01/21	AGM Insured
2,500	Massachusetts Bay Transportation Authority, General Obligation Transportation System Bonds, Series 1991A, 7.000%, 3/01/21	
1,275	Massachusetts, General Obligation Bonds, Consolidated Loan, Series 2001D, 6.000%, 11/01/13	NPFG Insured
980	Monson, Massachusetts, General Obligation Bonds, Series 2002, 5.250%, 5/15/22	AMBAC Insured
1,260	Norwell, Massachusetts, General Obligation Bonds, Series 2003, 5.000%, 11/15/20	FGIC Insured
1,000	Puerto Rico, General Obligation and Public Improvement Bonds, Series 2001A, 5.500%, 7/01/29	FGIC Insured
1,220	Worcester, Massachusetts, General Obligation Bonds, Series 2005A, 5.000%, 7/01/19	FGIC Insured
10,985	Total Tax Obligation/General	
	Tax Obligation/Limited 14.1% (9.3% of Total Investments)	
210	Martha's Vineyard Land Bank, Massachusetts, Revenue Bonds, Series 2004, 5.000%, 5/01/26	AMBAC Insured
385	Massachusetts Bay Transportation Authority, Senior Lien Sales Tax Revenue Refunding Bonds, Series 2004C, 5.250%, 7/01/21	
975	Massachusetts Bay Transportation Authority, Senior Sales Tax Revenue Bonds, Series 2006, 5.000%, 7/01/26	
550	Massachusetts College Building Authority, Project Revenue Bonds, Series 2004A, 5.000%, 5/01/19	NPFG Insured
325	Massachusetts College Building Authority, Project Revenue Bonds, Series 2006A, 5.000%, 5/01/31	AMBAC Insured
1,200	Massachusetts College Building Authority, Project Revenue Bonds, Series 2008A, 5.000%, 5/01/33	AGC Insured
1,000	Massachusetts College Building Authority, Project Revenue Refunding Bonds, Series 2003B, 5.375%, 5/01/23	SYNCORA GTY Insured
1,300	Massachusetts School Building Authority, Dedicated Sales Tax Revenue Bonds, Series 2005A, 5.000%, 8/15/20	AGM Insured
540	Massachusetts, Special Obligation Dedicated Tax Revenue Bonds, Series 2005, 5.000%, 1/01/20	FGIC Insured
1,000	Massachusetts, Special Obligation Refunding Notes, Federal Highway Grant Anticipation Note Program, Series 2003A, 5.000%, 12/15/13	AGM Insured
240	Puerto Rico Infrastructure Financing Authority, Special Tax Revenue Bonds, Series 2005A, 0.000%, 7/01/43	AMBAC Insured
1,300	Puerto Rico, Highway Revenue Bonds, Highway and Transportation Authority, Series 2003AA, 5.500%, 7/01/19	NPFG Insured
9,025	Total Tax Obligation/Limited	
	Transportation 10.4% (6.9% of Total Investments)	
2,000	Massachusetts Port Authority, Revenue Bonds, Series 2003A, 5.000%, 7/01/33	NPFG Insured
1,000	Massachusetts Port Authority, Special Facilities Revenue Bonds, BOSFUEL Corporation, Series	

2007, 5.000%, 7/01/32 FGIC Insured (Alternative Minimum Tax)

- 225 Massachusetts Port Authority, Special Facilities Revenue Bonds, Delta Air Lines Inc., Series 2001A, 5.000%, 1/01/27 AMBAC Insured (Alternative Minimum Tax)
- 4,000 Massachusetts Port Authority, Special Facilities Revenue Bonds, US Airways Group Inc., Series 1996A, 5.750%, 9/01/16 NPMFG Insured (Alternative Minimum Tax)
- 115 Massachusetts Turnpike Authority, Metropolitan Highway System Revenue Bonds, Senior Series 1997A, 5.000%, 1/01/37 NPMFG Insured

7,340 Total Transportation

U.S. Guaranteed 14.3% (9.4% of Total Investments) (4)

- 550 Guam Economic Development Authority, Tobacco Settlement Asset-Backed Bonds, Series 2001B, 5.500%, 5/15/41 (Pre-refunded 5/15/11)
- 25 Massachusetts Bay Transportation Authority, Senior Sales Tax Revenue Bonds, Series 2006, 5.000%, 7/01/26 (Pre-refunded 7/01/18)
- 2,500 Massachusetts Development Finance Authority, GNMA Collateralized Revenue Bonds, VOA Concord Assisted Living Inc., Series 2000A, 6.900%, 10/20/41 (Pre-refunded 10/20/11)
- 500 Massachusetts Development Finance Authority, Revenue Bonds, Belmont Hills School, Series 2001, 5.375%, 9/01/23 (Pre-refunded 9/01/11)
- 1,000 Massachusetts Development Finance Authority, Revenue Bonds, Massachusetts College of Pharmacy and Allied Health Sciences, Series 2003C, 5.750%, 7/01/33 (Pre-refunded 7/01/13)
- 410 Massachusetts Health and Educational Facilities Authority, Revenue Bonds, CareGroup Inc., Series 1998A, 5.000%, 7/01/25 (Pre-refunded 7/01/21) MBIA Insured
- 600 Massachusetts Health and Educational Facilities Authority, Revenue Bonds, New England Medical Center Hospitals, Series 2002H, 5.375%, 5/15/19 (Pre-refunded 5/15/12) FGIC Insured
- 1,000 Massachusetts Health and Educational Facilities Authority, Revenue Bonds, University of Massachusetts Worcester Campus, Series 2001B, 5.250%, 10/01/31 (Pre-refunded 10/01/11) FGIC Insured

525 Massachusetts Port Authority, Revenue Bonds, Series 1982, 13.000%, 7/01/13 (ETM)

- 1,500 Massachusetts, Special Obligation Dedicated Tax Revenue Bonds, Series 2004, 5.250%, 1/01/25 (Pre-refunded 1/01/14) FGIC Insured

8,610 Total U.S. Guaranteed

Utilities 2.9% (1.9% of Total Investments)

- 1,000 Massachusetts Development Finance Agency, Resource Recovery Revenue Bonds, SEMass System, Series 2001A, 5.625%, 1/01/16 NPMFG Insured
- 1,000 Massachusetts Industrial Finance Agency, Resource Recovery Revenue Refunding Bonds, Ogden Haverhill Project, Series 1998A, 5.600%, 12/01/19 (Alternative Minimum Tax)

2,000 Total Utilities

Water and Sewer 12.2% (8.0% of Total Investments)

- 500 Boston Water and Sewerage Commission, Massachusetts, General Revenue Bonds, Senior Lien Refunding Series 2010A, 5.000%, 11/01/30
- 2,000 Boston Water and Sewerage Commission, Massachusetts, General Revenue Bonds, Senior Series 2004A, 5.000%, 11/01/25

60	Massachusetts Water Pollution Abatement Trust, Pooled Loan Program Bonds, Series 2003-9, 5.000%, 8/01/22	8
285	Massachusetts Water Pollution Abatement Trust, Pooled Loan Program Bonds, Series 2004-10, 5.000%, 8/01/26	8
750	Massachusetts Water Pollution Abatement Trust, Pooled Loan Program Bonds, Series 2005-11, 4.500%, 8/01/29	8
1,000	Massachusetts Water Pollution Abatement Trust, Pooled Loan Program Bonds, Series 2006-12, 4.375%, 8/01/31	8
1,250	Massachusetts Water Pollution Abatement Trust, Revenue Bonds, MWRA Loan Program, Series 2002A, 5.250%, 8/01/20	8
1,500	Massachusetts Water Resources Authority, General Revenue Bonds, Series 2005A, 5.000%, 8/01/28 NPMF Insured	8
625	Massachusetts Water Resources Authority, General Revenue Bonds, Series 2006A, 4.000%, 8/01/46	8
7,970	Total Water and Sewer	
\$ 100,990	Total Investments (cost \$102,485,401) 151.5%	
	Floating Rate Obligations (3.6)%	
	MuniFund Term Preferred Shares, at Liquidation Value (29.6)% (6)	
	Other Assets Less Liabilities 2.8%	
	Auction Rate Preferred Shares, at Liquidation Value (21.1)% (6)	
	Net Assets Applicable to Common Shares 100%	

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 February 28, 2010:

	Level 1	Level 2	Level 3	Total
Investments:				
Municipal Bonds	\$ 103,110,868	\$ 475,000	\$103,585,868	

The following is a reconciliation of the Fund's Level 3 investments held at the beginning and end of the measurement period:

	Level 3 Municipal Bonds
Balance at beginning of period	\$457,505
Gains (losses):	
Net realized gains (losses)	
Net change in unrealized appreciation (depreciation)	17,495
Net purchases at cost (sales at proceeds)	
Net discounts (premiums)	
Net transfers in to (out of) at end of period fair value	
Balance at end of period	\$475,000

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.

At February 28, 2010, the cost of investments was \$99,944,726.

Gross unrealized appreciation and gross unrealized depreciation of investments at February 28, 2010, were as follows:

Gross unrealized:	
Appreciation	\$ 3,967,064
Depreciation	(2,775,873)
Net unrealized appreciation (depreciation) of investments	\$ 1,191,191

- (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.
- (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) Investment valued at fair value using methods determined in good faith by, or at the discretion of, the Board of Trustees. For fair value measurement disclosure purposes, investment categorized as Level 3.
- (6) MuniFund Term Preferred Shares and Auction Rate Preferred Shares, at Liquidation Value as a percentage of Total Investments are 19.5% and 13.9%, respectively.

N/R Not rated.

(ETM) Escrowed to maturity.

(IF) Inverse floating rate investment.

(UB) Underlying bond of an inverse floating rate trust reflected as a financing transaction.

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 Massachusetts Premium Income Municipal Fund

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

Date April 29, 2010

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 April 29, 2010

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

Date April 29, 2010