

NUVEEN MASSACHUSETTS DIVIDEND ADVANTAGE MUNICIPAL FUND
Form N-CSRS
February 06, 2014

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM N-CSR

CERTIFIED SHAREHOLDER REPORT OF REGISTERED
MANAGEMENT INVESTMENT COMPANIES

Investment Company Act file number 811-09451

Nuveen Massachusetts Dividend Advantage Municipal Fund
(Exact name of registrant as specified in charter)

Nuveen Investments
333 West Wacker Drive
Chicago, IL 60606
(Address of principal executive offices) (Zip code)

Kevin J. McCarthy
Nuveen Investments
333 West Wacker Drive
Chicago, IL 60606
(Name and address of agent for service)

Registrant's telephone number, including area code: (312) 917-7700

Date of fiscal year end: May 31

Date of reporting period: November 30, 2013

Form N-CSR is to be used by management investment companies to file reports with the Commission not later than 10 days after the transmission to stockholders of any report that is required to be transmitted to stockholders under Rule 30e-1 under the Investment Company Act of 1940 (17 CFR 270.30e-1). The Commission may use the information provided on Form N-CSR in its regulatory, disclosure review, inspection, and policymaking roles.

A registrant is required to disclose the information specified by Form N-CSR, and the Commission will make this information public. A registrant is not required to respond to the collection of information contained in Form N-CSR 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 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. ss. 3507.

ITEM 1. REPORTS TO STOCKHOLDERS.

Life is Complex

Nuveen makes things e-simple.

It only takes a minute to sign up for e-Reports. Once enrolled, you'll receive an e-mail as soon as your Nuveen Investments Fund information is ready—no more waiting for delivery by regular mail. Just click on the link within the e-mail to see the report and save it on your computer if you wish.

Free e-Reports right to your e-mail!

www.investordelivery.com

If you receive your Nuveen Fund dividends and statements from your financial advisor or brokerage account.

or

www.nuveen.com/accountaccess

If you receive your Nuveen Fund dividends and statements directly from Nuveen.

Table of Contents

Chairman’s Letter to Shareholders	4
Portfolio Manager’s Comments	5
Fund Leverage	8
Common Share Information	10
Risk Considerations	12
Performance Overview and Holding Summaries	13
Portfolios of Investments	17
Statement of Assets and Liabilities	37
Statement of Operations	38
Statement of Changes in Net Assets	39
Statement of Cash Flows	41
Financial Highlights	42
Notes to Financial Statements	48
Reinvest Automatically, Easily and Conveniently	58
Glossary of Terms Used in this Report	59
Additional Fund Information	63

Nuveen Investments 3

Chairman's Letter to Shareholders

Dear Shareholders,

I am pleased to have this opportunity to introduce myself to you as the new independent chairman of the Nuveen Fund Board, effective July 1, 2013. I am honored to have been selected as chairman, with its primary responsibility to serve the interests of the Nuveen Fund shareholders. My predecessor, Robert Bremner, was the first independent director to serve as chairman of the Board and I, and my fellow Board members, plan to continue his legacy of strong independent oversight of your funds.

The global economy has hit major turning points over the last several months to a year. The developed world is gradually recovering from its financial crisis while the emerging markets appear to be struggling with the downshift of China's growth potential. Japan is entering a new era of growth after decades of economic stagnation and many of the Eurozone nations appear to be exiting their recession. Despite the positive events, there are still potential risks. Middle East tensions, rising oil prices, defaults in Europe and fallout from the financial stress in emerging markets could all reverse the recent progress in the global economy.

On the domestic front, recent events such as the Federal Reserve decision to slow down its bond buying program beginning in January of 2014 and the federal budget compromise that would guide government spending into 2015 are both positives for the economy moving forward. Corporate fundamentals are strong as earnings per share and corporate cash are at the highest level in two decades. Unemployment is trending down and the housing market has experienced a rebound, each assisting the positive economic scenario. However, there are some issues to be watched. Interest rates are expected to increase but significant uncertainty about the timing remains. Partisan politics in Washington D.C. with their troublesome outcomes add to the uncertainties that could cause problems for the economy going forward.

In the near term, governments are focused on economic recovery and the growth of their economies, which could lead to an environment of attractive investment opportunities. Over the long term, the uncertainties mentioned earlier could hinder the potential growth. Because of this, Nuveen's investment management teams work hard to balance return and risk with a range of investment strategies. I encourage you to read the following commentary on the management of your fund.

On behalf of the other members of the Nuveen Fund Board, we look forward to continuing to earn your trust in the months and years ahead.

Sincerely,

William J. Schneider
Chairman of the Nuveen Fund Board
January 21, 2014

Portfolio Manager's Comments

Nuveen Connecticut Premium Income Municipal Fund (NTC)
Nuveen Massachusetts Premium Income Municipal Fund (NMT)
Nuveen Massachusetts Dividend Advantage Municipal Fund (NMB)
Nuveen Massachusetts AMT-Free Municipal Income Fund (NGX)

These Funds feature portfolio management by Nuveen Asset Management, LLC, an affiliate of Nuveen Investments, Inc. Portfolio manager Michael S. Hamilton discusses key investment strategies and the six-month performance of the Nuveen Connecticut and Massachusetts Funds. Michael assumed portfolio management responsibility for these four Funds in 2011.

What key strategies were used to manage these Funds during the six-month reporting period ended November 30, 2013?

During the first part of this reporting period, widespread uncertainty about the next step for the Federal Reserve's (Fed) quantitative easing program and the potential impact on the economy and financial markets led to increased market volatility. After surprising the market in September 2013 with its decision to wait for additional evidence of an improving economy before making any adjustments to the program, the Fed announced on December 18 (subsequent to the close of this reporting period) that it would begin tapering its monthly bond-buying program by \$10 billion (to \$75 billion) in January 2014. Political debate over federal spending and headline credit stories involving Detroit and Puerto Rico also contributed to the unsettled environment during this period and prompted an increase in selling by bondholders across the fixed income markets. Although the second half of the period brought some stabilization and a rally in the municipal market, municipal bond prices generally declined for the period as a whole, especially at the longer end of the maturity spectrum, while interest rates rose. During this time, we continued to take a bottom-up approach to discovering sectors that appeared undervalued as well as individual credits that had the potential to perform well over the long term and helped us keep our Funds fully invested.

During this period, the Funds found value in diversified areas of both the primary and secondary markets. In general, the sell-off in the fixed income markets during the summer provided opportunities to add to the Funds' existing positions with purchases of recent issues at very attractive prices in the secondary market. An example of this type of opportunity was NTC's purchase of bonds from the South Central Connecticut Regional Water Authority, which were originally issued in May 2012. NTC also purchased a new issue of Hartford Metropolitan District Clean Water project bonds in the primary market. In the Massachusetts Funds, we followed the same strategy as in Connecticut in the secondary market, buying bonds issued for Lowell General Hospital in NMT and NMB, Dana Farber Cancer Institute in

Certain statements in this report are forward-looking statements. Discussions of specific investments are for illustration only and are not intended as recommendations of individual investments. The forward-looking statements and other views expressed herein are those of the portfolio manager as of the date of this report. Actual future results or occurrences may differ significantly from those anticipated in any forward-looking statements, and the views expressed herein are subject to change at any time, due to numerous market and other factors. The Funds disclaim any obligation to update publicly or revise any forward-looking statements or views expressed herein.

Ratings shown are the highest rating given by one of the following national rating agencies: Standard & Poor's (S&P), Moody's Investors Service (Moody's), Inc. or Fitch, Inc. (Fitch). Credit ratings are subject to change. AAA, AA, A, and BBB are investment grade ratings; BB, B, CCC, CC, C and D are below investment grade ratings. Certain bonds backed by U.S. government or agency securities are regarded as having an implied rating equal to the rating of such

securities. Holdings designated N/R are not rated by these national rating agencies.

Bond insurance guarantees only the payment of principal and interest on the bond when due, and not the value of the bonds themselves, which will fluctuate with the bond market and the financial success of the issuer and the insurer. Insurance relates specifically to the bonds in the portfolio and not to the share prices of a Fund. No representation is made as to the insurers' ability to meet their commitments.

Portfolio Manager's Comments (continued)

NMT and NGX, and Massachusetts School Building Authority sales tax revenue bonds in NMT. We also added a new issue of Massachusetts State Transportation Fund revenue accelerated bridge program bonds to NMT and NGX. This program funds bridge replacement, rehabilitation, and preservation to reduce the number of structurally deficient bridges across the commonwealth.

More generally during this reporting period, our emphasis in these Funds was on adding attractive bonds across the credit quality spectrum that we believed had long term potential. For the most part, our purchases were made in the longer part of the municipal yield curve, especially as the curve steepened.

Activity during this reporting period was driven primarily by the reinvestment of proceeds from called and matured bonds, which was aimed at keeping the Funds fully invested and supporting their income streams. During the early part of this reporting period, we continued to experience a number of current bond calls resulting from refinancings, which provided liquidity. In the latter months of this reporting period, as interest rates rose, refinancing activity declined. To generate cash for purchases, we sold selected holdings when we found what we believed to be better opportunities in the marketplace. The Funds also sold a number of positions in bonds issued by Puerto Rico.

As of November 30, 2013, all four of these Funds continued to use inverse floating rate securities. We employ inverse floaters for a variety of reasons, including duration management, income enhancement and total return enhancement.

How did the Funds perform during the six-month reporting period ended November 30, 2013?

The tables in each Fund's Performance Overview and Holding Summaries section of this report provide the Funds' total returns for the six-month, one-year, five-year, and ten-year periods ended November 30, 2013. Each Fund's returns on common share net asset value (NAV) are compared with the performance of corresponding market indexes and Lipper classification average.

For the six months ended November 30, 2013, the total returns on common share NAV for NTC, NMT, NMB and NGX underperformed the returns for their respective state's S&P Municipal Bond Index as well as the national S&P Municipal Bond Index. For the same period, these four Funds underperformed the average return for the Lipper Other States Municipal Debt Funds Classification. Shareholders should note that the performance of the Lipper Other States classification represents the overall average of returns for funds from multiple states with a wide variety of municipal market conditions, making direct comparisons less meaningful.

Key management factors that influenced the Funds' returns during this reporting period included duration and yield curve positioning, credit exposure and sector allocation. In addition, the use of leverage was an important factor affecting the performance of these Funds. Leverage is discussed in more detail later in this report.

As interest rates rose and the yield curve steepened, municipal bonds with shorter maturities generally outperformed those with longer maturities. Overall, credits at the shorter end of the municipal yield curve (maturities of five years and less) posted the best returns during this reporting period, while bonds at the longest end produced the weakest results. In general, the Funds' durations and yield curve positioning were negative for performance during this reporting period, especially in NMB. All of these Funds tended to be overweighted in the longer parts of the yield curve that underperformed and underweighted in the outperforming shorter end of the curve. This detracted from the Funds' performance in a rising interest rate environment.

Credit exposure also factored into the Funds' performance during these six months, as events in the municipal market led investors to avoid risk. High yield bonds came under selling pressure and credit spreads, or the difference in yield

spreads between U.S. Treasury securities and comparable investments such as municipal bonds, began to widen. For the reporting period as a whole, AAA-rated bonds generally outperformed all other credit quality categories. However, A-rated bonds performed better than those AA-rated and B-rated credits outperformed BBB-, BB- and non-rated credits. This led to somewhat mixed performance results in terms of credit exposure, some of which can be tied to the performance of

6 Nuveen Investments

Puerto Rican bonds in the BBB-rated credit quality category. Overall, NMT had the heaviest weighting in AAA-rated bonds among these four Funds, while NMB had the largest total allocation of BBB-rated bonds and below. As a formerly insured Fund, NGX's overall credit quality continued to be higher than that of the other Funds, with fewer holdings of lower rated bonds, which was positive for NGX's performance during this reporting period.

After underperforming for many months, pre-refunded bonds, which are often backed by U.S. Treasury securities, were among the better performing market segments. The outperformance of these bonds relative to the market can be attributed primarily to their shorter effective maturities and higher credit quality. All of these Funds had holdings of pre-refunded bonds, with NMT having the heaviest allocation of these bonds and NTC the smallest. Housing bonds and general obligation (GO) credits also typically outperformed the general municipal market, while education and water and sewer bonds generally performed in line with the market. All three Massachusetts Funds had good weightings in the multi-family housing sector, which was generally beneficial in a rising interest rate environment.

In contrast, revenue bonds as a whole underperformed the municipal market. Among the revenue sectors that generally lagged municipal market performance by the widest margins for this reporting period were industrial development revenue (IDR), health care (including hospitals), utilities and transportation. Tobacco credits backed by the 1998 master tobacco settlement agreement also were among the poorest performing market sectors, due in part to their longer effective durations, lower credit ratings and the tendency of investors to avoid risk. During this reporting period, NTC held tobacco bonds issued by The Children's Trust Fund (Puerto Rico), while the Massachusetts Funds did not hold any tobacco bonds.

During this reporting period, all of the Funds in this report had exposure to Puerto Rico bonds, which had a negative impact on their performance. The Puerto Rico bonds were originally added to our portfolios at times when in-state paper was scarce in order to keep the Funds fully invested. In addition, these credits offered higher yields, added diversification, and triple exemption (i.e., exemption from federal, state and local taxes). Much of our Puerto Rico exposure consisted of the sales tax bonds issued by COFINA, which we believe are the best of the Puerto Rico issuance, while many of our other Puerto Rico holdings, including Puerto Rico GOs, were insured. During this reporting period, the Funds took advantage of opportunities to trim or even close out some of their positions in Puerto Rico paper. Overall, NTC cut its allocation to Puerto Rico from approximately 11.4% to 4.9% during this reporting period. As of November 30, 2013, the Fund continued to hold COFINA bonds, tobacco credits, insured GOs and two escrowed issues. NMT, NMB and NGX sold almost all of their Puerto Rico holdings—including COFINA bonds and insured GOs—except bonds issued for the University of Sacred Heart project in all three Funds and NMT continued to hold Puerto Rico revenue bonds.

An Update Regarding Puerto Rico

During this reporting period, a factor affecting the Funds' holdings was the downgrade of debt issued by Puerto Rico. In 2012, Moody's downgraded Puerto Rico GO bonds to Baa3 from Baa1, Puerto Rico Sales Tax Financing Corporation (COFINA) senior sales tax revenue bonds to Aa3 from Aa2, and COFINA subordinate sales tax revenue bonds to A3 from A1. In October 2013, Moody's further downgraded the COFINA senior sales tax bonds to A2, while affirming the subordinate bonds at A3. On November 14, 2013, Fitch Ratings announced that it was placing the majority of Puerto Rico issuance—with the exception of the COFINA bonds—on negative credit watch, which implies that another downgrade may be likely. While Fitch currently rates Puerto Rico issuance at BBB-, it affirmed the ratings on COFINA bonds at AA- for the senior bonds and A+ for the subordinate bonds, with stable outlooks. On December 11, 2013 (subsequent to the close of this reporting period), Moody's announced that it also had placed its Baa3 rating on Puerto Rico GOs (and other Puerto Rico issues linked to the GO rating) on review for downgrade. These downgrades were based on Puerto Rico's ongoing economic problems and, in the case of the COFINA bonds, the impact of these problems on the projected growth of sales tax revenues. However, the COFINA bonds were able to maintain a higher credit rating than the GOs because, unlike the revenue streams supporting some Puerto Rican issues, the sales taxes

supporting the COFINA bonds cannot be diverted and used to support Puerto Rico's GO bonds. For the reporting period ended November 30, 2013, Puerto Rico paper underperformed the municipal market as a whole.

Nuveen Investments 7

Fund Leverage

IMPACT OF THE FUNDS' LEVERAGE STRATEGIES ON PERFORMANCE

One important factor impacting the returns of the Funds relative to their comparative benchmarks was the Funds' use of leverage through their issuance of preferred shares and/or investments in inverse floating rate securities, which represent leveraged investments in underlying bonds. The Funds use leverage because our research has shown that, over time, leveraging provides opportunities for additional income, particularly in the recent market environment where short-term market rates are at or near historical lows, meaning that the short-term rates the Fund has been paying on its leveraging instruments have been much lower than the interest the Fund has been earning on its portfolio of long-term bonds that it has bought with the proceeds of that leverage. However, use of leverage also can expose the Fund to additional price volatility. When a Fund uses leverage, the Fund will experience a greater increase in its net asset value if the municipal bonds acquired through the use of leverage increase in value, but it will also experience a correspondingly larger decline in its net asset value if the bonds acquired through leverage decline in value, which will make the Fund's net asset value more volatile, and its total return performance more variable over time. In addition, income in levered funds will typically decrease in comparison to unlevered funds when short-term interest rates increase and increase when short-term interest rates decrease. Leverage detracted from the performance of these Funds over this reporting period.

As of November 30, 2013, the Funds' percentages of effective and regulatory leverage are as shown in the accompanying table.

	NTC	NMT	NMB	NGX
Effective Leverage*	39.61%	39.05%	39.19%	39.96%
Regulatory Leverage*	34.75%	35.88%	35.57%	38.01%

* Effective Leverage is a Fund's effective economic leverage, and includes both regulatory leverage and the leverage effects of certain derivative and other investments in a Fund's portfolio that increase the Fund's investment exposure. Currently, the leverage effects of Tender Option Bond (TOB) inverse floater holdings are included in effective leverage values, in addition to any regulatory leverage. Regulatory leverage consists of preferred shares issued or borrowings of a Fund. Both of these are part of a Fund's capital structure. Regulatory leverage is subject to asset coverage limits set forth in the Investment Company Act of 1940.

THE FUNDS' REGULATORY LEVERAGE

As of November 30, 2013, the Funds have issued and outstanding MuniFund Term Preferred (MTP) Shares as shown in the accompanying table.

	Series	MTP Shares Shares Issued at Liquidation Value		Annual Interest Rate	NYSE/NYSE MKT Ticker	Total
NTC	2015	\$	18,300,000	2.65%	NTC PRC	
	2016		17,780,000	2.55%	NTC PRD	
	2015		20,470,000	2.60%	NTC PRE	
	2015-1		16,950,000	2.60%	NTC PRF	
	2015-1		32,000,000	2.65%	NTC PRG	
		\$	105,500,000			\$ 105,500,000
NMT	2015	\$	20,210,000	2.65%	NMT PRC	
	2016		16,435,000	2.75%	NMT PRD	
		\$	36,645,000			\$ 36,645,000
NMB	2015	\$	14,725,000	2.60%	NMB PRC	\$ 14,725,000
NGX	2015	\$	22,075,000	2.65%	NGX PRC	\$ 22,075,000

Refer to Notes to Financial Statements, Note 1— General Information and Significant Accounting Policies for further details on MTP Shares.

Common Share Information

COMMON SHARE DIVIDEND INFORMATION

During the current reporting period ended November 30, 2013, the Funds' monthly dividends to common shareholders were as shown in the accompanying table.

	Per Common Share Amounts			
	NTC	NMT	NMB	NGX
June				