NUVEEN SELECT MATURITIES MUNICIPAL FUND Form N-CSR June 08, 2017

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 811-07056

Nuveen Select Maturities 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)

Gifford R. Zimmerman 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: March 31

Date of reporting period: March 31, 2017

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.

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#### Chairman's Letter to Shareholders

#### Dear Shareholders.

Whether politics or the economy will prevail over the financial markets this year has been a much-analyzed question. After the U.S. presidential election, stocks rallied to new all-time highs, bonds tumbled, and business and consumer sentiment grew pointedly optimistic. But, to what extent the White House can translate rhetoric into stronger economic and corporate earnings growth remains to be seen. Stock prices have experienced upward momentum driven by positive economic news, interest rates are higher amid the Federal Reserve (Fed) rate hikes and inflation is ticking higher.

The Trump administration's early policy decisions have caused the markets to reassess their outlooks, cooling the stock market rally and stabilizing bond prices. The White House's pro-growth agenda of tax reform, infrastructure spending and deregulation remains on the table, but there is growing recognition that it may look different than Wall Street had initially expected.

Nevertheless, there is a case for optimism. The jobs recovery, firming wages, the housing market and confidence measures are supportive of continued expansion in the economy. The Fed enacted its second and third interest rate hikes in December 2016 and March 2017, respectively, a vote of confidence that its employment and inflation targets are on track. Economies outside the U.S. have strengthened in recent months, possibly heralding the beginnings of a global synchronized recovery. Furthermore, the populist/nationalist undercurrent that helped deliver President Trump's win and the U.K.'s decision to leave the European Union (or "Brexit") remained in the minority in the Dutch general election in March and France's presidential election in May, easing the political uncertainty surrounding Germany's elections later this year.

In the meantime, the markets will be focused on economic sentiment surveys along with "hard" data such as consumer and business spending to gauge the economy's progress. With the Fed now firmly in tightening mode, rate moves that are more aggressive than expected could spook the markets and potentially stifle economic growth. On the political economic front, President Trump's other signature platform plank, protectionism, is arguably anti-growth. We expect some churning in the markets as these issues sort themselves out.

Market volatility readings have been remarkably low of late, but conditions can change quickly. As market conditions evolve, Nuveen remains committed to rigorously assessing opportunities and risks. If you're concerned about how resilient your investment portfolio might be, we encourage you to talk to your financial advisor. 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 Board May 22, 2017 4 NUVEEN

Portfolio Manager's Comments

Nuveen Select Maturities Municipal Fund (NIM)

This Fund features portfolio management by Nuveen Asset Management, LLC, an affiliate of Nuveen, LLC. Portfolio manager Paul L. Brennan, CFA, reviews U.S. economic and municipal market conditions, key investment strategies and the twelve-month performance of the Nuveen Select Maturities Municipal Fund (NIM). Paul has managed NIM since 2006.

What factors affected the U.S. economy and the national municipal bond market during the twelve-month reporting period ended March 31, 2017?

The U.S. economy continued to expand at its below-trend rate but showed some signs of strengthening in the latter months of the reporting period. For 2016 as a whole, the Bureau of Economic Analysis reported that the economy grew at an annual rate of 1.6%, as measured by real gross domestic product (GDP), which is the value of goods and services produced by the nation's economy less the value of the goods and services used up in production, adjusted for price changes. Despite a boost in third-quarter GDP from a short-term jump in exports, economic activity in the other three calendar quarters of 2016 stayed near or below the 2% growth mark.

In the first quarter of 2017, growth slackened to an annual rate of 0.7%, tempered by a slowdown in consumer and government spending, according to the government's "advance" estimate. The deceleration in first-quarter GDP growth, followed by a reaccel-eration in the spring and summer, has been a trend over the past few years. Moreover, other signs of positive momentum remain. The labor market continued to tighten, inflation ticked higher, and consumer and business confidence surveys reflected optimism about the economy's prospects. As reported by the Bureau of Labor Statistics, the unemployment rate fell to 4.5% in March 2017 from 5.0% in March 2016 and job gains averaged around 200,000 per month for the past twelve months. Higher oil prices helped drive a steady increase in inflation over this reporting period. The twelve-month change in the Consumer Price Index (CPI) rose from the low of 0.8% in July 2016 to 2.4% over the twelve-month reporting period ended March 2017 on a seasonally adjusted basis, as reported by the U.S. Bureau of Labor Statistics. The core CPI (which excludes food and energy) increased 2.0% during the same period, equal to the Federal Reserve's (Fed) unofficial longer term inflation objective of 2.0%. The housing market also continued to improve, with historically low mortgage rates and low inventory driving home prices higher. The S&P CoreLogic Case-Shiller U.S. National Home Price Index, which covers all nine U.S. census divisions, recorded a 5.8% annual gain in February 2017 (most recent data available at the time this report was prepared) (effective July 26, 2016, the S&P/Case-Shiller U.S. National Home Price Index was renamed the S&P CoreLogic Case-Shiller U.S. National Home Price Index). The 10-City and 20-City Composites reported year-over-year increases of 5.2% and 5.9%, respectively.

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 Fund disclaims any obligation to update publicly or revise any forward-looking statements or views expressed herein.

For financial reporting purposes, the ratings disclosed are the highest rating given by one of the following national rating agencies: Standard & Poor's (S&P), Moody's Investors Service, Inc. (Moody's) or Fitch, Inc. (Fitch). This treatment of split-rated securities may differ from that used for other purposes, such as for Fund investment policies. Credit ratings are subject to change. AAA, AA, A and BBB are investment grade ratings, while 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.

Refer to the Glossary of Terms Used in this Report for further definition of the terms used within this section.

Portfolio Manager's Comments (continued)

The U.S. economic outlook struck a more optimistic tone, prompting the Fed's policy making committee to raise its main benchmark interest rate in December 2016 and again in March 2017. These moves were widely expected by the markets and additional increases are anticipated in 2017 as the Fed seeks to gradually "normalize" interest rates. The political environment was another major influence on the markets over the reporting period. In the U.S., the surprising election of Donald Trump boosted consumer, business and market sentiment, on hopes that President Trump's policy agenda of tax reform, infrastructure spending and reduced regulation would reignite the economy. While U.S. stocks rallied particularly strongly in the months following the election, the advance slowed as concerns about the new administration's immigration policy and the Republican's health care bill began to weigh on the markets. Prior to the U.S. presidential election, Britain's vote to leave the European Union, known as Brexit, roiled the markets in late June and July 2016. Although world stock markets largely recovered, sterling dropped to a 31-year low and remained volatile as the U.K. prepared for exit negotiations. Investors also worried whether the undercurrent of populism and nationalism supporting President Trump and Brexit victories could spread across Europe, where several countries have key elections in 2017.

The municipal bond market encountered elevated volatility over the twelve-month reporting period, driven by a sell-off and widening credit spreads following the surprise election results. Prior to the election, municipal bond mutual funds had been drawing steady inflows from September 2015 to October 2016, which kept demand outpacing supply and supported prices. However, beginning in mid-October, demand began to soften in anticipation of a Fed rate hike. Municipal bond prices continued to fall in November 2016 after President Trump's win triggered rising inflation and interest rate expectations as well as speculation on tax code changes, and in December due to tax-loss selling. A sharp rise in interest rates after the election fueled a reversal in municipal bond fund flow. Municipal bond funds experienced large outflows in the fourth quarter of 2016, especially in the high yield municipal segment, which drove mutual fund managers to sell positions to help meet investor redemptions. At the same time, new issuance spiked in October 2016, further contributing to excess supply and exacerbating falling prices and credit spread widening. However, stabilizing market conditions in December gave way to a rally in the first quarter of 2017. Concerns that the new administration's fiscal, tax and health care policy agenda could have a potentially negative impact on municipal bonds eased somewhat. By the end of the reporting period, interest rates stayed at a higher level than where they began.

In the reporting period overall, municipal bond issuance nationwide totaled \$432.7 billion, an 11.2% gain from the issuance for the twelve-month period ended March 31, 2016. Gross issuance remains robust as issuers continue to actively and aggressively refund their outstanding debt given the low interest rate environment. In these transactions the issuers are issuing new bonds and taking the bond proceeds and redeeming (calling) old bonds. These refunding transactions have ranged from 40%-60% of total issuance over the past few years. The net issuance (all bonds issued less bonds redeemed) is actually much lower than the gross issuance. In fact, the total municipal bonds outstanding has actually declined in each of the past four calendar years. So, the gross is surging, but the net is not and this was an overall positive technical factor on municipal bond investment performance in recent years. However, as interest rates moved higher, the pace of refunding deals began to moderate.

Although the municipal bond market experienced widening credit spreads over a short period after the election, the trend was more attributable to technical conditions than a change in the fundamental backdrop. Despite the U.S. economy's rather sluggish recovery, improving state and local balance sheets have contributed to generally good credit fundamentals. Higher tax revenue growth, better expense management and a more cautious approach to new debt issuance have led to credit upgrades and stable credit outlooks for many state and local issuers. While some pockets of weakness continued to grab headlines, including Illinois, New Jersey and Puerto Rico, their problems were largely contained, with minimal spillover into the broader municipal market.

What key strategies were used to manage NIM during the twelve-month reporting period ended March 31, 2017? The broad municipal bond market ended the reporting period in positive territory, as a rally in the latter months of the period helped recoup the losses from the post-election sell-off. Although interest rates were higher by the end of the reporting period, tightening credit spreads and a moderately flattening yield curve helped support municipal bond performance in general. During this time, we continued to take a bottom-up approach to discovering sectors that appeared undervalued as well as individual credits that we believed had the potential to perform well over the long term.

The Fund's overall positioning remained relatively unchanged during the reporting period. Our emphasis remained on intermediate and longer maturities, lower rated credits and sectors offering higher yields. In fact, we took advantage of cheaper relative valuations during the post-election sell-off to modestly increase the Fund's exposure to lower rated and longer duration credits. We also more actively pursued tax loss swaps. That is, we sold some lower coupon bonds that were bought when interest rates were lower and used the proceeds to buy similarly structured bonds with higher coupons, to capitalize on the tax loss (which can be used to offset future taxable gains) and boost the Funds' income distribution capabilities.

Cash for new purchases was generated primarily by proceeds from called and matured bonds, which we worked to redeploy to keep NIM fully invested and support the Fund's income stream. Because NIM is an intermediate maturity Fund, it typically has a greater number of bonds maturing or being called than funds with longer average maturity targets. In addition, we continued to see heightened call activity during the reporting period, as bond issuers sought to lower costs through refinancings, and the increase in this activity provided ample cash for purchases. The Fund had no exposure to Puerto Rico in this reporting period.

How did NIM perform during the twelve-month reporting period ended March 31, 2017?

The table in NIM's Performance Overview and Holding Summaries section of this report provides total returns for the Fund for the one-year, five-year and ten-year periods ended March 31, 2017. The Fund's returns are compared with the performance of a corresponding market index.

For the twelve months ended March 31, 2017, the total return on net asset value (NAV) for NIM trailed the returns for the S&P Municipal Bond Intermediate Index.

The main drivers of the Fund's performance during this reporting period were credit exposures and duration and yield curve positioning. Lower rated bonds continued to outperform higher rated bonds during this reporting period. The Fund remained overweight to bonds rated A and below, which was beneficial to performance because these segments performed well. The Fund's duration and yield curve positioning was also favorable to performance. An overweight allocation to the shorter end of the yield curve contributed positively, as shorter maturities outperformed in this reporting period.

On a sector basis, the tobacco securitization and health care sectors were among the strongest performers in this reporting period, and the Fund's holdings in these sectors aided performance. The Fund also benefited from the elevated level of pre-refunding activity, as the holdings in called bonds saw a boost in performance due to pre-refunding. Additionally, NIM's positions in Chicago and Illinois general obligation (GO) bonds, including a Chicago Board of Education local GO, were advantageous to performance. However, the Fund's allocation to the industrial development revenue/pollution control revenue (IDR/PCR) sector dampened performance, largely due to holdings in energy supplier First Energy. Although it represented a small weighting in the Fund, First Energy was a meaningful detractor to underperformance during this reporting period. The credit performed poorly as the company seeks to exit the power generation business, which has increased uncertainty about its financial health. NUVEEN 7

Portfolio Manager's Comments (continued)

A Note About Investment Valuations

The municipal securities held by the Fund are valued by the Fund's pricing service using a range of market-based inputs and assumptions. A different municipal pricing service might incorporate different assumptions and inputs into its valuation methodology, potentially resulting in different values for the same securities. These differences could be significant, both as to such individual securities, and as to the value of the Fund's portfolio in its entirety. Thus, the current net asset value of the Fund's shares may be impacted, higher or lower, if the Fund were to change its pricing service, or if its pricing service were to materially change its valuation methodology. On October 4, 2016, the Fund's current municipal bond pricing service was acquired by the parent company of another pricing service. The two services have not yet combined their valuation organizations and process, but they announced in March 2017, that they anticipate doing so sometime in the ensuing several months. Such changes could have an impact on the net asset value of the Fund's shares.

#### **Share Information**

#### DISTRIBUTION INFORMATION

The following information regarding the Fund's distributions is current as of March 31, 2017. The Fund's distribution levels may vary over time based on its investment activity and portfolio investment value changes.

During the current reporting period, the Fund's distributions to shareholders were as shown in the accompanying table.

	Per	
	Share	
Monthly Distributions (Ex-Dividend Date)	Amounts	
April 2016	\$ 0.0260	
May	0.0260	
June	0.0260	
July	0.0260	
August	0.0260	
September	0.0260	
October	0.0260	
November	0.0260	
December	0.0260	
January	0.0260	
February	0.0260	
March 2017	0.0260	
Total Monthly Per Share Distributions	\$0.3120	
Ordinary Income Distribution*	\$0.0027	
Total Distributions from Net Investment Income	\$0.3147	
Total Distributions from Long-Term Capital Gains*	\$0.0020	
Total Distributions	\$0.3167	
Yields		
Market Yield**	3.14 %	
Taxable-Equivalent Yield**	4.36 %	

#### \*Distribution paid in December 2016.

Market Yield is based on the Fund's current annualized monthly distribution divided by the Fund's current market price as of the end of the reporting period. Taxable-Equivalent Yield represents the yield that must be earned on a

The Fund seeks to pay regular monthly dividends out of its net investment income at a rate that reflects its past and projected net income performance. To permit the Fund to maintain a more stable monthly dividend, the Fund may pay dividends at a rate that may be more or less than the amount of net income actually earned by the Fund during the period. If the Fund has cumulatively earned more than it has paid in dividends, it will hold the excess in reserve as undistributed net investment income (UNII) as part of the Fund's net asset value. Conversely, if the Fund has cumulatively paid in dividends more than it has earned, the excess will constitute a negative UNII that will likewise be reflected in the Fund's net asset value. The Fund will, over time, pay all its net investment income as dividends to shareholders.

As of March 31, 2017, the Fund had a positive UNII balance for tax and financial reporting purposes.

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<sup>\*\*</sup> fully taxable investment in order to equal the yield of the Fund on an after-tax basis. It is based on an income tax rate of 28.0%. When comparing the Fund to investments that generate qualified dividend income, the Taxable-Equivalent Yield is lower.

### Share Information (continued)

All monthly dividends paid by the Fund during the current reporting period were paid from net investment income. If a portion of the Fund's monthly distributions was sourced from or comprised of elements other than net investment income, including capital gains and/or a return of capital, the Fund's shareholders would have received a notice to that effect. For financial reporting purposes, the composition and per share amounts of the Fund's dividends for the reporting period are presented in the Statement of Changes in Net Assets and Financial Highlights, respectively. For income tax purposes, distribution information for each Fund as of its most recent tax year end is presented in Note 6 — Income Tax Information within the Notes to Financial Statements of this report.

#### SHARE REPURCHASES

During August 2016, the Fund's Board of Trustees reauthorized an open-market share repurchase program, allowing the Fund to repurchase an aggregate of up to approximately 10% of its outstanding shares.

As of March 31, 2017, and since the inception of the Fund's repurchase program, the Fund has cumulatively repurchased and retired its outstanding shares as shown in the accompanying table.

Shares cumulatively repurchased and retired 0

Shares authorized for repurchase 1,245,000

#### OTHER SHARE INFORMATION

As of March 31, 2017, and during the current reporting period, the Fund's share price was trading at a premium/(discount) to its NAV as shown in the accompanying table.

NAV \$10.28 Share price \$9.93 Premium/(Discount) to NAV (3.40)% 12-month average premium/(discount) to NAV (1.69)%

### **Risk Considerations**

Fund shares are not guaranteed or endorsed by any bank or other insured depository institution, and are not federally insured by the Federal Deposit Insurance Corporation.

Nuveen Select Maturities Municipal Fund (NIM)

Investing in closed-end funds involves risk; principal loss is possible. There is no guarantee the Fund's investment objectives will be achieved. Closed-end fund shares may frequently trade at a discount or premium to their net asset value. Debt or fixed income securities such as those held by the Fund, are subject to market risk, credit risk, interest rate risk, derivatives risk, liquidity risk, and income risk. As interest rates rise, bond prices fall. These and other risk considerations such as tax risk are described in more detail on the Fund's web page at www.nuveen.com/NIM.

### NIM

Nuveen Select Maturities Municipal Fund

Performance Overview and Holding Summaries as of March 31, 2017

Refer to the Glossary of Terms Used in this Report for further definition of the terms used within this section.

Average Annual Total Returns as of March 31, 2017

Past performance is not predictive of future results. Current performance may be higher or lower than the data shown. Returns do not reflect the deduction of taxes that shareholders may have to pay on Fund distributions or upon the sale of Fund shares. Returns at NAV are net of Fund expenses, and assume reinvestment of distributions. Comparative index return information is provided for the Fund's shares at NAV only. Indexes are not available for direct investment.

This data relates to the securities held in the Fund's portfolio of investments as of the end of the reporting period. It should not be construed as a measure of performance for the Fund itself. Holdings are subject to change. For financial reporting purposes, the ratings disclosed are the highest rating given by one of the following national rating agencies: Standard & Poor's Group, Moody's Investors Service, Inc. or Fitch, Inc. This treatment of split-rated securities may differ from that used for other purposes, such as for Fund investment policies. 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. Fund Allocation

(% of net assets)

Long-Term Municipal Bonds98.7%Corporate Bonds0.0%Short-Term Municipal Bonds0.3%Other Assets Less Liabilities1.0%Net Assets100%

# Portfolio Credit Quality

(% of total investments)

AAA/U.S.Guaranteed	13.0%
AA	27.7%
A	28.3%
BBB	21.7%
BB or Lower	7.0%
N/R (not rated)	2.3%
Total	100%

# Portfolio Composition

(% of total investments)

Tax Obligation/Limited 20.2% Transportation 15.9% Health Care 14.8% Utilities 12.6% Tax Obligation/General 11.5% U.S. Guaranteed 10.8% **Consumer Staples** 5.4% Other 8.8% Total 100%

## States and Territories

(% of total municipal bonds)

Illinois 17.6% Texas 9.1%