NUVEEN MASSACHUSETTS PREMIUM INCOME MUNICIPAL FUND Form N-Q April 29, 2014

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 811-07484

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: 2/28/14

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, 2014

Principal		Optional Call		
Amount (000)	Description (1)	Provisions (2)	Ratings (3)	Value
	LONG-TERM INVESTMENTS – 153.7%			
	(100.0% of Total Investments)			
	MUNICIPAL BONDS – 153.7% (100.0% of			
	Total Investments)			
	Consumer Discretionary – 1.5% (1.0% of Tota	.1		
	Investments)			
	Boston Industrial Development Financing			
	Authority, Massachusetts, Senior Revenue			
\$ 1,425	Bonds,	9/14 at 100.00	Caa3	\$ 1,029,363
	Crosstown Center Project, Series 2002,			
	6.500%, 9/01/35 (Alternative Minimum Tax)			
	(4)			
	Education and Civic Organizations – 34.7%			
	(22.6% of Total Investments)			
	Massachusetts Development Finance Agency,			
	Revenue Bonds, Boston College Issue, Series			
500	2013S,	7/23 at 100.00	AA-	542,895
	5.000%, 7/01/38			
	Massachusetts Development Finance Agency,			
	Revenue Bonds, Boston University, Series	10/19 at		
375	2009V-1,	100.00	A1	415,924
	5.000%, 10/01/29			
	Massachusetts Development Finance Agency,			
	Revenue Bonds, Boston University, Tender			
	Option			
	Bond Trust 1163:			
		10/23 at		
995	17.464%, 10/01/48 (IF) (5)	100.00	A1	1,169,593
		10/23 at		
305	17.361%, 10/01/48 (IF) (5)	100.00	A1	358,451
	Massachusetts Development Finance Agency,			
	Revenue Bonds, Emerson College, Series			
1,000	2010A,	1/20 at 100.00	BBB+	1,005,210
	5.000%, 1/01/40			
1,000	Massachusetts Development Finance Agency,	7/21 at 100.00	AA-	1,079,780
	Revenue Bonds, Lesley University Issue			

	Series B-1 and B-2, 5.250%, 7/01/33 – AGM Insured Massachusetts Development Finance Agency, Revenue Bonds, Northeastern University, Series 2014A:			
415 700	5.000%, 3/01/39 5.000%, 3/01/44 Massachusetts Development Finance Agency,	3/24 at 100.00 3/24 at 100.00	A2 A2	438,941 733,992
1,000	Revenue Bonds, Sterling and Francine Clark Art Institute, Series 2011A, 5.000%, 7/01/41 Massachusetts Development Finance Agency, Revenue Bonds, The Broad Institute, Series	7/21 at 100.00	AA	1,053,590
2,000	2011A, 5.250%, 4/01/37 Massachusetts Development Finance Agency,	4/21 at 100.00	AA-	2,130,720
1,045	Revenue Bonds, Worcester Polytechnic Institute, Series 2007, 5.000%, 9/01/37 – NPFG Insured Massachusetts Development Finance Agency,	9/17 at 100.00	A+	1,090,186
700	Revenue Bonds, Worcester Polytechnic Institute, Series 2012, 5.000%, 9/01/50 Massachusetts Development Finance	9/22 at 100.00	A+	724,766
1,500	Authority, Revenue Bonds, WGBH Educational Foundation, Series 2002A, 5.750%, 1/01/42 – AMBAC Insured	No Opt. Call	A	1,740,750
4,850	Massachusetts Development Finance Authority, Revenue Bonds, WGBH Educational Foundation, Series 2008A, 5.000%, 1/01/42 – AGC Insured Massachusetts Development Finance	1/18 at 100.00	AA-	4,966,203
1,090	Authority, Revenue Refunding Bonds, Boston University, Series 1999P, 6.000%, 5/15/29 Massachusetts Educational Financing	No Opt. Call	A1	1,312,556
955	Authority, Educational Loan Revenue, Series 2011J, 5.625%, 7/01/33 (Alternative Minimum Tax) Massachusetts Health and Educational	7/21 at 100.00	AA	994,508
1,000	Facilities Authority, Revenue Bonds, Springfield College, Series 2010, 5.500%, 10/15/31 Massachusetts Health and Educational	10/19 at 100.00	Baa1	1,077,250
350	Facilities Authority, Revenue Bonds, Tufts University, Series 2008O, 5.375%, 8/15/38 Massachusetts Health and Educational	8/18 at 100.00	Aa2	390,103
530	Facilities Authority, Revenue Bonds, Wheaton College	1/20 at 100.00	A2	546,059

210	Issues, Series 2010F, 5.000%, 1/01/41 Puerto Rico Industrial, Tourist, Educational, Medical and Environmental Control Facilities Fin Authority, Higher Ed Rev and Rev Refunding Bonds, University of the Sacred Heart Project, Series 2012, 4.375%, 10/01/31 University of Massachusetts Building Authority, Senior Lien Project Revenue	No Opt. Call	BBB	152,504
1,500	Bonds, Series	No Opt. Call	Aa2	1,618,770
22,020	2009-1, 5.000%, 5/01/39 Total Education and Civic Organizations Health Care – 34.0% (22.2% of Total Investments)			23,542,751
940	Massachusetts Development Finance Agency, Hospital Revenue Bonds, Cape Cod Healthcare Obligated Group, Series 2013, 5.250%, 11/15/41 Massachusetts Development Finance Agency, Revenue Bonds, Berkshire Health Systems, Series 2012G:	11/23 at 100.00	A-	979,132
	Selies 2012G.	10/21 at		
895	5.000%, 10/01/29	100.00	A-	941,101
		10/21 at		
700	5.000%, 10/01/31 Massachusetts Development Finance Agency, Revenue Bonds, Milford Regional Medical	100.00	A–	729,120
480	Center Issue, Series 2014F, 5.750%, 7/15/43 Massachusetts Development Finance Agency,	7/23 at 100.00	BBB-	500,093
1,000	Revenue Bonds, Partners HealthCare System, Series 2011K-6, 5.375%, 7/01/41 Massachusetts Development Finance Agency, Revenue Bonds, Southeaust Health System	7/20 at 100.00	AA	1,076,000
300	Revenue Bonds, Southcoast Health System Obligated Group Issue, Series 2013F, 5.000%, 7/01/37 Massachusetts Development Finance Agency, Revenue Bonds, The Lowell General	7/23 at 100.00	A	311,784
1,575	Hospital, Series 2013G, 5.000%, 7/01/44 Massachusetts Health and Educational Facilities Authority, Partners HealthCare	7/23 at 100.00	BBB+	1,560,321
2,000	System Inc., Series 2007G, 5.000%, 7/01/32 Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Caregroup Inc., Series B1 Capital Asset Program Converted June 13,2008:	7/17 at 100.00	AA	2,141,080

2,300 770	5.375%, 2/01/26 – NPFG Insured 5.375%, 2/01/28 – NPFG Insured	8/18 at 100.00 8/18 at 100.00	A A	2,560,015 847,516	
,,,	Massachusetts Health and Educational	0,10 40 100.00		0.7,010	
	Facilities Authority, Revenue Bonds,				
1,500	Caregroup Inc.,	8/18 at 100.00	A	1,664,940	
	Series B2, Capital Asset Program, Converted				
	June 9, 2009, 5.375%, 2/01/27 – NPFG Insure	ed			
	Massachusetts Health and Educational	12/10 -4			
1 000	Facilities Authority, Revenue Bonds,	12/19 at	A A	1 112 000	
1,000	Children's Hospital, Series 2009M, 5.500%, 12/01/39	100.00	AA	1,112,080	
	Massachusetts Health and Educational				
	Facilities Authority, Revenue Bonds,	12/18 at			
1,500	Dana-Farber Cancer	100.00	A1	1,546,605	
1,300	Institute, Series 2008K, 5.000%, 12/01/37	100.00	AI	1,540,005	
	Massachusetts Health and Educational				
	Facilities Authority, Revenue Bonds, Emerson	n			
935	Hospital,	8/15 at 100.00	N/R	833,291	
	Series 2005E, 5.000%, 8/15/35 – RAAI Insure				
	Massachusetts Health and Educational				
	Facilities Authority, Revenue Bonds, Lahey				
1,000	Clinic Medical	8/15 at 100.00	A+	1,056,910	
,	Center, Series 2005C, 5.000%, 8/15/21 – FGIC				
	Insured				
	Massachusetts Health and Educational				
	Facilities Authority, Revenue Bonds, Lahey				
2,000	Medical	8/17 at 100.00	A+	2,179,940	
	Center, Series 2007D, 5.250%, 8/15/28				
	Massachusetts Health and Educational				
	Facilities Authority, Revenue Bonds, Milford				
620	Regional	7/17 at 100.00	BBB-	609,001	
	Medical Center, Series 2007E, 5.000%,				
	7/15/32				
1,000&					