

NUVEEN MASSACHUSETTS PREMIUM INCOME MUNICIPAL FUND
Form N-Q
October 30, 2012

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: 8/31/12

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)
 August 31, 2012

Principal Amount (000)	Description (1)	Optional Call Provisions (2)	Ratings (3)	Value
	Consumer Discretionary – 1.5% (1.0% 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)	3/13 at 102.00	Caa3	\$ 1,116,416
	Education and Civic Organizations – 34.2% (23.5% of Total Investments)			
1,000	Massachusetts Development Finance Agency Revenue Bonds, Lesley University Issue Series B-1 and B-2, 5.250%, 7/01/33 – AGM Insured	7/21 at 100.00	AA–	1,150,380
375	Massachusetts Development Finance Agency, Revenue Bonds, Boston University, Series 2009V-1, 5.000%, 10/01/29	10/19 at 100.00	A	424,448
1,000	Massachusetts Development Finance Agency, Revenue Bonds, Emerson College, Series 2010A, 5.000%, 1/01/40	1/20 at 100.00	BBB+	1,047,740
450	Massachusetts Development Finance Agency, Revenue Bonds, Merrimack College, Series 2012A, 5.250%, 7/01/42	7/22 at 100.00	BBB–	486,212
1,000	Massachusetts Development Finance Agency, Revenue Bonds, Sterling and Francine Clark Art Institute, Series 2011A, 5.000%, 7/01/41	7/21 at 100.00	AA	1,129,710
2,000	Massachusetts Development Finance Agency, Revenue Bonds, The Broad Institute, Series 2011A, 5.250%, 4/01/37	4/21 at 100.00	AA–	2,263,040
1,045	Massachusetts Development Finance Agency, Revenue Bonds, Worcester Polytechnic Institute, Series 2007, 5.000%, 9/01/37 – NPMF Insured	9/17 at 100.00	A+	1,119,550
705	Massachusetts Development Finance Authority, Revenue Bonds, Curry College, Series 2000A, 6.000%, 3/01/20 – ACA Insured	3/13 at 100.00	BBB	706,579
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	7/15 at 100.00	AA–	1,853,207
1,500	Massachusetts Development Finance Authority, Revenue Bonds, WGBH Educational Foundation, Series 2002A, 5.750%, 1/01/42 – AMBAC Insured	No Opt. Call	A	1,974,345
4,850	Massachusetts Development Finance Authority, Revenue Bonds, WGBH Educational Foundation,	1/18 at 100.00	AA–	5,172,959

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	Series 2008A, 5.000%, 1/01/42 – AGC Insured			
1,090	Massachusetts Development Finance Authority, Revenue Refunding Bonds, Boston University, Series 1999P, 6.000%, 5/15/29	No Opt. Call	A2	1,424,772
1,000	Massachusetts Educational Financing Authority, Educational Loan Revenue, Series 2011J, 5.625%, 7/01/33 (Alternative Minimum Tax)	7/21 at 100.00	AA	1,071,020
2,000	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Boston College, Series 2003N, 5.250%, 6/01/18	6/13 at 100.00	AA–	2,069,540
1,000	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Springfield College, Series 2010, 5.500%, 10/15/31	10/19 at 100.00	Baa1	1,091,150
250	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Tufts University, Series 2008O, 5.375%, 8/15/38	8/18 at 100.00	Aa2	303,803
500	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Wellesley College, Series 2003H, 5.000%, 7/01/26	7/13 at 100.00	AA+	515,510
515	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Wheaton College Issues, Series 2010F, 5.000%, 1/01/41	1/20 at 100.00	A2	567,185
555	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Williams College, Series 2003H, 5.000%, 7/01/21	7/13 at 100.00	AA+	575,263
500	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Worcester State College, Series 2002, 5.000%, 11/01/32 – AMBAC Insured	11/12 at 100.00	A	501,215
23,080	Total Education and Civic Organizations Health Care – 26.2% (18.0% of Total Investments) Massachusetts Development Finance Agency, Revenue Bonds, Berkshire Health Systems, Series 2012G:			25,447,628
895	5.000%, 10/01/29	10/21 at 100.00	A3	995,347
700	5.000%, 10/01/31	10/21 at 100.00	A3	779,639
1,000	Massachusetts Development Finance Agency, Revenue Bonds, Partners HealthCare System, Series 2011K-6, 5.375%, 7/01/41	7/20 at 100.00	AA	1,132,930
1,000	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Cape Cod Health Care Inc., Series 2001C, 5.250%, 11/15/31 – RAAI Insured	11/12 at 100.50	BBB+	1,010,700
	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Caregroup Inc., Series B1 Capital Asset Program Converted June 13,2008:			
2,300	5.375%, 2/01/26 – NPFG Insured	8/18 at 100.00	A–	2,597,390
770	5.375%, 2/01/28 – NPFG Insured	8/18 at 100.00	A–	863,347
1,500			A–	1,688,670

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	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Caregroup Inc., Series B2, Capital Asset Program, Converted June 9, 2009, 5.375%, 2/01/27 – NPMG Insured	8/18 at 100.00		
1,000	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Children’s Hospital, Series 2009M, 5.500%, 12/01/39	12/19 at 100.00	AA	1,136,290
935	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Emerson Hospital, Series 2005E, 5.000%, 8/15/35 – RAAI Insured	8/15 at 100.00	N/R	894,393
1,000	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Lahey Clinic Medical Center, Series 2005C, 5.000%, 8/15/21 – FGIC Insured	8/15 at 100.00	A+	1,055,980
2,000	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Lahey Medical Center, Series 2007D, 5.250%, 8/15/28	8/17 at 100.00	A+	2,146,180
585	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Milford Regional Medical Center, Series 2007E, 5.000%, 7/15/32	7/17 at 100.00	BBB–	590,125
1,000	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Milton Hospital Project, Series 2005D, 5.250%, 7/01/30	7/15 at 100.00	BB–	1,010,400
1,445	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, UMass Memorial Health Care, Series 2005D, 5.000%, 7/01/33	7/15 at 100.00	A–	1,482,686
2,000	Massachusetts State, Health and Educational Facilities Authority, Partners HealthCare System Inc., Series 2007G, 5.000%, 7/01/32	7/17 at 100.00	AA	2,170,680
18,130	Total Health Care Housing/Multifamily – 6.2% (4.2% of Total Investments)			19,554,757
1,295	Massachusetts Development Finance Authority, Multifamily Housing Revenue Bonds, Emerson Manor Project, Series 2007, 4.800%, 7/20/48	7/17 at 100.00	BB	1,346,632
1,695	Massachusetts Development Financing Authority, Assisted Living Revenue Bonds, Prospect House Apartments, Series 1999, 7.000%, 12/01/31	12/12 at 100.00	N/R	1,698,051
500	Massachusetts Housing Finance Agency, Housing Revenue Bonds, Series 2003S, 5.050%, 12/01/23 (Alternative Minimum Tax)	6/13 at 100.00	AA–	504,890
1,000	Somerville Housing Authority, Massachusetts, GNMA Collateralized Mortgage Revenue Bonds, Clarendon Hill Towers, Series 2002, 5.200%, 11/20/22	5/13 at 102.00	N/R	1,031,940
4,490	Total Housing/Multifamily Housing/Single Family – 3.8% (2.6% of Total Investments)			4,581,513
1,500	Massachusetts Housing Finance Agency, Single Family Housing Revenue Bonds, Series 2006-126, 4.625%, 6/01/32 (Alternative Minimum Tax)	6/16 at 100.00	AA	1,542,000
985	Massachusetts Housing Finance Agency, Single Family Housing Revenue Bonds, Series 2008, Trust 3145, 14.313%, 6/01/16 (IF)	No Opt. Call	Aa2	1,273,566
2,485	Total Housing/Single Family			2,815,566

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Industrials – 0.8% (0.6% of Total Investments)				
170	Massachusetts Development Finance Agency, Pioneer Valley Resource Recovery Revenue Bonds, Eco/Springfield LLC, Series 2006, 5.875%, 7/01/14 (Alternative Minimum Tax)	No Opt. Call	N/R	168,851
400	Massachusetts Development Finance Agency, Solid Waste Disposal Revenue Bonds, Waste Management Inc., Series 2003, 5.450%, 6/01/14	No Opt. Call	BBB	430,540
570	Total Industrials			599,391
Long-Term Care – 4.8% (3.3% of Total Investments)				
1,270	Boston, Massachusetts, FHA-Insured Mortgage Revenue Bonds, Deutsches Altenheim Inc., Series 1998A, 6.125%, 10/01/31	10/12 at 101.00	AAA	1,298,156
185	Massachusetts Development Finance Agency, Revenue Bonds, Carleton-Willard Village, Series 2010, 5.625%, 12/01/30	12/19 at 100.00	A–	202,346
1,685	Massachusetts Development Finance Agency, Revenue Bonds, Orchard Cove, Series 2007, 5.250%, 10/01/26	10/12 at 102.00	N/R	1,705,894
400	Massachusetts Industrial Finance Agency, First Mortgage Revenue Bonds, Berkshire Retirement Community, Series 1994B, 4.750%, 7/01/17	11/12 at 100.00	BBB	400,392
3,540	Total Long-Term Care			3,606,788
Tax Obligation/General – 18.6% (12.7% of Total Investments)				
500	Ashland, Massachusetts, General Obligation Bonds, Series 2004, 5.250%, 5/15/23 – AMBAC Insured	5/15 at 100.00	Aa2	559,430
300	Boston, Massachusetts, General Obligation Bonds, Series 2005A, 5.000%, 1/01/17	1/15 at 100.00	Aaa	331,239
1,000	Fall River, Massachusetts, General Obligation Bonds, Series 2003, 5.000%, 2/01/21 – AGM Insured	2/13 at 101.00	AA–	1,021,870
1,000	Hampden-Wilbraham Regional School District, Hampden County, Massachusetts, General Obligation Bonds, Series 2011, 5.000%, 2/15/41	2/21 at 100.00	Aa3	1,125,710
1,250	Hudson, Massachusetts, General Obligation Bonds, Municipal Purpose Loan Series 2011, 5.000%, 2/15/32	2/20 at 100.00	AA	1,436,138
1,205	Massachusetts Bay Transportation Authority, General Obligation Transportation System Bonds, Series 1991A, 7.000%, 3/01/21	No Opt. Call	AA+	1,600,626
1,275	Massachusetts, General Obligation Bonds, Consolidated Loan, Series 2001D, 6.000%, 11/01/13 - NPMFG Insured	No Opt. Call	AA+	1,360,425
1,260	Norwell, Massachusetts, General Obligation Bonds, Series 2003, 5.000%, 11/15/20 – FGIC Insured	No Opt. Call	AAA	1,593,043
1,000	Puerto Rico, General Obligation and Public Improvement Bonds, Series 2002A, 5.500%, 7/01/29 – FGIC Insured	No Opt. Call	Baa1	1,127,860
2,000	Quincy, Massachusetts, General Obligation Bonds, Series 2011, 5.250%, 12/01/38	12/20 at 100.00	Aa2	2,311,600
1,220	Worcester, Massachusetts, General Obligation Bonds, Series 2005A, 5.000%, 7/01/19 –	7/15 at 100.00	AA–	1,357,250

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	FGIC Insured			
12,010	Total Tax Obligation/General			13,825,191
	Tax Obligation/Limited – 14.3% (9.9% of Total Investments)			
	Martha’s Vineyard Land Bank, Massachusetts, Revenue Bonds,	5/14 at		
210	Series 2004, 5.000%, 5/01/26 -	100.00	A–	222,604
	AMBAC Insured			
	Massachusetts Bay Transportation Authority, Sales Tax Revenue	7/18 at		
975	Bonds, Senior Lien Series 2006C,	100.00	AAA	1,168,216
	5.000%, 7/01/26			
	Massachusetts Bay Transportation Authority, Senior Lien Sales Tax	No Opt.		
385	Revenue Refunding Bonds,	Call	AAA	495,560
	Series 2004C, 5.250%, 7/01/21			
	Massachusetts College Building Authority, Project Revenue Bonds,	5/18 at		
1,200	Series 2008A, 5.000%,	100.00	Aa2	1,336,404
	5/01/33 – AGC Insured			
	Massachusetts College Building Authority, Project Revenue	No Opt.		
1,000	Refunding Bonds, Series 2003B,	Call	Aa2	1,281,940
	5.375%, 5/01/23 – SYNCORA GTY Insured			
	Massachusetts College Building Authority, Revenue Bonds,	5/22 at		
570	Refunding Series 2012B,	100.00	AA	660,100
	5.000%, 5/01/37			
	Massachusetts School Building Authority, Dedicated Sales Tax	10/21 at		
1,000	Revenue Bonds, Series 2011B,	100.00	AA+	1,155,520
	5.000%, 10/15/41			
	Massachusetts School Building Authority, Dedicated Sales Tax	8/15 at		
1,300	Revenue Bonds, Series 2005A,	100.00	AA+	1,462,825
	5.000%, 8/15/20 – AGM Insured (UB)			
	Massachusetts State, Special Obligation Dedicated Tax Revenue	No Opt.		
540	Bonds, Series 2005, 5.000%,	Call	A1	644,085
	1/01/20 – FGIC Insured			
	Puerto Rico Infrastructure Financing Authority, Special Tax	No Opt.		
240	Revenue Bonds, Series 2005A,	Call	BBB+	36,778
	0.000%, 7/01/43 – AMBAC Insured			
	Puerto Rico Sales Tax Financing Corporation, Sales Tax Revenue	No Opt.		
1,650	Bonds, First Subordinate Series	Call	A+	380,160
	2010C, 0.000%, 8/01/38			
	Puerto Rico Sales Tax Financing Corporation, Sales Tax Revenue	8/21 at		
1,500	Bonds, First Subordinate Series	100.00	A+	1,576,470
	2011A-1, 5.000%, 8/01/43			
	Puerto Rico, Highway Revenue Bonds, Highway and Transportation	No Opt.		
235	Authority, Series 2003AA,	Call	A3	267,388
	5.500%, 7/01/19 – NPMFG Insured			
10,805	Total Tax Obligation/Limited			10,688,050
	Transportation – 8.1% (5.6% of Total Investments)			
	Massachusetts Port Authority, Airport System Revenue Bonds,	7/20 at		
500	Series 2010A, 5.000%, 7/01/30	100.00	AA	580,495
	Massachusetts Port Authority, Revenue Bonds, Series 2012A,	7/22 at		
350	5.000%, 7/01/42 (Alternative	100.00	AA	388,269
	Minimum Tax)			
	Massachusetts Port Authority, Special Facilities Revenue Bonds,	7/17 at		
1,000	BOSFUEL Corporation, Series	100.00	A2	1,042,830

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	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)	1/13 at 100.00	N/R	217,652
3,285	Massachusetts Port Authority, Special Facilities Revenue Bonds, US Airways Group Inc., Series 1996A, 5.750%, 9/01/16 – NPFG Insured (Alternative Minimum Tax)	3/13 at 100.00	BBB	3,293,508
470	Metropolitan Boston Transit Parking Corporation, Massachusetts, Systemwide Senior Lien Parking Revenue Bonds, Series 2011, 5.000%, 7/01/41	7/21 at 100.00	A+	518,452
5,830	Total Transportation			6,041,206
	U.S. Guaranteed – 18.3% (12.5% of Total Investments) (4)			
2,000	Boston Water and Sewerage Commission, Massachusetts, General Revenue Bonds, Senior Series 2004A, 5.000%, 11/01/25 (Pre-refunded 11/01/14)	11/14 at 100.00	AA+ (4)	2,201,840
650	Boston, Massachusetts, General Obligation Bonds, Series 2005A, 5.000%, 1/01/17 (Pre-refunded 1/01/15)	1/15 at 100.00	N/R (4)	720,577
1,115	Massachusetts Bay Transportation Authority, General Obligation Transportation System Bonds, Series 1991A, 7.000%, 3/01/21 (Pre-refunded 3/01/17)	3/17 at 100.00	N/R (4)	1,283,945
25	Massachusetts Bay Transportation Authority, Sales Tax Revenue Bonds, Senior Lien Series 2006C, 5.000%, 7/01/26 (Pre-refunded 7/01/18)	7/18 at 100.00	AAA	30,948
550	Massachusetts College Building Authority, Project Revenue Bonds, Series 2004A, 5.000%, 5/01/19 (Pre-refunded 5/01/14) – NPFG Insured	5/14 at 100.00	Aa2 (4)	592,383
325	Massachusetts College Building Authority, Project Revenue Bonds, Series 2006A, 5.000%, 5/01/31 (Pre-refunded 5/01/16) – AMBAC Insured	5/16 at 100.00	Aa2 (4)	378,352
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)	7/13 at 101.00	A (4)	1,055,860
750	Massachusetts Development Finance Authority, Revenue Bonds, Milton Academy, Series 2003A, 5.000%, 9/01/19 (Pre-refunded 9/01/13)	9/13 at 100.00	AA– (4)	785,235
410	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, CareGroup Inc., Series 1998A, 5.000%, 7/01/25 (Pre-refunded 7/01/21) – NPFG Insured	7/21 at 100.00	BBB (4)	502,061
155	Massachusetts Port Authority, Revenue Bonds, Series 1982, 13.000%, 7/01/13 (ETM)	11/12 at 100.00	AAA	169,908
2,000	Massachusetts Port Authority, Revenue Bonds, Series 2003A, 5.000%, 7/01/33 (Pre-refunded 7/01/13) – NPFG Insured	7/13 at 100.00	AA (4)	2,079,280
1,500	Massachusetts State, Special Obligation Dedicated Tax Revenue Bonds, Series 2004, 5.250%, 1/01/25 (Pre-refunded 1/01/14) – FGIC Insured	1/14 at 100.00	A1 (4)	1,597,155

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	Massachusetts Water Pollution Abatement Trust, Pooled Loan	8/15 at		
750	Program Bonds, Series 2005-11, 4.500%, 8/01/29 (Pre-refunded 8/01/15)	100.00	AAA	840,660
	Puerto Rico, Highway Revenue Bonds, Highway and Transportation	No Opt.		
1,065	Authority, Series 2003AA, 5.500%, 7/01/19 – NPFG Insured (ETM)	Call	A3 (4)	1,364,563
12,295	Total U.S. Guaranteed Utilities – 2.7% (1.9% of Total Investments)			13,602,767
	Massachusetts Development Finance Agency, Resource Recovery	1/13 at		
1,000	Revenue Bonds, SEMass System, Series 2001A, 5.625%, 1/01/16 – NPFG Insured	100.00	BBB	1,010,340
	Massachusetts Industrial Finance Agency, Resource Recovery	12/12 at		
1,000	Revenue Refunding Bonds, Ogden Haverhill Project, Series 1998A, 5.600%, 12/01/19 (Alternative Minimum Tax)	100.00	A–	1,005,000
2,000	Total Utilities Water and Sewer – 6.1% (4.2% of Total Investments)			2,015,340
	Boston Water and Sewerage Commission, Massachusetts, General	11/19 at		
500	Revenue Bonds, Senior Lien Refunding Series 2010A, 5.000%, 11/01/30	100.00	AA	588,895
	Massachusetts Water Pollution Abatement Trust, Pooled Loan	8/13 at		
60	Program Bonds, Series 2003-9, 5.000%, 8/01/22	100.00	AAA	62,407
	Massachusetts Water Pollution Abatement Trust, Pooled Loan	8/14 at		
285	Program Bonds, Series 2004-10, 5.000%, 8/01/26	100.00	AAA	306,500
	Massachusetts Water Pollution Abatement Trust, Pooled Loan	8/16 at		
1,000	Program Bonds, Series 2006-12, 4.375%, 8/01/31 (UB)	100.00	AAA	1,065,480
	Massachusetts Water Pollution Abatement Trust, Revenue Bonds,	11/12 at		
200	MWRA Loan Program, Series 2002A, 5.250%, 8/01/20	100.00	AAA	200,816
	Massachusetts Water Resources Authority, General Revenue Bonds, 8/17 at			
1,500	Series 2005A, 5.000%, 8/01/28 – NPFG Insured	100.00	AA+	1,717,410
	Massachusetts Water Resources Authority, General Revenue Bonds, 8/16 at			
625	Series 2006A, 4.000%, 8/01/46	100.00	AA+	631,969
4,170	Total Water and Sewer			4,573,477
\$ 100,830	Total Investments (cost \$100,831,155) – 145.6%			108,468,090
	Floating Rate Obligations – (1.9)%			(1,435,000)
	MuniFund Term Preferred Shares, at Liquidation Value – (49.2)% (5)			(36,645,000)
	Other Assets Less Liabilities – 5.5%			4,109,299
	Net Assets Applicable to Common Shares – 100%			\$ 74,497,389

Fair Value Measurements

Fair value is defined as the price that the Fund would receive 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 risks 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	\$—	\$108,468,090	\$—	\$108,468,090

The Nuveen funds' Board of Directors/Trustees is responsible for the valuation process and has delegated the oversight of the daily valuation process to the Adviser's Valuation Committee. The Valuation Committee, pursuant to the valuation policies and procedures adopted by the Board of Directors/Trustees, is responsible for making fair value determinations, evaluating the effectiveness of the funds' pricing policies, and reporting to the Board of Directors/Trustees. The Valuation Committee is aided in its efforts by the Adviser's dedicated Securities Valuation Team, which is responsible for administering the daily valuation process and applying fair value methodologies as approved by the Valuation Committee. When determining the reliability of independent pricing services for investments owned by the funds, the Valuation Committee, among other things, conducts due diligence reviews of the pricing services and monitors the quality of security prices received through various testing reports conducted by the Securities Valuation Team.

The Valuation Committee will consider pricing methodologies it deems relevant and appropriate when making fair value determinations. Examples of possible methodologies include, but are not limited to, multiple of earnings; discount from market of a similar freely traded security; discounted cash-flow analysis; book value or a multiple thereof; risk premium/yield analysis; yield to maturity; and/or fundamental investment analysis. The Valuation Committee will also consider factors it deems relevant and appropriate in light of the facts and circumstances. Examples of possible factors include, but are not limited to, the type of security; the issuer's financial statements; the purchase price of the security; the discount from market value of unrestricted securities of the same class at the time of purchase; analysts' research and observations from financial institutions; information regarding any transactions or offers with respect to the security; the existence of merger proposals or tender offers affecting the security; the price and extent of public trading in similar securities of the issuer or comparable companies; and the existence of a shelf registration for restricted securities.

For each portfolio security that has been fair valued pursuant to the policies adopted by the Board of Directors/Trustees, the fair value price is compared against the last available and next available market quotations. The Valuation Committee reviews the results of such testing and fair valuation occurrences are reported to the Board of Directors/Trustees.

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 August 31, 2012, the cost of investments was \$99,286,940.

Gross unrealized appreciation and gross unrealized depreciation of investments at August 31, 2012, were as follows:

Gross unrealized:	
Appreciation	\$8,068,986
Depreciation	(322,592)
Net unrealized appreciation (depreciation) of investments	\$7,746,394

- (1) All percentages shown in the Portfolio of Investments are based on net assets applicable to Common shares unless otherwise noted.
Optional Call Provisions: Dates (month and year) and prices of the earliest optional call or redemption.
 - (2) 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 highest of Standard & Poor's Group ("Standard & Poor's"), Moody's Investors Service, Inc. ("Moody's") or Fitch, Inc. ("Fitch") rating. 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) MuniFund Term Preferred Shares, at Liquidation Value as a percentage of Total Investments is 33.8%.
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: October 30, 2012

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, 2012

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

Date: October 30, 2012