

Money Market Fund Reform

Money Market Fund Reform

Curtis Miller¹

University of Utah

¹ I thank Dr. Michael Levy at Brownstein Hyatt Farber Schreck, LLP, for both suggesting the topic of MMMF reform for this paper and providing a foundation for researching it, along with his early input. I also thank Prof. Gabriel Lozada and Prof. Codrina Rada von Arnim, both at the University of Utah Department of Economics, for reading drafts of this paper and offering valuable input.

Abstract

This paper explores the topic of money market mutual fund (“MMM”) reform. MMMs are mutual funds that invest in money market securities and seeks to provide investors with safety and high yield. MMMs were seen as very safe investment companies until 2008, when heavy redemptions on MMMs threatened credit markets and prompted intervention by the Department of the Treasury and the Federal Reserve. MMMs saw major reforms in 2010, but federal regulators are not satisfied and a new push for reform began in 2012, culminating with a rules proposal by the Securities and Exchange Commission in 2013. This paper considers the debate surrounding each of these proposals and others and analyzes the arguments for and against these reforms.

Introduction

Conventional financial wisdom says money market mutual funds are one of the safest investments available. With that in mind, money market mutual funds seem to be an unlikely target by federal regulators. However, ever since the financial crisis of 2008, federal regulators have seen money market mutual funds as posing a serious threat to the American economy, and 2012 and 2013 have seen a renewed push by federal regulators to reduce that threat, calling for major structural reforms that could seriously alter these funds. Meanwhile, the money market mutual fund industry and its allies have fought back. Money market mutual fund reform opponents have even launched websites arguing against reform, such as www.savemoneymarketfunds.org or www.preservemoneymarketfunds.org. Financial media commentators have weighed in on the matter, frequently calling for the industry to be reformed. The issue is a hot topic in Washington.

Why would a financial instrument like a money market mutual fund, one of the most conservative mutual funds in existence, be the center of such a heated discussion? First, money market mutual funds are a very large industry, with nearly \$2.7 trillion in assets at the beginning of 2013 (Investment Company Institute, 2013a) and millions of investors ranging from individuals to governments and corporations. Second, money market mutual funds are major participants in the money market, supplying credit critical to the daily operations of banks, corporations, and governments. Third, while money market mutual funds had a stellar safety record prior to 2008, the financial crisis exposed industry vulnerabilities that not only threatened the industry but also the credit markets that are critical to a modern economy, prompting major responses by the U.S.

Department of the Treasury and the Federal Reserve. Federal regulators fear that money market mutual funds could threaten the economy again without fundamental reform, which could alter the industry in such a fundamental way that the industry fears it may disappear altogether.

This paper broadly explores the issue of money market mutual fund reform. It consists of three parts. The first part of this paper explains what money market mutual funds are, the securities in which they invest, how they work, and the current regulations they need to comply with. The second part of this paper gives a history of money market mutual funds, including their rise, their role in the 2008 financial crisis, the 2010 reforms, and the push for further reform that began in 2012 and recently culminated in the SEC's 2013 proposal for reform. The final part of this paper describes the debate over money market mutual fund reform, the various proposals presented to reform money market mutual funds, and a final reform analysis and recommendation.

Money market mutual funds

The money market

The money market, in short, is the market for short-term credit (with money market securities' maturities² frequently measured in days). More specifically, the money market arises when one class of economic agents has cash that is not needed immediately, and another class has need for cash immediately but does not have it. Thus these two classes can meet in the money market (which is not a physical place) and those who have excess cash can provide it to those who need it and be repaid later, with

² "Maturity" is a feature of debt instruments, meaning the period of time during which the instrument is "outstanding", a liability of the issuer of the security. At the end of this period, the principal of the security must be paid, with interest (Investopedia US, 2009i). Money market securities are characterized by short maturities

interest. The money market is an important catalyst for economic activity, with participants ranging from individual investors to major corporations, governments (both corporations and governments typically being consumers in the money market), financial institutions, and MMMFs (Seligman, 1983).

There are a number of securities that are typically considered to constitute the money market and are regularly invested in by MMMFs. These securities include: debt instruments issued by the U.S. Department of the Treasury (the Department of the Treasury shall henceforth be referred to as “DoT” and the debt instruments it issues as “Treasuries”)³; debt instruments (namely bonds) issued by government agencies, government-sponsored enterprises (“GSEs”) state governments, and municipal governments⁴; commercial paper, issued by corporations⁵; certificates of deposits

³ Treasuries are issued by DoT and therefore are backed by the full faith and credit of the U.S. government. They are used for financing government activities and refinance maturing government debt. Treasuries come in three varieties: Treasury bills (“T-bills”), Treasury notes, and Treasury bonds. T-bills have the shortest maturities of these three instruments, maturing in less than a year (typically one, three, or six months) and in denominations of \$1,000 with a maximum purchase of \$5 million (Investopedia US, 2009m). T-bills do not pay interest payments, but are sold at a discount from the T-bill’s face value, the amount the investor receives upon the maturity of the T-bill. Treasury notes mature between one and ten years and make interest payments every six months until maturity (Investopedia US, 2009o). Treasury bonds have the same features as Treasury notes but have maturities beyond ten years (Investopedia US, 2009n). Treasuries are generally considered the safest securities in the money market, as they have the guarantee of the United States government, backed by the federal government’s ability to tax and print money to meet its obligations (Sullivan, 1983).

⁴ Government agencies and GSEs issue debt that is not directly guaranteed by the U.S. government but usually carry an implied government guarantee, meaning the U.S. government would likely take measures to prevent default;. Thus, these assets are considered to be almost as safe as Treasuries but also include a higher yield. State and municipal governments also issue debt instruments such as bonds for financing their own activities; however, these are not as safe as Treasuries. (Seligman, 1983)

⁵ Corporations issue commercial paper to finance routine corporate activities, such as accounts receivable, inventories, and for meeting short-term liabilities (Investopedia US, 2009d). Kahl, Shivdasani, and Wang (2013) found that corporations issue commercial paper not only for investment but as a substitute for cash reserves; corporations able to participate in the commercial paper market prefer not to maintain excess cash reserves and instead issue corporate paper as a source of liquidity. Like T-bill, commercial paper is usually sold at a discount from face value, and face value is paid upon maturity. Most commercial paper is unsecured, meaning that there is no collateral to back it (Investopedia US, 2009d). Some commercial paper, though, is backed by expected cash inflows from the issuing corporation’s accounts receivable; this commercial paper is called asset-backed commercial paper (“ABCP”) (Investopedia US, 2009a). ABCP is usually issued by financial institutions.

(“CDs”), sold by banks⁶; bankers’ acceptances, which are frequently used by importers or exporters⁷; and repurchase agreements (“repos”), frequently sold by DoT and banks⁸ (Sullivan, 1983; Seligman, 1983). Money market securities are generally some of the safest and most liquid⁹ assets investors can purchase. However, not all money market securities are equal. Some money market securities are safer than others; likewise, some offer higher yields than others. Sullivan (1983) says the safest money market securities (and the lowest yielding) are T-bills and T-notes, along with other securities that represent a direct obligation of the U.S. government. Following Treasuries, in descending order of risk (and, conversely, ascending order of yield, as yield moves inversely with safety), are: securities issued by governments and agencies that do not represent a direct obligation of the U.S. government; domestic CDs; bankers’ acceptances; top-rated commercial paper; Eurodollar CDs; Yankee CDs; next-highest-rated commercial paper; and other Eurodollar securities.

⁶ Certificates of deposits are time deposits issued by banks and entitle the bearer to receive interest from the CD at a fixed interest rate until the security matures (Investopedia US, 2009c). CDs of denominations below \$100,000 are considered “small CDs”, while those larger than \$100,000 are “large” or “jumbo CDs. The CD universe includes an important subtype called negotiable certificates of deposits (“NCDs”). Summers (1980) says NCDs issued by domestic banks usually are issued in denominations greater than \$100,000 and are an important source of financing for U.S. banks. NCDs are even further subdivided by their issuer: domestic CDs are issued by U.S. banks domestically; dollar-denominated NCDs issued by foreign banks are called Eurodollar CDs; and NCDs issued by U.S. branches of foreign banks are called Yankee CDs. Distinguishing CDs by issuer is important because yield, risk, and the size of the market for the CDs vary based on the issuer of the CD. Domestic CDs are considered the safest, while Eurodollar and Yankee CDs are considered more risky (Sullivan, 1983).

⁷ A banker's acceptance is when a bank acknowledges liability for payment for a certain sum on a specified date for a bill of exchange. This substitutes the credit-worthiness of a bank for that of a borrower. This is useful when a seller wants immediate payment and a buyer wants to defer payment (Seligman, 1983). Bankers’ acceptances are frequently used by importers or exporters to pay for merchandise (Sullivan, 1983).

⁸ Repurchase agreements are securities or instruments purchased with the an agreement that the security purchased will be repurchased by the repo issuer at a future date (usually in a day) at a given price (Sullivan, 1983). For the party selling the security, the transaction is called a repo, and for the party purchasing the security, the transaction is a reverse repo (Investopedia US, 2009k). According to Investopedia (2009k), repos are typically used for raising short-term capital.

⁹ “Liquidity” refers to how easily an asset can be bought or sold. Liquid assets are traded at high volume and individual trades have only marginal impact on the assets’ respective prices. (Investopedia US, 2009h)

What MMMFs are

A mutual funds is an investment company that sell shares of the investment company and use the proceeds of share sales for investment. Mutual fund portfolios are then managed by professional investment advisors. Like a corporation, each investor owns a share of the mutual fund and has a claim on some of the fund's portfolio's assets, but unlike corporate shares investors are not permitted to sell their mutual fund shares on a secondary market (with the exception of exchange-traded funds); shares must be purchased directly from the mutual fund company. Mutual funds, in turn, are obligated to redeem the investor's shares upon demand. Shares are bought and sold at a price equal to the mutual fund portfolio's per-share net asset value ("NAV"), which represents total assets less total liabilities and divided over the mutual fund's number of outstanding shares (U.S. Securities and Exchange Commission, 2013c) (in mathematical terms, $per\text{-share } NAV = \frac{assets - liabilities}{number\ of\ outstanding\ shares}$). Mutual funds attract investors because they allow investors to participate in markets while achieving a higher levels of diversification and benefiting from professional investment expertise, research, and economies of scale that otherwise would be difficult to obtain. However, mutual funds charge loads and fees to investors for their services (U.S. Securities and Exchange Commission, 2010b), which subtracts from investors' yields.

Money market mutual funds (also called "money market funds" or "money funds" but henceforth referred to as "MMMFs") are mutual funds that invest in money market securities. They share many of the characteristics of the typical mutual fund, but have several profound differences. The most profound difference between MMMFs and the typical mutual fund is that MMMFs aim to maintain a stable per-share NAV of \$1 per

share (typical mutual funds do not have this aim and the per-share NAV fluctuates based on the market value of the securities in their portfolios) (U.S. Securities and Exchange Commission, 2013b). Thus, most MMMFs do not aim for capital gains; instead, investors receive dividends from MMMFs generated from the interest MMMFs receive from their securities, much like how one earns interest from a savings account (though the yield from an MMMF is typically higher than the yield bank checking and savings accounts offer). The ability to maintain a stable price of \$1-per-share allows MMMF investments to be treated like bank deposits; MMMFs even offer many bank-like features such as check writing (though usually with a minimum amount) and the ability to wire funds (Sullivan, 1983; Seligman, 1983). In fact, MMMFs share so many features with banks and other depository institutions they have been referred to as “shadow banks” on occasion (European Commission, 2012). However, unlike banks and credit unions, MMMFs are not insured by the FDIC or any other government agency or organization; thus, MMMF deposits are not guaranteed by anyone other than the MMMF (FMR LLC; Sullivan, 1983).

Within the MMMF universe are different types of MMMFs. General-purpose funds (or “prime” funds) are the most common type of MMMF and invest in any eligible money market security. Government-only funds invest only in Treasury, government agency, or GSE securities. Tax-exempt funds invest only in tax-exempt securities (such as state and municipal bonds) and thus yield income free from federal income tax.¹⁰

¹⁰ Tax-free MMMFs are intended for those in higher tax brackets, as those in lower tax brackets likely would earn more net income from a taxable MMMF with a higher yield than a tax-free MMMF (Sullivan, 1983). Seligman (1983) provides a mathematical description of when one should choose a tax-free MMMF over a taxable MMMF. Given the following variables:

$$\begin{aligned}R_T &= \text{taxable rate of return} \\R_{TF} &= \text{tax free rate of return} \\T &= \text{marginal tax rate}\end{aligned}$$

Special-purpose funds are for select purposes or a special group of investors.

Brokerage-affiliated funds are funds that are sponsored, managed, and sold by brokerage firms. They are open to all investors and can be managed either directly or through a stockbroker. The advantage of these funds is that brokerage firms often allow shares to be easily converted and transferred between these funds and other mutual funds the firms provide, such as stock, bond, or other mutual funds the firm offers, thus making the MMMF an attractive mutual fund for temporarily storing assets when an investor desires to transfer funds out of one mutual fund but does not want to invest in another mutual fund right away. Retail funds are for private investors (“retail investors”), while institution-only funds are for financial institutions, banks, trust companies, pension investors, and other similar institutional investors (and occasionally very wealthy individuals). Initial deposits for institutional funds are quite high. (Sullivan, 1983) Thus, retail prime MMMFs are general purpose MMMFs for private individuals, while institutional prime MMMFs are general purpose MMMFs for institutional investors.

Most MMMFs seek to maintain a stable per-share NAV of \$1-per-share, which is no small feat. As Sullivan said, keeping a stable \$1-per-share NAV “involves some Byzantine accounting manipulations...” (Sullivan, 1983, p. 66). MMMFs can use two techniques to maintain a stable per-share NAV: amortized cost valuation of securities, and penny-rounding. Title 17 § 270.2a-7 of the Code of Federal Regulations (also called “rule 2a-7”) defines most of the rules MMMFs must follow to be compliant with federal

the tax-free MMMF should be chosen if:

$$R_{TF} > R_T(1 - T)$$

regulations, including the rules regarding the use of amortized cost valuation of MMMF portfolio assets and penny-rounding. According to rule 2a-7:

Amortized cost method of valuation means the method of calculating an investment company's net asset value whereby portfolio securities are valued at the fund's Acquisition cost as adjusted for amortization of premium or accretion of discount rather than at their value based on current market factors. (§ 270.2a-7, Title 17, C.F.R. pt 270, 2010)¹¹

This can be more easily explained with an example. Suppose an MMMF acquires a T-bill with a face value of \$100 that matures in thirty days for an acquisition cost (a purchase price) of \$99.70. When the MMMF first acquires the security, the MMMF values the security at its acquisition cost of \$99.70. For each subsequent day the MMMF holds this T-bill, the T-bill's "amortized cost" value would be increased by the amount of daily interest accrual, which is equal to the difference of the face value and the purchase price divided by the remaining term of the T-bill; in this example, the daily interest accrual would be one cent ($\text{daily interest accrual} = \frac{\text{face value} - \text{purchase price}}{\text{days to maturity from purchase}} = \frac{\$100 - \$99.70}{30} = 1\text{¢}$). Thus the "amortized cost" value of the T-bill one day after acquisition would be \$99.71, two days after would be \$99.72, and so on until the T-bill matures after thirty days, when the amortized cost value of the T-bill is equal to the face value, or \$100.

Why does this allow MMMFs to maintain a stable \$1-per-share NAV? In short, it is predictable. Unlike market valuation, the amortized cost of the security increases at a predictable rate, allowing MMMFs to more easily maintain a per-share NAV of \$1-per-share (Antoniewicz, Breuer, Collins, & Reid, 2011). However, the amortized cost value of

¹¹ See CFR Title 17 § 270.2a-7(a)(2).

a security may not be in agreement with the market value of the security, which takes account of present interest rates. For example, the T-bill from the previous example would have an amortized cost value of \$99.85 fifteen days after the security was acquired, but if the market interest rate has risen since acquisition, the market value of the T-bill might be less than the amortized cost value, such as \$99.83. If the MMMF holds the T-bill until maturity, this should not be a problem, but if the MMMF needs to sell the T-bill before maturity (to meet shareholder redemptions, for example), the T-bill would likely need to be sold at the market value and the MMMF's portfolio would suffer a loss.

Like amortized cost valuation of securities, pricing using penny-rounding is defined by rule 2a-7 (though it is not as difficult to understand). According to rule 2a-7:

Penny-rounding method of pricing means the method of computing an investment company's price per share for purposes of distribution, redemption and repurchase whereby the current net asset value per share is rounded to the nearest one percent. (§ 270.2a-7, Title 17, C.F.R. pt 270, 2010)¹²

In other words, if the per-share NAV is less than \$1.005-per-share (exclusive) and greater than \$0.995-per-share (inclusive), the MMMF can issue or redeem its shares at \$1-per-share. Should the per-share NAV be outside of this range, shares can no longer be priced at \$1-per-share, an event known as "breaking the buck" that dooms the MMMF. Repricing shares above \$1-per-share would result in unexpected (potentially taxable) capital gains for investors, while repricing shares below \$1-per-share would result in losses for investors, events MMMFs desire to avoid (Sullivan, 1983).

¹² See CFR Title 17 § 270.2a-7(a)(20).

The amortized cost valuation method is a privilege for MMMFs that other mutual funds do not enjoy. As with any privilege, MMMFs are required to meet higher regulatory standards and are not permitted to take the same degree of risk that other mutual funds can assume. MMMF share prices can be calculated using the amortized cost method or the penny-rounding method only if the MMMF board feels the use of those methods fairly reflects the NAV calculated using typical market-based methods (frequently referred to as the “shadow NAV”)¹³. In other words, the deviation between the stable NAV and the shadow NAV cannot be too great. An MMMF using the amortized cost method must have written procedures for maintaining a stable NAV given current market conditions. These must include "shadow pricing" and tracking the difference between the amortized cost NAV and NAV based on market conditions. If deviation exceeds 1/2 to 1 percent (or a half to one cent), the Board must consider what action, if any, should be taken. The Board of an MMMF using the penny rounding method must ensure that MMMF share prices rounded to the nearest cent do not deviate from the share price the Board sets; this means that if the NAV per share dropped from \$0.9951 to \$0.9949, the MMMF’s shares would need to be repriced to \$0.99 per share, rather than \$1 per share, and the MMMF would break the buck.

Rule 2a-7 strictly defines what assets MMMF portfolios can hold. An “eligible security” (a security that the MMMF can legally acquire) must have a remaining maturity of 397 days or less and must have either received one of the two-highest short-term ratings from a nationally recognized statistical rating organization (“NRSRO”, colloquially known as a credit rating agency, such as Standard & Poor’s or Moody’s Investors Services) or, if unrated, be deemed by the MMMF board of directors to be of

¹³ See CFR Title 17 § 270.2a-7(c).

comparable quality.¹⁴ An MMMF's portfolio cannot have more than 5% of its securities from a single issuer¹⁵. MMMFs must hold securities that are sufficiently liquid to meet expected shareholder redemptions; no more than 5% of an MMMF's assets can be illiquid securities, at least 10% of a fund's assets must be daily liquid (meaning the asset can be converted to cash in a day), and at least 30% must be weekly liquid.¹⁶

All of these regulations are intended to address the unique risks MMMFs face. MMMF securities are considered very safe from credit risk¹⁷ because they are issued by large and well-reputed economic organizations and are generally very liquid. MMMF securities also face very little interest rate risk¹⁸ because of their short maturities. However, while MMMFs are able to diversify away credit risk, interest rate risk cannot be diversified away. According to Seligman (1983) the interest rates of short-term securities correlate highly because these securities are substitutes for each other. This implies that, while MMMFs can diversify their portfolios to reduce the risk of default while protecting yield, they cannot diversify away interest rate risk. The only defense an MMMF has against interest rate risk is to shorten an MMMF portfolio's weighted average maturity ("WAM"), which represents the average remaining maturity of all of the securities in an MMMF's portfolio, with each security weighted by its dollar value (so the remaining maturity of a \$100,000 T-bill has more impact on the WAM than the remaining maturity of a \$1,000 T-bill). Holding long-term assets with longer maturities

¹⁴ See CFR Title 17 § 270.2a-7(a)(12).

¹⁵ However, an MMMF portfolio can have 25% of its assets be issued by a single issuer for up to three days if those assets are first tier securities. See CFR Title 17 § 270.2a-7(b)(4)(A).

¹⁶ See CFR Title 17 § 270.2a-7(c)(5)

¹⁷ "Credit risk" represents the potential for loss on an investment because of the borrowers' failure to meet their financial obligations, such as failure to repay the loan when due (Investopedia US, 2009e).

¹⁸ "Interest rate risk" represents the risk associated with changes in interest rates that could impact the value of an investment. Interest rates move inversely with the value of a security because a rise in interest rates causes the value of a security to fall in order to compensate for the security's lower interest rate compared to the new general level of interest rates. (Investopedia US, 2009g)

poses greater interest rate risk than short-term securities with short maturities. Thus MMMFs seek to reduce their exposure to interest rate risk by focusing on short-term securities and aiming for a shorter WAM. The longer the WAM, the more the MMMF is exposed to interest rate risk. It was for this reason the SEC set a maximum WAM for MMMFs at 60 days (U.S. Securities and Exchange Commission, 2010a, p. 38).

The unique share pricing scheme MMMFs employ inherently leads to unique behavior in share purchasing and redemption. Because MMMFs serve as storage of funds much like bank deposits, MMMFs have higher and more volatile volume of redemptions than most other mutual funds; thus, in order for MMMFs to keep a stable NAV, they must be able to liquidate portions of their portfolios to pay redeeming shareholders without needing to sell assets at a loss. (U.S. Securities and Exchange Commission, 2010a)

From a macroeconomic perspective, MMMFs are a part of the financial sector, so some of the risks the financial sector poses to the rest of the economy are posed by MMMFs. The financial sector, which includes banks and investment companies, is critical to a modern economy. Firms use financial services to obtain funding for investment (or, in the case of short-term bonds, for financing routine activities such as payroll; firms find issuing corporate paper to pay employees is cheaper than keeping cash on hand). Without the financial sector, firms in the “real” (i.e. goods and services) economy would struggle to obtain financing for investment. The money market is even more critical to the economy; without the money market, governments and large firms would struggle to get the financing necessary for daily functioning.

In the financial sector, MMMFs provide services similar to banks; like a bank, an MMMF finances borrowers by taking investors’ funds (which behave like deposits) and

transferring those funds to borrowers (i.e. issuers of bonds, CDs, and other securities). Like a bank, the primary problem facing MMMFs is liquidity mismatch; MMMF shares can be redeemed on demand (at present), making them almost perfectly liquid, but the assets that MMMFs invest in are not perfectly liquid and take time to convert into cash. Thus, MMMFs, like banks, function fine unless redemptions outnumber the number of securities converting into cash; should that happen, the funds to meet redemptions may simply not be there. But banks invest in illiquid long-term assets (such as mortgages); MMMFs, in comparison, invest in much more liquid short-term assets. MMMFs structure is therefore safer than banks; but bank deposits, unlike MMMF investments, are insured. Bank deposits under a certain amount are guaranteed against loss, unlike MMMFs. There is no such guarantee for MMMF investments, and the possibility of loss combined with MMMFs' liquidity mismatch makes them susceptible to runs.

A healthy MMMF industry allows easy access by firms and governments to short-term financing, which could make such borrowing cheaper. But should MMMFs face runs, they would begin selling their investments in the money market. The sale of those investments will affect the short-term interest rates that firms and governments depend on to finance their operations, increasing borrowing costs and redirecting funds that could be used for investment to pay for interest. A severely distressed market could result in short-term financing being unavailable. Firms that rely on this financing for daily operations may then find they do not have the cash necessary to pay their obligations (such as payroll). This could be disastrous. Thus regulators seek to keep these markets healthy and minimize the risk MMMFs pose to the money market.

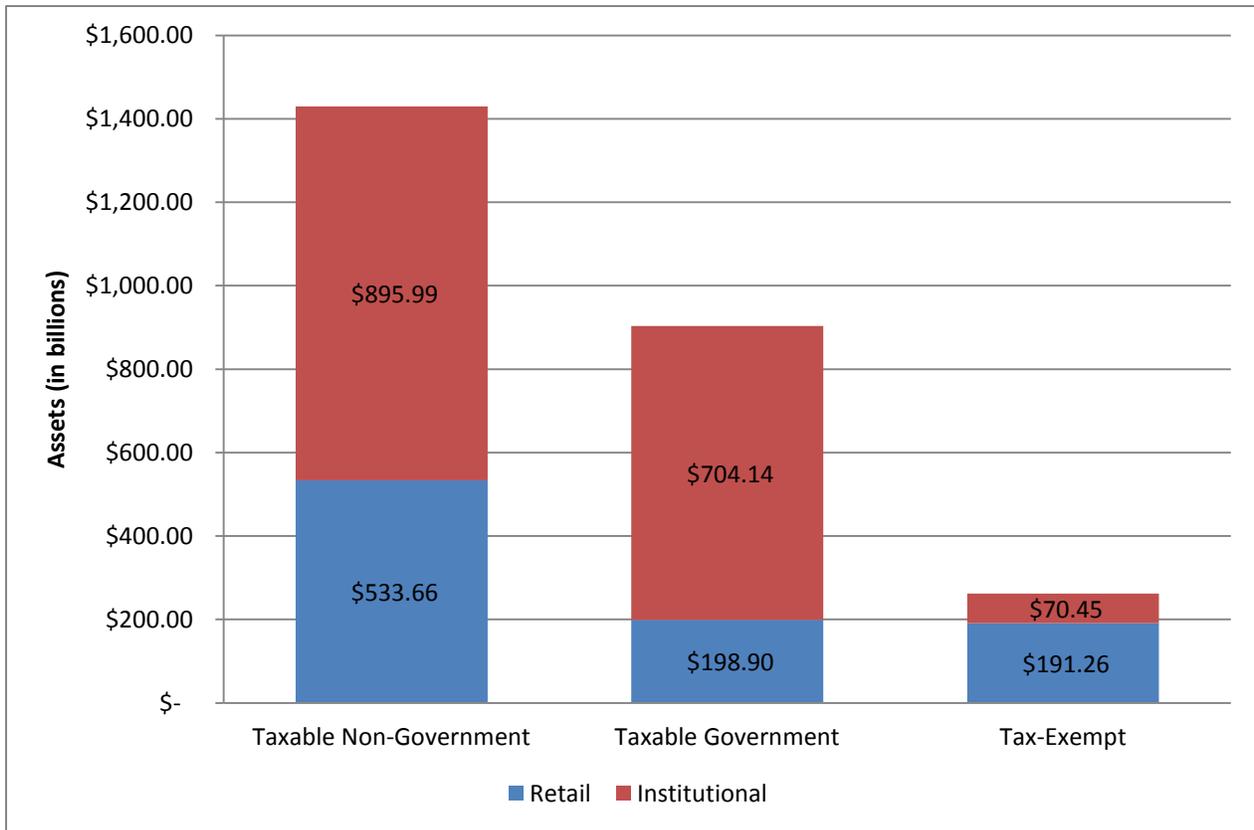


Figure 1. Money market mutual fund assets by type of fund. Data from “money market mutual fund assets, June 27, 2013,” Investment Company Institute, 2013, at http://www.ici.org/research/stats/mmf/mm_06_27_13.

MMMFs in the money market

The MMMF industry is a very large industry and controls numerous money market assets. But in what assets are they most involved? This section estimates the composition of MMMF portfolio holdings.¹⁹

Figure 1 shows the assets of MMMFs by type of fund on June 27th, 2013. Taxable non-government funds (which include prime funds) constitute the majority of MMMFs, with more assets than taxable government and tax-exempt funds combined. These funds invest in just about every eligible security. Taxable government funds are second. They invest in Treasuries, government agency and GSE securities. Tax-exempt funds are the

¹⁹ MMMF holdings could be calculated almost exactly because the SEC publishes form N-MFP MMMFs are required to file, which details their portfolio assets; however, there are thousands of MMMFs, all of whom file this form, making computing the composition of industry assets very time consuming.

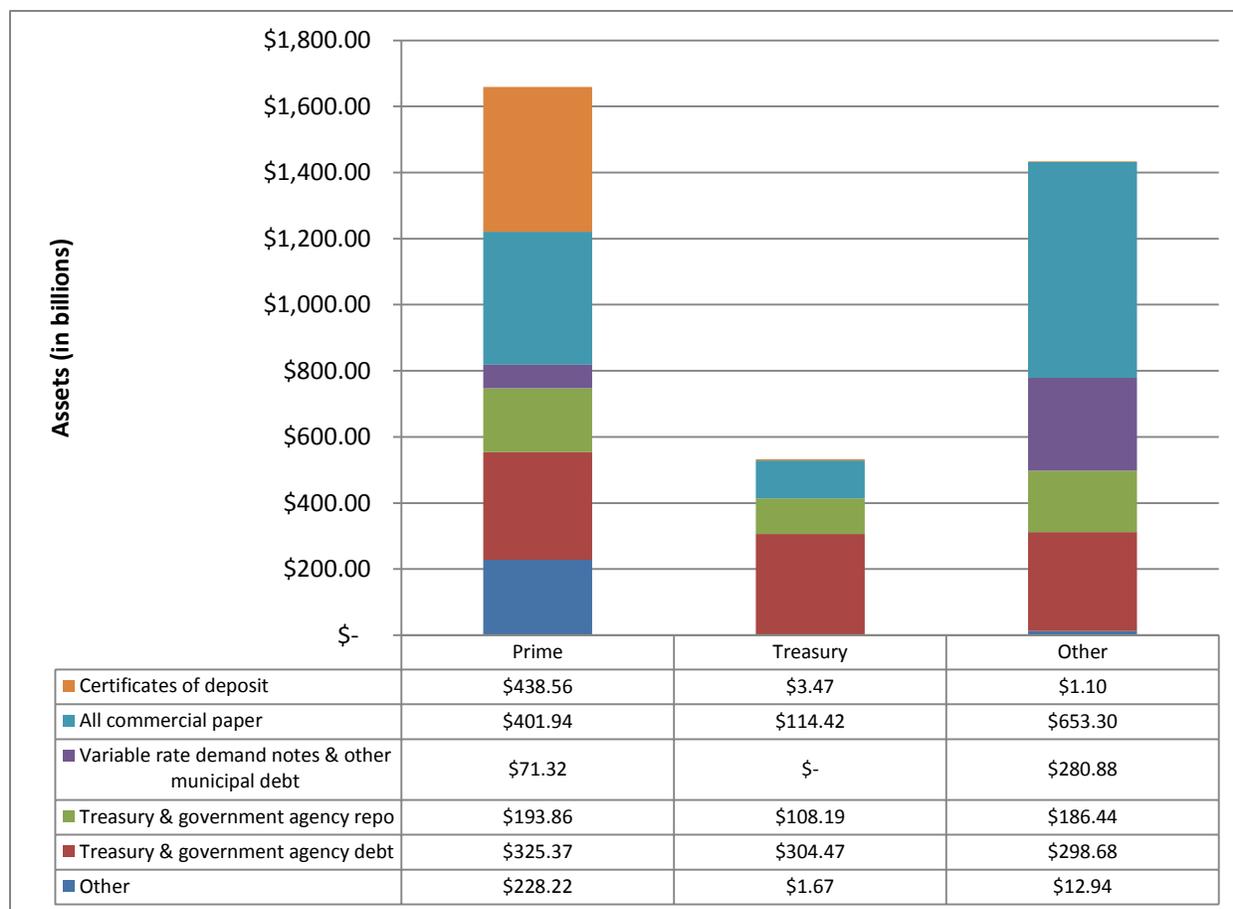


Figure 2: Money market mutual fund assets on March 31, 2012, by type of fund. Data from "Response to questions posed by Commissioners Aguilar, Paredes, and Gallagher," U.S. Securities and Exchange Commission, 2012, at <http://www.sec.gov/news/studies/2012/money-market-funds-memo-2012.pdf>

minority in the industry, and unlike the taxable funds, these consist of primarily retail investors. These funds invest in state and municipal securities.

Figure 2 displays MMMF holdings on March 31st, 2012. The figure provides more information on what assets MMMFs are involved in. Federal securities constitute the majority of MMMF assets for both prime and Treasury funds. MMMFs are also still heavily involved in commercial paper. Only the “other” category sees heavy involvement in municipal securities; this likely constitutes for tax-free MMMFs. Only prime MMMFs appear to be heavily involved in CDs.

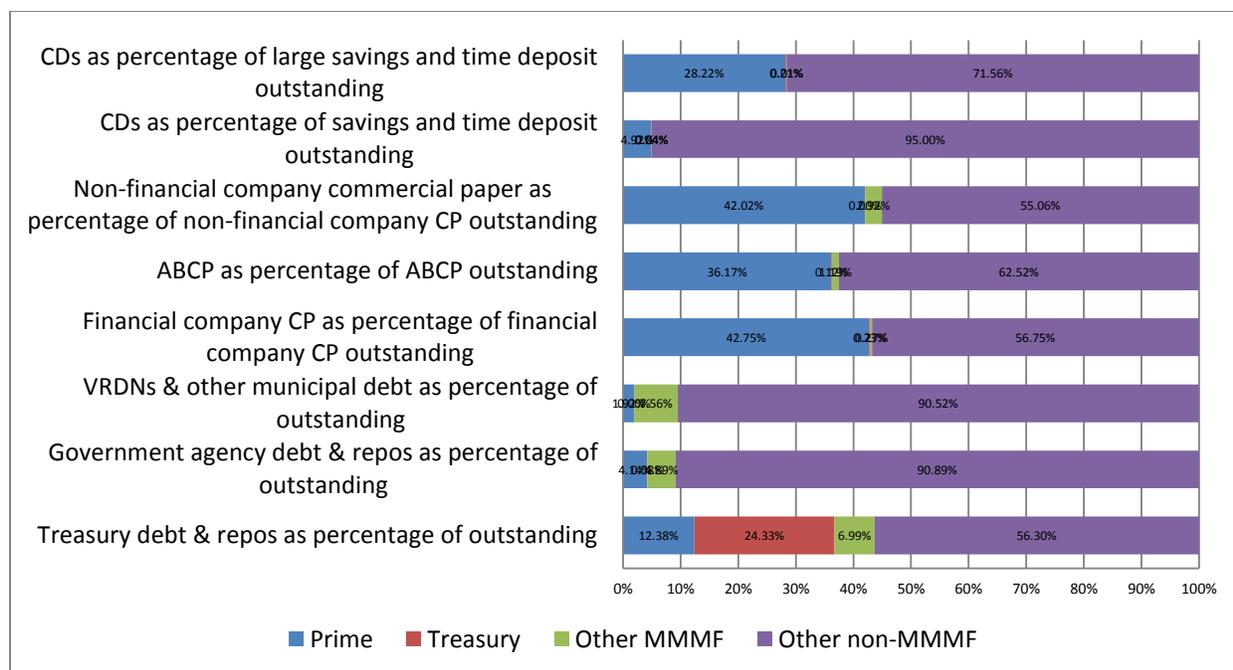


Figure 3: Money market mutual fund assets on March 31, 2012, as share of total assets outstanding. Data from "Response to questions posed by Commissioners Aguilar, Paredes, and Gallagher," U.S. Securities and Exchange Commission, 2012, at <http://www.sec.gov/news/studies/2012/money-market-funds-memo-2012.pdf>

Figure 3 displays MMMF holdings as percentage of those outstanding on March 31st, 2013. The assets MMMFs are most involved in are Treasuries, commercial paper (“CP”), and large CDs, with prime MMMFs the majority in CP and CDs. MMMFs do not appear very involved in municipal debt and government agency securities, and MMMFs account for only a small fraction of all CDs (including both large and small CDs). MMMFs have been scaling back on exposure to municipal debt securities since 2008, but municipal governments have not struggled to find funding. MMMFs have also been decreasing their exposure to commercial paper, but commercial paper as a financing source has been declining since 2008; financial companies, at present, are the most dependent on commercial paper. (U.S. Securities and Exchange Commission, 2012)

From this data, MMMFs appear to be major participants in the markets for their securities. MMMFs are most involved in government and commercial debt. Prime MMMFs, the MMMFs seen as the most prone to runs, are very involved in commercial

paper, and should these MMMFs be distressed, they could severely disturb the CP market (which is still a major source of financing, even if on the decline). Thus regulators should be concerned about the safety of these MMMFs.

Money market mutual fund history

Rise of MMMFs

MMMFs appeared in the United States at a time when inflation was a major economic problem and interest rates were very high. In the early 1950s, the Federal Reserve (the “Fed”) abandoned the policy of pegging government securities prices, causing interest rates to skyrocket. Interest rates in general became very volatile, especially for short-term securities. For comparison, long-term treasuries in 1950 averaged a 2.5% yield; in thirty years, the interest rates zoomed to 11% and kept climbing, and as inflation pressures were added to interest rates, the prime rate for long-term treasuries reached as high as 20%. (Seligman, 1983) Inflation remained high and ate away at individuals’ wealth, but while new investment instruments were created for wealthy individuals to combat inflation, few such tools existed for small investors until the introduction of MMMFs (Sullivan, 1983).

The first MMMF in the United States was the Reserve Fund, founded in 1971 (Seligman, 1983; Sullivan, 1983; Beresford, 2012)²⁰. MMMFs initially offered a floating NAV like typical mutual funds, but MMMF managers eventually convinced SEC regulators to permit MMMFs to offer a stable per-share NAV (Birdthistle, 2010). This allowed MMMFs to compete more effectively with banks for savings. A Fed regulation called Regulation Q, which set a limit on the interest rates banks could offer for deposits

²⁰ According to a website named Capital Flow Analysis (2010), the first MMMF in the world was a Brazilian fund named Conta Garantia, created in 1968.

and prohibited banks from paying interest for checking account deposits (Investopedia US, 2009j), prevented banks from offering interest rates to low-income investors that would be competitive with MMMF rates. Thus, the middle class found MMMFs attractive because they had comparatively high yields, low initial deposits, and provided current income in a safe and liquid investment. (Sullivan, 1983)

The high demand by the middle class for MMMFs resulted in rapid growth for the industry (Sullivan, 1983). MMMFs attracted savers because inflation eroded people's confidence in the economy, the standing financial institutions, and traditional investment options. Few investment options provided the safety and liquidity that investors craved during the difficult economic times. Meanwhile, new technology, such as electronic transfer systems, toll-free numbers (and other free services), and greater computing power allowing computers to process loads of data and perform routine tasks (thus cutting costs) likely contributed to MMMF growth. According to Seligman, "Some observers feel that the [MMMFs] could never have achieved their success without this new electronic technology." (Seligman, 1983) In 1975, MMMFs held only \$4 billion in assets; but they grew rapidly, reaching \$230 billion by mid-1982. Between 1979 and 1981, MMMFs assets grew from \$45 billion to \$182 billion, an increase of over 300%, and MMMF accounts grew from 2.3 million to over 10 million. As Seligman said (1983, p. 8), "More than likely there is no parallel in American financial history where a financial intermediary grew so fast."

Naturally, MMMFs unprecedented growth met pushback, particularly from the thrifts and commercial banks MMMFs competed against. MMMFs began to cause trouble for the financial institutions that could not compete with the high rates offered

by MMMFs, such as thrifts²¹ and passbook accounts²² (the latter in particular). This compounded with the passage of the *Bank Holding Company Act* in 1970, which forbid banks from operating MMMFs for the public. Thrifts and commercial banks were not able to compete with MMMF yields, which threatened those institutions (Sullivan, 1983). MMMFs drew funds away from the banking sector (Seligman, 1983), so banks began offering alternatives in an effort to compete with MMMFs, such as money market accounts²³, money market deposit accounts²⁴, and other instruments. However, these new products did little to stop MMMF growth. State governments grew concerned with MMMFs and the competition they posed to thrifts. Thus, two states—Louisiana and Texas—attempted to curb their growth; Louisiana declared MMMFs illegal and Texas attempted to impose requirements forcing MMMFs to file disclosure statements with Texas’s banking commissioner and post reserves. But MMMFs overcame the states’ reactions and continued to grow. (Seligman, 1983)

2008 financial crisis

By 2008, MMMFs were a major established component of the financial sector. In 2007, 807 MMMFs had net assets of \$3.1 trillion over 38,823 accounts (Investment Company Institute, 2008). Up until 2008, MMMFs had an excellent track record; only two MMMFs, First Multifund for Daily Income and the Community Bankers US

²¹ “Thrifts” is financial term for financial institutions that offer saving and loan services but are not commercial banks, such as savings and loans (S&L) associations, credit unions, and mutual savings banks (Investopedia US, 2009)

²² A passbook account is a savings account where withdrawals and deposits are recorded in a passbook possessed by the account holder (Dictionary.com LLC).

²³ A money market account is an investment initially worth \$1 and gradually increases over time at the interest rate of very short-term risk-free securities (Lee & Lee, 2006).

²⁴ Money market deposit accounts are small time deposits and limit the depositor to three checks a month (Lee & Lee, 2006).

Government Fund, had ever broken the buck (and First Multifund took unusual and excessive risk²⁵) (Sullivan, 1983; Seligman, 1983; Krantz, 2008).

But the 2008 financial crisis shook MMMFs appearance of safety. Lehman Brothers Holdings Inc., a global financial services firm, filed for chapter 11 bankruptcy (Lehman Brothers Holdings Inc., 2008). As Lehman Brothers was protected from its creditors, its commercial paper became worthless. Reserve Primary Fund (the first MMMF in existence) had significant exposure to Lehman Brothers debt, so when Lehman Brothers went bankrupt, the MMMF was forced to write off Lehman debt amounting to \$785 million. Because of the loss, Reserve Primary Fund was forced to reprice its shares to \$0.97 a share, breaking the buck (Condon, 2008).

The failure of Reserve Primary Fund was critical not because of the Reserve Primary Fund in particular but because it spooked investors in other MMMFs. The result was a run on MMMFs. The week of September 15th, 2008, investors redeemed about \$300 billion (14% of total prime MMMF assets) from prime MMMFs (U.S. Securities and Exchange Commission, 2010a). Institutional investors, who both have larger accounts and monitor their investments more closely than retail investors, were the primary participants in the runs. On September 17th, 2008, two days after Lehman Brothers failed, prime institutional funds saw withdrawals of about \$130 billion, or 10% of total assets (Hamacher & Pozen, The SEC gets money-fund reform half right, 2013a). Retail investors, on the other hand, reacted very little. Only \$10 billion (2% of total

²⁵ First Multifund for Daily Income broke the buck in 1978. Industry MMMF yield was rising while the fund's yield remained constant. Investors began to redeem from the fund, forcing it to sell off assets and have its NAV drop from \$1 to \$.94 per share, and the fund filed for bankruptcy. The fund's WAM was 650 days, compared to the industry average of 100. (Sullivan, 1983) First Multi Fund for Daily Income is an example of how long-term securities expose MMMFs to significant interest rate risk; while the fund had the highest yields in the industry for three years, interest rate increases caused the fund to break the buck (Seligman, 1983).

assets) were withdrawn from prime retail funds throughout the crisis (Hamacher & Pozen, 2013b).

Running institutional MMMF investors (who control the majority of MMMF assets) began to cause problems for the rest of the economy and expose MMMFs as a potential economic threat. In the final two weeks of September 2008, MMMFs reduced portfolio holdings of high-quality commercial paper by \$200.3 billion, or 29% (U.S. Securities and Exchange Commission, 2010a). The chaos in MMMFs began to spill over into the credit markets and threatened the rest of the economy (Birdthistle, 2010). This prompted a response from regulators. On September 19th, 2008, the U.S. Department of the Treasury announced the Temporary Guarantee Program of Money Market Funds, which temporarily guaranteed investments in participating MMMFs (U.S. Department of the Treasury, 2008), and the Federal Reserve Board announced the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF), which provided credit to banks and bank holding companies for purchasing high-quality ABCP from MMMFs (Board of Governors of the Federal Reserve System, 2008). The two agencies unprecedented intervention in the money market managed to contain the run on institutional prime MMMFs and provide them with needed liquidity (U.S. Securities and Exchange Commission).

While the crisis was averted, it left a legacy that shook regulators' and observers' perceptions of MMMFs. First, MMMFs were no longer seen as the safe investments they once were. Worse, MMMFs were (and still are) seen as potentially dangerous to the general economy by being prone to runs and capable of freezing up the credit markets critical to a modern economy as the failing MMMFs liquidate assets to meet snowballing redemptions. Second, MMMFs, which were never intended to be insured, just received

free insurance from federal regulators (Birdthistle, 2010). This did not go unnoticed; criticism arose from the Independent Community Bankers Association (Blankenship, 2008) and the American Bankers Association (Bullard, 2009) (as banks are required to pay for FDIC insurance, a partial contributor to bank deposits' lower yields), and the *Dodd-Frank Wall Street Reform and Consumer Protection Act* (commonly called "Dodd-Frank") prohibited another rescue of MMMFs by the Fed and the DoT (Nutting, 2013). So while federal regulators rescued the MMMF industry, MMMFs would come under extra scrutiny in the coming years, and inevitably would face reform and extra regulation.

2010 MMMF reforms

On June 30th, 2009, the SEC issued proposed amendments to rule 2a-7, the first major action by a federal regulator to reform MMMFs since the 2008 financial crisis (U.S. Securities and Exchange Commission, 2009a). The SEC's proposed amendments would:

... (i) tighten the risk-limiting conditions of rule 2a-7 by, among other things, requiring funds to maintain a portion of their portfolios in instruments that can be readily converted to cash, reducing the weighted average maturity of portfolio holdings, and limiting funds to investing in the highest quality portfolio securities; (ii) require money market funds to report their portfolio holdings monthly to the Commission; and (iii) permit a money market fund that has "broken the buck" (i.e., re-priced its securities below \$1.00 per share) to suspend redemptions to allow for the orderly liquidation of fund assets. ... (U.S. Securities and Exchange Commission, 2009a, p. 1)

The SEC also requested comment on requiring MMMFs to transition to a "floating" NAV, like a typical mutual fund, rather than MMMFs' traditional stable NAV.

On February 23rd, 2010, the SEC adopted final amendments to rule 2a-7 (U.S. Securities and Exchange Commission, 2010). The reforms were intended to strengthen MMMFs against short-term risks and protect investors of failing funds. The rule changes included: requiring MMMFs to hold a portion of their portfolios in more liquid assets²⁶; reducing the maximum WAM of MMMFs from 90 days to 60 days and reducing an MMMF portfolio's weighted-average life ("WAL") to 120 days²⁷; requiring MMMF portfolios to hold more high-quality assets²⁸; requiring MMMFs to report portfolio holdings to the SEC on a monthly basis²⁹; allowing an MMMF that has or is

²⁶ The SEC required in 2010 that MMMFs have sufficient liquidity to meet foreseeable redemptions and reduce the chances MMMFs must engage in fire sales in order to meet redemptions. The SEC amended its definition of illiquid securities to securities that cannot be sold or disposed of in ordinary business within seven days at the value the MMMF assumes it is worth and restricted MMMF investment in illiquid securities, prohibiting MMMFs from acquiring illiquid securities if the fund's total assets contain more than 5% of illiquid assets after the acquisition. In 2010 the SEC adopted liquidity requirements requiring MMMFs to keep portions of their portfolios in cash or securities easily converted into cash, with all taxable MMMFs required to hold at least 10% of their total assets in "daily liquid assets" and all MMMFs required to hold 30% of their portfolios' total assets in weekly liquid assets, with compliance being required at acquisition of security. (U.S. Securities and Exchange Commission, 2010a)

²⁷ In 2010, the SEC required MMMFs to maintain WAMs no greater than 60 days, believing that such a restriction would make MMMFs safer and more resilient, reducing MMMFs' exposure to interest rate risk (U.S. Securities and Exchange Commission, 2010a). The SEC also limited MMMF portfolios' weighted average life to maturity ("WAL") to 120 days. This is intended to reduce MMMFs to spread risk from longer term securities. According to the SEC, "Unlike weighted average maturity, the [WAL] of a portfolio is measured without reference to any rule 2a-7 provision that otherwise permits a fund to shorten the maturity of an adjustable-rate security by reference to its interest rate reset dates. The WAL limitation thus restricts the extent to which a fund can invest in longer term securities that may expose a fund to spread risk." (pp. 42-43)

²⁸ At the time of the 2010 MMMF reforms, rule 2a-7 limited MMMFs to investing in "eligible securities", which have either been rated in one of the two highest short-term debt ratings for the NRSRO or are of comparable quality to such securities, and the MMMF's board of directors (or its delegate) must have independently determined the security presents minimal credit risk. The SEC amended rule 2a-7 to restrict MMMF investment in "second tier securities," lowering the percentage a fund's total assets can consist in second-tier securities, restricting how many second-tier assets an MMMF can own from one issuer, and forbidding acquiring second-tier securities with a remaining maturity greater than 45 days. MMMFs are required by rule 2a-7 to designate four or more NRSROs for considering their credit rating designation of potential eligible securities and determine at least once a calendar year whether the NRSROs' ratings are sufficiently reliable for guidance. MMMFs must identify their selected NRSROs in their statement of additional information (SAI). MMMFs may monitor other NRSROs' ratings if they so desire. The SEC amended rule 2a-7 in 2010 to not require asset backed securities (ABS) be rated by NRSROs in order to qualify as eligible securities. (U.S. Securities and Exchange Commission, 2010a)

²⁹ In 2010, the SEC required MMMFs to provide the SEC a monthly electronic filing about MMMFs' portfolio holdings for the purpose of allowing the SEC for creating a central database containing MMMF holdings. 30b1-7 requires MMMFs to report portfolio information on the new Form N-MFP details on portfolio securities held on the last business day of the prior month, including the issuers, the title of the issues (including coupons or yields), their CUSIP numbers, what type of investment they are, the NRSROs used by the fund and the rating the NRSROs give to the security (more specifically, which securities are first-tier or second-tier), the securities' maturities, any enhancement features, the principal amount, the current amortized cost of the securities, the percentage of the

about to break the buck to suspend redemptions to allow for a fair liquidation of assets³⁰; requiring MMMFs to post information on their money market funds' portfolios on their Web sites; and requiring MMMFs to perform regular stress testing of their portfolios³¹. The amendments became effective May 5th, 2010.

The 2010 reforms were initially not greeted with open arms by the MMMF industry. In comment letters prior to the 2010 MMMF reforms, investment companies opposed changes to the stable NAV and changes requiring MMMFs hold only top-rated securities, claiming that the stable history of MMMFs necessitated only small changes to rule 2a-7 (however, today the MMMF industry, such as FMR LLC (Fidelity), argues that the 2010 proposals made the industry safer (FMR LLC, 2013b), though this argument is usually used to discourage further MMMF reform). But other commenters claimed the events of September 2008 made a case for greater changes than the proposed rules (U.S. Securities and Exchange Commission, 2010a). In the end, the SEC did not implement a floating NAV in 2010, but did press on with other reforms.

MMMFs' assets are invested in the security, whether the security is illiquid, and any other explanation of the security. Form N-MFP furthermore requires MMMFs report the funds' WAMs and seven-day gross yields along with holdings' market value and shadow NAV. All this information will be made publicly available 60 days after receiving it. (U.S. Securities and Exchange Commission, 2010a)

³⁰ In 2010, the SEC adopted rule 22e-3 that exempts MMMFs from section 22(e) of the Investment Company Act and allow them to suspend redemption and postpone payment of redemption proceeds to allow the MMMF to liquidate in an orderly fashion should the MMMF board determine that failing to do so may result in an unfair distribution of funds, if the board has approved liquidation of the fund, and the fund notifies the SEC of its intent to liquidate. (U.S. Securities and Exchange Commission, 2010a)

³¹ In 2010, the SEC began to require MMMF board of directors begin stress testing their funds' portfolios. MMMFs must adopt procedures to test funds' abilities to maintain a stable NAV per share in the wake of hypothetical events such as increase in short-term interest rates, increase in redemptions, a downgrade/default of portfolio securities, or widening/narrowing of spreads of portfolio yields from an appropriate benchmark. Stress tests must be done periodically at appropriate intervals to market conditions and the results given to the board at the next scheduled meeting or sooner, depending on the results of the tests. The report of the tests must include the date of the tests, the magnitude of the hypothetical events' impact on the fund necessary to cause it to break the buck, the fund's adviser's assessment on the fund's ability to withstand the hypothetical events likely to occur within the year, and the MMMFs must maintain records on the result of the stress tests for six years, the first two in an easily accessible location. (U.S. Securities and Exchange Commission, 2010a)

The SEC, the industry, and others believe that the 2010 reforms did make MMMFs safer. According to the SEC (2012), MMMFs with a 60-day WAM are far less likely to break the buck than those with a 90-day WAM. The transparency requirements could also discourage MMMF managers from pursuing risky investment strategies in order to increase yield. However, commentators have suggested that either did not do enough to address the risks associated with MMMFs, or have made problems worse (or both). William Birdthistle (2010) criticized the 2010 MMMF reforms for heightening reliance on NRSROs (organizations partly responsible for the 2008 financial crisis in the first place)³², for maintaining the stable NAV, and for increasing systemic risk by reducing maturities in the money market, which could hamper a distressed company's ability to pay its short-term debt. He argued that the reforms increased systemic risk in order to save MMMFs.

Critics of the 2010 reforms may fault the reforms for not doing enough to address the systemic threat MMMFs pose, but the 2010 reforms were an improvement over the status quo. If critics fear that NRSRO ratings may not accurately reflect the risk of rated

³² The SEC was aware of the risks of giving NRSROs prominence in the eligible security designation process, given the infidelity of NRSROs made evident during the 2008 financial crisis. The SEC sought comment on alternative approaches, and some suggested eliminating NRSROs from the rule all together and make designation entirely the responsibility of the MMMF board of directors (and their delegates), while others suggested maintaining reference to NRSROs in the rule but require MMMF boards to determine, at least annually, which NRSROs were sufficiently reliable for referencing. Most commenters supported keeping NRSRO ratings in the rules as they provide a "floor" for determining credit quality and prevent managers from taking excessive risk. NRSROs provide another check on an investment manager's decisions. Opponents suggested that keeping NRSRO ratings in the rule would promote MMMF boards and managers to rely too much on NRSRO ratings and not perform their own analysis of MMMF securities. Commenters suggested that NRSRO designation would promote competition among NRSROs that would improve the quality of their ratings (especially if the MMMFs were required to choose more than three). The SEC said in 2010 it was committed to reevaluating the use of NRSROs in their rules, but they found no evidence that over-reliance on NRSRO ratings contributed to the troubles MMMFs faced in the 2008 crisis. Rule 2a-7 is designed to prevent over-reliance on NRSRO ratings by not making NRSRO ratings sufficient reason for designating a potential security an eligible security, but the SEC feels the NRSROs provide an "independent perspective" on a prospective security. However, the amendments require MMMF boards to evaluate the reliability of their preferred NRSROs, and they are designed to foster competition among NRSROs. However, the SEC amended rule 2a-7 in 2010 to not require asset backed securities (ABS) be rated by NRSROs in order to qualify as eligible securities. (U.S. Securities and Exchange Commission, 2010a)

securities, they should consider that MMMFs are still free, even encouraged, to perform an independent analysis of an eligible security (Fidelity, for example, performs an independent analysis of all securities before purchasing them (FMR LLC, 2013a)), and the requirement acts as a common denominator for MMMF boards considering the risk of potential securities, bringing valuable uniformity to risk evaluation. Also, while the reforms require MMMFs to designate four NRSROs to consider their ratings, they do not state *which* NRSROs to designate; this encourages competition among the NRSROs that pressures for more accurate ratings. Critics validly argue that the lower WAM requirement could shorten money market maturities in general; however, they overstate the power of the regulation. The 60-day WAM is a ceiling, and the industry's average WAM was (and is) far below this value, both before and after the rule came into effect (U.S. Securities and Exchange Commission, 2012). Meanwhile, MMMFs are given minimum liquidity, stress testing, and disclosure requirements that are valuable additions to the rules.

The strongest criticism is that the rules could have done more. The SEC believes that the 2010 reforms were an improvement over the status quo, but the SEC never originally intended the 2010 reforms to be the end of MMMF reform. In the final amendments release, the SEC said:

... we recognize that the events of 2007-2008 raise the question of whether further changes to the regulatory structure governing money market funds may be warranted. Accordingly, in the Proposing Release we requested comment on additional, more fundamental regulatory changes, some of which we recognized could transform the business and regulatory model on which money market funds have been operating for more than 30 years. For example, we requested comment on whether money market

funds should move to the “floating net asset value” used by other open-end investment companies. We received over 75 comment letters addressing this issue. We have continued to explore possible more significant changes to the regulation of money market funds in light of these comments and through the staff’s work with members of the President’s Working Group. We expect to issue a release addressing these issues and proposing further reform to money market fund regulation. (U.S. Securities and Exchange Commission, 2010a, pp. 9-10)

The 2010 reforms provided basic fixes to the industry that served as the starting point for future—and possibly more profound—reform. The push for MMMF reform was not yet over.

Push for reform in 2012

On March 15th, 2012, SEC Chairwoman Mary Schapiro resurrected the topic of MMMF reform before the Society of American Business Editors and Writers, suggesting that the 2010 reforms were not enough and more needed to be done to reform MMMFs (Schapiro, 2012a). She specifically recommended moving MMMFs from a stable to a floating NAV, requiring MMMFs keep capital buffers, and MMMFs be able to implement limitations or fees on redemptions.

On June 21st, 2012, the Senate Banking, Housing, and Urban Affairs Committee held a hearing entitled, “Perspectives on Money Market Mutual Fund Reforms” (U.S. Senate Banking, Housing, and Urban Affairs, 2012). Chairwoman Mary Schapiro testified before the Committee stating that while the 2010 were an improvement, “... the reforms were not designed to address the structural features of money market funds that make them susceptible to runs...” (Schapiro, 2012c, p. 9). Specifically:

The 2010 rules made money market funds more resilient in the face of redemptions by requiring them to increase the liquidity of their portfolios. But the amendments did not (1) change the incentives of shareholders to redeem if they fear that the fund will experience losses; (2) fundamentally change the dynamics of a run, which, once started, will quickly burn through the additional fund liquidity; (3) prevent early redeeming, often institutional investors from shifting losses to remaining, often retail investors or (4) enable money market funds to withstand a “credit event” or the loss in value of a security held by a money market fund, precisely what triggered the run on the Reserve Primary Fund. (Schapiro, Testimony on "Perspectives on money market mutual fund reforms", 2012c, p. 8)

Chairwoman Schapiro said MMMFs needed additional reforms, including moving MMMFs from a stable to a floating NAV (like other mutual funds) or requiring MMMFs to maintain a capital buffer (along with limitations or fees on redemptions).

The MMMF industry began to push back on further MMMF reform. Paul Schott Stevens (2012), President and CEO of the Investment Company Institute (“ICI”), a trade association representing investment companies (including MMMFs), testified that MMMFs did not make the 2008 financial crisis worse (in fact, some MMMFs saw an influx of funds as the destination of a flight to quality by investors), that MMMFs performed better than the banking sector in 2008, and opposed structural changes like those recommended by Chairwoman Schapiro. The MMMF industry began lobbying against further MMMF reform, even purchasing an ad over a Metro entrance used by SEC employees to oppose MMMF reform (Popper, 2012). The MMMF industry was successful; on August 22nd, 2012, Chairwoman Schapiro announced three of the five SEC Commissioners did not support a further MMMF reform proposal; thus, she did

not have the majority vote necessary to proceed on MMMF reform (Schapiro, Statement of SEC Chairman Mary L. Schapiro on money market fund reform, 2012b).

However, the MMMF industry only won a temporary victory, as other federal regulators responded to the SEC's failure to move on MMMF reform. DoT began consulting with the Fed, the SEC, and other regulators to pick up the issue of MMMF reform (Condon, 2012). On September 27th, 2012, Treasury Secretary Timothy Geithner wrote a letter to the Financial Stability Oversight Council ("FSOC")—a regulatory agency created by the Dodd-Frank Act consisting of the Secretary of the Treasury, the Chairman of the Board of Governors of the Federal Reserve System, the Chairman of the SEC (meaning Mary Schapiro was a member of the FSOC in addition to Chairwoman of the SEC), and other regulators—calling for structural reform for MMMFs (Geithner, 2012).

FSOC released recommendations for MMMF reform on November 13th, 2012, moving forward in the rule-making process (Financial Stability Oversight Council, 2012). FSOC's proposals consisted of three non-exclusive alternatives: moving MMMFs to a floating NAV, scrapping the stable \$1-per-share NAV; a stable NAV but with a capital buffer and requiring MMMFs to implement a minimum balance at risk ("MBR") for their shareholders; and a stable NAV but a capital buffer and "other measures" (Financial Stability Oversight Council, 2012). MMMF sponsors, such as Fidelity, protested not only the FSOC proposals but FSOC taking action on the issue at all, arguing that the issue was best left to the SEC (FMR LLC, 2013b). The ICI also commented, complaining that

ICI has produced over this period a significant body of empirical research that bears directly on the question of money market fund reform. Little of this research appears to

have been taken into account, much less disputed, in the drafting of FSOC's report and recommendations. (Stevens, 2013)

Meanwhile, on September 17th, 2012, the SEC Commissioners who opposed further rulemaking on MMMFs sent a memo to Chairwoman Schapiro requesting a report to address their questions about MMMFs. The SEC prepared a report to address the questions and released it on November 30th, 2012 (U.S. Securities and Exchange Commission, 2012). SEC Commissioner Luis Aguilar indicated he was pleased by the report (Aguilar, 2012), and Republican Commissioner Daniel Gallagher said on January 16th, 2013, that he was pleased with the report as well and that the SEC had begun the process of drafting a reform proposal (Gallagher, 2013). FSOC stated on November 27th, 2012, that if the SEC moved forward in their rule-making process for MMMFs that FSOC would not issue final recommendations (Gerety, 2012). As the SEC was moving forward, as requested, FSOC ended their recommendation process. Chairwoman Schapiro left the SEC, and on April 10th, 2013, Mary Jo White, also a supporter of MMMF reform, was sworn in as the SEC's Chair (U.S. Securities and Exchange Commission, 2013e). The SEC finally issued proposed rules on MMMF reform on June 5th, 2013 (U.S. Securities and Exchange Commission, 2013a), a proposal that received a unanimous vote by the SEC Commissioners (U.S. Securities and Exchange Commission, 2013d).

Money market mutual fund reform debate

MMMF reform is a topic resulting from the 2008 financial crisis, a topic that regulators, the MMMF industry, and numerous third-party commentators from media commentators to academics are very concerned about. They have published thousands

of pages of research, opinions, and arguments. As former SEC Chairman and Bloomberg LP director Arthur Levitt said, “The issue has been studied to death.” (Condon, Money funds test Geithner, Bernanke as Schapiro defeated, 2012)

Naturally for a topic as controversial as MMMF reform, the first issue is whether MMMFs need to be reformed at all. Regulators, numerous media commentators, and academics believe MMMFs are in dire need of reform, while the MMMF industry has argued that MMMFs are very safe, provide valuable services for the economy, and that further reform could make MMMFs unappealing and result in an exodus away from MMMFs, which, they argue, would have negative economic consequences.

The report for Commissioners Aguilar, Paredes, and Gallagher, prepared by the Division of Risk, Strategy, and Financial Innovation at the SEC (2012), argued that MMMFs are still vulnerable to runs, even after the 2010 reforms. Capital losses in MMMF portfolios are very difficult to recoup without sponsor support due to the structure of MMMFs. While the report concluded that a 60-day WAM is safer than a 90-day WAM (and this is only a maximum; the mean WAM is well below 60-days), investor redemptions can force an MMMF to break the buck after it has realized capital losses due to the disparity between share price (\$1-per-share) and the shadow NAV. Even if capital losses do not directly result in the MMMF breaking the buck, they could give investors an incentive to redeem from a fund because the first investors who redeem their shares will receive \$1-per-share, while investors who redeem after the MMMF has broken the buck will receive less than \$1-per-share and lose money, as the only guarantee for MMMF investments is by the MMMF. While the 2010 reforms did help address issues that could cause a run, they did not remove the incentive to run, and even under the 2010 rules, the Reserve Primary Fund, the MMMF that basically set off the

2008 MMMF crisis, would still have broken the buck (in other words, it was not in violation of any of the 2010 rules when it broke the buck; Lehman Brothers debt would still have had a credit rating qualifying it to be included in the MMMF's portfolio).

Industry-wide runs on MMMFs concern regulators due to MMMFs relation to credit markets. When MMMFs do not have the cash to meet redemptions, they are forced to sell their portfolio's assets on the market to obtain the cash they need, either at market value or, worse, at fire-sale³³ prices. Given that the MMMF industry, as a whole, had \$2.7 trillion net assets at the beginning of 2013 (Investment Company Institute, 2013a), an industry-wide run and across-the-board fire sales could have very traumatic impacts on the markets of the securities MMMFs invest in. According to the Federal Register:

As a consequence [of investor redemptions in 2008], short-term markets seized up, impairing access to credit in short-term private debt markets. Some commercial paper issuers were only able to issue debt with overnight maturities. The interest rate premium (spread) over three-month Treasury bills paid by issuers of three-month commercial paper widened significantly from approximately 25–100 basis points³⁴ before the September 2008 market events to approximately 200–350 basis points, and issuers were exposed to the costs and risks of having to roll over increasingly large amounts of commercial paper each day. (U.S. Securities and Exchange Commission, 2009b, p. 32692)

As William Birdthistle (2010) said, "...the nation's largest operating companies immediately lost access to huge sources of loans that they used continually to manage their daily operations." (p. 1180) This was the reason the Fed and DoT intervened to

³³ A "fire sale" is when an asset is sold at a discounted price (Investopedia US, 2009f). An MMMF sells assets at fire sale prices in order to liquidate the asset quickly.

³⁴ A "basis point" ("BPS") is a hundredth of 1% (or 0.01%) (Investopedia US, 2009b).

help MMMFs and end the run. Regulators fear that MMMFs, as they stand, could cause another crisis in credit markets critical to the national economy, and thus should be reformed.

The MMMF industry argues that MMMFs are not nearly as dangerous as regulators perceive them to be. Stevens (2012) stated before the Senate Banking, Housing, and Urban Affairs Committee that MMMFs fared well in the 2008 financial crisis compared to the banking sector and that MMMFs were bound to be impacted by the sheer scale of the financial crisis; that only one MMMF failed during the crisis is actually to the industry's credit (and only one MMMF had failed prior in the entire history of MMMFs). He noted that while prime MMMFs did see assets leave, many of those assets were shifted to government-only MMMFs, which saw an influx of funds during the crisis, and MMMFs in general rebounded from the crisis within months (claims confirmed in the SEC's November 2012 report). Meanwhile, MMMFs provide financing to governments, businesses, and financial institutions, and are a stable and liquid cash management tool for millions of retail investors, corporations, municipal governments, and other institutional investors. Thus, he said that MMMFs' principal features such as a stable NAV and easy access for investors to their MMMF investment should be preserved, and that the 2010 reforms made MMMFs much safer. No major structural reform is necessary.

While it is true that only two MMMFs have ever broken the buck, there is a much deeper story to the apparent safety of MMMFs. According to the SEC:

... Many money market fund sponsors took extraordinary steps to protect funds' net assets and preserve shareholder liquidity by purchasing large amounts of securities at the

higher of market value or amortized cost and by providing capital support to the funds.

(U.S. Securities and Exchange Commission, 2009b, p. 32692)

Moody's (2010) found that between 2007 and 2009, 62 MMMFs received support from their sponsors. Brady, Anadu, and Cooper (2012) found that between 2007 and 2011, 21 prime MMMFs would have broken the buck if they had not received sponsor support. Sponsor support is not contractually obligated and is often administered quietly, without the fund's investors aware that support had been administered. While some have suggested that sponsor support makes MMMFs safer (Investopedia US, 2012) (a failed MMMF would ruin the sponsor's reputation), regulators are not quite convinced (Reserve Primary Fund's sponsor was unable to provide the support necessary to save the fund, and the fund broke the buck). Jeffrey Gordon (2013), in a comment letter requested by FSOC, warned that sponsor support is limited by the sponsor's ability to support the fund, and stated:

... because we do not and realistically could not require a sponsor to guarantee its funds, the current practice of sponsor support (unless and until it is not feasible), is a treacherous ice floe on which to rest a multi-trillion dollar financial intermediary.

(Gordon, 2013, p. 5)

MMMF reform opponents argue that further reforms could kill the MMMF industry. Angel (2012) argues that some of the MMMF reform proposals (such as a floating NAV) could make MMMFs unappealing to investors and contract the industry, and Fidelity (Goebel, 2013) argued that some proposed reforms could make MMMFs unprofitable for potential sponsors, causing some to leave the business altogether. Angel (2012) says this could result in severe unintended economic consequences; specifically:

... Several of these proposals could severely damage the municipal finance and commercial paper markets along with the governments and businesses that rely on those markets for funding. Additionally, shrinking the MMMF sector would, paradoxically, increase systemic risk in the financial system as a whole by concentrating more assets in highly leveraged too big to fail banks, and place further strain on bank capital adequacy.

(Angel, 2012, p. 3)

Federal regulators take this risk seriously. Commissioner Aguilar initially opposed further MMMF reform because he, too, was concerned where funds currently invested in MMMFs would go, stating, “Many do not realize that due to the 2010 Amendments, money market funds have become one of the most transparent financial instruments for both regulators and investors.” (Aguilar, 2012)

The SEC studied the potential impacts of a shrinking MMMF industry in their November 2012 report (U.S. Securities and Exchange Commission, 2012). The SEC found that not only are MMMFs decreasing their exposure to commercial paper, the commercial paper market has been in decline since 2006, with banks and other financial institutions relying most on MMMFs for their commercial paper (and the SEC believes that, given the nature of these institutions, if the MMMF industry were to shrink, they would be well equipped to find alternative sources of financing). MMMFs have also been decreasing their exposure to municipal debt, but municipal governments have still managed to obtain funding. Regarding MMMF alternatives, the SEC argued that many of the investment alternatives to MMMFs have drawbacks of their own for investors, and while retail investors using MMMFs as a store of funds may migrate to banks, institutional investors (who constitute the majority of MMMFs’ assets) likely would not. Thus the SEC’s analysis suggests that a fundamental restructuring of MMMFs would not have significant negative economic impacts. One could then argue

that, from a macroeconomic perspective, the benefits of MMMF reform outweigh the costs of reform.

With all this said, the argument for MMMF reform is very strong. MMMFs are involved in markets that are critical to a modern economy, and distress in the MMMF industry could easily impact the rest of the economy if regulators do not become involved. However, intervention by regulators akin to DoT's guarantee of MMMFs in 2008 is both unfair and unsafe (and prohibited by Dodd-Frank). Free insurance is likely to result in moral hazard in the MMMF industry, prompting risky behavior that will make the economy even more unsafe, and tax-payers will be left subsidizing the MMMF industry with free insurance. Not only is this unfair to the taxpayers, it is unfair to the banks who are required, by law, to purchase insurance from the FDIC. Thus the MMMF industry must be reformed.

However, MMMFs are important components in the U.S. economy and are important participants in the money market. Even when accounting for the SEC's conclusions regarding corporate paper and municipal debt, the industry is still a major provider of credit to corporations, banks, and governments. If this was not the case, regulators and other spectators would not be as concerned about the industry as they are.

Regulators should also consider MMMFs from the perspective of investors. For institutional investors, MMMFs manage institutional money more efficiently than the institution would in-house. For retail investors, they allow the small investor to participate in a market that otherwise is difficult to enter. They also give individuals more liberty in deciding how they want their money used, providing a viable alternative to commercial banks. Thus, considering both MMMFs roll in the credit markets and for

investors, MMMF reform should aim to allow MMMFs to continue to serve in their present niche.

While the MMMF industry opposes any reform to MMMFs, regulators and industry appear to have reached a consensus on which MMMFs should face further regulation. According to Fidelity:

Fidelity believes that we are beginning to see a consensus emerge across the various constituencies that have been actively involved in this debate—including, most importantly, the regulators—that could lead to a path forward. The consensus recognizes that market data shows how Treasury, government, municipal and retail general purpose/prime money market mutual funds have not demonstrated any need for further reform. If additional regulation is proposed, the SEC should take a prudent and targeted approach that focuses on institutional prime funds. (FMR LLC, 2013b)

The SEC's November 2012 report found that institutional investors were more likely to run than retail investors, and it was prime institutional MMMFs that suffered the most during the run, while government-only MMMFs saw an influx of assets during the 2008 financial crisis, and retail MMMFs saw minimal action (U.S. Securities and Exchange Commission, 2012). This consensus between the industry and regulators is for the better; as prime institutional MMMFs were where problems appeared, reform should focus on those funds' unique problems. In the SEC's 2013 rules proposal, the first proposal for MMMF reform would primarily affect institutional prime MMMFs (U.S. Securities and Exchange Commission, 2013a).³⁵

³⁵ The SEC observed in 2009 that institutional MMMFs generally need greater portfolio liquidity and experienced much greater redemption pressure. Prime institutional funds experienced 30% net outflows during the run on MMMFs in 2008, while prime retail funds only experienced 4.6%. The SEC considered imposing regulations on institutional MMMFs specifically as part of the 2010 reforms, but ran into difficulty drawing a regulatory distinction due to many MMMFs including both types of shareholders. Thus the problem was drawing a line with a general regulatory definition. The SEC sought comments for addressing this problem. Recommendations included defining

The most notable proposals, at this moment, are a floating NAV and liquidity fees/gates because of their inclusion in the SEC's 2013 rules amendments proposal. Numerous other proposals have been proposed to reform MMMFs as well. Two of FSOC's proposals, for example, were not included as alternatives by the SEC: a capital buffer or a minimum balance at risk ("MBR"). Some have even suggested that MMMFs should be insured, like bank accounts. These suggestions are worth discussion.

Floating NAV

The issue at greatest contention is the proposal to move MMMFs from the traditional stable \$1-per-share NAV to a "floating" NAV that would fluctuate on a day-to-day basis. Shares would be purchased at the per-share NAV, which could be different from \$1. The floating NAV proposal strikes at the heart of regulators' concerns about MMMFs, while simultaneously posing the greatest threat to the MMMF industry.

MMMFs did not always have a stable \$1-per-share NAV. Birdthistle (2010) says MMMFs originally began with floating NAVs customary of mutual funds, but the MMMF industry lobbied the SEC effectively to grant the MMMF industry exceptions to normal mutual fund rules and allow MMMFs to use the unique accounting and pricing techniques that allows MMMFs to maintain a stable NAV. According to Sullivan (1983), MMMFs with floating ("mark-to-market") and stable NAVs existed at the same time and investors preferred the stable NAV funds to the floating NAV funds. But regulators are

institutional MMMFs as funds that provide next-day liquidity or defining based on account size or expense ratios, but none of these recommendations fully satisfied the SEC. As a result, the SEC decided that it had not yet found an adequate method for making the distinction and decided to apply the minimum liquidity standards on both institutional and retail MMMFs. (U.S. Securities and Exchange Commission, 2010a) The SEC seems to have found a satisfactory solution in their 2013 proposal by effectively defining a retail MMMF as an MMMF with a \$1 million redemption limit; MMMFs without the restriction would be subject to the new MMMF rules, such as a floating NAV, while retail funds could keep a stable \$1-per-share NAV (U.S. Securities and Exchange Commission, 2013a).

concerned about the stable NAV, and feel it is the principal reason MMMFs are prone to runs.

A floating NAV is one of the SEC's 2013 rules proposals (U.S. Securities and Exchange Commission, 2013a). The SEC has proposed to require prime institutional MMMFs to transition to a floating NAV and rounding share prices to the nearest basis point rather than the nearest cent. MMMFs that deal only in Treasury, government agency, and state and municipal debt, along with all retail MMMFs, would be permitted to continue offering a stable \$1-per-share NAV. The SEC argues in the rules proposal:

Under a floating NAV, investors would not have had the incentive to redeem –money market fund shares to benefit from receiving the stable share price of a fund that may have experienced losses, because they would have received the actual market-based value of their shares. The transparency provided by the floating NAV alternative might also have reduced redemptions during the crisis that were a result of investor uncertainty about the value of the securities owned by money market funds because investors would have seen fluctuations in money market fund share prices that reflect market-based factors. (U.S. Securities and Exchange Commission, 2013a, p. 50)

In other words, MMMF losses would be realized immediately by all investors in proportion to their investment in the MMMF, eliminating the incentive to run on the fund. The SEC also believes the reform would acclimate MMMF investors to MMMF risk.

The MMMF industry raises many concerns about a floating NAV. According to Angel (2012), a floating NAV would result in fluctuations that would produce taxable gains or losses upon redemption. This has negative side effects: one is that a floating NAV could result in tax and accounting complications; another would be that many

institutional investors, namely governments and corporations, would be barred from investing in such MMMFs because of legal restrictions preventing them from investing in funds that fluctuate in value. Systems that engage in MMMF transactions would also need to be upgraded³⁶, and the SEC has estimated that the cost of updating systems to a floating NAV could range between \$1.2 to \$2.3 million (U.S. Securities and Exchange Commission, 2013a). The SEC addressed these concerns in their 2013 proposals. The SEC believes that the floating NAV requirement would not disqualify MMMF shares as cash equivalents and institutional investors would still be able to use floating NAV MMMFs for cash management. The SEC also has discussed the tax implications of its proposed reform with DoT and the Internal Revenue Service (“IRS”) and stated that those agencies are considering methods for easing the tax-reporting burden for MMMF share transactions.

Another argument against removing a floating NAV is that the accounting methods used to maintain a stable NAV, such as the amortized cost accounting method, are perfectly appropriate for MMMFs. According to Beresford (2012):

... the use of amortized cost by money market mutual funds is supported by more than 30 years of regulatory and accounting standard-setting consideration. In addition, its use has been significantly constrained through recent SEC actions that further ensure its appropriate use. Accounting standard setters have accepted this treatment as being in compliance with generally accepted accounting principles (GAAP). Finally, available data indicate that amortized cost does not differ materially from market value for investments industry wide. In short, amortized cost is “fair” for money market funds. (p. 2)

³⁶ Technically, systems should already be in place for allowing investors to trade MMMF shares at their current price, even if it is other than \$1. The SEC adopted amendments to rule 2a-7 in 2010 requiring shareholders be able to redeem shares from an MMMF based on their current NAV, even if that NAV has broken the buck (U.S. Securities and Exchange Commission, 2010a).

However, media commentators, such as the *Wall Street Journal* (2013), have called the accounting methods used to maintain a stable NAV an “accounting fiction to create the perception that [MMMFs’] values are fixed.”

While the SEC and other commentators have argued that a floating NAV would make MMMFs less prone to runs, the MMMF industry contends that this is not the case. In the ICI’s comment letter to FSOC (2013b), the ICI notes that ultrashort bond funds, which invest in securities similar to MMMFs but do not have a stable NAV, saw sharp declines in total net assets during 2007 and 2008. Even reform proponent Jeffrey Gordon does not believe a floating NAV would make MMMFs less prone to runs “and worse, would give the appearance of addressing those problems.” (Gordon, 2013, p. 1) He performed research comparing European MMMFs, some of which have NAVs similar to floating NAVs, to MMMFs with stable NAVs, and found that the fixed nature of an MMMF’s NAV was not enough to explain runs. This suggests that a floating NAV would not make MMMFs any safer.

The first alternative is correct for targeting only prime institutional MMMFs, as institutional investors in prime funds are more likely to run than retail investors. However, as discussed above, while a floating NAV, in theory, eliminates the incentive to run from a fund because loss. The reform considers the psychology of the investor at the moment losses are incurred but does not consider the psychology of the investor prior to suffering losses but worried about the *possibility* of losses. The 2008 run was sparked because institutional investors saw a fund break the buck and therefore raised the possibility other funds could break the buck as well, leading to mass redemptions. Fear of losses will not go away with a floating NAV; in fact, they could be exacerbated. Thus, the SEC’s first proposal is not very satisfying.

Liquidity gates or fees

The SEC's 2013 rules proposal consisted of two non-exclusive but distinct alternatives. The first alternative is the floating NAV proposal as described above. The second proposal would require all MMMFs to impose a 2% fee on all redemptions if the fund's liquid assets fall below 15% of total assets, unless the MMMF board determines that this is not in the best interest of the fund. MMMFs would also be permitted to impose a suspension of redemptions (a "gate") if weekly liquid assets fall below 15% of the MMMF's total assets. (U.S. Securities and Exchange Commission, 2013a)

This proposal is unique in that the MMMF industry has recommended liquidity fees or gates as their preferred reform (though they oppose MMMF reform in general). Fidelity, for example, recommended liquidity fees or gates as a viable reform option (FMR LLC, 2013b). The SEC explained their rationale for the liquidity fees or gates, stating:

... research in behavioral economics suggests that liquidity fees may be particularly effective in dampening a run because, when faced with two negative options, investors tend to prefer possible losses over certain losses, even when the amount of possible loss is significantly higher than the certain loss. Unlike gates, when a liquidity fee is imposed, investors would make an economic decision over whether to redeem. Therefore, under this behavioral economic theory, investors fearing that a money market fund may suffer losses may prefer to stay in the money market fund and avoid payment of the liquidity fee (despite the possibility that the fund might suffer a future loss) rather than redeem and lock in payment of the liquidity fee. (U.S. Securities and Exchange Commission, 2013a, p. 161)

Ironically, the MMMF industry seems to favor this proposal more than the regulators and media commentators calling for MMMF reform. Hamacher & Pozen (2013a) do not approve of the level of the fee, stating that it is significantly greater than the yield of MMMFs, and also criticize the proposal for applying to all MMMFs, including retail MMMFs. They also warn that the fees are more likely to create runs than prevent runs. In addition to Hamacher & Pozen, a group of Fed economists state:

Conditional fees and restrictions may increase [source's emphasis] the risk of preemptive runs on [MMMFs] in distress and speed up the contagious spread of runs to other funds. The possibility that fees or gates might be imposed would heighten investors' incentives to redeem quickly from troubled [MMMFs], particularly if they suspect that other investors will do so. In addition, given the similarity of [MMMF] portfolios, news that one fund has halted redemptions could spark runs on other funds... (McCabe, Cipriani, Holscher, & Martin, 2013, p. 35)

For the industry, liquidity fees or gates satisfy regulators' hunger for MMMF reform without radically altering MMMFs or adding extra costs for the fund. However, the SEC's second alternative proposed would be worse than failing to reform MMMFs if it were implemented. First, the fees would be implemented across the entire MMMF industry, including the retail and government funds that demonstrated resilience in the 2008 financial crisis; the SEC's first proposal does not do this. Second, the reform would make MMMFs more prone to runs than they are presently; no action at all would be better than this alternative. Investors would anticipate implementation of the liquidity gate or fee instead of failure of the MMMF when deciding whether to withdraw from the fund, effectively lowering the bar for investors' decision to run. Like the SEC's first alternative, the second alternative views investors' decision-making process from the

moment financial trouble begins but fails to consider investors' decision-making process when the investor becomes concerned about the state of their investment in an MMMF.

Capital buffer

A capital buffer, which was included in the FSOC's proposed MMMF reforms, would require an MMMF to hold assets for absorbing losses suffered by the MMMF's portfolio (Financial Stability Oversight Council, 2012). The MMMF or its sponsor would need to fund the buffer, either outright or using earnings from the MMMF. An MMMF buffer would allow an MMMF to absorb losses without breaking the buck, increasing an MMMF's tolerance to losses and make breaking the buck less likely (McCabe, Cipriani, Holscher, & Martin, 2013). However, the ICI argues that a capital buffer would fundamentally change the business model of MMMFs and maintaining a capital buffer would be costly, further eroding MMMFs' returns (Investment Company Institute, 2013b). Fidelity warns that a capital buffer would discourage companies from offering MMMFs (Goebel, 2013).

The MMMF industry's protest that a capital buffer would be expensive to maintain ignores the fact that banks and other depository institutions that compete with MMMFs are required to pay for insurance for their investments; thus the industry's protests are not very substantive. A capital buffer would make MMMFs more resistant to losses and decrease the likelihood of MMMFs breaking the buck. However, the strength of the buffer depends on its size, and if losses exceed the capital buffer, the MMMF could still break the buck. The capital buffer raises the bar for beginning a run, thus makes run dynamics less likely to begin; however, if losses result in the buffer

disappearing, the MMMF would be just as prone to runs as if the buffer never existed, and contagion could still spread throughout the industry.

Minimum balance at risk

An MBR (another one of the FSOC’s proposals, though not necessarily as described below) is the amount of an investor’s account with an MMMF that is subject to a delay in redemption should the rest of the investor’s account be redeemed.³⁷ This balance could be at risk if the MMMF suffers losses. For extra protection, part of the balance of the MBR could be subordinated and used to cover losses before the non-subordinated proportion of the investor’s balance. The subordinated balance an investor has increases the more she redeems from the MMMF account, thus subjecting investors who’ve redeemed more shares to more risk of losing their MBR should the MMMF break the buck and fail.³⁸ This is intended to act as a counterincentive to the “first mover

³⁷ Mathematically, the MBR for an investor i is calculated by multiplying a “reference amount” R_i with a proportion m ; thus, $MBR_i = mR_i$. R_i must be a function of the investor’s balances from the past thirty days (the authors suggested it could be the maximum balance or the average balance of the past thirty days). m must be large enough to give investors confidence that the losses suffered by the MMF will not exceed the investors’ aggregate MBRs (suggested amounts range between 3% and 5%). Each investor would have an available balance $A_i = B_i - MBR_i$ (A_i representing the investor’s balance available for immediate redemption and B_i representing her total balance). Redemptions exceeding the available balance would be subject to a delay (the authors recommended a thirty-day delay, since thirty days represent enough time to be a disincentive to redeeming as a part of a run). (McCabe, Cipriani, Holscher, & Martin, 2013)

³⁸ To further discourage withdrawals, part of the MBR should be subordinated and used to cover losses before the non-subordinated proportion. The subordinated balance would be calculated as:

$$\text{subordinated balance} = MBR \left(\frac{\text{cumulative net redemptions}}{\text{potential redemptions}} \right)$$

where cumulative net redemptions is the difference between the reference amount and the current balance, and potential redemptions is the difference between the reference amount and the investor’s MBR. Thus, the more an investor redeems from her MMF, the more her MBR is exposed to covering the losses suffered by the MMF should it fail. Retail investors could receive a more lax version of this equation and not have the first \$50,000 in redemptions included in the calculation of their subordinated balances; thus, the subordinated balance would be calculated as:

$$\text{subordinated balance} = \begin{cases} MBR \left(\frac{\text{cumulative net redemptions} - \$50,000}{\text{potential redemptions}} \right) & \text{if cumulative net redemptions} \geq \$50,000 \\ 0 & \text{if cumulative net redemptions} < \$50,000 \end{cases}$$

advantage” faced by investors in an MMMF failure and reward investors who stick with the fund with fewer losses to their accounts. (McCabe, Cipriani, Holscher, & Martin, 2013)

An MBR and a capital buffer could easily be combined for greater protection for MMMFs from runs and breaking the buck. Should an MMMF suffer losses, those losses would first be allocated to the MMMF’s capital buffer (should one exist). If the losses exceed the capital buffer, the MMMF has broken the buck and failed. Losses in excess of the buffer would be absorbed on a pro rata basis by the subordinated proportion of investors’ MBRs first, followed by the remaining portion of shareholders’ MBRs, then finally over all remaining shares in the fund. (McCabe, Cipriani, Holscher, & Martin, 2013)

The MBR is attractive because it imposes costs for an MMMF’s failure directly on those who run from the fund (McCabe, Cipriani, Holscher, & Martin, 2013; Gordon, 2013). But the ICI (2013b) argues that an MBR fundamentally alters the nature of MMMFs as a mutual fund. Investor access to their shares is an important feature of a mutual fund; an MBR would restrict investors’ access to their shares, which would discourage investors from becoming involved in an MMMF to begin with. Worse, certain institutional investors would be prohibited from investing in MMMFs with an MBR requirement. An MBR would also be difficult to implement for MMMF “omnibus accounts,” which are aggregated MMMF accounts owned by multiple investors; these accounts are not very transparent, so implementing an MBR for each of the omnibus accounts’ investors would be difficult (McCabe, Cipriani, Holscher, & Martin, 2013).

For mathematical reasons, this method for calculating the subordinated balance is more forgiving than the earlier method, which creates the possibility that large investors could “broker” their accounts to take the most advantage of this. However, the benefit of doing so is very minor. (McCabe, Cipriani, Holscher, & Martin, 2013)

In order to lend credit to the argument that an MBR is unattractive because it goes against the nature of mutual funds, one must ignore the exceptions to typical mutual fund rules that regulators have granted to the industry for MMMFs benefit. Another unorthodox rule could certainly be implemented to make MMMFs less prone to runs. However, preventing institutional investors from investing in an MMMF is an undesirable side effect. An MBR also does not recognize MMMFs as a temporary storage of funds for investors desiring to move funds from one mutual fund to another (non-money market) mutual fund without needing to decide which mutual fund right away. An MBR is inherently incompatible with this usage of MMMFs. Thus an MBR should be implemented for MMMFs used for cash management rather than as a temporary destination of funds and should be used exclusively for institutional funds. However, unless an MBR that does not legally prevent certain institutional investors from investing in the MMMF can be implemented, this reform would ruin MMMFs niche in the financial sector, which, as described above, is an undesirable consequence.

Insurance or guarantee of investments

One recommendation that does not seem to have attracted much attention by regulators is permanent insurance of MMMFs. DoT effectively provided free, temporary insurance to MMMFs in 2008; some, such as Bullard (2009) and Birdthistle (2010) have suggested that regulators should make insurance permanent in some form or other. Birdthistle says that free insurance by regulators, such as the DoT guarantee in 2008, is a formula for moral hazard. Better would be either requiring the MMMF sponsor legally guarantee their MMMF (which MMMF sponsors implicitly do) or for the MMMF industry follow the lead of the banking sector and pay into an industry or

government collective insurance regime. Jeffrey Gordon (2013) says that there is no way to legally require an MMMF sponsor to guarantee their funds. A collective insurance regime similar to the FDIC would be accompanied by fees for MMMFs that could erode their return for investors. Bullard (2009) recommended that regulation of MMMFs be shifted from the SEC to the FDIC and MMMFs be given access to insurance.

Some form of insurance would likely solve the MMMF problem best. DoT's guarantee of MMMF shares in 2008 appears to have been effective in stopping the run on MMMFs during the financial crisis; the only problem with the guarantee was that it provided free insurance to MMMFs, which only encourages moral hazard in the MMMF industry. Insurance would formalize DoT's guarantee, providing an opportunity to remove moral hazard while removing the incentive to run from an MMMF. Insurance would also allow MMMFs to continue to serve in their niche as an alternative to commercial banks. While insurance would not come free and MMMFs would be required to pay for the insurance, possibly eroding investors' yield from MMMFs, this cost seems acceptable compared to the status quo. It would also equalize competition between MMMFs and the banking institutions required to purchase insurance; thus, insurance would be fair. Granted, insurance for a mutual fund is unusual, but given all the exceptions to typical mutual fund rules to accommodate MMMFs and allow them to act as a shadow bank, requiring insurance should be perfectly acceptable.

The FDIC may be the best agency to provide MMMFs insurance, so regulation of MMMFs should be moved to the FDIC. Granted, such regulation would be unusual for a mutual fund; however, MMMFs are simply not typical mutual funds and should be regulated as such. To keep insurance premiums low and discourage moral hazard, MMMF sponsors could be required to support their MMMFs to the best of their ability;

if sponsor support is not enough to prevent losses, the FDIC could then make up losses. Given the stellar safety record and (compared to banks) structural soundness of MMMFs (due to MMMF assets being more liquid than bank loans), full and low-cost insurance could be provided. MMMFs would then be completely immune to runs.

Conclusion

To the uninformed observer, MMMF's are an unlikely target for reform. But concerns regarding their safety and the risk they pose to the greater economy are very valid. The MMMF industry's opposition to reform is to be expected, though the industry does raise reasonable concerns and bring an important perspective to the discussion. However, the industry is on the wrong side of this fight.

But even though MMMFs do need to be reformed, regulators should be wary of reforms that would eliminate the industry's niche in the economy, reforms that might solve the problem by destroying the source of the problem akin to killing a spider with a sledgehammer. In many ways, the fact that it has taken over thirty years for problems to appear in MMMFs is remarkable. MMMFs still provide valuable services to the economy, not only in the money market but also as an alternative to banks, giving individuals a choice for storing their money and competing with banks.

Most of the reforms regulators and industry seem to discuss would either damage the industry or would not be very effective in solving the problem of runs (or make the problem worse). As it stands, the SEC's 2013 reform proposal, while a step in the right direction and likely better than no reform at all (at least in the case of the first alternative), is not very satisfying. It is unfortunate that an insurance regime, a reform that has worked in the past and would allow MMMFs to continue to function as they

currently do (albeit with a lower yield), is not receiving more attention. However, even though most of the reforms are not very satisfying, most of the proposed reforms would reduce the systemic risk MMMFs pose. Hopefully whatever reform is adopted will not need to be tested soon.

References

- § 270.2a-7, Title 17. C.F.R. pt 270. (2010). Retrieved May 7, 2013, from e-CFR:
<http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&SID=da885587251086faa77e20e4e86dd0a5&rgn=div8&view=text&node=17:3.0.1.1.16.0.144.15&idno=17>
- Aguilar, L. A. (2012, December 5). Statement on money market funds as to recent developments. Washington, District of Columbia, United States of America. Retrieved June 18, 2013, from <http://www.sec.gov/news/speech/2012/spch120512laa.htm>
- Angel, J. J. (2012). Money market mutual fund "reform": the dangers of acting now. Washington, District of Columbia, United States of America: U.S. Chamber of Commerce. Retrieved March 18, 2013, from <http://www.centerforcapitalmarkets.com/wp-content/uploads/2010/04/Angel-Costs-and-Costs-of-MMMF-Reforms-draft-6.18.2012-FINAL.pdf>
- Antoniewicz, R. L., Breuer, M. C., Collins, S. S., & Reid, B. K. (2011, January). *Pricing of U.S. money market funds*. Washington: Investment Company Institute. Retrieved June 11, 2013, from http://www.ici.org/pdf/ppr_11_mmf_pricing.pdf
- Beresford, D. R. (2012). *Amortized cost is "fair" for money market funds*. Washington: Center for Capital Market Competitiveness. Retrieved March 18, 2013, from http://www.centerforcapitalmarkets.com/wp-content/uploads/2010/04/Money-Market-Funds_FINAL.layout.pdf
- Birdthistle, W. (2010). Breaking bucks in money market funds. *Wisconsin Law Review*, 1155-1200. Retrieved June 13, 2013, from http://works.bepress.com/william_birdthistle/23/
- Blankenship, C. (2008, November 18). Testimony of Cynthia Blankenship, Vice Chairman/COO, Bank of the West, on behalf of the Independent Community Bankers of America before the Congress of the United States House of Representatives Committee on Financial Services. Washington, District of Columbia, United States of America. Retrieved June 16, 2013, from <http://www.icba.org/files/icbasites/pdfs/test111808.pdf>
- Board of Governors of the Federal Reserve System. (2008, September 19). Press release. Washington, District of Columbia, United States of America. Retrieved June 16, 2013, from <http://www.federalreserve.gov/newsevents/press/monetary/20080919a.htm>
- Brady, S. A., Anadu, K. E., & Cooper, N. R. (2012). *The stability of prime money market mutual funds: sponsor support from 2007 to 2011*. Boston: Federal Reserve Bank of Boston. Retrieved April 1, 2013, from <http://www.bos.frb.org/bankinfo/qau/wp/2012/qau1203.pdf>
- Bullard, M. E. (2009, March 2). Federally-insured money market funds and narrow banks: the path of least insurance. Retrieved June 16, 2013, from http://www.law.berkeley.edu/files/bclbe/Bullard_on_MMF_Insurance.pdf
- Capital Flow Analysis. (2010, August 27). CRESCINCO and Conta Garantia (first money market fund). Retrieved June 13, 2013, from http://www.capital-flow-analysis.info/investment-tutorial/case_1k.html
- Condon, C. (2008, September 16). Reserve Primary Money Fund falls below \$1 a share (update4). Bloomberg L.P. Retrieved June 16, 2013, from <http://www.bloomberg.com/apps/news?pid=newsarchive&sid=a5O2y1go1GRU>

- Condon, C. (2012, August 24). Money funds test Geithner, Bernanke as Schapiro defeated. *Bloomberg*. Retrieved June 18, 2013, from <http://www.bloomberg.com/news/2012-08-23/money-funds-test-geithner-bernanke-resolve-as-schapiro-defeated.html>
- Dictionary.com LLC. (n.d.). Passbook savings account. Retrieved June 13, 2013, from <http://dictionary.reference.com/browse/passbook+savings+account>
- European Commission. (2012, March 19). *Green paper; shadow banking*. Brussels: European Commission. Retrieved June 10, 2013, from http://ec.europa.eu/internal_market/bank/docs/shadow/green-paper_en.pdf
- Financial Stability Oversight Council. (2012, November 13). Financial Stability Oversight Council releases proposed recommendations for money market mutual fund reform. Washington, District of Columbia, United States of America. Retrieved June 18, 2013, from <http://www.treasury.gov/press-center/press-releases/Pages/tg1764.aspx>
- Financial Stability Oversight Council. (2012, November 19). Proposed regulations regarding money market mutual fund reform. *Federal Register*, 77(223), 69455-69483. Retrieved June 18, 2013, from <http://www.treasury.gov/initiatives/fsoc/rulemaking/Documents/Proposed%20Recommendations%20Regarding%20Money%20Market%20Mutual%20Fund%20Reform.pdf>
- FMR LLC. (2013a, May). Fidelity Investments Statement. Smithfield, Rhode Island, United States of America. Retrieved June 26, 2013, from https://www.fidelity.com/bin-public/060_www_fidelity_com/documents/MM-MF-Statement.pdf
- FMR LLC. (2013b, April). Update on money market mutual fund regulatory developments. Retrieved May 8, 2013, from Fidelity.com: <https://www.fidelity.com/mutual-funds/news-analysis/money-market-funds-statement>
- FMR LLC. (n.d.). Money market funds. Retrieved May 7, 2013, from Fidelity.com: <https://www.fidelity.com/fixed-income-bonds/money-market-funds>
- Gallagher, D. M. (2013, January 16). Remarks before the U.S. Chamber Center for Capital Markets Competitiveness. Washington, District of Columbia, United States of America. Retrieved June 18, 2013, from <http://www.sec.gov/news/speech/2013/spch011613dmg.htm>
- Geithner, T. F. (2012, September 27). Letter to members of the Financial Stability Oversight Council. Washington, District of Columbia, United States of America. Retrieved June 18, 2013, from <http://www.treasury.gov/connect/blog/Documents/Sec.Geithner.Letter.To.FSOC.pdf>
- Gerety, A. (2012, November 27). Five questions on the FSOC's proposed recommendations for money market mutual fund reform. Washington, District of Columbia, United States of America: Financial Stability Oversight Council. Retrieved June 18, 2013, from <http://www.treasury.gov/connect/blog/Pages/mmf-5-qs.aspx>
- Goebel, S. C. (2013, February 14). Comments on Financial Stability Oversight Council proposed recommendations regarding money market mutual fund reform. Boston, Massachusetts, United States of America. Retrieved June 19, 2013, from <http://www.regulations.gov/contentStreamer?objectId=09000064811f8e97&disposition=attachment&contentType=pdf>
- Gordon, J. N. (2013, February 18). Proposed recommendations regarding money market mutual fund reform. New York City, New York, United States of America. Retrieved March 21, 2013, from <http://clsbluesky.files.wordpress.com/2013/03/gordon-letter.pdf>

- Hamacher, T., & Pozen, R. (2013b, January 12). Striking a balance on money market funds. *The Washington Post*. Retrieved June 16, 2013, from http://www.washingtonpost.com/business/a-balance-on-money-market-funds/2013/01/11/2a2482d8-5478-11e2-a613-ec8d394535c6_story.html
- Hamacher, T., & Pozen, R. C. (2013a, June 18). The SEC gets money-fund reform half right. *Wall Street Journal*, p. A.17. Retrieved June 21, 2013, from <http://search.proquest.com/docview/1368553271?accountid=14677>
- Investment Company Institute. (2008). *2008 investment company fact book*. Washington: Investment Company Institute. Retrieved June 13, 2013, from http://www.ici.org/pdf/2008_factbook.pdf
- Investment Company Institute. (2013a). *2013 investment company fact book*. Washington: Investment Company Institute. Retrieved June 19, 2013, from http://www.ici.org/pdf/2013_factbook.pdf
- Investment Company Institute. (2013b, January 24). Comment letter of the Investment Company Institute on Financial Stability Oversight Council proposed recommendations regarding money market mutual funds. Washington, District of Columbia, United States of America. Retrieved June 21, 2013, from <http://www.regulations.gov/contentStreamer?objectId=09000064811d6771&disposition=attachment&contentType=pdf>
- Investopedia US. (2009a, February 15). Asset-backed commercial paper - ABCP. Retrieved June 11, 2013, from http://www.investopedia.com/terms/a/asset_backed_commercial_paper.asp
- Investopedia US. (2009b, February 15). Basis point - BPS. Retrieved June 19, 2013, from <http://www.investopedia.com/terms/b/basispoint.asp>
- Investopedia US. (2009c, February 15). Certificate of deposit - CD. Retrieved June 11, 2013, from <http://www.investopedia.com/terms/c/certificateofdeposit.asp>
- Investopedia US. (2009d, February 15). Commercial paper. Retrieved June 11, 2013, from <http://www.investopedia.com/terms/c/commercialpaper.asp>
- Investopedia US. (2009e, February 15). Credit risk. Retrieved June 13, 2013, from <http://www.investopedia.com/terms/c/creditrisk.asp>
- Investopedia US. (2009f, February 15). Fire sale. Retrieved June 19, 2013, from <http://www.investopedia.com/terms/f/firesale.asp>
- Investopedia US. (2009g, February 15). Interest rate risk. Retrieved June 13, 2013, from <http://www.investopedia.com/terms/i/interestraterisk.asp>
- Investopedia US. (2009h, February 15). Liquidity. Retrieved June 11, 2013, from <http://www.investopedia.com/terms/l/liquidity.asp>
- Investopedia US. (2009i, February 15). Maturity. Retrieved June 10, 2013, from <http://www.investopedia.com/terms/m/maturity.asp>
- Investopedia US. (2009j, February 15). Regulation Q. Retrieved June 13, 2013, from <http://www.investopedia.com/terms/r/regulationq.asp>
- Investopedia US. (2009k, February 15). Repurchase agreement - repo. Retrieved June 11, 2013, from <http://www.investopedia.com/terms/r/repurchaseagreement.asp>
- Investopedia US. (2009l, February 15). Thrift. Retrieved June 13, 2013, from <http://www.investopedia.com/terms/t/thrift.asp>
- Investopedia US. (2009m, February 15). Treasury bill - T-bill. Retrieved June 10, 2013, from <http://www.investopedia.com/terms/t/treasurybill.asp>

- Investopedia US. (2009n, February 15). Treasury bond - T-bond. Retrieved June 10, 2013, from <http://www.investopedia.com/terms/t/treasurybond.asp>
- Investopedia US. (2009o, February 15). Treasury note. Retrieved June 10, 2013, from <http://www.investopedia.com/terms/t/treasurynote.asp>
- Investopedia US. (2012, June 7). Why money market funds break the buck. Retrieved June 19, 2013, from <http://www.investopedia.com/articles/mutualfund/08/money-market-break-buck.asp>
- Kahl, M., Shivdasani, A., & Wang, Y. (2013, March 28). Short-Term Debt as Bridge Financing: Evidence from the Commercial Paper Market. Retrieved June 11, 2013, from <http://ssrn.com/abstract=1120068> or <http://dx.doi.org/10.2139/ssrn.1120068>
- Krantz, M. (2008, August 19). Money market mutual funds are safe, but not perfect. *USA Today*. Retrieved June 28, 2013, from http://usatoday30.usatoday.com/money/perfi/columnist/krantz/2008-08-19-money-market-mutual-funds_N.htm
- Lee, C.-F., & Lee, A. C. (Eds.). (2006). *Encyclopedia of finance*. New York, New York: Springer Science & Business Media, Inc. Retrieved May 6, 2013, from http://link.springer.com.ezproxy.lib.utah.edu/content/pdf/10.1007%2F0-387-26336-5_1337.pdf
- Lehman Brothers Holdings Inc. (2008, September 15). Lehman Brothers Holdings Inc. announces it intends to file chapter 11 bankruptcy petition. New York City, New York, United States of America. Retrieved June 13, 2013, from http://www.lehman.com/press/pdf_2008/091508_lbhi_chapter11_announce.pdf
- McCabe, P. E., Cipriani, M., Holscher, M., & Martin, A. (2013). *The minimum balance at risk: a proposal to mitigate the systemic risks posed by money market funds*. Washington: Brookings Institute. Retrieved March 25, 2013, from www.brookings.edu/~media/Projects/BPEA/Spring%202013/2013a_mccabe.pdf
- Moody's Investors Service. (2010, August 9). Sponsor support key to money market funds. New York City, New York, United States of America: Moody's Investors Services. Retrieved June 19, 2013, from http://www.alston.com/files/docs/Moody%27s_Report.pdf
- Nutting, R. (2013, March 29). Money market funds are a most dangerous investment. *MarketWatch*. Retrieved April 1, 2013, from <http://www.marketwatch.com/story/money-market-funds-are-a-most-dangerous-investment-2013-03-29>
- Popper, N. (2012, December 7). Bid to write new rules for funds gains ally. *The New York Times*. Retrieved June 18, 2013, from http://www.nytimes.com/2012/12/08/business/effort-to-overhaul-money-market-funds-gains-an-ally.html?_r=0
- Schapiro, M. L. (2012a, March 15). Speech by SEC chairman: remarks at the Society of American Business Editors and Writers (SABEW) Annual Convention. Indianapolis, Indiana, United States of America. Retrieved June 18, 2013, from <http://www.sec.gov/news/speech/2012/spch031512mls.htm>
- Schapiro, M. L. (2012b, August 22). Statement of SEC Chairman Mary L. Schapiro on money market fund reform. Washington, District of Columbia, United States of America. Retrieved June 18, 2013, from <http://www.sec.gov/news/press/2012/2012-166.htm>
- Schapiro, M. L. (2012c, June 21). Testimony on "Perspectives on money market mutual fund reforms". Washington, District of Columbia, United States of America. Retrieved June 18, 2013, from

- http://www.banking.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=66f4ddb5-4823-4341-bad9-8f99cdf5fe9a
- Seligman, B. (1983). *Money market funds*. New York City: Praeger Publishers.
- Stevens, P. S. (2012, June 21). Testimony of Paul Schott Stevens, President and CEO, Investment Company Institute, before the Committee on Banking, Housing and Urban Affairs, United States Senate. Washington, District of Columbia, United States of America. Retrieved June 18, 2013, from http://www.banking.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=12d86f5f-3e1d-4f64-a2db-f2f7f1126c0a
- Stevens, P. S. (2013, January 28). Letter to Financial Stability Oversight Council. Washington, District of Columbia, United States of America. Retrieved June 18, 2013, from www.regulations.gov/contentStreamer?objectId=09000064811dbe70&disposition=attachment&contentType=pdf
- Sullivan, C. (1983). *The money market fund primer*. New York City: Macmillan Publishing Co., Inc.
- Summers, B. J. (1980). Negotiable certificates of deposit. Richmond, Virginia, United States of America: Federal Reserve Bank of Richmond. Retrieved June 11, 2013, from http://www.richmondfed.org/publications/research/economic_review/1980/pdf/er660402.pdf
- U.S. Department of the Treasury. (2008, September 29). Treasury announces temporary guarantee program for money market funds. Washington, District of Columbia, United States of America. Retrieved June 16, 2013, from <http://www.treasury.gov/press-center/press-releases/Pages/hp1161.aspx>
- U.S. Securities and Exchange Commission. (2009a). *Money market fund reform*. Washington: U.S. Securities and Exchange Commission. Retrieved June 17, 2013, from <http://www.sec.gov/rules/proposed/2009/ic-28807.pdf>
- U.S. Securities and Exchange Commission. (2009b, July 8). Money market fund reform. *Federal Register*, 74(129), 32688-32741. Retrieved June 19, 2013, from <http://www.gpo.gov/fdsys/pkg/FR-2009-07-08/pdf/E9-15906.pdf>
- U.S. Securities and Exchange Commission. (2010, April 15). Focus on money market funds. Retrieved May 8, 2013, from Investor.gov: <http://www.investor.gov/news-alerts/investor-bulletins/focus-money-market-funds>
- U.S. Securities and Exchange Commission. (2010a). *Money market fund reform*. Washington: U.S. Securities and Exchange Commission. Retrieved May 15, 2013, from U.S. Securities and Exchange Commission Web site: <http://www.sec.gov/rules/final/2010/ic-29132.pdf>
- U.S. Securities and Exchange Commission. (2010b, December 14). Mutual funds. Retrieved May 6, 2013, from U.S. Securities and Exchange Commission Web site: <http://www.sec.gov/answers/mutfund.htm>
- U.S. Securities and Exchange Commission. (2012, November 30). *Response to questions posed by Commissioners Aguilar, Paredes, and Gallagher*. Washington: U.S. Securities and Exchange Commission. Retrieved May 8, 2013, from U.S. Securities and Exchange Commission Web site: <http://www.sec.gov/news/studies/2012/money-market-funds-memo-2012.pdf>

- U.S. Securities and Exchange Commission. (2013a, June 5). *Money market fund reform; amendments to form PF*. Washington: U.S. Securities and Exchange Commission. Retrieved from <http://www.sec.gov/rules/proposed/2013/33-9408.pdf>
- U.S. Securities and Exchange Commission. (2013b, January 16). Money market funds. Retrieved May 6, 2013, from U.S. Securities and Exchange Commission Web site: <http://www.sec.gov/answers/mfmmkt.htm>
- U.S. Securities and Exchange Commission. (2013c, January 16). Net asset value. Retrieved May 6, 2013, from U.S. Securities and Exchange Commission Web site: <http://www.sec.gov/answers/nav.htm>
- U.S. Securities and Exchange Commission. (2013d, June 5). SEC proposes money market fund reforms. Washington, District of Columbia, United States of America. Retrieved June 18, 2013, from www.sec.gov/news/press/2013/2013-101.htm
- U.S. Securities and Exchange Commission. (2013e, April 10). Mary Jo White sworn in as Chair of SEC. Washington, District of Columbia, United States of America. Retrieved June 18, 2013, from <http://www.sec.gov/news/press/2013/2013-56.htm>
- U.S. Securities and Exchange Commission. (n.d.). Money market funds. Retrieved May 8, 2013, from Investor.gov: <http://www.investor.gov/investing-basics/investment-products/money-market-funds>
- U.S. Senate Banking, Housing, and Urban Affairs. (2012, June 21). Perspectives on money market mutual fund reforms. Washington, District of Columbia, United States of America. Retrieved June 18, 2013, from http://www.banking.senate.gov/public/index.cfm?FuseAction=Hearings.Hearing&Hearing_ID=bba4146c-6b7f-47d0-93bc-ebc73189c9c0
- Wall Street Journal. (2013, February 21). The SEC's big chance: it can head off bank regulators if it acts to reform money funds. New York City, New York, United States of America: Dow Jones & Company Inc. Retrieved June 21, 2013, from <http://search.proquest.com/docview/1289160139?accountid=14677>