VIEWPOINT

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US Money Market Fund Reform: Assessing the Impact

"The MMF reforms were not fully implemented until October 2016, and I am concerned that making major changes at this time could be disruptive to the short-term funding markets."

— Hon. Jay Clayton, Chairman, Securities and Exchange Commission Oct. 5, 2017

In 2014, reforms for US money market funds (MMFs) were adopted to address problems that surfaced during the 2008 financial crisis (2008 Crisis).[1] The reforms resulted from years of debate that included consideration of many reform options. Among the final reforms was a requirement that institutional prime and municipal MMFs convert to floating net asset value (FNAV) funds from constant net asset value (CNAV). In general, this has led to net outflows from institutional prime and municipal MMFs. Though, recently, we have observed renewed interest in both institutional prime and municipal strategies, albeit at a measured pace, suggesting the decline in these strategies may not be permanent.

Recently, some have called for a roll back of the reforms due to concerns about rising borrowing costs for municipal issuers. In contrast, an October 2017 letter written by Securities and Exchange Commission (SEC) Chairman, Jay Clayton, stated: "I am concerned that making major changes at this time could be disruptive to the short-term funding markets."[2] In our view, conclusive data-driven analysis should precede policy action. To date, analyses of the impact of MMF reform on borrowing costs are, at best, inconclusive. Notably, MMF reforms were initiated during a period of historically low interest rates (and hence, historically low borrowing costs) that was followed by several rate hikes. It is, therefore, not surprising that borrowing costs for all issuers have increased over this period, irrespective of MMF reform.

That said, over a year after implementation, the impact and effectiveness of MMF reform should be reviewed. As the primary regulator of MMFs, the SEC is best placed to perform this analysis. We do not believe a roll back of the rules is advisable without first studying the effects of MMF reforms and the implications of any potential changes.

In this *ViewPoint…*

- MMF reforms were adopted to address structural weaknesses that led to government support for money markets in 2008.
- Efforts to roll back reforms must carefully consider the reasons why these rules were implemented in the first place.
- Arguments that MMF reform is driving higher borrowing costs for municipalities fail to fully consider the rising interest rate environment in which MMF reform was implemented, as interest rates are the primary driver of borrowing costs.
- While there is evidence of a temporary market dislocation due to MMF reform, the data supporting longer-term impacts is inconclusive.
- The SEC should conduct a study of the effects of MMF reform before determining whether rule changes are necessary or appropriate.
- We do not believe a roll back of the rules is advisable without first studying the effects of MMF reforms and the implications of any potential changes.

The opinions expressed are as of January 2018 and may change as subsequent conditions vary.

Key Observations and Recommendations

MMFs experienced challenges during the 2008 Crisis that led to calls for reform.

- The "breaking of the buck" by the Reserve Primary Fund resulted in historic outflows across the MMF industry.
- Government intervention helped calm investors and stabilize outflows.
- Subsequently, MMFs became a priority issue for post-Crisis reform.

The Securities and Exchange Commission (SEC) adopted reforms for US MMFs in 2010 to require more conservative portfolio construction, followed by structural reforms in 2014.

- Among the 2014 reforms was a requirement that institutional prime and municipal MMFs adopt a floating NAV.
- The final compliance date for the structural reforms was October 2016.

The extensive reforms to MMFs warrant review to fully understand the impacts on financial stability, short-term funding markets, issuers, and MMF investors.

- We recommend that the SEC conduct this study, as the SEC is the primary regulator of MMFs and their sponsors, as well as US capital markets.
- Based on this analysis, policy makers can determine if any additional modifications to rules for US MMFs are warranted.
- We do not believe a roll back of the rules is advisable without first studying the effects of MMF reforms and the implications of any potential changes.

Short-term funding markets are complex; borrowing costs reflect numerous factors.

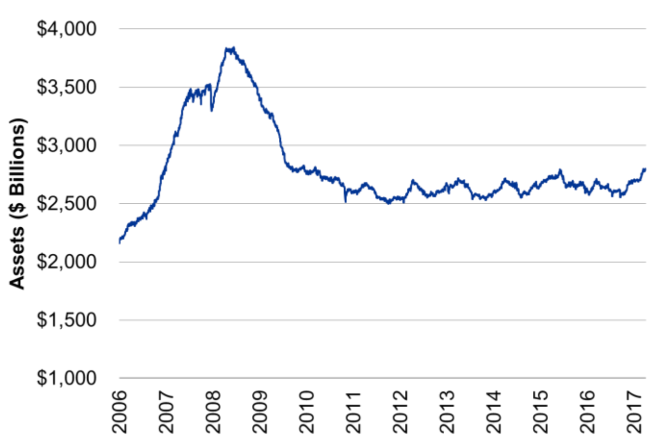
- Monetary policy, issuer credit quality, tax rates, and supply and demand are just a few of the factors that need to be considered.
- Recent claims that MMF reform has caused rising borrowing costs for municipal issuers do not fully consider all of the relevant factors.
- Objective analyses of borrowing costs must control for the fact that MMF reform coincided with a rising rate environment. Specifically, following seven years of near zero short-term rates, the FOMC raised the Fed Funds target rate five times between December 2015 and December 2017.

MMF Reform: How Did We Get Here?

Although MMFs had existed for several decades prior to 2008, the 2008 Crisis exposed structural weaknesses in MMFs. Specifically, the "breaking of the buck" by the Reserve Primary Fund, a MMF that held substantial amounts of Lehman Brothers' commercial paper in September 2008, led to historic net outflows across the MMF industry. To stabilize MMFs, the Federal Reserve and the US Treasury Department initiated several programs to help stabilize the MMF market.[3] For example, on September 19, 2008, the US Treasury Department announced the Temporary Guarantee Program for Money Markets Funds, which temporarily protected MMF shareholders from losses.[4]

Given this unprecedented government intervention into money markets, it is not surprising that policy makers sought to implement reforms to avoid such a scenario in the future. While one can debate the necessity of some aspects of the US MMF reforms, the reality is that the SEC approved these rule changes after several years of debate and data-driven analyses. Importantly, fund sponsors were given time to implement changes, and market participants have largely adapted.

Exhibit 1: Assets in 2a-7 MMFs
2006-2017



Source: iMoneyNet. As of January 1, 2018.

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Exhibit 2: Selected Elements of Current SEC Regulations for MMFs

Investor Type	MMF Type	NAV	Redemption Fee	Redemption Gate
Institutional	Prime	Floating	Up to 2%	Up to 10 business days
Institutional	Municipal / Tax Exempt	Floating	Up to 2%	Up to 10 business days
Institutional / Retail	Government	Stable	None*	None*
Retail	Prime	Stable	Up to 2%	Up to 10 business days
Retail	Municipal / Tax Exempt	Stable	Up to 2%	Up to 10 business days

Source: SEC. *Government MMFs are permitted but not required to impose redemption liquidity fees and restrictions.
Grey box highlights new requirements that had not been in place prior to the 2014 reforms.

As shown in Exhibit 2, among the structural reforms adopted in the 2014 reforms was a requirement for institutional prime and municipal MMFs to convert to FNAV, meaning they are no longer permitted to use amortized cost accounting to round the NAV to a stable $1.00 per share price. The reforms also require both retail and institutional prime and municipal MMFs to have the ability to implement a redemption liquidity fee and redemption gates during times of stress.

The final SEC reforms followed several years of vigorous debate about the way forward for MMFs, which included the consideration of many alternative solutions. Exhibit 3 provides a timeline of MMF reform discussions from the 2008 Crisis until July 2014 when the reforms were finalized by the SEC. During this period, many MMF investors were challenged by the lack of certainty around the future of MMFs. We believe materially altering Rule 2a-7 again would create uncertainty for investors and potentially disruptions to the short-term funding markets. As such, new reforms should only be undertaken if there is conclusive evidence that MMF reform has resulted in unintended consequences. This calls for careful study by the SEC before any policy actions are taken.

Exhibit 3: Major Reform Milestones

Date	Milestone
Sep '08	Reserve Primary Fund "broke the buck"
Feb '10	SEC adopted certain Rule 2a-7 amendments strengthening the liquidity of the portfolios; effective May 2010
Mar '11	SEC proposed rules to eliminate certain references to credit ratings in MMF forms
Sep '12	Treasury Secretary Geithner letter urging SEC and industry to re-take up issue of reform
Nov '12	FSOC* releases reform proposal for comment
Jun '13	SEC releases proposal including conversion to FNAV for prime institutional MMFs
Mar '14	SEC issues 4 economic studies regarding MMFs, solicits public comment
Jul '14	SEC finalizes MMF reforms; effective October 2016

Source: BlackRock.
*FSOC stands for Financial Stability Oversight Council.

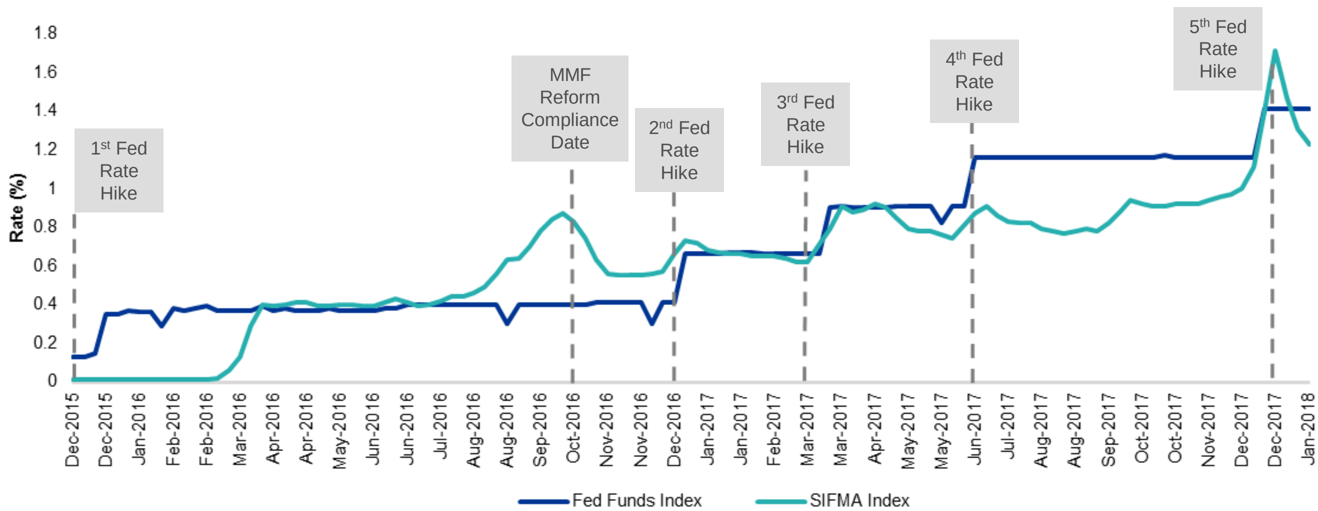
MMF Reform and Cost of Funding for Municipalities: Context and Timing are Important Factors

Recognizing that MMFs play an important role in the economy by providing a source of short-term funding to commercial and municipal borrowers, policy makers should study the potential implications of these reforms. That said, it is important that analyses do not consider isolated data points, but rather take a comprehensive approach that considers the broader context, as short-term funding markets are complex and borrowing costs reflect numerous factors.

For example, some critics of MMF reform have argued that borrowing costs for municipalities have increased sharply as a result of the MMF reforms. They cite a 91 basis point increase in the SIFMA Municipal Swap Index (SIFMA Index) between January 2016 and August 2017 as the basis for this conclusion.[5] The SIFMA Index represents the average yield on 7-day municipal Variable Rate Demand Notes (VRDNs).[6] This index is widely used as a benchmark to measure the average cost of borrowing for municipal issuers. When considered in isolation, this increase in funding costs might be cause for concern. However, when assessing borrowing costs for issuers, the interest rate environment is important to consider, given that monetary policy is a key driver of borrowing costs.

As shown in Exhibit 4, which plots the SIFMA Index and the Fed Funds rate, the FOMC increased the Fed Funds target rate five times between December 2015 and December 2017.[7] As such, the implementation of US MMF structural reforms directly coincided with a rising interest rate environment. In addition, during this window, the Fed

Exhibit 4: Fed Funds and SIFMA Index
December 2015 – December 2017

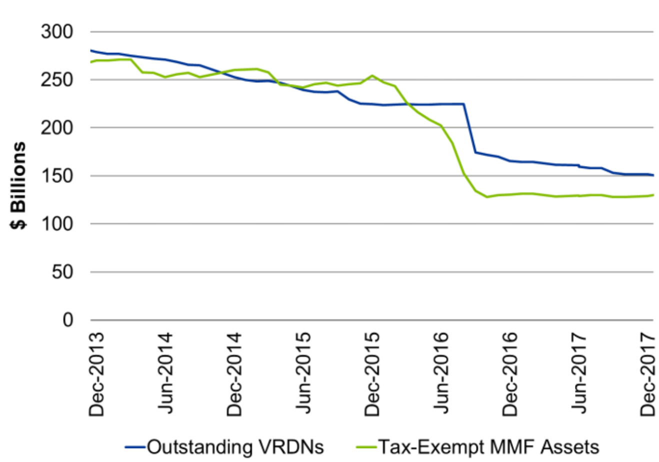


Source: Bloomberg, BlackRock. As of January 17, 2018.

announced the end of Quantitative Easing (QE), and began reducing its balance sheet.[8] While the SIFMA Index and Fed Funds rate largely move in line with each other, there are periods of divergence. These include both periods where the SIFMA Index is below and above Fed Funds. For example, in late 2015 to early 2016, the SIFMA Index diverged from the Fed Funds rate when assets of Tax Exempt MMFs exceeded inventories of available VRDNs, creating a scenario in which high demand was driving prevailing rates in VRDNs lower. This dynamic is shown in Exhibit 5. Likewise, the SIFMA Index spiked just as MMF reforms approached the October 2016 compliance date. Finally, Exhibit 4 shows the SIFMA Index below and above the Fed Funds rate at different points in time. Given these fluctuations, any analysis will be sensitive to the start and end dates of the study, requiring careful consideration before drawing conclusions.

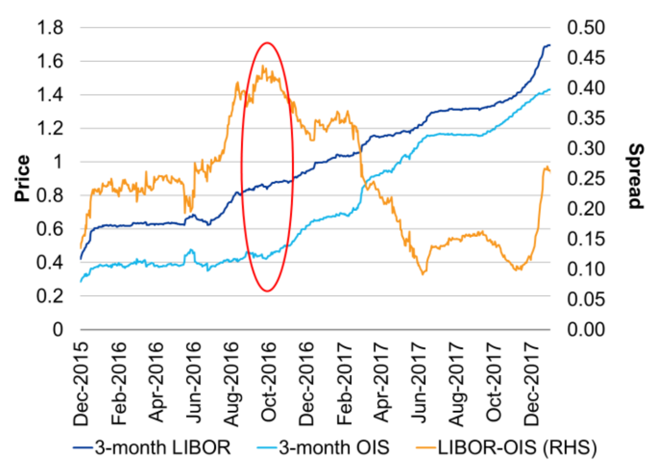
Looking more closely at the spike in October 2016, the months just before and just after implementation represented a period of uncertainty. Since fund managers were unsure, at the time, as to the amount of assets that would flow out of prime and municipal MMFs, as the final compliance date for reforms approached, most institutional prime and municipal MMF managers increased the amounts of liquidity they were holding and shortened the maturity profiles of their portfolios. This dynamic appears to have contributed to a temporary rise in borrowing costs, as the demand for shorter-dated assets increased relative to supply. The dynamic was most noticeable in the spike in the LIBOR-OIS spread, as adjustments in commercial paper markets[9] were similar to municipal markets. As shown in Exhibit 6, this dislocation was temporary in nature and reversed relatively quickly thereafter.

Exhibit 5: Tax Exempt MMF Assets v. VRDNs Outstanding



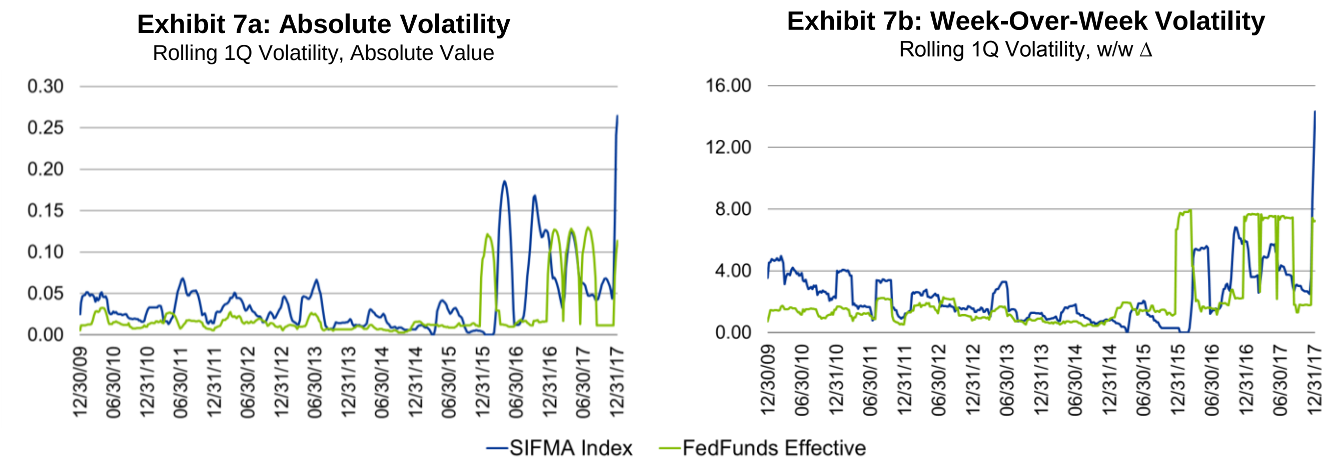
Source: Bloomberg. As of January 1, 2018.

Exhibit 6: LIBOR-OIS Spread



Source: Bloomberg. As of January 3, 2018.

Exhibit 7: Volatility Analysis



Source: BlackRock analysis. As of January 3, 2018.

In the months leading up to and shortly following October 2016 when the reforms were fully implemented, municipal MMF outflows contributed to a period of elevated dealer VRDN inventory, as municipal MMFs, which had been traditional purchasers of VRDNs, had less demand. This dynamic can be observed in Exhibit 5. As a result, VRDN yields were higher to attract crossover and short duration buyers, creating a temporary dislocation in the SIFMA Index.

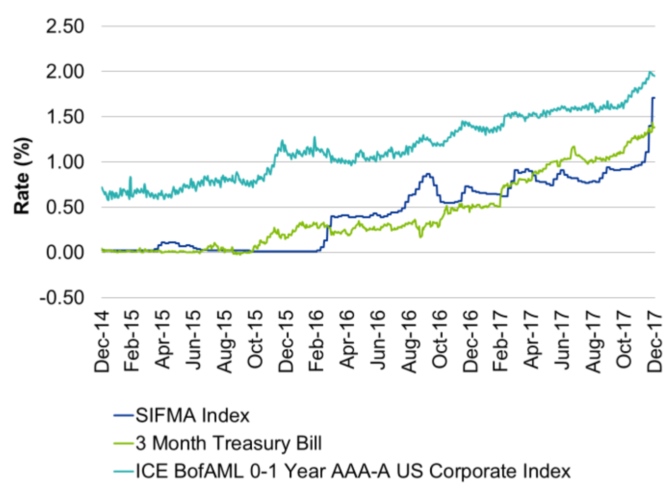
To further analyze the impact of interest rate dynamics on municipal borrowing costs, we performed a volatility analysis of the SIFMA Index and the Fed Funds rate. Exhibit 7a looks at the absolute volatility of each rate, and Exhibit 7b depicts the volatility of week over week changes in each rate.[10] Based on this analysis, we do not observe any volatility regime shift for the SIFMA Index relative to the Fed Funds rate. This further supports the conclusion that much of the increase in borrowing costs for municipalities is a product of the rising interest rate environment. We note that this analysis reflects a simple approach and there are several other factors that can impact municipal funding, including issuer credit quality, tax rates, and supply and demand. These dynamics would need to be considered in order to develop a comprehensive assessment of the impact of MMF reform. We encourage the SEC to undertake this comprehensive analysis.

While commentators have pointed to an increase in borrowing costs for municipal issuers as a direct impact of MMF reform, the evidence to support this assertion is not conclusive when the interest rate environment is taken into account. As shown in Exhibit 4, between December 2015 and December 2017, the Fed Funds rate increased from 0.13% to 1.41%, a 128 basis point increase. During this same time period, the SIFMA Index increased from 0.01% to 1.40%, a 139 basis point increase. With this context in mind, borrowing costs for municipalities appear in line with what would be expected during this period of interest rate normalization.

One counterargument that has been noted is that interest rate dynamics do not fully explain the trend in increased borrowing costs for municipalities, as there is a yield differential between taxable and tax exempt bonds that is not fully depicted in this data.[11] While it is true that we still have not returned to the typical ratio of 65% between taxable and municipal issuance given the supply-demand imbalance in VRDNs and the reduction in the traditional buyer base of municipal MMFs, the market continues to normalize as many VRDNs are getting called and replaced with longer term bonds. Further, we believe the reduction in the corporate tax rate resulting from tax reform is likely to cause the market to find a new equilibrium that differs from historical periods.

Importantly, aside from the temporary dislocation around the time of the MMF reform compliance date, borrowing costs in municipal markets have followed a similar trend as other short-term taxable fixed income markets. This is illustrated in Exhibit 8, which compares the SIFMA Index to the 3-month Treasury bill, and the ICE BofAML 0-1 Year AAA-A US Corporate Index, which is a measure of short-term funding rates for highly rated corporates.

Exhibit 8: Short-Term Interest Rates – Multiple Markets



Source: Bloomberg. As of December 31, 2017.

Conclusion

In sum, while it is no question that MMF reform has coincided with an increase in borrowing costs for issuers (correlation), when we control for the rising interest rate environment, the evidence to support a causal relationship between MMF reform and a *permanent* increase in municipal borrowing costs is inconclusive. Temporary market impacts have been observed over the course of implementation, but this does not appear to have had a permanent impact beyond the natural increase in borrowing costs associated with interest rate normalization. Clearly, more comprehensive analysis will need to be performed before any conclusions can be drawn.

As was suggested at the time of MMF reform, MMF reforms should be monitored for their effectiveness in mitigating financial stability risks.[12] Now that full implementation has taken place, a review of the impacts on financial stability, short-term funding markets, issuers, and MMF investors is warranted. In light of the 2008 Crisis and the experience of MMFs, this review needs to consider the effectiveness of MMF reforms as well as identify any unintended consequences. As the regulator for MMFs and their sponsors, the SEC is best positioned to conduct this review. We do not believe a roll back of the rules is advisable without first studying the effects of MMF reforms and the implications of any potential changes.

Endnotes

1. See Money Market Fund Reform; Amendments to Form PF, 79 Fed. Reg. 47735 (Aug. 14, 2014); Money Market Fund Reform, 75 Fed. Reg. 10060 (Mar. 4, 2010) (Release No. IC-29132; File Nos. S7-11-09, S7-20-09).
2. SEC Chairman Jay Clayton, Letter to Hon. Carolyn Maloney, Ranking Member, Subcommittee on Capital Markets, Securities and Investment, Committee on Financial Services (Oct. 5, 2017).
3. Details of the Fed's crisis era liquidity support programs can be found here: https://www.federalreserve.gov/monetarypolicy/bst_crisisresponse.htm.
4. US Treasury Dept., Treasury Announces Temporary Guarantee Program for Money Market Funds (Sep. 6, 2008), available at https://www.treasury.gov/press-center/press-releases/Pages/hp1161.aspx.
5. Treasury Strategies, Inc. "Public Sector Funding Costs: A Rebuttal."
6. Variable Rate Demand Notes (VRDNs) are floating rate municipal instruments that carry a 1 or 7 day put option. VRDN's typically represent approximately 80% of the securities in municipal money market funds (source: iMoneyNet)
7. Federal Reserve, FOMC's target federal funds rate or range, change (basis points) and level as of Dec. 13, 2017, available online here: https://www.federalreserve.gov/monetarypolicy/openmarket.htm.
8. Federal Reserve, Press Release, Federal Reserve issues FOMC statement (Sep. 20, 2017), available at https://www.federalreserve.gov/newsevents/pressreleases/monetary20170920a.htm.
9. Commercial paper is often used by Prime MMFs as an important investment. Prime MMFs saw a decrease in assets of $1 trillion as a result of MMF reform, as many MMF investors moved into Government MMFs. The LIBOR-OIS spread measures the difference between two important interest rates, the London Interbank Offered Rate (LIBOR) and the Overnight Indexed Swap (OIS) rate. This is often used as a key measure of credit risk in the banking sector.
10. 2017 year end volatility in SIFMA Index resulted from increased municipal issuance in advance of tax reform.
11. Treasury Strategies, Inc. "Public Sector Funding Costs: A Rebuttal."
12. Statement from Secretary Lew on the Final Money Market Mutual Fund Rule by the SEC (Jul. 23, 2014), available at https://www.treasury.gov/press-center/press-releases/Pages/jl2583.aspx.

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