

HOW CAN THE RISK OF RUNS
ON MONEY MARKET FUNDS BE REDUCED?

By

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May 11, 2012

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An earlier version of this paper was submitted to a panel on "How Can the Risk of Runs on Money Market Funds be Reduced?" at a conference entitled "Towards a Better Regulation of the Shadow Banking System" sponsored by the European Commission in Brussels on April 27, 2012.

Excerpts:

“In the entire history of money market funds in the United States, only one ‘run’ on MMFs ever has occurred in which in a MMF broke a dollar. That run occurred during the week of September 15, 2008 amid an unprecedented breakdown of the entire financial system triggered by the Federal Reserve’s unexpected failure to rescue Lehman Brothers and a loss of confidence that the government had a coherent strategy for averting a financial disaster. . . . In contrast, hundreds of banks failed during the financial crisis, as they have in every crisis in the past. MMFs are a vast improvement over banks in terms of their stability and ability to withstand financial crises.” p. 1-2.

“The ability of MMFs to engage in agile risk-management is a hallmark of their success and a reason why investors have entrusted so much of their cash to MMFs. It is one of the great ironies of financial regulation that the Fed believes MMFs are too proficient in risk management.” p. 17

“The best way to reduce the risk of a ‘run’ by MMF shareholders is to allow MMFs to continue operating as they do now subject to regulations under the Investment Company Act that help ensure their safety. MMFs make risk-averse investors less likely to flee the financial markets to the extent investors have confidence that MMFs are professionally managed and subject to SEC liquidity, credit quality, diversification, stress testing, disclosure, and other requirements designed to promote their safety.” p. 47

“MMFs foster financial stability by exerting market discipline on issuers of short-term credit whose debt is subject to rigorous credit analysis by MMF portfolio managers and must meet the high credit standards of Rule 2a-7.” p. 52

“Rather than focus on making debilitating structural changes to MMFs in a futile attempt to prevent runs that are unlikely to occur, financial regulators would better spend their time addressing ways to improve the health of the banking system in order to reduce the risk of *bank* runs, which are very real and far more damaging.” p. 48

“The concept of the “shadow banking system” is largely a fiction that conceals the role of regulated banking organizations in activities and practices that destabilized the financial system. Regulated banks and their affiliates actively engage in “shadow banking” activities and they, not MMFs, form the backbone of the shadow banking system. To the extent MMFs are involved in the shadow banking system, they are only the equivalent of its depositors.” p. 50

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HOW CAN THE RISK OF RUNS ON MONEY MARKET FUNDS BE REDUCED?

I. MMFs Are Not Susceptible to Runs

The question “how can the risk of runs on money market funds be reduced?” assumes that money market funds are susceptible to runs. There is little evidence to support such an assumption.

In the entire history of money market funds (“MMFs”) in the United States, only one “run” on MMFs ever has occurred in which in a MMF broke a dollar. That run occurred during the week of September 15, 2008 amid an unprecedented breakdown of the entire financial system triggered by the Federal Reserve’s unexpected failure to rescue Lehman Brothers and a loss of confidence that the government had a coherent strategy for averting a financial disaster. The Federal Reserve had all but declared that it would not allow a systemically important institution to fail, but then did just that with Lehman, sending the financial markets into a tailspin. Even so, only one MMF “broke a dollar” in the resulting tumult. That fund’s shareholders ultimately got back 99 cents on the dollar.¹

The fund that broke a dollar—the Reserve Primary Fund—did so because it held a relatively small amount (less than one percent of its assets) of triple AAA-rated Lehman commercial paper that was revalued at zero after Lehman declared bankruptcy. Had the entire financial system not been in turmoil, it is

¹ The impact of the Fed’s decision not to rescue Lehman Brothers is examined in detail in Melanie L. Fein, “Shooting the Messenger: The Fed and Money Market Funds,” available at <http://ssrn.com/abstract=2021652> or <http://www.sec.gov/comments/4-619/4-619.shtml>.

likely that this one fund's breaking a dollar would have had no repercussions on other funds.² In any case, no other MMF broke a dollar.

The run on MMFs ended within three days after the Treasury announced that it would temporarily guarantee MMFs and the Federal Reserve adopted liquidity facilities designed to purchase bank-sponsored asset-backed commercial paper.³ Without the government's quick response, it is possible that other MMFs would have broken a dollar amid the market mayhem and been forced to liquidate their assets to pay their shareholders. Had that happened, however, it is likely that shareholders of liquidating MMFs would have received back at least 99 cents on the dollar, as did shareholders of the Reserve Primary Fund.

During the entire 40-year history of MMFs, only this one dollar-breaking run occurred. In contrast, hundreds of banks failed during the financial crisis, as they have in every crisis in the past. Since 1980, several thousand banks have failed, notwithstanding the availability of deposit insurance and discount window access. This history suggests that MMFs are a vast improvement over banks in terms of their stability and ability to withstand financial crises.

² The federal judge overseeing the liquidation of the Reserve Primary Fund has stated, "The collapse of the Primary Fund, a unique event in and of itself, must be viewed in the context of the Lehman bankruptcy and the chaos that event produced, which one commentator called a period of 'some of the most cataclysmic failures in our economic history.'" In re The Reserve Fund Securities and Derivative Litigation, Securities and Exchange Commission v. Reserve Management Company, Inc., and The Reserve Primary Fund, U.S. District Court for the Southern District of New York, 09 Civ. 4346 (PGG), Memorandum Opinion by Judge Paul G. Gardephe, Nov. 25, 2009, at 3 n. 3. See also *id.* at 19 ("The Primary Fund is the first money market fund open to the general public ever to 'break the buck.' That collapse was a product of the Lehman bankruptcy, an event that brought the financial markets to a standstill.") and 26 (referring to "the nearly unprecedented chaos surrounding the fall of Lehman").

³ As shown in "Shooting the Messenger: The Fed and Money Market Funds," these programs were designed primarily to support the bank-sponsored commercial paper market, not MMFs and their shareholders.

The “run” on MMFs in 2008 was not so much a run as a rapid reallocation of investor holdings from non-government “prime” MMFs to government-only MMFs. Overall, MMFs gained approximately \$750 billion in net assets from January 2008 to January 2009 during the worst of the financial crisis, more than half of which came into MMFs prior to Lehman’s bankruptcy on September 15, 2008. MMF net assets totaled \$3.2 trillion on January 2, 2008 and \$3.9 trillion on January 14, 2009. MMF net assets on September 10, 2008 totaled \$3.576 trillion, dipped to \$3.456 trillion on September 17 and \$3.453 trillion on September 24, then steadily climbed, peaking at \$3.9 trillion on March 11, 2009.⁴ In the days immediately following Lehman’s bankruptcy, investors (mainly institutional) withdrew approximately \$196 billion from prime funds and invested approximately \$86 billion in government funds.⁵ Still, the net assets in prime funds on September 17, 2008 (\$1.956 trillion) exceeded the net assets in such funds on January 2, 2008 (\$1.922 trillion).

To the extent this reallocation of MMF assets constituted a “run,” it was damaging to other financial institutions not because of anything inherently risky in MMFs, but because of the way these other financial institutions—mainly banking organizations—funded their operations. These institutions relied on short-term financing to meet their long-term funding commitments—an inherently risky practice.

⁴ Source: Investment Company Institute, Weekly Total Net Assets and Number of Money Market Mutual Funds.

⁵ Non-government MMF net assets totaled \$2.152 trillion on September 10, \$1.956 trillion on September 17, \$1.804 trillion on September 24, \$1.719 trillion on October 1, and \$1.703 trillion on October 8, after which they began to climb. Government MMF net assets totaled \$906 trillion on September 10, \$992 trillion on September 17, \$1.164 trillion on September 24, \$1.261 trillion on October 1, and \$1.325 trillion on October 8, continuing to climb to a peak of \$1.49 trillion on January 7, 2009. *Id.*

MMFs are a source of short-term funding because they are designed to meet short-term investment needs and they operate subject to a regulatory framework that limits their investments to high quality, short-term investments and no other activities. Prior to the crisis, prime MMFs provided substantial amounts of short-term funding to banks and other financial institutions by purchasing asset-backed commercial paper (ABCP) and other commercial paper sponsored or issued by these institutions to finance longer term assets. But this funding was not guaranteed by MMFs. Rather, it was guaranteed by the banks themselves, through backup letters of credit, credit enhancements, and liquidity features.

The problem for banking organizations was that MMFs stopped purchasing ABCP and other commercial paper when it appeared the paper was contaminated with toxic subprime mortgages. Banks that had sponsored the paper lacked sufficient capital to fulfill their commitments to issuers when MMFs declined to renew their holdings. Banking regulators effectively had *reduced* the capital requirements for bank sponsored ABCP in 2004, resulting in a situation not unlike AIG issuing credit default swaps with insufficient capital prior to its takeover by the government. Indeed, bank-sponsored ABCP ballooned after 2004 until it came crashing down when the housing bubble burst in 2007 and 2008. To relieve banks of the ABCP obligations they had incurred, the Federal Reserve instituted massive liquidity facilities and itself purchased ABCP and other commercial paper.

Because of the turmoil in the commercial paper market, a number of prime MMFs experienced heavy redemption activity from their shareholders. Some MMF sponsors—mainly banking organizations with affiliated MMFs—purchased ABCP and other assets from their funds or provided direct liquidity to prevent their funds from breaking a dollar. But that in itself did not constitute a run on MMFs in the classic sense of an uncontrolled panic. To the extent heavy

redemptions did resemble a run, they were part of a larger flight to quality as investors en masse lost confidence in the banking and financial markets.

MMFs did not cause the financial crisis. They did not cause the commercial paper crisis. MMFs did not make subprime loans (or loans of any kind). They did not purchase such loans, package them into commercial paper, pay the rating agencies to assign the highest rating to the paper, and sell the paper to investors on a short-term, virtually guaranteed basis without sufficient capital to back it up. Banks and their securities broker-dealer affiliates did all of that, not MMFs. Unlike banks, MMFs do not leverage their assets, engage in regulatory arbitrage through off-balance sheet activities, or employ risky hedging strategies. MMFs have no legal ability to do those things.

Because their investments are limited to short-term, high quality investments, MMFs are attentive to risk and highly risk-averse. When the quality of bank-sponsored ABCP became questionable, MMFs withdrew from the commercial paper market. They declined to renew their short-term holdings of ABCP or otherwise disposed of them in the market, as did other investors including bank trust departments, pension funds, and other investors. Like the rest of the financial system, MMFs were destabilized temporarily by the market disruption that occurred when the ABCP market imploded. But it was the unsustainable structure of that market, and the fragility of the banks that had issued, sponsored and guaranteed ABCP—not MMFs—that caused the crisis.

II. MMFs Reflect Collective Investor Sentiment About Risk

The events of 2008 do not point to anything in the structure of MMFs that makes them inherently susceptible to runs. Rather, the events confirm that MMFs are highly responsive to risk and will act defensively in accordance with their objective to preserve principal and maintain liquidity. Because their investments are limited by regulation to high-quality short-term instruments, MMFs must pull back from unstable financial markets as a matter of regulatory compliance.

The run involving MMFs that occurred in September 2008 was not so much a run *on* MMFs as a run *by* MMFs away from assets that became risky. Moreover, the run was not so much a run by MMFs as a reflection of the collective investor sentiment of their shareholders. MMF shareholders reallocated their MMF assets from prime MMFs that held bank-sponsored ABCP to MMFs that invest only in government securities.

It is important to recognize that MMFs, unlike banks, are pass-through investment vehicles for investors. They are not operating companies like banks. They lack discount window access or other external sources of liquidity. They are obligated to redeem shares upon demand, which they can do because of the near perfect match between their assets and liabilities. They must sell assets to meet shareholder redemptions. MMFs manage their portfolios in response to shareholder redemption activity. MMF shareholders largely determine when a MMF will sell assets or refuse to roll over its portfolio holdings.

Many shareholders of MMFs are trustees of large pension funds and charitable foundations, corporate treasurers, and controllers for state and local governments. They are responsible for billions of dollars crucial to the well-being of millions of people. These shareholders are subject to fiduciary duties that require them to seek a safe haven for their cash during times of financial instability, such as occurred in 2007 and 2008. MMF shareholders also include large numbers of individuals who safekeep their savings and retirement assets in MMFs. Bank trust departments are major investors in MMFs.

MMF shareholders who transferred their MMF assets from prime funds to government-only MMFs during the turmoil in the commercial paper market in 2007-2008 acted in their self-interest or as their fiduciary duty dictated. The demand by MMF investors for greater safety required MMFs to reduce their holdings of bank-sponsored commercial paper and increase their holdings of Treasury bills. Collectively, their action created pressure on banks that had guaranteed ABCP without adequate capital to support their guarantees. But they

did not cause the financial crisis. Weaknesses in the bank commercial paper market were largely responsible for the financial crisis, not MMFs or their shareholders.

The proper question is not how to reduce the risk of runs on MMFs but whether it is possible to reduce the risk of runs by MMF *shareholders*. MMF shareholders are investors. They have the potential to “run” amidst a financial contagion regardless of whether their investments are held directly or indirectly through MMFs. If MMFs did not exist, investors still would invest in short-term credit instruments and still would “run” from unstable financial markets to protect their interests in a crisis, just as uninsured depositors will run from troubled banks. Elimination of MMFs will not prevent investors from investing directly in short-term financial instruments and will not prevent investors from retreating from markets that become unstable.

If MMF shareholders were to transfer their MMF assets to banks, the risk of bank runs would increase. Large depositor amounts that exceed the FDIC insurance limit of \$250,000 are an unstable source of funding for banks and can disappear overnight if a bank becomes troubled.

III. SEC Rule 2a-7 Strictly Limits MMF Portfolio Risks and Reduces the Risk of Runs

MMFs have an exceptional history of safety because they operate subject to SEC regulations under the Investment Company Act of 1940 that strictly limit their portfolio risks. SEC Rule 2a-7 limits MMF investments to short-term, high quality debt securities and other instruments. The rule also requires MMFs to disclose their portfolio holdings and imposes stress testing and other safety requirements. The SEC tightened Rule 2a-7 in 2010 and the rule provides even more protection than before.

Rule 2a-7 requires a MMF to limit its investments to securities that pose “minimal credit risk” as determined by the fund’s board independently of any

credit rating. In addition, the rule limits “second tier securities” (securities with other than the highest rating) to no more than three percent of a MMF’s assets and holdings of second tier securities of any one issuer to no more than one-half of one percent of the fund’s assets. MMFs may not acquire any second tier security with a remaining maturity in excess of 45 days.

The President’s Working Group report on MMFs concluded that Rule 2a-7, particularly as strengthened by the 2010 amendments, sufficiently addresses credit risk exposure in MMF portfolios.⁶

Rule 2a-7 requires MMF portfolios to have a weighted average maturity (“WAM”) of 60 days or less.⁷ The SEC has said that a fund with a WAM of 60 days could withstand a 50 basis point increase in credit spreads across its portfolio, 10 percent redemptions, and an increase in interest rates of over 150 basis points before breaking the dollar, assuming a weighted average life limitation of 120 days.⁸

Rule 2a-7 also requires each MMF to hold securities that are sufficiently liquid to meet reasonably foreseeable shareholder redemptions. Each MMF must hold at least 10 percent of its total assets in daily liquid assets and at least 30 percent of its total assets in weekly liquid assets.⁹ These requirements are

⁶ Report of the President’s Working Group on Financial Markets, Money Market Fund Reform Options, Oct. 2010, at 16.

⁷ The actual WAM of prime institutional MMFs was 39 days at the end of December 2011 and 44 days at the end of March 2012. Fitch Ratings, “U.S. Money Market Funds Sector Update: First Quarter 2012” (April 16, 2012) at 5, citing iMoneyNet data.

⁸ 75 Fed. Reg. 10060, 10071 (March 4, 2010).

⁹ Prime MMFs rated by Fitch held approximately 30 percent of their portfolios in daily liquid assets in the first quarter of 2012. Fitch Ratings, “U.S. Money Market Funds Sector Update: First Quarter 2012” (April 16, 2012) at 1.

designed specifically “so that a fund may more easily satisfy redemption requests during times of market stress.”¹⁰

The Investment Company Institute (“ICI”) has estimated that, as of year-end 2011, prime MMFs held in excess of \$650 billion in weekly liquid assets.¹¹ This amount is more than twice the amount of the outflow from prime MMFs during the week of Lehman’s bankruptcy in 2008.

Rule 2a-7 minimizes the potential for a MMF to break a dollar. The SEC’s Division of Investment Management, which regulates MMFs, has stated that it is a “rare occurrence” for a MMF to break a dollar.¹²

The ICI in 2011 published a research report explaining some of the factors that could cause a MMF to “break a dollar.”¹³ The market value of a MMF’s portfolio typically fluctuates within a narrow range above and below \$1.00. A fund is said to “break a dollar” if its net asset value (NAV) based on the market value of its portfolio rises above \$1.0050 or falls below \$0.9950. MMFs are required to calculate and disclose their market value NAV, called the “shadow

¹⁰ 75 Fed. Reg. 10060, 10078 (March 4, 2010) (SEC release accompanying final amendments to Rule 2a-7). The rule defines “daily liquid assets” to include cash (including demand deposits), Treasury securities, and securities (including repurchase agreements) for which a MMF has a legal right to receive cash in one business day. The rule defines “weekly liquid assets” to include the same assets, plus short-term federal government agency notes, with the right to receive cash in five business days. The SEC has stated that Treasury securities, regardless of maturity, “have been the most liquid assets during times of market stress” and that “the ‘flight to liquidity’ that happens during times of uncertainty makes it easy to sell Treasury securities in even large quantities.”

¹¹ Source: Investment Company Institute.

¹² Securities and Exchange Commission, Division of Investment Management, Responses to Frequently Asked Questions about The Reserve Fund and Money Market Funds (“A fund whose net assets fall below \$1.00 per share is said to “break a dollar” or “break the buck.” This is a rare occurrence—before the events of September 2008, the last (and only) time a registered money market fund broke a dollar was in 1994.”).

Available at: <http://www.sec.gov/divisions/investment/guidance/reservefundmmffaq.htm>.

¹³ Investment Company Institute, Research Report, “Pricing of U.S. Money Market Funds,” January 2011.

price.”¹⁴ The ICI report shows that, because of the structure of MMFs based on Rule 2a-7, very dramatic interest rate changes, credit events, or shareholder redemptions would need to occur before a MMF’s shadow price would fall below \$0.9950 and thereby break a dollar:

- Short-term interest rates must rise by more than 300 basis points (3 percentage points) in one day to reduce a fund’s shadow price to \$0.9950, absent any other changes in market conditions.
- Investor net redemptions must reach 80 percent of a fund’s assets to reduce a fund’s per share market value to \$0.9950, absent any other changes in market conditions and given an initial per share market value of \$0.9990.
- A 100 basis point increase in interest rates combined with investor net redemptions of nearly 70 percent of a fund’s assets, all in one day, would be necessary to reduce a fund’s shadow price to \$0.9950.
- For a security that comprises 5 percent of a fund’s portfolio, a 400 basis point increase in its interest rate—which might be caused by a credit rating downgrade—will reduce a fund’s shadow price by only 5 basis points, from \$1.0000 to \$0.9995. (Rule 2a-7 allows a MMF to invest no more than 5 percent of its assets with any single issuer).
- A default in a security that comprises 1.25 percent of a fund’s assets can reduce the fund’s per share market value to \$0.9950 or below if the default reduces the security’s value by 40 percent or more (to 60 cents or less on the dollar).¹⁵

The ICI research report shows that large and sudden changes in interest rates or large investor net redemptions are rare occurrences:

¹⁴ A MMF must disclose its “shadow” market value price on a monthly basis, with a 60-day lag, to four decimal places.

¹⁵ Investment Company Institute Research Report at 2-4.

- On 98 percent of all business days between 1982 and 2010, interest rates on the 3-month Treasury bill changed (up or down) by 25 basis points or less. Over longer periods, changes in short-term interest rates also tend to be small; 3-month Treasury interest rates changed by 25 basis points or less (up or down) in 63 percent of 30-day periods during those years.
- Between 1996 and 2010, investor net redemptions from taxable money market funds in a single week exceeded 20 percent of a fund's assets in fewer than 1 percent of instances. Over four-week periods during those years, redemptions exceeded 20 percent of assets in fewer than 2.5 percent of instances.¹⁶

The above findings confirm the statement by the SEC's Division of Investment Management that it is a "rare occurrence" for a MMF to break a dollar.

In the event of such a rare occurrence, Rule 2a-7 limits the impact on a MMF's shareholders by requiring the fund to have the capacity to redeem and sell its securities at a price based on the fund's current market NAV per share, even if less than \$1.00. This provision was added in 2010 to ensure that shareholder transactions will be processed in an orderly manner in the event a MMF breaks a dollar. In addition, the rule was amended to permit MMFs to suspend redemptions and postpone payment of redemption proceeds in order to facilitate an orderly liquidation of the fund in anticipation of breaking a dollar. This provision helps avoid dilution of the fund's NAV or other unfair results if investors race to redeem shares in a panic. It also lessens the need for a MMF to "dump" assets in order to meet redemption demands.

¹⁶ *Id.* at 3.

These regulatory provisions make it less likely that MMF shareholders will “run” and minimize the impact of a run should one occur.

IV. Runs on Banks Are Far More Likely, Damaging and Costly Than Runs on MMFs

A run by bank depositors is far more likely to occur than a run by MMF shareholders. Banks are inherently more risky than MMFs because of their long-term asset structure, leverage, embedded moral hazard, and opacity. A classic bank run occurs when depositors become fearful of troubles at a bank and withdraw deposits at a rate faster than the bank can repay them because its assets are locked-up in loans. In the case of MMFs, absent a systemically destabilizing event, a run is unlikely given the Rule 2a-7 provisions that limit MMFs to high quality, short-term assets and require a MMF to be able to liquidate 10 percent of its portfolio daily and 30 percent weekly. Banks are not subject to comparable requirements.

Moreover, bank runs are likely to be far more damaging. When a bank fails—and hundreds have failed in recent years—the deposit insurance fund is at risk, taxpayers are at risk, bank shareholders typically are wiped out, and uninsured depositors and creditors suffer losses.

If a MMF breaks a dollar—as has happened only twice before—the consequences are far less destructive. Fund shareholders reasonably may expect to get back close to their full investment, as they did after the Reserve Primary Fund broke a dollar. No government or taxpayer funds are at risk. No creditors suffer losses (MMFs generally have no creditors). The run in 2008 resulted in shareholders of one MMF losing only one cent on the dollar and the U.S. government losing nothing—indeed, the government gained \$1.2 billion in fees

paid by MMFs for the temporary insurance program, which they neither asked for nor used.¹⁷ Although the short-term credit markets froze, that occurred largely because of a broad financial panic and run on the *banking* system, not because of a run on MMFs.

There are no structural reasons why one fund breaking a dollar should lead to other funds breaking a dollar. The Rule 2a-7 regulatory framework minimizes the possibility of a run. The regulatory model applicable to banks, in contrast, allowed banks to fail by the hundreds during the financial crisis.

Banks have a long history of failures in prior crises, despite extensive government supervision, deposit insurance, and access to Fed liquidity. FDIC insurance discourages runs on banks but does not eliminate them. Congress temporarily increased the amount of such insurance from \$100,000 to \$250,000 during the financial crisis, and the Dodd-Frank Act made the increase permanent. But approximately \$1.8 trillion in deposits at FDIC insured depository institutions remained uninsured as of December 30, 2011.¹⁸ Moreover, during the 2008 crisis, the FDIC extended unlimited deposit insurance to noninterest bearing transaction accounts, which is due to expire on December 31, 2012 and will leave an additional \$1.4 trillion uninsured.¹⁹ Uninsured depositors are highly risk-averse and will run from troubled banks, as they did during the financial crisis. The FDIC acted to protect uninsured depositors when Washington Mutual failed, but such action diluted the assets available for recovery by the bank's debt holders, causing the market for bank debt to evaporate at the height of the financial crisis.

¹⁷ The liquidity program administered by the Federal Reserve Bank of Boston also was profitable to the government.

¹⁸ Federal Deposit Insurance Corporation, Quarterly Banking Profile, Volume 6, No. 1, Table III-B, Estimated FDIC-Insured Deposits by Type of Institution, Fourth Quarter, 2011.

¹⁹ *Id.* Table I.

MMFs have weathered financial crises throughout their 40-year history without access to the federal safety net and have served as a safe haven for investors during times of stress. Of course, there can be no assurance that no MMF ever will “break a dollar” again. But such an event has occurred only twice in MMF history.²⁰

The “run” on MMFs in 2008 was unlike anything experienced by MMFs before or after the financial crisis and was a direct result of a systemically destabilizing event caused by the Federal Reserve. If the entire financial system had not been in peril at the time, it is unlikely that the Reserve Primary Fund’s breaking a dollar would have had major repercussions at other MMFs.²¹ Even so, the recoument of 99 cents on the dollar by shareholders of the Reserve Primary Fund was an extraordinary recovery compared to investor losses in bank stocks and the stock market as a whole in 2008-2009.

V. Bank Runs Caused Instability During the Financial Crisis and Required Massive Government Intervention

Bank runs were the principal source of financial instability during the financial crisis of 2007-2008. The bank runs were “silent” and not widely seen as runs at the time, even by banking regulators. These runs exposed major vulnerabilities in the banking system, particularly deficiencies in the capital supporting bank commercial paper and related securitization activities that the Federal Reserve now calls “shadow banking.”

²⁰ In addition to the Reserve Primary Fund, a small non-retail fund broke a dollar in 1994 without triggering a run on other MMFs. Investors in that fund got back 96 cents on the dollar.

²¹ “Shooting the Messenger: The Fed and Money Market Funds” examines in detail the Fed’s decision not to act as lender of last resort in the case of Lehman Brothers and concludes that, but for the Fed’s dramatic policy reversal, it is unlikely that the Reserve Primary Fund would have broken a dollar or that any run by MMF shareholders would have ensued.

Four separate and distinct runs on the banking system occurred during 2007-2008:

First was the run on bank sponsored asset-backed commercial paper conduits in 2007, sparked by the bursting of the housing bubble and concerns by MMFs and other investors that ABCP was contaminated with toxic assets. These investors refused to renew their ABCP holdings, forcing bank ABCP sponsors to take the paper onto their own balance sheets in fulfillment of backup letters of credit and other guarantees made when they issued it. Banks lacked sufficient capital to withstand their obligations and became temporary insolvent.²² A run on repurchase agreements used to finance ABCP and other bank activities also ensued.²³ Banks stopped lending to each other and the financial markets froze. To contain the effects of this “run,” the Fed established special liquidity facilities for banks and began a sustained program of monetary policy actions that reduced short-term interest rates at an unprecedented pace.²⁴

Second, there was a run in 2008 on individual banks that were heavily involved in subprime mortgage lending. Depositors whose deposits exceeded the

²² Banking regulators exempted bank-sponsored ABCP conduits from regulatory consolidation in 2004 following a financial accounting standard interpretation adopted by the Financial Accounting Standards Board (FASB) that otherwise required consolidation. See Sandra C. Krieger, Executive Vice President, Federal Reserve Bank of New York, “Reducing the Systemic Risk in Shadow Maturity Transformation,” March 8, 2011 (“The banks did not have the capital to bring all of their off-balance-sheet liabilities onto their balance sheets....”). See also Gary B. Gorton and Andrew Metrick, “Securitized Banking and the Run on Repo,” November 9, 2010, Yale ICF Working Paper No. 09-14 (“the U.S. banking system was effectively insolvent for the first time since the Great Depression.”).

²³ See Gary B. Gorton, “Slapped in the Face by the Invisible Hand: Banking and the Panic of 2007,” available at ssrn.com.

²⁴ In December 2007, the Fed established a Term Auction Facility to provide short-term loans to banks secured by a wide range of collateral including residential mortgages, mortgage-backed securities, and collateralized mortgage obligations—in other words, assets held by ABCP conduits. Aggregate liquidity under this program totaled \$3.8 trillion from December 2007 through January 2010. The peak amount outstanding at any one time was \$493 billion. See Federal Reserve Board, Usage of Federal Reserve Credit and Liquidity Facilities (Nov. 30, 2011).

then \$100,000 deposit insurance limit fled these banks, leading to the failure, takeover or propping up of several major U.S. banking organizations.²⁵ Of approximately \$7.0 trillion in bank deposits in 2008, only \$4.5 trillion was insured, leaving \$2.5 trillion in uninsured deposits.²⁶ The Fed's unexpected decision to let Lehman fail, followed by the equally sudden rescue of AIG, intensified the panic among uninsured depositors of FDIC insured banks. Following Lehman's bankruptcy, uninsured depositors began a run on banks perceived to hold toxic mortgage assets, including Washington Mutual and Wachovia.²⁷ These two large banks could not survive the run and were sold to other banking organizations.²⁸

Third, there was a run in September of 2008 by corporate borrowers who drew down their committed bank credit lines out of fear their lending banks would fail and they would not have access to their credit lines, which further depleted bank capital and constrained bank lending to the broader economy. As Fed researchers have documented, these borrowers sought to secure funds from

²⁵ These included Countrywide, Indymac, Washington Mutual, and Wachovia, among others.

²⁶ See "Roubini Sees 'Silent' Run on Banks, Urges 'Triage'", Bloomberg Radio Interview with Noriel Roubini, Oct. 1, 2008 ("In Q2 of 2008 the FDIC reports \$4462bn insured domestic deposits out of \$7036bn total domestic deposits; thus, only 63% of domestic deposits are insured. Thus \$ 2574bn of deposits are not insured.").

²⁷ See "Wachovia faced a 'silent' bank run," Charlotte Observer, Oct. 2, 2008 ("Inside Wachovia, executives started noticing customers withdrawing money on Friday morning, following the failure of Washington Mutual on Thursday." See also "Deposit run at WaMu forced their hand, regulators say," Los Angeles Times, Sept. 25, 2008 ("Just as with IndyMac Bank, the fate of Washington Mutual was sealed by a run on deposits as customers lost faith in the bank, federal regulators said Thursday in seizing the nation's biggest thrift. WaMu had continued to assert in recent weeks that it had adequate capital to keep going, despite heavy losses this year on defaulted mortgages. But the Office of Thrift Supervision said "significant deposit outflows" began on Sept. 15. 'During the next eight business days, WaMu deposit outflows totaled \$16.7 billion,' the OTS said in a statement.").

²⁸ Washington Mutual was sold to J.P. Morgan Chase & Co. In the case of Wachovia, the Fed and FDIC agreed to a \$312 billion loss sharing arrangement with Citigroup as a condition for taking over Wachovia. Wachovia ultimately was acquired by Wells Fargo in a non-federally assisted transaction.

their lending banks out of fear that the money would not be available if the bank failed.²⁹ This increased borrowing added assets to bank balance sheets, requiring the allocation of capital to support the loans at a time when bank capital was already highly stressed.

Fourth, there was a further run on bank ABCP in September of 2008 when MMFs and other investors chose not to renew their ABCP holdings following the Federal Reserve's unexpected decision to allow Lehman to fail. This run necessitated additional emergency liquidity facilities by the Fed to purchase ABCP and other commercial paper from banks, and from MMFs through banks.

These bank runs were not generally visible at the time. One respected economist has said of the run on ABCP, for example:

The fact that the run was not observed by regulators, politicians, the media, or ordinary Americans has made the events particularly hard to understand. It has opened the

²⁹ Judit Montoriol-Garriga, Federal Reserve Bank of Boston, and Evan Sekeris, Federal Reserve Bank of Richmond, "A Question of Liquidity: The Great Banking Run of 2008?", Quantitative Analysis Unit, Federal Reserve Bank of Boston, Working Paper No. QAU09-04 (March 30, 2009) ("In other words, when a bank was thought to be at high risk of default, firms that had credit lines with them were more likely to use them than if their credit line was with a healthier bank. This was a run on the banks by investors who ran away from the financial paper market which in turn triggered a run by borrowers of the weakest banks. This sequence of events was made possible by the combination of an increased reliance on the commercial paper market by financial institutions for their short-term liquidity needs and the, often lax, underwriting of credit lines during the good years."). See also Victoria Ivashina and David Scharfstein, "Bank Lending During the Financial Crisis of 2008," available at ssrn.com/abstract=1297337, at 2-3 ("We document that there was a simultaneous run by borrowers who drew down their credit lines....firms state that they drew on their credit lines to ensure that they had access to funds at a time when there was widespread concern about the solvency and liquidity of banking sector....These credit line drawdowns were part of "run" on banks that occurred at the height of the crisis."). The Fed researchers recommended that banking regulators strengthen capital requirements for unused lending commitments and increase their prudential oversight of liquidity risk management at banks.

door to spurious, superficial, and politically expedient “explanations” and demagoguery.³⁰

Fed Chairman Bernanke has stated that regulators did not anticipate the runs that occurred because they occurred “outside” the traditional banking system in the “shadow banking system.”³¹ Nevertheless, he has recognized that the securitization of subprime assets in pools guaranteed by banks was the underlying cause of an “old-fashioned bank run”:

But what created the contagion, or one of the things that created the contagion, was that the subprime mortgages were entangled in these huge securitized pools, so they started to take losses and in some cases, the credit-rating agencies, which had done a bad job basically of rating them began to downgrade them. And once there was fear that these securitized credit instruments were not perfectly safe, then it was just like an old-fashioned bank run. And the commercial paper market began to pull their money out. That created huge problems for the financing of these things. It forced the banks to take them back on their balance sheets or to support them and so on. So there was an old-fashioned bank run, which I think is a really interesting factor.³²

Massive government intervention was required to stabilize the banking system following these runs. As noted, the run by uninsured bank depositors prompted Congress to increase temporarily, and then permanently, the amount of deposit insurance from \$100,000 to \$250,000 per depositor.³³ In addition to the

³⁰ Gary Gorton, “Questions and Answers About the Financial Crisis,” prepared for the U.S. Financial Crisis Inquiry Commission, Feb. 20, 2010, at 2.

³¹ Ben S. Bernanke, Chairman, Federal Reserve Board, speech before a conference co-sponsored by the Center for Economic Policy Studies and the Bendheim Center for Finance, Sept. 24, 2010.

³² Testimony by Ben S. Bernanke, Chairman, Federal Reserve Board, before the Financial Crisis Inquiry Commission, Nov. 17, 2009.

³³ See Emergency Economic Stabilization Act, § 136, Pub. L. No. 343, 110th Cong. 2d Sess. § 136 (signed into law Oct. 3, 2008).

emergency liquidity facilities established by the Fed, the FDIC launched the Temporary Liquidity Guarantee Program that provided *unlimited* insurance for noninterest bearing business checking accounts at banks and guaranteed debt issued by banking organizations.³⁴ The unlimited deposit insurance resulted in a substantial increase in potential loss exposure to the FDIC insurance fund, covering \$1.4 trillion in uninsured deposits in excess of the \$250,000 insured amount as of year-end 2011.³⁵ The debt guarantee program covered \$346 billion in debt issued by banks and their holding companies as of May 2009.³⁶ In addition, Congress appropriated \$750 billion for the TARP program, which the government used to recapitalize banks. Direct borrowing by banks from the Federal Reserve exceeded this amount. Even with these programs in place, hundreds of banks did not survive the financial crisis.

A Federal Reserve research paper has shown that these and related government support actions have substantially increased the federal safety net's coverage from approximately 45 percent of all financial firm liabilities in 1999 to approximately 59 percent of such liabilities at the end of 2009.³⁷

³⁴ FDIC Press Release 100-2008 (Oct. 14, 2008). The FDIC's actions were based on questionable legal authority. See General Accountability Office, "Federal Deposit Insurance Act: Regulators' Use of Systemic Risk Exception Raises Moral Hazard Concerns and Opportunities Exist to Clarify the Provision," GAO-10-100, April 2010, Appendix II.

³⁵ Federal Deposit Insurance Corporation, Quarterly Banking Profile, 2012, vol. 6, no. 1 at 16. Most of these uninsured deposits have been placed by banks with the Federal Reserve System as excess reserves on which the banks earn 25 basis points. The unlimited insurance is not scheduled to end until December 31, 2012.

³⁶ Federal Deposit Insurance Corporation, Monthly Reports on Debt Issuance Under the Temporary Liquidity Guarantee Program.

³⁷ Nadezhda Malysheva and John R. Walter, "How Large Has the Federal Financial Safety Net Become?" Federal Reserve Bank of Richmond, Economic Quarterly, Vol. 96, No. 3, 10-03, March 10, 2010. The authors are economists at the Federal Reserve Bank of Richmond. Their analysis did not include MMFs (because MMFs are not permanently covered by the federal safety net, as are banks) but they said that if MMFs were included the total safety net coverage would increase from 59 percent to 62 percent of financial firm liabilities.

The series of bank runs described above are what destabilized the financial system, not a run on MMFs. Structural weaknesses in the banking system, not MMFs, caused the runs on banks. Bank runs, not runs on MMFs, caused the credit markets to freeze up and required massive government intervention. To the extent MMFs were involved, they acted in accordance with their regulatory mandate to avoid risky assets by shedding financial commercial paper and bank-sponsored ABCP thought to contain toxic assets. MMFs as a whole gained assets during the financial crisis as investors sought a safe haven for their cash.

VI. MMFs Are Not the Cause of Risks that Disrupt Markets

Federal Reserve officials have complained that runs on MMFs can disrupt the short-term credit markets. More probably, they mean that runs *by* MMFs may be disruptive to those markets. In fact, MMFs do not “run.” MMF managers adjust fund portfolio holdings on a continuous daily basis to reflect shareholder purchases and redemptions and to ensure that the portfolios conform to the credit and liquidity requirements of Rule 2a-7. Abrupt changes in MMF portfolios generally do not occur and do not occur at all without some rational reason.

The Fed is concerned that, if MMFs determine that certain investments no longer meet their credit standards or they face heavy redemption activity, they may rapidly sell off assets or retreat from unstable markets altogether, potentially disrupting the markets and creating difficulties for securities issuers. It is true that, when risk factors become elevated, MMFs and other investors rationally may decline to renew their investments in short-term credit instruments and dispose of assets deemed risky. Issuers of those instruments may need to pay higher rates to obtain financing or may not find purchasers for their debt at all.

The source of such a disruption, however, is not MMFs but whatever the risk is that causes MMFs to withdraw from the market. MMFs have no control over external risks and seek to avoid them. MMFs are not a source of guaranteed finance. They have no federal insurance or discount window access and are not

equipped to backstop issuers of debt securities or the financial markets generally. The constraints of Rule 2a-7 prevent them from doing so in any case. Rather than seeking to prevent MMFs from responding rationally to systemic risks, the Fed should focus on addressing those risks.

MMFs are a major contributor of market discipline. Fed Chairman Bernanke has said, “market discipline is a powerful and proven tool for constraining excessive risk-taking.”³⁸ Market discipline is the third “pillar” in the Basel II supervisory framework. One of the key purposes of the Financial Stability Oversight Council is “to promote market discipline.”³⁹ Rather than seek to incapacitate MMFs, the Fed should do everything possible to preserve them as market discipliners.

Risk-aversion is a leading characteristic of MMFs. Rule 2a-7 limits MMF investments to securities with “minimal” credit risk. MMF shareholders rely on MMF managers to limit risk and manage their portfolios in accordance with Rule 2a-7. MMFs avoid investments with elevated risk as a matter of regulatory compliance and because their shareholders demand it. Limits on the maturity of MMF portfolios give MMFs the flexibility to shift their investments rapidly in response to changing risks.

The ability of MMFs to engage in agile risk-management is a hallmark of their success and a reason why investors have entrusted so much of their cash to MMFs. It is one of the great ironies of financial regulation that the Fed believes MMFs are too proficient in risk management.

³⁸ Ben S. Bernanke, Chairman, Federal Reserve Board, “Financial Regulation and the Invisible Hand,” Remarks at the New York University Law School, April 11, 2007. See also Kevin Warsh, former Governor, Federal Reserve Board, “Regulation and Its Discontents,” Remarks to the New York Association for Business Economics, Feb. 3, 2010 (“We must resurrect market discipline as a complementary pillar of prudential supervision.”).

³⁹ Dodd-Frank Wall Street Reform and Consumer Protection Act § 112.

One of the key markets in which MMFs invest that concerns the Fed obviously is the commercial paper market, where banks and their affiliates are the principal issuers of commercial paper.⁴⁰ Prime MMFs are large purchasers of this short-term debt because it generally meets the credit standards under Rule 2a-7 and enhances the yield on their portfolios. However, if the quality of commercial paper comes into doubt, as in 2007-2008, MMFs may find that it no longer meets their investment standards, or MMF shareholders may force MMFs to avoid such paper by increased redemption activity. A potential MMF withdrawal from the commercial paper market suggests not that MMFs should be required to maintain a capital buffer or float their NAVs, but that banking regulators should better address banks' reliance on short-term funding for long-term assets. MMFs were not the cause of the bank commercial paper crisis in 2007 and 2008—banks were.

VII. Concerns about MMF Runs on Europe are Misdirected

Just as MMFs were not the cause of the bank commercial paper crisis, neither were they the cause of Europe's debt crisis in 2011 or current European problems. MMFs cannot cure those problems by being forced to hold European bank debt, which Fed officials have said is too risky for MMFs in any case.

MMFs have carefully managed their exposures to Europe in accordance with Rule 2a-7. No dollar-breaking run by MMF shareholders has occurred as a result of the European sovereign debt crisis. Although prime MMFs that held European debt experienced heavy outflows in 2011, MMFs overall gained net inflows.⁴¹ The president of the Federal Reserve Bank of Boston, in a recent

⁴⁰ Most of the commercial paper issued in the United States is issued, sponsored and/or guaranteed by banking organizations. Foreign banks also issue significant amounts of dollar-denominated commercial paper in the global market.

⁴¹ As the Federal Reserve itself has observed: "Money market funds, a major provider of funds to short-term funding markets such as those for CP and for repo, experienced significant outflows across fund categories in July [2011], as investors' focus turned to the deteriorating

speech, confirmed that, “No money market fund encountered a problem meeting investor redemptions during the European sovereign debt crisis.”⁴² He has said that MMFs nevertheless pose a risk of transmitting Europe’s problems to the United States:

[W]hen considering the so-called “tail” risk from unexpected problems in Europe, money market funds remain an important potential transmission channel to the United States.⁴³

Industry analysts do not concur in Federal Reserve fears that European debt holdings threaten the stability of MMFs. Fitch Ratings, for example, has said the outlook for MMFs in 2012 is stable, reflecting ongoing portfolio management that has left MMFs well positioned to manage ongoing credit, liquidity and interest rate conditions. Fitch noted that MMF managers continue to position their portfolios defensively, which will help withstand volatile credit markets, eurozone uncertainties, historically low interest rates, lack of short term money market instruments being issued, and ongoing regulatory reforms.⁴⁴

situation in Europe and to the debt ceiling debate in the United States. Those outflows largely shifted to bank deposits, resulting in significant pressure on the regulatory leverage ratios of a few large banks. However, investments in money market funds rose, on net, over the remainder of 2011, with the composition of those increases reflecting the general tone of increased risk aversion, as government-only funds faced notable inflows while prime funds experienced steady outflows.” Federal Reserve Board, Monetary Policy Report to Congress, Feb. 29, 2012, at 22.

⁴² Eric S. Rosengren, President and Chief Executive Officer, Federal Reserve Bank of Boston, “Avoiding Complacency: The U.S. Economic Outlook and Financial Stability,” remarks at the National Institute of Economic and Social Research, March 27, 2012.

⁴³ *Id.* Other Federal Reserve officials also have criticized MMFs for holding European debt securities, which they say has the effect of importing European financial problems to the United States. The president of the Federal Reserve Bank of Richmond has stated, for example: “I think the major vulnerability of our financial system to Europe has to do with the involvement in the money market funds.” CNBC Transcript: CNBC’s “Steve Liesman Speaks with Jeffrey Lacker, Richmond Federal Reserve Bank President, on Squawk Box,” Jan. 11, 2012.

⁴⁴ Fitch Asset Manager Rating Group, “2012 Outlook: Money Market Funds.” See also “Stable Ratings Amid Challenging Market Environment U.S. Money Fund Exposure and European Banks: Euro Zone Diverging,” Fitch Ratings, Jan. 26, 2012. See also Brian Reid, “Dispelling Misinformation on Money Market Funds,” Investment Company Institute at

Interestingly, the Boston Federal Reserve Bank president, while complaining about the risks of MMFs' European holdings, has warned that a withdrawal by MMFs could destabilize European markets by disrupting the flow of credit to European institutions.⁴⁵ He appears to believe that MMFs should serve as a captive source of funding for European banks, as well as other counterparties, regardless of the requirements of Rule 2a-7 and the risks to MMF shareholders, all the while keeping the risks away from the United States. The Reserve Bank president did not say whether U.S. banks, which also are substantial investors in European debt, similarly should backstop the European financial system.

U.S. banks held many of the same investments in European debt as did MMFs in 2011 and similarly withdrew from the market or reallocated their holdings to avoid risk (no doubt at the direction of banking regulators). Unlike MMFs, banks are not required to disclose their portfolio holdings of European debt and thus are not as easy a target for criticism. But the Fed's concerns about MMF exposure to Europe, to the extent such concerns have any validity, apply equally if not more so to banks.

Concerns that the reduction in holdings of European debt by either MMFs or banks have contributed to European banking troubles reflect an erroneous view

http://www.ici.org/mmfs/background/11_mmfs_euro_reid. See also Moody's Investors Service, "Money Market Funds: 2012 Outlook and 2011 Review," March 15, 2012 (stable outlook).

⁴⁵ Eric S. Rosengren, President and Chief Executive Officer, Federal Reserve Bank of Boston, "Avoiding Complacency: The U.S. Economic Outlook and Financial Stability," remarks at the National Institute of Economic and Social Research, March 27, 2012 ("Because U.S. money market funds had been a significant source of short-term funds for European institutions, money funds' move away from short-term European debt resulted in a significant shortage of dollar funds available to these institutions. . . .No money market fund encountered a problem meeting investor redemptions during the European sovereign debt crisis. But even without such a problem, money market funds still had an impact on the availability of credit to financial institutions for which the perception of risk had changed. Problems with financial stability do not require a failure to create a significant disruption in the flow of credit.").

of investors as guarantors of the entities in which they invest. That is not a proper role for either banks or MMFs. Imposing a capital requirement or other structural changes will not prevent MMFs from avoiding European bank debt if their risk analysis determines that doing so is the most prudent course consistent with the requirements of Rule 2a-7.

A later section of this paper describes in greater detail how MMFs have responded to the risks posed by the European sovereign debt crisis and the potential impact of a flight from European debt by MMFs.

VIII. Banks Also Are Big Investors in the Short-Term Credit Markets

MMFs are not the only investors in the short-term credit markets. They are the most transparent, which perhaps is why they are a focus of regulatory attention by the Fed. Banks and bank holding companies also are significant investors in the short-term credit markets, including European markets. Banks do not disclose their portfolio holdings like MMFs are required to do, but their holdings are substantial, possibly exceeding those of MMFs.

The National Bank Act authorizes national banks to invest for their own account in investment grade bank debt, other debt securities, money market instruments, asset-backed commercial paper, and municipal securities, among other things. The OCC has issued regulations and numerous interpretations describing the types of investment securities permissible for national banks. State banks make similar investments under state law. Bank holding companies have even broader investment authority under the Bank Holding Company Act.

In addition to investments for their own account, banking organizations manage trust accounts that invest in the short-term credit markets. Bank trust departments often use MMFs for this purpose and are substantial shareholders of MMFs. They also invest directly in the markets by purchasing commercial paper, municipal securities, and other short-term debt instruments. Banks also have

subsidiaries and other affiliates that invest heavily in the same short-term credit markets that MMFs invest in. These entities include registered investment advisers and broker-dealers that invest for their own account and on behalf of their customers. Banks and their affiliates also act as investment advisers to MMFs and direct the investments of the funds they manage.

The total amount of investments in the short-term credit markets by banking organizations is not easy to decipher from publicly available call report or other data. The Fed's extensive flow of funds charts and other publicly available statistical data do not include a detailed breakdown of the short-term credit markets or the short-term debt held by banks and their affiliates. Banking organizations are not required to disclose their portfolio holdings.

Nevertheless, FDIC data suggest that the amount of short-term credit holdings by banking organizations is very large. For example, FDIC statistics show that, as of year-end 2011, FDIC insured depository institutions held \$218 billion in municipal securities, \$517 billion in other domestic debt securities (including asset-backed commercial paper), \$716 billion in trading account assets, and approximately \$281 billion in foreign debt securities.⁴⁶ J.P. Morgan alone reported \$370 billion in trading assets as of March 31, 2012.⁴⁷ The OCC has reported that short-term investment trusts administered by banks held \$112 billion in assets as of year-end 2011.⁴⁸ Bank-advised MMFs hold approximately one-half of all MMF assets (roughly \$1.3 trillion).

⁴⁶ Federal Deposit Insurance Corporation, Quarterly Banking Profile, 4th Quarter 2011, and other FDIC data. Because the data is opaque, it is difficult to know what the actual relevant amounts are.

⁴⁷ J.P. Morgan Chase & Co., SEC Form 10-Q, for the period ending March 31, 2012.

⁴⁸ Office of the Comptroller of the Currency, 77 Fed. Reg. 21057, 21068 (April 9, 2012). These trusts are the equivalent of MMFs maintained by banks for their trust accounts.

The Fed and other banking regulators should be able to assemble the relevant data and supply it to policymakers and others studying the impact of investor behavior on the short-term credit markets. Without this data and analytical studies encompassing the role of banks and their affiliates in the short-term credit markets, policymakers cannot have a sufficient understanding on which to base proposals to improve the structure of those markets. Relying on MMF data alone gives an incomplete picture and can only lead to misguided and potentially harmful reform efforts.

IX. Alarmist Statements About MMF Runs Suggest a Misapprehension of the Facts

As noted, the SEC's Division of Investment Management, which regulates MMFs, has stated that it is a "rare occurrence" for a MMF to break a dollar. Yet, statements by Federal Reserve officials make it appear that MMF shareholders will run at the drop of a hat. For example, a Reserve Bank president has said:

MMMF investors act more like depositors and will run whenever they are concerned about a fund's safety so they can redeem their shares for \$1 before the fund "breaks the buck" and reduces the value of the shares.⁴⁹

Such statements have led one academic expert to observe:

[T]he debate surrounding MMF risk has veered dangerously from the realm of reality into the realm of rhetoric. To believe certain critics of MMFs, one would think that there has been run on MMFs every year for the

⁴⁹ Thomas M. Hoenig (former president) and Charles S. Morris (vice president and economist), Federal Reserve Bank of Kansas City, "Restructuring the Banking System to Improve Safety and Soundness," May 2011. See also Chairman Ben S. Bernanke, Remarks at the Council on Foreign Relations, Washington, D.C., March 10, 2009, "Financial Reform to Address Systemic Risk."

last decade, that a few dozen funds failed last week, and that more are likely to fail this afternoon.⁵⁰

The Federal Reserve appears to have influenced the SEC's current chairman, Mary Schapiro, to adopt the view that MMFs are susceptible to runs. This susceptibility, she says, results from the risk-averse nature of MMF investors:

Investors still have incentives to run from money market funds at the first sign of a problem. . . .Whenever there is an unexpected shock to the financial system, or a natural disaster with market moving implications, the staff knows that the first thing I will ask is: "what is the related money market fund exposure?" Money market fund investors are historically very risk averse and are motivated to pull their money—and get their dollar—in advance of any deterioration of value.⁵¹

Chairman Schapiro went so far as to testify before Congress that a run on MMFs can "devastate our entire economy."⁵²

Chairman Schapiro's comments reflect the views of the Squam Lake Group of academic economists who claim that money market funds can "bring down" the entire financial system unless they are subjected to incapacitating regulation such as these economists have proposed.⁵³ The only evidence cited by these economists to support their claim of impending doom by MMFs is the 2008

⁵⁰ Testimony of Mercer E. Bullard, President and Founder of Fund Democracy, Inc. and Associate Professor of Law, University of Mississippi School of Law, before a Subcommittee of the House Financial Services Committee on "Oversight of the Mutual Fund Industry," June 24, 2011.

⁵¹ Mary L. Schapiro, Chairman, Securities and Exchange Commission, Remarks at the Society of American Business Editors and Writers Annual Convention, March 15, 2012.

⁵² Statement by Securities and Exchange Commission Chairman Mary L. Schapiro before a subcommittee of the House Financial Services Committee, April 25, 2012, webcast at 1:48.

⁵³ See Squam Lake Group, "SEC Beware, Money Funds Can Bring System Down," April 18, 2012, Bloomberg, available at <http://www.bloomberg.com/news/2012-04-18/sec-beware-money-funds-can-bring-system-down.html>.

run by MMF shareholders amid the turmoil caused by the Fed's erratic lender of last resort policy and failure to provide a solution to avert the Lehman bankruptcy. The Squam Lake Group's apocryphal claim is supported by no other facts or economic analysis. They have proposed a scheme to impose capital requirements on MMFs that similarly is devoid of supporting facts or analysis.

A later section of this paper examines two hypothetical doomsday scenarios under which a run by MMF shareholders might occur and attempts to envision how such a run could "bring down" the entire financial system or "devastate our entire economy," as Chairman Schapiro and the Squam Lake economists have imagined. In neither scenario would a run by MMF shareholders be a cause of total economic collapse. Indeed, it is impossible to imagine a scenario in which a run by MMF shareholders would be the cause any kind of systemic crisis.

It is true that MMF shareholders might react to a systemic crisis by reallocating their MMF assets from prime funds to government-only MMFs, just as uninsured depositors will reallocate their deposits from banks to government securities (or government-only MMFs) in a crisis. In that sense, the prudent behavior of MMF investors and uninsured depositors might amplify the impact of a crisis by withdrawing from the market. But it would be incorrect and misleading to say they caused the crisis and harmful to prevent them from acting prudently. Moreover, it is delusional to think a capital buffer or floating NAV would prevent MMF shareholders from acting prudently.

In order to lessen the potential for a run by large institutional investors and depositors, Congress could mandate insurance coverage to protect them. It is unlikely that Congress would be willing to do so, however, in an amount that would forestall a flight to safety by large institutional investors and depositors. The average account of institutional investors in MMFs is \$5 million, far in excess of the \$250,000 per depositor amount covered by FDIC insurance. Apart

from questions of competitive equity between banks and MMFs that would arise, moral hazard is an undesirable consequence of insurance.

Chairman Schapiro has alluded to the provision in the Dodd-Frank Act revoking the U.S. Treasury's authority to use the Exchange Stabilization Fund to guarantee MMFs and thwart a run in some future crisis.⁵⁴ Thus, she concluded, "there would be little regulators could do to manage or stop such a run." In fact, Congress has given the Federal Reserve broad lender of last resort powers to aid the financial system and the economy under section 13(3) of the Federal Reserve Act. Although the Dodd-Frank Act limits the Fed's ability to bailout an individual firm, the Fed retains substantial authority to address systemic crises using its section 13(3) authority. In the event of an Armageddon scenario that would cause MMF investors to run—and uninsured depositors to run also—the Federal Reserve could appropriately use its authority to create systemic liquidity facilities consistent with the Dodd-Frank Act.

MMFs themselves will not be the cause of a systemic crisis in the future. Only an external shock or elevated risk scenario is likely to cause MMFs collectively to reallocate their assets to lower risk portfolios. In such an event, many MMF shareholders predictably would reallocate from prime MMFs to government-only funds. Fed liquidity facilities can help the markets adjust to this reallocation. On the other hand, the Fed can do little to temper the effects of a run by individual investors in the event of a crisis. If MMFs cease to exist, individual investors that currently invest in MMFs will invest directly in commercial paper and other short-term money market instruments. Such investors will run from the market in a contagion, just as they did in September 2008. The Fed has nothing in its toolkit to stop a run by individual investors, whereas the Fed can purchase

⁵⁴ Mary L. Schapiro, Chairman, Securities and Exchange Commission, Remarks at the Society of American Business Editors and Writers Annual Convention, March 15, 2012.

assets from MMFs in a crisis and thereby channel liquidity to stabilize the markets.

Chairman Schapiro has stated that it is unacceptable for U.S. taxpayers to foot the bill if another run on MMFs occurs that requires an emergency response from the government. But taxpayers did not pay for the emergency response to the run by MMF shareholders in 2008, and there is no reason to expect that taxpayers would suffer any losses if government assistance is needed in some future financial tsunami to prevent a flight to safety by MMF shareholders.⁵⁵

Emergency assistance for MMFs would not be required if regulators focus on the true sources of systemic risk in the financial system—within the banking system—and address weaknesses there rather than encumber MMFs with unnecessary structural changes that will impair their ability to serve as a source of safety and liquidity for investors and the financial system.

X. Sponsor Support Creates Moral Hazard and Is Not the Answer

Chairman Shapiro has stated that MMFs “often go to great lengths to avoid breaking the buck” and have infused their own capital and waived investor fees:

The companies that manage money market funds often go to great lengths to avoid breaking the buck. They have been quick to infuse their own capital to prop up the value of money market funds, and over the past two years they have waived investor fees in order to prevent fund values from falling below \$1.00. SEC staff provided no-action

⁵⁵ Shareholders of the Reserve Primary Fund bore the losses of that fund’s breaking a dollar in 2008 (one cent on the dollar). MMFs paid \$1.2 billion in fees to the U.S. Treasury for the temporary MMF insurance program, which incurred no losses and terminated a year later. The liquidity program at the Federal Reserve Bank of Boston similarly incurred no losses and earned a profit for the government.

assurances that allowed more than 100 money market funds to enter into capital support agreements with their parent companies in 2007-2008. Without these capital infusions and other support, these funds might have broken the buck, kicking off other destabilizing runs. These numbers underscore the fact that the Reserve Primary Fund's collapse should not automatically be regarded as an isolated incident.⁵⁶

What Chairman Schapiro failed to mention is that the bulk of the MMF capital support arrangements involved banking organizations supporting their own affiliated MMFs that held bank-sponsored asset-backed commercial paper. A Federal Reserve staff research paper has concluded that these support agreements may have created moral hazard and systemic risk:

Bank-affiliated money funds were more likely to receive sponsor support and to hold distressed ABCP in their portfolios. . . . Hence, sponsor support has likely increased investor risk for MMFs. The fact that funds with bank sponsors were more likely to have held distressed ABCP and to have received sponsor bailouts in the wake of the ABCP crisis also suggests that the possibility of sponsor support may undermine incentives for prudent asset management.

. . . . Furthermore, during the run in 2008, concerns about the ability of sponsors to support their MMFs evidently prompted heavier redemptions from money funds with weaker sponsors, and thus transmitted the sponsors' strains to off-balance-sheet MMFs and into short-term funding markets. Thus, by fostering expectations of implicit recourse to sponsors, past support actions had created a channel for the transmission during crises of strains between entities that should not have been related. Whether

⁵⁶ Mary L. Schapiro, Chairman, Securities and Exchange Commission, Remarks at the Society of American Business Editors and Writers Annual Convention, March 15, 2012.

or not such support was actually delivered, it may have contributed to financial strains.⁵⁷

The Federal Reserve research paper did not conclude, as Chairman Schapiro does, that draconian measures need to be taken to prevent any MMF from ever breaking the buck again. Rather, it concludes that regulators should consider the systemic risks posed by sponsor support of MMFs—particularly support by banking organizations of their affiliated MMFs.⁵⁸ The Fed paper suggests that MMFs—particularly bank-sponsored MMFs—might not have needed sponsor support had stricter controls been imposed on sponsor support earlier. The paper otherwise applauds the “impressive record of price stability” of MMFs.

Acting contrary to the suggestion in the Federal Reserve paper, the SEC in 2010 made it easier for banking organizations and other sponsors to provide implicit and explicit support to their affiliated MMFs and amended its rules to allow sponsors to purchase defaulted as well as other portfolio securities from affiliated funds, subject to certain conditions. The SEC acknowledged that such support “might also give a competitive advantage to funds that receive it because they may be more willing to invest in securities with higher risk and higher

⁵⁷ Patrick E. McCabe, Senior Economist, Federal Reserve Board, “The Cross Section of Money Market Fund Risks and Financial Crises,” Finance and Economics Discussion Series 2010-51 (2010) at 34-35.

⁵⁸ *Id.* at 2-3 (“The link between sponsor risk and holdings of distressed paper during the ABCP crisis indicates that the sponsor-support option may distort incentives for portfolio managers, and the role of sponsor risk in channeling concerns about financial institutions to their off-balance-sheet MMFs during the 2008 run suggests that expectations for such support may contribute to transmission of financial shocks. These concerns at least warrant greater attention to the systemic risks posed by the MMF industry’s reliance on sponsor support.”).

yields.”⁵⁹ As suggested below, the risk of runs on MMFs could be reduced if the SEC were to prohibit or restrict sponsor support for affiliated MMFs.⁶⁰

XI. The Risk of Runs Cannot Be Eliminated—Making MMFs Risk-Free is Not a Sound Policy Aim

The financial crisis of 2007-2008 demonstrated that it is not possible to eliminate the risk of bank runs. Despite the existence of deposit insurance, the Fed’s discount window, and comprehensive prudential supervision and regulation, U.S. banks experienced runs that destabilized not only themselves but the entire financial system. Unless the U.S. government is prepared to fully insure all bank deposits—which it is not—or prohibit banks from accepting uninsured deposits—which it is not—then the risk of bank runs in the United States will persist.

If it is not possible to eliminate bank runs with all of the government infrastructure supporting the banking system, it is hardly likely that the potential for runs by MMF shareholders, small though it is, can be eliminated. Nor should it be. Regulations that aim to that make banks or MMFs absolutely run-free (assuming that were even possible) inevitably would increase moral hazard, which would increase risk in the financial system.

Moreover, making MMFs risk-free is not an appropriate goal as a matter of public policy. The President’s Working Group report on MMFs rejected the idea of making MMFs risk-free as a policy objective.⁶¹ The report bears quoting at length on this point:

⁵⁹ 75 Fed. Reg. 10060, 10105 (March 4, 2010).

⁶⁰ As for Chairman Schapiro’s remark about MMFs waiving investor fees, it has long been an industry practice for MMFs in the United States to waive fees for yield and other considerations.

⁶¹ The President’s Working Group on Financial Markets (“PWG”) consists of the Secretary of the Treasury and the chairmen of the Federal Reserve Board, Securities and Exchange Commission, and Commodity Futures Trading Commission.

Importantly, preventing any individual MMF from ever breaking the buck is not a practical policy objective—though the new SEC rules for MMFs should help ensure that such events remain rare. . . .⁶² * * * *

Notwithstanding the need for reform, the significance of MMFs in the U.S. financial system suggests that changes must be considered carefully. Tighter restrictions on MMFs might, for example, lead to a reduction in the supply of short-term credit, a shift in assets to substitute investment vehicles that are subject to less regulation than MMFs, and significant impairment of an important cash-management tool for investors. Moreover, the economic importance of risk-taking by MMFs—as lenders in private debt markets and as investments that appeal to shareholders’ preferences for risk and return—suggests that **the appropriate objective for reform should not be to eliminate all risks posed by MMFs.** Attempting to prevent any fund from *ever* breaking the buck would be an impractical goal that might lead, for example, to draconian and—from a broad economic perspective—counterproductive measures, such as outright prohibitions on purchases of private debt instruments and securities with maturities of more than one day. Instead, policymakers should balance the benefits of allowing individual MMFs to take some risks and facilitating private and public borrowers’ access to term financing in money markets with the broader objective of mitigating systemic risks—in particular, the risk that one fund’s problems may cause serious harm to other MMFs, their shareholders, short-term funding markets, the financial system, and the economy.⁶³
* * * *

Making each individual MMF robust enough to survive a crisis of the size of that experienced in 2008 may not be an appropriate policy objective because it would unduly limit risk taking. Indeed, although the SEC’s tightening of restrictions on the liquidity, interest-rate, and

⁶² Report of the President’s Working Group on Financial Markets, Money Market Fund Reform Options, Oct. 2010, at 4.

⁶³ *Id.* at 13-14.

credit risks borne by individual MMFs will be helpful in making MMFs more resilient to future strains, there are practical limits to the degree of systemic risk mitigation that can be achieved through further restrictions of this type. For example, an objective of preventing any MMF from breaking the buck probably would not be feasible for funds that invest in private debt markets. Changes that would prevent funds from breaking the buck due to a single Lehman Brothers-like exposure would have to be severe: Only limiting funds' exposures to each issuer to less than one-half of 1 percent of assets would prevent a precipitous drop in the value of any single issuer's debt from causing a MMF to break the buck. But even such a limit on exposure to a single issuer would not address the risk that MMFs may accumulate exposures to distinct but highly correlated issuers, and that funds would remain vulnerable to events that cause the debt of multiple issuers to lose value.

Beyond diversification limits, new rules to protect MMFs from material credit losses would be difficult to craft unless regulators take the extreme step of eliminating funds' ability to hold *any* risky assets. But that approach would be clearly undesirable, as it would adversely affect many firms that obtain short-term financing through commercial paper and similar instruments. In addition, such an extreme approach would deny many retail investors any opportunity to obtain exposure to private money market instruments and most likely would motivate some institutional investors to shift assets from MMFs to less regulated vehicles.

Similarly, liquidity requirements sufficient to cover all redemption scenarios for MMFs probably would be impractical and inefficient. The SEC's new liquidity requirements help mitigate liquidity risks borne by the funds, and if MMFs had held enough liquid assets in September 2008 to meet the new liquidity requirements, each MMF would have had adequate daily liquidity to meet redemption requests on most individual days during the run. Even so, the cumulative effect of severe outflows on *consecutive* days would have exceeded many funds' liquidity buffers. . . .

Raising the liquidity requirements enough so that each MMF would hold adequate daily liquidity to withstand a

large-scale run would be a severe constraint and would fail to take advantage of risk-pooling opportunities that might be exploited by external sources of liquidity. During the run in 2008, individual MMFs experienced large variations in the timing and magnitude of their redemptions. Liquidity requirements stringent enough to ensure that every individual MMF could have met redemptions without selling assets would have left most of the industry with far too much liquidity, even during the run, and would have created additional liquidity risks for issuers of short-term securities, since these issuers would have had to roll over paper more frequently. . . .⁶⁴

XII. A Floating NAV for MMFs is Not a Viable Option

In policy discussions concerning MMFs, some U.S. banking regulators have recommended eliminating the stable \$1.00 NAV that is the defining characteristic of MMFs as a means of minimizing the risk of runs by MMF shareholders. However, the concept of a floating NAV was considered by the President’s Working Group and largely rejected for a number of reasons. First of all, the PWG said, “a floating NAV itself would not eliminate entirely MMFs’ susceptibility to runs”:

Rational investors still would have an incentive to redeem as fast as possible the shares of any MMF that is at risk of depleting its liquidity buffer before that buffer is exhausted, because subsequent redemptions may force the fund to dispose of less-liquid assets and incur losses.⁶⁵

Indeed, floating NAV funds in Europe experienced runs during the financial crisis.

⁶⁴ *Id.* at 17-18.

⁶⁵ Report of the President’s Working Group on Financial Markets, Money Market Fund Reform Options, Oct. 2010, at 20.

The PWG report highlighted several concerns that might result from requiring MMFs to eliminate their \$1.00 NAV, including a contraction in credit availability for businesses, financial institutions, and state and local governments that rely on short-term financing:

Notwithstanding the advantages of a floating NAV, elimination of the stable NAV for MMFs would be a dramatic change for a nearly \$3 trillion asset-management sector that has been built around the stable \$1 share price. Indeed, a switch to floating NAVs for MMFs raises several concerns.

First, such a change might reduce investor demand for MMFs and thus diminish their capacity to supply credit to businesses, financial institutions, state and local governments, and other borrowers who obtain financing in short-term debt markets. MMFs are the dominant providers of some types of credit, such as commercial paper and short-term municipal debt, so a significant contraction of MMFs might cause particular difficulties for borrowers who rely on these instruments for financing. If the contraction were abrupt, redemptions might cause severe disruptions for MMFs, the markets for the instruments the funds hold, and borrowers who tap those markets.⁶⁶

The PWG report noted that some investors might not be able to use floating rate MMFs because of functional obstacles—such as the loss of accounting convenience and tax efficiencies. These investors include corporate cash managers, municipalities, and corporate fiduciaries:

While there is no direct evidence on the likely effect of a floating NAV on the demand for MMFs, the risk of a substantial shift of assets away from MMFs and into other vehicles should be weighed carefully. Assets under management in MMFs dwarf those of their nearest substitutes, such as, for example, ultra-short bond funds,

⁶⁶ *Id.* at 21.

most likely because ultra-short bond funds are not viewed as cash substitutes. To the extent that demand for stable NAV funds is boosted by investors who hold MMFs because they perceive them to be risk-free, a reduction in demand for these funds might be desirable. However, some investors face functional obstacles to placing certain assets in floating NAV funds. For example, internal investment guidelines may prevent corporate cash managers from investing in floating NAV funds, some state laws allow municipalities to invest only in stable-value funds, and fiduciary obligations may prevent institutional investors from investing client money in floating NAV funds. In addition, some investors may not tolerate the loss of accounting convenience and tax efficiencies that would result from a shift to a floating NAV, although these problems might be mitigated somewhat through regulatory or legislative actions.⁶⁷

The PWG expressed concern that elimination of the \$1.00 NAV might increase, rather than reduce, systemic risks. The PWG said this might occur if investors shift their assets to less regulated vehicles that carry more risk and might result in a deterioration of risk management practices and market discipline incentives:

Second, a related concern is that elimination of MMFs' stable NAVs may cause investors to shift assets to stable NAV substitutes that are vulnerable to runs but subject to less regulation than MMFs. In particular, many institutional investors might move assets to less regulated or unregulated cash management vehicles, such as offshore MMFs, enhanced cash funds, and other stable value vehicles that hold portfolios similar to those of MMFs but are not subject to the ICA's restrictions on MMFs. These unregistered funds can take on more risks than MMFs, but such risks are not necessarily transparent to investors. Accordingly, unregistered funds may pose even greater systemic risks than MMFs, particularly if new restrictions

⁶⁷ *Id.* at 21 (footnotes omitted).

on MMFs prompt substantial growth in unregistered funds. **Thus, changes to MMF rules might displace or even increase systemic risks, rather than mitigate them, and make such risks more difficult to monitor and control.**

. . . . Elimination of MMFs' stable NAVs may also prompt some investors—particularly retail investors—to shift assets from MMFs to banks. Such asset shifts would have potential benefits and drawbacks, which are discussed in some detail in section 3(g).

Third, MMFs' transition from stable to floating NAVs might itself be systemically risky. . . .

Fourth, risk management practices in a floating NAV MMF industry might deteriorate without the discipline required to maintain a \$1 share price. MMFs comply with rule 2a-7 because doing so gives them the ability to use amortized-cost accounting to maintain a stable NAV. Without this reward, the incentive to follow 2a-7 restrictions is less clear. Moreover, the stable, rounded NAV creates a bright line for fund advisers: Losses in excess of $\frac{1}{2}$ of 1 percent would be catastrophic because they would cause a fund to break the buck. With a floating NAV, funds would not have as clear a tipping point, so fund advisers might face reduced incentives for prudent risk management.⁶⁸

The PWG report discussed the practical difficulties of implementing a floating NAV for MMFs and highlighted the possibility that a floating NAV could increase the potential for runs by MMF shareholders:

The fifth and final concern is that a floating NAV that accomplishes its proponents' objectives of reducing systemic risks may be difficult to implement. Under normal market conditions, even a floating NAV would likely move very little because of the nature of MMF assets. For example, although a requirement that MMFs move to a \$10 NAV and round to the nearest cent would force funds to reprice shares for as little as a 5 basis point change in

⁶⁸ *Id.* at 22.

portfolio value, NAV fluctuations might still remain relatively rare. Enhanced precision for NAVs (for example, NAVs with five significant figures) could bring more regular, incremental fluctuations, but precise pricing of many money market securities is challenging given the absence of active secondary markets. In addition, if fund sponsors decided to provide support to offset any small deviations from the usual NAV, deviations from that NAV might remain rare.

Thus, a floating NAV may not substantially improve investors' understanding of the riskiness of MMFs or reduce the stigma and systemic risks associated with breaking the buck. Investors' perceptions that MMFs are virtually riskless may change slowly and unpredictably if NAV fluctuations remain small and rare. MMFs with floating NAVs, at least temporarily, might even be more prone to runs if investors who continue to see shares as essentially risk-free react to small or temporary changes in the value of their shares.⁶⁹

XIII. A Capital Buffer Is Not Appropriate for MMFs

Suggestions that MMFs be required to maintain a capital buffer are misguided. The rationale for asset-based regulatory capital requirements does not pertain to MMFs.

Among other things, MMFs do not leverage their capital and do not “create money” or assets in the way that banks do. Every dollar of required bank capital supports approximately \$10.00 in assets whereas every dollar of capital in a MMF supports \$1.00 in assets.⁷⁰ MMF assets and liabilities match almost

⁶⁹ *Id.* at 22.

⁷⁰ Prior to the financial crisis, banking organizations were even more heavily leveraged. The Financial Crisis Inquiry Commission found that, “from 2000 to 2007, large banks and thrifts generally had \$16 to \$22 in assets for each dollar of capital, for leverage ratios between 16:1 and 22:1. For some banks, leverage remained roughly constant. JP Morgan’s reported leverage was between 20:1 and 22:1. . . . Citigroup’s increased from 18:1 to 22:1, then shot up to 32:1 by the end of 2007, when Citigroup brought off-balance sheet assets onto the balance sheet. More than other

perfectly dollar-for-dollar. MMFs have 100 percent equity capital. They do not generate assets in the way banks do such as to warrant regulatory capital requirements.

Regulatory capital requirements may be appropriate as a loss-absorbing mechanism for banks, which are in the business of creating assets and assuming credit risk on long-term loans. Unlike banks, however, MMFs are not in that business. They are purely investment vehicles operating subject to the strict limitations of SEC Rule 2a-7 which allows them to incur only minimal credit risk.

In any event, what deters runs is liquidity, not capital. MMFs are required to maintain substantial liquidity under Rule 2a-7 as amended in 2010. As noted, the rule requires MMFs to have 10 percent daily liquidity and 30 percent weekly liquidity.

Experience shows that capital is a weak guard against risk-taking. The U.S. bank capital rules encouraged excessive risk-taking by banks and contributed to the build-up of toxic assets in the U.S. financial system that ultimately caused the financial crisis.⁷¹ More capital would have enabled banks to better absorb the losses they incurred on the assets they generated, but they still would have taken the risks absent stronger risk management imposed by banking supervisors.

banks, Citigroup held assets off its balance sheet, in part to hold down capital requirements. In 2007, even after bringing \$80 billion worth of assets on balance sheet, substantial assets remained off. If those had been included, leverage in 2007 would have been 48:1, or about 53 percent higher.” Final Report of the National Commission on the Causes of the Financial and Economic Crisis in the United States, Jan. 2011, at 65.

⁷¹ The capital rules contributed to the buildup of mortgage-backed securities and ABCP by allowing banks to hold 50 percent less capital for residential mortgage loans than commercial loans, even less capital for securities backed by such loans, and virtually no capital to support their ABCP conduits.

Even if MMFs had been required to hold a capital buffer prior to the bank commercial paper crisis, MMFs still would have refused to renew their holdings of bank-sponsored ABCP that failed to meet their credit risk standards. Banks still would have been required to advance funds under their backup lines of credit and other guarantees of ABCP. The commercial paper market still would have imploded, and the financial crisis still would have occurred.

The idea that MMFs should maintain a capital buffer is unsupported by any published economic analysis.⁷² The President's Working Group report on MMFs pointed out significant difficulties with such an approach that would involve converting MMFs into special purpose banks:

[T]he capital needed to reorganize MMFs as SPBs [special purpose banks] may be a significant hurdle to successful implementation of this option. Access to the Federal Reserve discount window and deposit insurance coverage most likely would require that the new SPBs hold reservable deposits and meet specific capitalization standards. Given the scale of assets under management in the MMF industry, MMF sponsors (or banks) that wish to keep funds operating would have to raise substantial equity—probably at least tens of billions of dollars—to meet regulatory capital requirements. Raising such sums would be a considerable challenge. The asset management business typically is not capital intensive, so many asset managers—and several of the largest sponsors of MMFs—are lightly capitalized and probably could not provide such amounts of capital. **If asset managers or other firms were unwilling or unable to raise the capital needed to operate the new SPBs, a sharp reduction in assets in stable NAV MMFs might diminish their capacity to supply short-term credit, curtail the availability of an**

⁷² The Investment Company Institute recently published an analysis showing that the imposition of a capital buffer requirement on MMFs would effectively end MMFs as they currently exist. Investment Company Institute, “The Implications of Capital Buffer Proposals for Money Market Funds,” May 16, 2012.

attractive investment option (particularly for retail investors), and motivate institutional investors to shift assets to unregulated vehicles.

An additional hurdle to converting MMFs to SPBs would be the substantial increase in explicit government guarantees that would result from the creation of new insured deposits. The potential liability to the government probably would far exceed any premiums that could be collected for some time.

Uncertainties about the reaction of institutional investors to MMFs reorganized as SPBs raise some important concerns about whether such reorganizations would provide a substantial degree of systemic-risk mitigation. Coverage limits on deposit insurance would leave many large investors unprotected in case of a significant capital loss. Thus, even with the protections afforded to banks, MMFs would still be vulnerable to runs by institutional investors, unless much higher deposit insurance limits were allowed for the newly created SPBs. Moreover, even in the absence of runs, institutional MMFs often experience volatile cash flows, and the potential effects of large and high-frequency flows into and out of the banking system (if MMFs become SPBs) would need to be analyzed carefully.

. . . . [A] substantial mandatory capital buffer for MMFs would reduce their net yields and possibly motivate institutional investors to move assets from MMFs to unregulated alternatives (particularly if regulatory reform does not include new constraints on such vehicles). The effect of these competing incentives on institutional investors' cash management practices is uncertain, but it is at least plausible that a reorganization of MMFs as SPBs may lead to a net shift of assets to unregulated investment vehicles.⁷³

Thus, as the President's Working Group report recognizes, imposing a capital buffer requirement on MMFs likely would cause the very problem that

⁷³ *Id.* at 33-35 (footnotes omitted).

regulators aim to prevent—disruption of the credit markets on which banking organizations and other corporations depend—and otherwise increase systemic risk.

XIV. MMFs Do Not Implicitly Promise a \$1.00 NAV

Fed officials have stated that MMFs “implicitly promise” to maintain a fixed net asset value of \$1.00 per share. This implied promise increases the chance of runs on all MMFs, they claim, in the event a single MMF breaks a dollar.

It is true that MMFs seek to maintain a \$1.00 NAV, and historically have been successful in doing so. But they make no promise or guarantee to that effect. Indeed, MMFs are required by SEC regulations to disclose in their prospectuses and marketing literature that MMF shares are not guaranteed by any government agency and that investors may lose money. Institutional investors hold well over half of all MMF assets and these investors are well aware that the \$1.00 NAV is not guaranteed. Survey data also show that retail investors understand that MMFs are not guaranteed.⁷⁴

The President’s Working Group has stated that sponsor support for MMFs has helped to foster the false impression that MMFs are guaranteed:

MMFs are under no legal or regulatory requirement to redeem shares at \$1; rule 2a-7 only requires that MMFs be managed to maintain a stable NAV. Yet sponsor-supported stable, rounded NAVs and the typical \$1 MMF share price

⁷⁴ See results of a survey by Fidelity Investments, attached to Letter dated April 26, 2012 to Securities and Exchange Commission from Scott C. Goebel, Senior Vice President and General Counsel, FMR Co. (“81% of Fidelity retail customers with MMMFs indicate they understand that the securities held by these funds fluctuate up and down daily in value; 75% of Fidelity customers know that the MMMFs they invest in are not guaranteed by the government; only 10% believe the government would step in to prevent MMMFs from breaking a stable \$1 share price.”).

foster investors' impressions that MMFs are extremely safe investments.⁷⁵

Thus, remedying the problem of sponsor-support for bank-affiliated MMFs might go far in eliminating the perception of an “implied promise.”

XV. The Best Way to Reduce the Risk of MMF Runs Is to Keep Current Regulations and Restrict Sponsor Support

The best way to reduce the risk of a “run” by MMF shareholders is to allow MMFs to continue operating as they do now subject to regulations under the Investment Company Act (or equivalent statutes in Europe) that help ensure their safety. MMFs make risk-averse investors less likely to flee the financial markets to the extent investors have confidence that MMFs are professionally managed and subject to SEC liquidity, credit quality, diversification, stress testing, disclosure, and other requirements designed to promote their safety.

MMFs create a risk filter that few investors acting on their own can duplicate. MMFs are more capable of evaluating risk and acting to reduce risk than most investors acting independently. MMFs have more comprehensive market information, monitoring and analysis capability and are more likely to identify risks at an earlier stage and take action to avoid them or liquidate holdings in a timely manner. By the time an individual investor discovers risks, MMFs already have acted on them. Individual investors, knowing they have less sophisticated market information, may be more likely to panic.

Without MMFs as a risk buffer, both retail and institutional investors may believe their investments are more exposed and thus be more likely to flee at the onset of market stress. Investors in MMFs, on the other hand, may not be as

⁷⁵ Report of the President's Working Group on Financial Markets, Money Market Fund Reform Options, Oct. 2010, at 10-11.

fearful of market shocks to the extent they have confidence the fund manager will act responsively. They also may feel there is “safety in numbers” in a MMF. Few investors have access to the sophisticated risk management skills and tools of MMF managers and may be more “skittish” about their investments, increasing the potential for runs. Moreover, whereas the Federal Reserve has tools it can use in a crisis to deal with a potential run by MMFs as it did in 2008, its ability to contain a run by either retail or institutional investors acting on their own is doubtful.

Imposing a capital charge or hold-back requirement on MMF shareholders will not prevent a run in a contagion. Rather than focus on making debilitating structural changes to MMFs in a futile attempt to prevent runs that are unlikely to occur, financial regulators would better spend their time addressing ways to improve the health of the banking system in order to reduce the risk of *bank* runs, which are very real and far more damaging.

Another possible step to reduce the risk of MMF runs is to prohibit or restrict the ability of MMF sponsors—particularly banking organizations—to support their affiliated funds. During 2007-2008, a number of MMF sponsors purchased assets from their funds in order to maintain the fund’s \$1.00 net asset value (NAV). Although these instances occurred without a run on MMFs, they may have fostered a perception by some investors that MMFs are risk-free.

The majority of sponsor support occurrences during 2007-2008 involved banking organizations purchasing asset-backed commercial paper from their own affiliated MMFs. Sponsor support may have created moral hazard that led to the

funds' holding such assets.⁷⁶ The President's Working Group, in a 2010 report on MMFs, noted that sponsor support for MMFs "may contribute to runs" and is a source of systemic risk.⁷⁷ Chairman Bernanke has expressed concern about sponsor support for MMFs and said that the Financial Stability Oversight Council will address sponsor support and consider options that could materially change the nature of such support.⁷⁸

The answer to the sponsor-support problem might be to prohibit or tighten restrictions on the ability of banking organizations or other MMF sponsors to support their MMFs. The President's Working Group has posited that, if MMF sponsors had not been permitted to support their funds in recent years, MMF investors might have had more realistic expectations and been less inclined to run:

If MMFs with rounded NAVs had lacked sponsor support over the past few decades, many might have broken the buck and diminished the expectation of a stable \$1 share price. In that case, investors who nonetheless elected to hold shares in such funds might have become more tolerant of risk and less inclined to run.⁷⁹

⁷⁶ See Patrick E. McCabe, Senior Economist, Federal Reserve Board, "The Cross Section of Money Market Fund Risks and Financial Crises," Finance and Economics Discussion Series 2010-51 (2010).

⁷⁷ Report of the President's Working Group on Financial Markets, Money Market Fund Reform Options, Oct. 2010, at 3 and 10 ("uncertainty about the availability of such support during crises may contribute to runs"; "the possibility that sponsors may become unwilling or unable to provide expected support during a crisis is itself a source of systemic risk.").

⁷⁸ See Letter dated Dec. 9, 2010 from Federal Reserve Board Chairman Ben S. Bernanke to Anthony J. Carfang, Treasury Strategies, Inc., attached to Letter dated Dec. 17, 2010 from Anthony J. Carfang to Securities and Exchange Commission Chairman Mary L. Schapiro, comments on SEC File No. 4-619, available at <http://www.sec.gov/comments/4-619/4-619.shtml>.

⁷⁹ Report of the President's Working Group on Financial Markets, Money Market Fund Reform Options, Oct. 2010, at 11.

XVI. MMFs Are Not Shadow Banks

The Federal Reserve and other U.S. banking regulators have sought to portray MMFs as part of an unregulated “shadow banking system” that destabilized the financial system in 2007 and 2008. As shown in “Shooting the Messenger: The Fed and Money Market Funds,” the concept of the “shadow banking system” is largely a fiction that conceals the role of regulated banking organizations in activities and practices that destabilized the financial system. Regulated banks and their affiliates actively engage in “shadow banking” activities and they, not MMFs, form the backbone of the shadow banking system. To the extent MMFs are involved in the shadow banking system, they are only the equivalent of its depositors.

The Federal Reserve and other U.S. banking regulators created the shadow banking system in the 1980s when they authorized banks and their affiliates to securitize their assets in ABCP conduits and engage in other “shadow banking” activities in the securities markets. They authorized these activities notwithstanding legal challenges contesting the permissibility of such activities under the Glass-Steagall Act. The historical record shows that banking organizations have been key operators of the shadow banking system from its inception, acting under the supervision of the Federal Reserve and other banking regulators. Although investment banks also participated in the shadow banking system until 2008, they were absorbed into the banking system during the financial crisis.

When one studies the events of 2007-2008, one sees that MMFs, far from being a part of the “shadow banking system,” were its victims. The causes of the financial crisis are rooted in regulatory arbitrage by banks that sponsored asset-backed commercial paper containing subprime mortgages, which they sold to MMFs and other investors who bought it on a short-term basis. Banking regulators allowed banks to guarantee this commercial paper through back-up letters of credit and other support without requiring banks to maintain adequate

capital to sustain their obligations. The regulators effectively *reduced* the capital requirements for bank ABCP activities in 2004, leading to a vast expansion of ABCP during the build-up of the housing bubble prior to its collapse in 2007. Banking regulators allowed banks to over-leverage and create enormous amounts of potentially toxic financial assets without adequate capital, much as AIG underwrote hundreds of billions of dollars of credit default swaps with little capital. The collapse of the ABCP market required a rapid reallocation of MMF assets, which was disruptive to MMFs and to the banks themselves.

Just as bank depositors are not guarantors of banks, neither are MMFs. MMFs do not have the structure, purpose or means to guarantee banks and their affiliates whose commercial paper and other debt MMFs purchase. Structural changes proposed by the Federal Reserve suggest that the Fed would like MMFs to guarantee the short-term credit markets and the shadow banking system. But MMFs are not equipped for that role. Unlike banks, they do not have access to the Fed's discount window or FDIC insurance. MMFs are designed to be short-term pass-through investment vehicles, not stabilizers of banks or the short-term credit markets.

All of this is explained in greater detail in "Shooting the Messenger: The Fed and Money Market Funds," available at <http://ssrn.com/abstract=2021652> or <http://www.sec.gov/comments/4-619/4-619.shtml>.

XVII. MMFs Exert Useful Market Discipline

MMFs should be preserved for many reasons, most of which are cited in submissions to the SEC in response to its request for comment on possible MMF

reform options.⁸⁰ The utility and benefits of MMFs will not be repeated here, except to emphasize their role in contributing financial stability through market discipline.

MMFs foster financial stability by exerting market discipline on issuers of short-term credit whose debt is subject to rigorous credit analysis by MMF portfolio managers and must meet the high credit standards of Rule 2a-7. The Rule requires MMF managers to perform an independent credit analysis of every security they purchase—they may not rely on credit ratings as the sole basis for an investment. MMFs also are indicators of collective market sentiment regarding the health of individual issuers and the financial markets as a whole that can be of use to financial supervisors in monitoring systemic risk.

Market discipline has been recognized as an important means of regulating risk in the financial system. Among the regulatory reforms promoted by Congress in the Dodd-Frank Act is increased reliance on market discipline. Market discipline is one of three express purposes of the Financial Stability Oversight Council created by the Dodd-Frank Act:

(i) to identify risks to the stability of the United States that could arise from the material financial distress or failure, or ongoing activities, of large, inter-connected bank holding companies or nonbank financial companies, or that could arise outside the financial services marketplace;

(ii) **to promote market discipline**, by eliminating expectations on the part of shareholders, creditors, and counterparties of such companies that the Government will shield them from losses in the event of failure; and

⁸⁰ See letters submitted in response to Securities and Exchange Commission Release No. IC-29497; File No. 4-619, available at <http://www.sec.gov/comments/4-619/4-619.shtml>.

(iii) to respond to emerging threats to the stability of the United States financial system.⁸¹

Increased market discipline was highlighted as a policy goal in a report issued by the President’s Working Group on Financial Markets in March of 2008. The report analyzed the underlying factors contributing to market turmoil and identified weaknesses in global markets, institutions, and regulatory policies that triggered, amplified, or failed to mitigate stress in the financial markets. The PWG issued recommendations to address those weaknesses, with the overriding goal to “strengthen market discipline, enhance risk management, and improve the efficiency and stability of capital markets.”⁸²

Federal Reserve Chairman Bernanke and other Fed governors have remarked on the utility of market discipline in mitigating risk in the financial system:

In recent decades, public policy has been increasingly influenced by the insight that the market itself can often be used to achieve regulatory objectives. . . . In the financial arena, as I will discuss, this approach often takes the form of creating incentives for market participants to monitor and control the risk-taking behavior of financial firms—

⁸¹ Dodd-Frank Act § 112(a); 12 U.S.C. § 5322.

⁸² President’s Working Group on Financial Markets, “Policy Statement on Financial Market Developments,” March, 2008. In order to improve investors’ contributions to market discipline, the PWG recommended: “Overseers of institutional investors (for example, the Department of Labor for private pension funds; state treasurers for public pension funds; and the Securities and Exchange Commission (SEC) for money market funds) should require investors (and their asset managers) to obtain from sponsors and underwriters of securitized credits access to better information about the risk characteristics of such credits, including information about the underlying asset pools, on an initial and ongoing basis; Overseers should ensure that these investors (and their asset managers) develop an independent view of the risk characteristics of the instruments in their portfolios, rather than rely solely on credit ratings.” *Id.* at 9.

that is, to exert market discipline—thereby reducing the need for direct oversight by the government.⁸³

Market discipline can improve financial stability by aligning risks and rewards more closely. . . . For market discipline to work optimally, securities prices for the largest financial firms should reflect investor evaluations of financial risks—credit, market, and operational. Securities prices informed in this way should translate into higher funding costs when greater risks are undertaken, facilitate the appropriate level of monitoring for the effective management of counterparty risk, and help bank supervisors judge the financial condition of firms.⁸⁴

We must resurrect market discipline as a complementary pillar of prudential supervision. . . . a system must be designed so that market discipline works—not to the exclusion of regulatory discipline—but in support of it. They should serve as complementary pillars, bolstering one another as needed. * * * * The financial services industry is ripe for a healthy dose of creative destruction. * * * * We need a new financial architecture, one in which improved regulation and supervision play an important but co-extensive role with greater market discipline.⁸⁵

[T]he regulatory system has much to gain from increasing market discipline in financial markets.⁸⁶

Market discipline is one of the three pillars of the Basel II capital framework:

⁸³ Ben S. Bernanke, Chairman, Federal Reserve Board, “Financial Regulation and the Invisible Hand,” Remarks at the New York University Law School, April 11, 2007.

⁸⁴ Kevin Warsh, Governor, Federal Reserve Board, “Financial Markets and the Federal Reserve,” Remarks at the New York Stock Exchange, Nov. 21, 2006.

⁸⁵ Kevin Warsh, Governor, Federal Reserve Board, “Regulation and Its Discontents,” Remarks to the New York Association for Business Economics, Feb. 3, 2010.

⁸⁶ Daniel K. Tarullo, Governor, Board of Governors of the Federal Reserve Board, “Involving Markets and the Public in Financial Regulation,” remarks at the Council of Institutional Investors, April 13, 2010.

The New Basel Capital Accord is based around three complementary elements or “pillars.” Pillar 3 recognises that **market discipline** has the potential to reinforce capital regulation and other supervisory efforts to promote safety and soundness in banks and financial systems. **Market discipline imposes strong incentives on banks to conduct their business in a safe, sound and efficient manner.** It can also provide a bank with an incentive to maintain a strong capital base as a cushion against potential future losses arising from its risk exposures. **The Committee believes that supervisors have a strong interest in facilitating effective market discipline as a lever to strengthen the safety and soundness of the banking system.**⁸⁷

MMFs are among the most effective agents of market discipline in the financial system. The short-term nature of their portfolios requires ongoing and continual credit analysis by portfolio managers, subject to strict credit quality standards under Rule 2a-7 as well as investor sentiment by MMF shareholders. Their investment decisions can signal areas of emerging weakness that warrant financial supervisors’ attention. The results of this market discipline can be salutary in forcing banking organizations as well as their supervisors to do a better job of risk management in the future.

XVIII. MMF “Doomsday” Scenarios

SEC Chairman Schapiro and the Squam Lake Group of academic economists have stated that MMFs are susceptible to runs that could “bring down” the financial system and “devastate our entire economy.” They have not described how this possibly could occur. The following discussion attempts to envision how two different doomsday scenarios might unfold that would cause

⁸⁷ Bank for International Settlements, Basel Committee on Banking Supervision, Consultative Document, Pillar 3 (Market Discipline), Supporting Document to the New Basel Capital Accord, Issued for comment by 31 May 2001.

MMFs to “bring down” the entire economy. In neither scenario would MMFs be the instrument of doom that Chairman Schapiro and the Squam Lake Group portend.

A. Natural Disaster Scenario

Chairman Schapiro expressed concern about the possible impact of a natural disaster on the behavior of MMFs. Suppose then that the East Coast of the United States is struck by a major earthquake, such as occurred in 2011 but with far greater devastation. Suppose that entire municipalities near the quake’s epicenter are reduced to rubble and that one or more MMFs hold debt securities issued by such municipalities. Institutional investors, quick to react to such news, might race to redeem their MMF shares from such funds. What would be the impact of the run? Would it “bring down” the entire economy as Chairman Schapiro and the Squam Lake economists fear?

A disaster such as an earthquake could result in the affected municipalities or municipal projects defaulting on repayment of their bonds or a revaluation of the bonds by credit rating agencies. Any MMF that held such bonds potentially could experience a decline in its market value NAV potentially below \$0.9950 and thereby “break a dollar” and be forced to liquidate.

As an initial matter, it is important to recognize that, because of Rule 2a-7’s diversification requirements, a MMF can have no more than five percent of its portfolio invested in bonds of any one municipal issuer. It can have no more than one-half of one percent if the municipal security is a “second tier” security, which in the aggregate can comprise no more than three percent of a MMF’s portfolio. However, multiple municipalities could be affected by a natural disaster. MMFs offer state-specific portfolios. A state-specific MMF could see its entire portfolio affected by a natural disaster in that state, such as an earthquake. The MMF may face a run by its shareholders, who would know which municipal bonds the fund holds because MMFs disclose their portfolio holdings pursuant to Rule 2a-7.

Institutional investors would act first to exit and potentially could drain the MMF's 30 percent weekly liquidity reserves, with the result that slower acting investors might recover less if the fund is forced to liquidate. (Tax-exempt funds are not subject to the 10 percent daily liquidity requirement due to the tax-exempt nature of their investments which generally exclude daily liquid assets). Rule 2a-7 protects shareholders in such a situation. The Rule prevents institutional investors from having an unfair advantage by allowing the fund's board of directors to suspend redemptions and postpone payment of redemption proceeds in order to facilitate an orderly liquidation that is fair to all shareholders. The board may do so if it determines that the deviation between the fund's \$1.00 price per share and the market-based NAV may result in a material dilution or other unfair results.

The fund's liquidation process would cause a delay in distribution of the fund's assets. Fund shareholders might not have access to all of their proceeds for a period of time—weeks or possibly even months—as the fund's assets mature or are sold off. Rule 2a-7 was amended in 2010 to require MMFs to have a process for liquidating at other than \$1.00 per share, which should speed up the liquidation process. But still some institutional investors in the affected MMFs might need to find other sources of cash to meet their needs until they receive final payment of their portion of the liquidation proceeds. These investors might find the cost of credit to be more expensive. The credit markets might contract in response to a natural disaster. Corporations that issue commercial paper to fund their current operations might find fewer buyers.

If the disaster were severe enough, the Federal Reserve might need to use its section 13(3) authority and purchase commercial paper directly from issuers or create other liquidity facilities.

Notwithstanding terrible losses from earthquake damage, and the ensuing economic fallout, shareholders of the affected MMFs likely would recover close to the full amount of their investment. Even if defaults by quake-stricken

municipalities reduced the value of municipal bonds to zero, the ultimate losses to MMF shareholders likely would be insignificant. This is because of the structure of the municipal securities held by MMFs.

Under Rule 2a-7, municipal bonds need to be structured with shorter-maturities and liquidity features to be eligible for purchase by MMFs. MMFs cannot hold long-term bonds. Thus, municipal bonds purchased by MMFs must be either short-term bonds guaranteed by credit-worthy municipalities or, as is most common, long-term bonds in the form of “variable rate demand notes” (also known as “variable rate demand obligations”). Such an obligation is a long-term bond that bears a market rate of return based on an interest rate reset feature whereby the interest rate is reset weekly or daily. Also, purchasers of the notes have the option to tender at par or “put” the notes back to the remarketing agent (usually a major bank) prior to the maturity date, typically with 1-7 days’ notice, provided the municipal bond issuer continues to make principal and interest payments. To guard against the issuer’s failure to pay, variable demand notes purchased by MMFs also typically are supported by a letter of credit issued by a major bank, which for a fee agrees to pay the bonds if the municipality defaults.

These features effectively convert long-term municipal bonds into short-term, highly-liquid instruments and make it possible for MMFs to provide financing to municipalities as well as make tax-exempt municipal bonds available to their shareholders on a short-term basis.⁸⁸

Accordingly, a MMF whose portfolio consists of variable rate demand notes issued by municipalities in the disaster zone of an earthquake generally should be able to return to its shareholders all or nearly all of the \$1.00 net asset

⁸⁸ Because of their pass-through structure, MMFs are able to pass through to their shareholders the tax benefits of municipal bonds. A bank cannot pass through to its depositors the tax benefits of municipal bonds held in its investment portfolio.

value of its portfolio notwithstanding the municipalities' inability to make payments on the underlying municipal bonds.

The primary risk in the earthquake scenario lies not with MMFs but rather with banks that issue letters of credit guaranteeing repayment of variable rate demand notes in MMF portfolios. Banking regulators need to make sure that banks have sufficient capital to withstand puts or calls on their guarantees, especially considering that banks would be under stress from homeowners, consumers and businesses in the earthquake zone unable to pay their bank debts. Fortunately, banks have access to the Federal Reserve's discount window to help them meet their obligations in the event of a natural disaster or other emergency.

Even if a number of state-specific MMFs that invest primarily in municipal variable rate demand notes were to break a dollar as a result of a catastrophic earthquake, shareholders of those funds likely would recover substantially all of their investment upon liquidation of the funds. Other funds that do not invest in municipal securities would not likely experience runs to the extent that institutional shareholders can view the funds' portfolio holdings and see that they are not exposed to the earthquake zone. Institutional investors today have more sophisticated knowledge concerning MMFs and know that MMF municipal holdings are guaranteed by bank letters of credit.

In the event the guaranteeing banks are unable to fulfill their obligations, that would signal a major collapse of the financial system possibly calling for Federal Reserve liquidity facilities under section 13(3) of the Federal Reserve Act. If the Federal Reserve were to fail in its role as lender of last resort in such a scenario, then at least parts of the economy conceivably would be devastated, but not the *entire* economy as Chairman Schapiro and the Squam Lake economists portend. MMFs would not be the cause of such a collapse. Rather, an earthquake and the failure of banks to fulfill their guarantee obligations would be the cause, along with the failure of the Federal Reserve to fulfill its role as lender of last resort.

The prospect of such a calamity does not appear to have dampened investor appetite for municipal securities or MMFs that invest in municipal securities. The threat of earthquakes in California is well known but has not dissuaded investors from making large-scale investments in municipal projects in that State. An example of the typical portfolio holdings of a tax-exempt California municipal MMF is attached at the end of this paper. If investors were to avoid municipal MMFs, or if such funds were no longer available, the result would be a reduction in efficient funding for municipal projects crucial to the well-being of communities across the nation and weaker overall economic growth.

B. Collapse of Europe Scenario

Another scenario that might trigger a flight to safety by MMF shareholders would be the default or threatened default of a major European nation on its sovereign debt. A related default or threatened default by a major European bank on its certificates of deposit or commercial paper similarly might trigger a flight by MMFs. Federal Reserve officials repeatedly have linked MMFs with the European debt crisis as a cause for concern.

Federal Reserve officials publicly worry about the impact of a European sovereign debt default on prime MMFs. On the one hand, they have said that prime MMFs hold too much risky European debt and could be a “transmission channel” for bringing Europe’s problems to the United States.⁸⁹ On the other

⁸⁹ See Eric S. Rosengren, President and Chief Executive Officer, Federal Reserve Bank of Boston, “Avoiding Complacency: The U.S. Economic Outlook and Financial Stability,” remarks at the National Institute of Economic and Social Research, March 27, 2012 (“A significant source of the credit risk in many prime money market funds over the past year has been the large exposure to European banks. . . .when considering the so-called ‘tail’ risk from unexpected problems in Europe, money market funds remain an important potential transmission channel to the United States.”). See also CNBC Transcript: CNBC’s “Steve Liesman Speaks with Jeffrey Lacker, Richmond Federal Reserve Bank President, on Squawk Box,” Jan. 11, 2012 (“I think the

hand, they say that if MMFs reduce their holdings of this debt, both the European and U.S. financial systems may be harmed.⁹⁰ These Fed officials appear to want MMFs to be risk-free while at the same time serve as a captive source of funding for Europe.

It is true that a European default could negatively affect MMFs and have spillover effects in the United States. It is far-fetched to think, however, that a retreat from Europe by MMFs could “bring down” our financial system or “devastate our entire economy.”

In fact, MMFs generally do not hold sovereign debt of Europe or other foreign countries. They do not because foreign sovereign debt is not dollar denominated. Most foreign countries issue debt in their own currency rather than U.S. dollars. MMFs invest in only dollar-denominated instruments.

Prime MMFs do purchase dollar-denominated debt of European banks, which hold European sovereign debt. Prime MMFs hold varying amounts of dollar-denominated certificates of deposit and commercial paper issued by European banks. All such holdings must meet the strict credit quality and liquidity standards of Rule 2a-7.⁹¹

major vulnerability of our financial system to Europe has to do with the involvement in the money market funds.”).

⁹⁰ Rosengren, *supra* (“[T]he more recent sovereign debt problems in Europe underscored the significance of money market fund flows to short-term credit markets, and the potential for disruptions in those flows and markets to create broader economic difficulties. . . . Money market funds serve as important intermediaries between investors who want low-risk, highly liquid investments, and banks and corporations that have short-term borrowing needs. Money market funds are a key buyer of the short-term debt instruments issued by banks and corporations—commercial paper, bank certificates of deposit, and repurchase agreements. Given the importance of short-term credit markets to both investors and businesses, any disruptions to those credit markets represent a potential financial stability issue of both domestic and global significance.”).

⁹¹ The credit quality of the European banks in whose debt MMFs invest may be gauged by the fact that a number of these banks operate broker-dealer subsidiaries in the United States that

By virtue of their holdings of dollar-denominated European bank debt, prime MMFs are an important source of dollar funding for these banks. These banks, in turn, are an important source of financing for dollar-based economic activity not only in Europe but in the United States. They finance billions of U.S. dollar transactions by European companies in the United States and lend directly to U.S. businesses and households.

European banks purchase dollars in the wholesale dollar market from MMFs and other investors because they normally have no other major source of dollars. They do not collect large dollar deposits from bank depositors in their home countries because depositors there deposit euros and other currencies.

have been designated as primary dealers by the Federal Reserve Bank of New York in its open-market operations. These primary dealers are entrusted with trillions of dollars in U.S. government securities transactions in connection with the implementation of Federal Reserve monetary policy. The Federal Reserve Bank of New York describes primary dealers as follows: “Primary dealers serve as trading counterparties of the New York Fed in its implementation of monetary policy. This role includes the obligations to: (i) participate consistently in open market operations to carry out U.S. monetary policy pursuant to the direction of the Federal Open Market Committee (FOMC); and (ii) provide the New York Fed’s trading desk with market information and analysis helpful in the formulation and implementation of monetary policy. Primary dealers are also required to participate in all auctions of U.S. government debt and to make reasonable markets for the New York Fed when it transacts on behalf of its foreign official account-holders.” Federal Reserve Bank of New York website at:

http://www.newyorkfed.org/markets/pridealers_current.html.

Although the conferring of primary dealer status on a broker-dealer does not represent an endorsement by the Federal Reserve System, the Fed consults with the primary dealers in developing monetary policy: “Primary dealers are surveyed on their expectations for the economy, monetary policy and financial market developments prior to Federal Open Market Committee meetings. In advance of each FOMC meeting, a survey prepared by the New York Fed’s Markets Group is sent to the Bank’s primary dealers. The survey questions are based only on topics widely discussed in public, including in FOMC statements, meeting minutes, and remarks by FOMC members. FOMC members are not consulted in the formulation of survey questions. The survey, in conjunction with analysis of market prices, helps the FOMC to evaluate what the market is anticipating in terms of the outlook for the economy, monetary policy, and financial markets. This information, combined with information from other sources such as the Beige Book survey of regional economic conditions and the Senior Loan Officer Opinion Survey of lending conditions, helps the FOMC make informed judgments as to how best to advance the mandate given to it by Congress to promote full employment and price stability. The survey does not in any way dictate the policy actions taken by the FOMC.” Federal Reserve Bank of New York website at:

http://www.newyorkfed.org/markets/primarydealer_survey_questions.html.

European banks purchase dollars by issuing certificates of deposit and commercial paper to MMFs, U.S. banks, and other investors in exchange for dollars.

Federal Reserve officials have expressed concern that a disruption in the flow of U.S. dollars to European banks could impede the ability of these banks to continue financing transactions by European companies that benefit the U.S. economy.⁹² These officials are concerned that a disruption in dollar funding to European banks also could weaken the global financial markets and potentially result in forced asset sales that would drive down asset values in the United States and elsewhere.⁹³ These concerns are legitimate, but not ones that can be cured by

⁹² See Statement by William C. Dudley, President, Federal Reserve Bank of New York, before a subcommittee of the House Financial Services Committee, March 27, 2012 (“In today’s globally integrated economy, banks headquartered abroad play an important role in providing credit and other financial services in the United States. About \$1 trillion in worldwide dollar financing comes from foreign banks, \$700 billion in the form of loans within the U.S. For these banks to provide U.S. dollar loans, they have to maintain access to U.S. dollar funding. At a time when it is already hard enough for American families and firms to get the credit they need, we have a strong interest in making sure that these banks can continue to be active in the U.S. dollar markets. Banks headquartered outside the U.S. make extensive use of dollars in their financing activities. In part, this results from the fact that the U.S. dollar is the world’s number one currency – a status that brings with it many benefits for our country. It is in our national interest to make sure that non-U.S. banks remain able to access the U.S. dollar funding they need to continue financing their U.S. dollar assets. If access to dollar funding were to become severely impaired, this could necessitate the abrupt, forced sales of dollar assets by these banks, which could seriously disrupt U.S. markets and adversely affect American businesses, consumers, and jobs.”).

⁹³ See Statement by Steven B. Kamen, Director, Division of International Finance, Board of Governors of the Federal Reserve System, before a subcommittee of the House Financial Services Committee, March 27, 2012 (“Here at home, the financial stresses in Europe are undoubtedly spilling over to the United States by restraining our exports, weighing on business and consumer confidence, and adding to pressures on U.S. financial markets and institutions. Of note, foreign financial institutions, especially those in Europe, continue to find it difficult to fund themselves in dollars. A great deal of trade and investment the world over is financed in dollars, so many foreign financial institutions have heavy borrowing needs in our currency. These institutions also borrow heavily in dollars because they are active in U.S. markets, purchasing government and corporate securities and lending to households and firms. As concerns about the financial system in Europe mounted, many European banks faced a rise in the cost and a decline in the availability of dollar funding. Difficulty acquiring dollar funding by European and other financial institutions may ultimately make it harder and more costly for U.S. households and businesses to get loans. Moreover, these disruptions could spill over into the market for borrowing and lending in U.S.

imposing capital requirements, a floating NAV, or other structural changes on MMFs or making them a captive source of dollars for European banks.

The “collapse of Europe” scenario actually occurred last year when a global crisis erupted over concerns that Greece and other peripheral European Union countries might default on their sovereign debt. Prime MMFs, to the extent they were exposed, reduced their holdings of bank debt in the European countries most at risk. They also shortened the maturities of their eurozone exposures. U.S. banking organizations and other investors did the same. This retreat from European markets occurred throughout 2011 but intensified in late summer.

This “collapse of Europe” in 2011 occurred without impairing the safety of MMFs or the U.S. economy. Neither the United States nor European financial systems collapsed. Our economy was not devastated. No MMF broke a dollar.⁹⁴

Moody’s Investors Service has reported that prime funds “drastically” reduced their exposures to European banks in 2011.⁹⁵ Nevertheless, the credit

dollars more generally, raising the cost of funding for U.S. financial institutions. Although the breadth and size of all of these effects on the U.S. economy are difficult to gauge, it is clear that the situation in Europe poses a significant risk to U.S. economic activity and bears close watching.”).

⁹⁴ The President of the Federal Reserve Bank of Boston confirmed that “No money market fund encountered a problem meeting investor redemptions during the European sovereign debt crisis.” Eric S. Rosengren, President and Chief Executive Officer, Federal Reserve Bank of Boston, “Avoiding Complacency: The U.S. Economic Outlook and Financial Stability,” remarks at the National Institute of Economic and Social Research, March 27, 2012.

⁹⁵ Moody’s Investors Service, “Money Market Funds: US-Dollar Prime Funds’ Credit and Liquidity Profiles Remained Resilient Throughout 2011,” Special Comment, April 26, 2011. Moody’s reported a reduction in prime fund exposure to European banks generally and French banks particularly, both in terms of aggregate exposures and duration, from \$425 billion as of January 2011 to \$185 billion as of December 2011. According to Moody’s, aggregate exposure by prime MMFs to all European financial institutions declined from 38 percent in June 2011 to 25 percent at the end of 2011. Fitch Ratings also noted that MMF managers have reduced or eliminated their exposure to European financial institutions while increasing available liquidity and holdings of U.S. government obligations. Fitch Asset Manager Rating Group, “2012 Outlook:

profiles of prime MMFs “remained resilient.”⁹⁶ Prime funds maintained on average a “stressed” NAV level above \$0.995 notwithstanding the European debt crisis.⁹⁷ The overnight liquidity of prime funds “remains high” in view of the ongoing market anxiety surrounding the euro area debt crisis.⁹⁸

Prime MMFs continue to manage their holdings of European bank debt in compliance with Rule 2a-7’s credit quality, diversity, and liquidity requirements. They currently hold virtually no exposure to banks in Greece or the other European countries most affected by sovereign debt problems.

The withdrawal of MMFs, banks, and other investors from Europe in 2011 temporarily reduced the flow of dollars to European banks. But no contagion occurred, the European financial system did not collapse, and any harm to the U.S. economy was insubstantial.⁹⁹

Money Market Funds.” See also “Stable Ratings Amid Challenging Market Environment U.S. Money Fund Exposure and European Banks: Euro Zone Diverging,” Fitch Ratings, Jan. 26, 2012. See also Brian Reid, “Dispelling Misinformation on Money Market Funds,” Investment Company Institute at http://www.ici.org/mmf/background/11_mmf_euro_reid. See also Moody’s Investors Service, “Money Market Funds: 2012 Outlook and 2011 Review,” March 15, 2012.

⁹⁶ *Id.*

⁹⁷ Moody’s calculates a stressed NAV by applying a yield curve shift of 100 basis points, an additional credit spread shift of at least 100 basis points for Aa2-or lower rated securities and a 50 percent redemption rate. A MMF “breaks a dollar” when its NAV falls below \$0.995.

⁹⁸ Moody’s reported that overnight liquidity was 38 percent on average in the second half of 2011 compared to 32 percent in the first half of 2011.

⁹⁹ See oral testimony by William C. Dudley, President, Federal Reserve Bank of New York, before a subcommittee of the House Financial Services Committee, March 27, 2012 (“We’ve been monitoring the performance of the European banks that do business in the U.S. quite closely because they were having trouble getting dollar funding. Money market mutual funds who were providing dollar funding to the European banks during the summer and fall were pulling back. Other lenders, large asset managers were also pulling back from the European banks. This was causing those banks to start to get out of their dollar book of business. They were trying to sell off loans and pull back in their willingness to provide credit. This was going on at a pretty feverish pitch through the late fall and early winter. I wouldn’t say it has stopped. But the sense we get is that it’s happening now in a much more orderly way and not leading the fire sale of assets at low prices, not leading to downward pressure on financial markets, not leading to a constraint in credit availability to U.S. households and businesses. So from what I can tell we are seeing that the

It is not the responsibility of MMFs to supply European banks with dollars. MMFs are not the International Monetary Fund or an arm of the Federal Reserve System. MMFs are private investment pools regulated under the Investment Company Act, which imposes no obligation on them to invest in European banks or otherwise maintain a steady flow of dollars to Europe. Quite the opposite is true, given recent fiscal difficulties in Europe.

United States banks also have been large holders of dollar-denominated European bank debt. Their exposure may exceed that of MMFs. Yet they too are under no statutory or regulatory obligation to prop up Europe's banking system or the European economy.¹⁰⁰

It is possible that the European debt situation could worsen, leading to a worse "collapse of Europe" scenario. Defaults or threatened defaults on sovereign debt could occur, with possible follow-on defaults by European banks that hold sovereign debt. To the extent prime MMFs and banks continue to hold prime European bank debt, it is likely they would not renew their remaining holdings. Because of the short-maturity of prime MMF holdings of European bank debt, this withdrawal could occur rapidly, even before an actual default occurs. This withdrawal would not be a run *on* MMFs but a run *by* MMFs, as well as by banks. Other holders of European bank debt from Asia or other countries also could flee.

deleveraging of European banks is continuing but it is happening in an orderly way rather than a disorderly way which is what our objective is.”).

¹⁰⁰ U.S. banks hold European bank debt for their own accounts, for trust accounts they manage, and for the collective investment funds they operate. Broker-dealer and investment advisory affiliates of banks also hold European bank debt both directly and for customer accounts. U.S. banks also have affiliated MMFs and in the past have purchased assets from them to prevent the funds from breaking a dollar. Bank-affiliated MMFs hold nearly one-half of all MMF assets, including European bank debt. These organizations reduced their holdings of European bank debt in 2011, just like MMFs, without devastating results.

A mass exodus of investors from Europe could create a dollar funding shortage for European banks. A series of European bank defaults and failures could follow. Indeed, the “collapse of Europe” scenario truly is a doomsday scenario because it assumes that Europe’s largest banks would cease to function. A major default on European bank debt likely could signal the failure of the European equivalents of JP Morgan Chase, Wells Fargo, Bank of America, and Citigroup. In other words, Europe would have a seriously impaired banking system after the default. The European economy would sink further, with spillover effects on the United States economy.

Apart from global economic harm, a sudden collapse of Europe could cause a number of prime MMFs that hold European bank debt to break a dollar. Unlike municipal securities held by prime MMFs, European bank debt generally is unguaranteed. Shareholders in prime MMFs that break a dollar would not recover their full investments when the funds were liquidated. Because MMFs have limited exposure to European banks, however, and their exposure is very short-term, anticipated losses, while not insignificant, would be limited. Distribution of fund assets would occur on a pro rata basis in a supervised process to ensure equitable distribution.¹⁰¹ The risk of loss of principal is fully disclosed

¹⁰¹ Section 25(c) of the Investment Company Act of 1940 authorizes district courts to enjoin a MMF liquidation if the liquidation plan is not fair and equitable to all shareholders. 15 U.S.C. § 80a-25(c). See *In re The Reserve Fund Securities and Derivative Litigation*, Securities and Exchange Commission v. Reserve Management Company, Inc., and The Reserve Primary Fund, U.S. District Court for the Southern District of New York, 09 Civ. 4346 (PGG), Memorandum Opinion by Judge Paul G. Gardephe, Nov. 25, 2009, ordering pro rata distribution of assets, at 23, 25 (rejecting requests by claimants to prioritize investor claims based on the order their redemption requests were submitted or entered after the fund broke a dollar: “Were the Court to accept the objectors’ arguments, the order in which investors redeemed would become critically important, because each redemption would leave fewer Fund shares to absorb losses, and thus would alter the Fund’s hourly NAV calculations. . . . Any attempt to prioritize investors’ claims based on the order their redemption requests were submitted or entered . . . would require a fact intensive inquiry into the circumstances of each redemption. . . . The suggestion that this Court should now attempt to retroactively reconstruct what the true NAVs were each hour on September 15 and 16 is simply not possible or practical, would not address the other issues. . . and, if

in MMF prospectuses. U.S. banks with holdings of European bank debt also would experience losses.

MMF shareholders might temporarily lose access to their otherwise liquid assets if MMFs suspend redemptions due to a European calamity. The liquidation of MMFs would reduce the number of buyers of commercial paper in the short-term credit markets in the United States. U.S. commercial paper issuers—including banking organizations—might find it more expensive to sell commercial paper with fewer buyers. In particular, banks might not be able to fund themselves with short-term commercial paper normally purchased by MMFs. That eventuality might prompt the Federal Reserve to establish special liquidity facilities using its section 13(3) authority, such as it did in 2007 and 2008 when the commercial paper markets froze.

There can be no question that a European default or breakup of the eurozone would have a widespread destructive impact on economies worldwide.¹⁰² The potential for such an occurrence should be taken very seriously by central banks in the United States and Europe. But MMFs are neither a cause of Europe's sovereign debt problems nor a threat to the economic stability of Europe or the United States by virtue of their holdings European debt. Making MMFs the scapegoats for U.S. vulnerability to Europe's economic

attempted, would undoubtedly inordinately delay the distribution of funds. . . ."). The court also ordered that distributions to fund shareholders that received \$1.00 NAV payments for some of their shares prior to the Reserve Primary Fund's closing be offset so that their overall per share recovery did not exceed that of other investors participating in the pro rate distribution.

¹⁰² See Statement by William Dudley, President, Federal Reserve Bank of New York, before a subcommittee of the House Financial Services Committee, March 27, 2012 ("[I]f economic conditions in Europe were to weaken significantly, demand for U.S. exports would decrease. This would hurt domestic growth and have a negative impact on U.S. jobs. It is important to recognize that the euro area is the world's second largest economy after the U.S. and an important trading partner for us. Also, Europe is a significant investor in the U.S. economy, and vice versa. Thus, what happens in Europe has significant implications for our economy.").

problems will not lead policymakers to rational or effective solutions to those problems. Structural changes to MMFs of the type advocated by Federal Reserve officials will not make the U.S. economy safer but will diminish MMFs as a source of funding that can help European stabilization efforts.

The Federal Reserve has all the tools it needs to provide emergency liquidity to the U.S. economy in the event of a European collapse, although some measures would involve an expansion of the Fed's already inflated balance sheet. Moreover, the Federal Reserve also has tools by which it can supply dollars to Europe itself without the need to subject MMF shareholders to undue risk.

In particular, pursuant to section 14 of the Federal Reserve Act, the Federal Reserve has authority to enter into dollar and currency swap arrangements with foreign central banks. The Fed has entered into numerous such agreements since 2007.¹⁰³ Indeed, in June of 2011, the Fed extended its dollar swap

¹⁰³ These dollar swap agreements are described on the Federal Reserve's website at http://www.federalreserve.gov/monetarypolicy/bst_liquidityswaps.htm. As described by the Fed, the dollar swap arrangements work as follows: "In general, these swaps involve two transactions. When a foreign central bank draws on its swap line with the Federal Reserve, the foreign central bank sells a specified amount of its currency to the Federal Reserve in exchange for dollars at the prevailing market exchange rate. The Federal Reserve holds the foreign currency in an account at the foreign central bank. The dollars that the Federal Reserve provides are deposited in an account that the foreign central bank maintains at the Federal Reserve Bank of New York. At the same time, the Federal Reserve and the foreign central bank enter into a binding agreement for a second transaction that obligates the foreign central bank to buy back its currency on a specified future date at the same exchange rate. The second transaction unwinds the first. At the conclusion of the second transaction, the foreign central bank pays interest, at a market-based rate, to the Federal Reserve. Dollar liquidity swaps have maturities ranging from overnight to three months. When the foreign central bank loans the dollars it obtains by drawing on its swap line to institutions in its jurisdiction, the dollars are transferred from the foreign central bank's account at the Federal Reserve to the account of the bank that the borrowing institution uses to clear its dollar transactions. The foreign central bank remains obligated to return the dollars to the Federal Reserve under the terms of the agreement, and the Federal Reserve is not a counterparty to the loan extended by the foreign central bank. The foreign central bank bears the credit risk associated with the loans it makes to institutions in its jurisdiction. The foreign currency that the Federal Reserve acquires is an asset on the Federal Reserve's balance sheet. Because the swap is unwound at the same exchange rate that is used in the initial draw, the dollar value of the asset is not affected by changes in the market exchange rate. The dollar funds deposited in the accounts that

agreements with the European Central Bank and other central banks.¹⁰⁴ In November 2011, the Fed lowered the pricing of such arrangements to facilitate their use.¹⁰⁵ The Fed said, “The purpose of these actions is to ease strains in financial markets and thereby mitigate the effects of such strains on the supply of credit to households and businesses and so help foster economic activity.”¹⁰⁶

The Federal Reserve’s dollar swap arrangements had a positive effect on the dollar funding markets.¹⁰⁷ According to one Fed official, “the swaps have helped European banks avoid the significant liquidity pressures we feared a few months ago and have reduced the risk that they would need to sell off their U.S. dollar assets abruptly.”¹⁰⁸ Another Federal Reserve official told Congress that financial conditions in Europe have “improved markedly” due to the Federal Reserve’s swap program.¹⁰⁹

As of February 2012, the outstanding amount of dollar funding through the swap lines totaled more than \$100 billion.¹¹⁰ Although the swap arrangements have eased pressure on the wholesale dollar markets, the Federal Reserve still has concerns about the future stability of Europe:

foreign central banks maintains at the Federal Reserve Bank of New York are a Federal Reserve liability.”

¹⁰⁴ Federal Reserve Board, Press Release dated June 29, 2011

¹⁰⁵ Federal Reserve Board, Press Release dated Nov. 30, 2011.

¹⁰⁶ *Id.*

¹⁰⁷ See Statements before a subcommittee of the House Financial Services Committee, March 27, 2012, by Steven B. Kamen, Director, Division of International Finance, Board of Governors of the Federal Reserve System, and Federal Reserve Bank of New York President William C. Dudley.

¹⁰⁸ Statement by William C. Dudley, *supra*.

¹⁰⁹ Oral testimony by Steven B. Kamen, Director, Division of International Finance, Board of Governors of the Federal Reserve System, before a subcommittee of the House Financial Services Committee, March 27, 2012, webcast at 30:30.

¹¹⁰ Statement by Steven B. Kamen, Director, Division of International Finance, Board of Governors of the Federal Reserve System, before the Senate Committee on Banking, Housing and Urban Affairs, Feb. 16, 2012.

The combination of high debts, large deficits, and poor growth prospects in several European countries using the euro has raised concerns about their fiscal sustainability. Such concerns were initially focused on Greece but have since spread to a number of other euro-area countries, leading to substantial increases in their sovereign borrowing costs. Pessimism about these countries' fiscal situation, in turn, has helped to undermine confidence in the strength of European financial institutions, increasing the institutions' borrowing costs and threatening to curtail their supply of credit. These developments have strained global financial markets and weighed on global economic activity. * * * *

That being said, many financial institutions, especially those from Europe, continue to find it difficult and costly to acquire dollar funding, in large part because investors remain uncertain about Europe's economic and financial prospects. Ultimately, the easing of strains in U.S. and global financial markets will require concerted action on the part of European authorities as they follow through on their announced plans to address their fiscal and financial difficulties. The situation in Europe is continuously evolving. Thus, we are closely monitoring events in the region and their spillovers to the U.S. economy and financial system.

The Fed has said the swap program is “intended to create a credible backstop to support—but not supplant—private markets.”¹¹¹ In light of continuing concerns about the ability of Europe to surmount its financial problems, however, it is uncertain to what extent private participants will reenter the private dollar market in the near future. The mixed message about Europe is reflected in contradictory statements by Federal Reserve officials who suggest

¹¹¹ Statement by William Dudley, President, Federal Reserve Bank of New York, before a subcommittee of the House Financial Services Committee, March 27, 2012.

that dollar-denominated European bank debt is too risky for MMFs¹¹² yet criticize MMFs for “destabilizing” the market by reducing their holdings of such debt and say that MMF structural reforms thus are required.¹¹³

Absent the Fed’s swap program, it is possible that the retreat from European bank debt by MMFs, banks, and other investors in 2011 would have been more consequential. But that is not a reason to subject MMFs to structural changes that will weaken their portfolios and impede their ability to respond to shareholder redemptions. MMFs are not a central bank substitute.

Prime MMFs likely will continue to participate in the private dollar market by holding prime European bank certificates of deposit and commercial paper to the extent permitted under Rule 2a-7, consistent with shareholder redemption activity. But MMFs alone cannot be expected to prop up the wholesale dollar market in Europe, as some Federal Reserve officials expect, especially given the uncertain outlook for Europe.¹¹⁴ To the extent prime MMFs resume their purchases of European bank debt, they need to maintain flexibility to withdraw quickly if economic conditions deteriorate or as shareholders redemptions require. That is why MMFs have shortened the maturity on their holdings of European bank debt.

The Federal Reserve and other central banks need to be prepared for a further deterioration of the European situation and a corresponding retreat by not

¹¹² See Eric S. Rosengren, President and Chief Executive Officer, Federal Reserve Bank of Boston, “Avoiding Complacency: The U.S. Economic Outlook and Financial Stability,” remarks at the National Institute of Economic and Social Research, March 27, 2012. See also CNBC Transcript: CNBC’s “Steve Liesman Speaks with Jeffrey Lacker, Richmond Federal Reserve Bank President, on Squawk Box,” Jan. 11, 2012 (“I think the major vulnerability of our financial system to Europe has to do with the involvement in the money market funds.”).

¹¹³ Rosengren, *supra*.

¹¹⁴ See Statement by William C. Dudley, *supra* (“High debts, large deficits, and slow growth in several European countries have called into question the sustainability of the entire euro area.”).

only MMFs but U.S. banks and other investors that participate in the private dollar market on a short-term basis. Among other things, the Federal Reserve can increase the amount of its swap arrangements with European and other central banks to fill the gap if MMFs, banks and other investors withdraw from the market due to regulatory or shareholder constraints.

The Federal Reserve also should consider the impact of regulatory reforms in the U.S. that may counteract its dollar swap actions and undermine the ability of private market participants to supply liquidity to the wholesale dollar market in Europe and elsewhere. Structural changes that would weaken or eliminate MMFs as investors in European bank debt could undermine broader stabilization efforts. In addition, foreign banking leaders are concerned that the Volcker Rule will undermine efforts to restore European economic health, as described below.

XIX. The Volcker Rule May Undermine Global Sovereign Debt Markets

Central bank officials and banking associations in Europe and elsewhere have warned that regulations proposed by the Federal Reserve and other U.S. banking regulators to implement the “Volcker Rule” could severely affect the liquidity of foreign sovereign debt markets and undermine the global financial system. The Volcker Rule was enacted as part of the Dodd-Frank Act and prohibits proprietary trading activities by banking entities, with certain exceptions for U.S government securities but not foreign sovereign debt securities.

A New York Times article summed up foreign banking leaders’ opposition to the pending regulations:

The measure, critics say, is likely to increase borrowing costs for foreign governments, reduce liquidity and make the market for foreign government bonds more volatile, the opponents charge. In the end, it may fall into the category of unintended consequences of a proposed new regulation.

. . . . George Osborne, the Chancellor of the Exchequer in Britain . . . is a vocal critic of the rule. . . . Japanese officials similarly believe the rule “would raise the operational and transactional costs of trading” in Japanese government bonds “and could lead to the exit from Tokyo of Japanese subsidiaries of U.S. banks.” The Japanese officials, who wrote a letter to a handful of United States agencies said: “Some of the Japanese banks might be forced to cease or dramatically reduce their U.S. operations. Those reactions could further adversely affect liquidity and pricing of” Japanese government bonds. Ominously, the Japanese officials added: “We could also see the same picture in sovereign bond markets worldwide at this critical juncture.”

Mark Carney, governor of the Bank of Canada. . . is even more upset about the Volcker Rule He contends that the rule could create its own systemic risk and wreak havoc on the government bond market. . . .Canada’s five largest banks are so anxious about the rule that they have sent a letter to the Federal Reserve and four other agencies arguing that the rule may be illegal under the North American Free Trade Agreement. . . .

There is no question that the Volcker Rule is intended to limit banks from taking too much risk However, the upshot of the particular provision of the Volcker Rule around banks trading in foreign sovereign bonds could create more problems than it solves. And the amorphous language around what constitutes a proprietary trade and “market making” is so confusing that the result is that banks are going to get out of the market entirely. . . .

However, the Treasury Department studied the impact the Volcker Rule would have on liquidity across markets broadly and concluded that it would be limited. . . .

Nonetheless, it may be worth the United States government considering alternatives to the way the Volcker Rule is

drafted. Otherwise it is possible the Volcker Rule could help exacerbate—rather than prevent the next crisis.¹¹⁵

The following are excerpts from letters by foreign leaders criticizing the Volcker Rule proposal and its impact on the liquidity of sovereign debt markets:

I am concerned that the regulations could have a significant adverse impact on sovereign debt markets, including here in the UK. In particular. . . the regulations would appear to make it more difficult and costlier to provide market-making services in non-U.S. sovereign markets. Any consequent withdrawal of market-making services by banks would reduce liquidity in sovereign markets, which in turn would engender greater volatility and make it more difficult, riskier and costlier for countries such as the UK to issue and distribute their debt.¹¹⁶

[W]e believe the proposed approach to implementation will have extra-territorial effects on firms that are already subject to overseas regulatory regimes and may have some adverse impact on market functioning and related risks, without generating apparent benefit to U.S. safety and soundness.¹¹⁷

We are of the opinion that the Volcker Rule is likely to have detrimental effects on market liquidity and will make raising capital harder, both in the U.S. and abroad. . . . We would like to know whether the impact of the Volcker Rule in global capital markets has been properly and fully assessed. . . . The [proposed rule] has the potential to adversely affect the liquidity and pricing of EU and other

¹¹⁵ Andrew Ross Sorkin, “Volcker Rule Stirs Up Opposition Overseas,” *New York Times*, Jan. 30, 2012.

¹¹⁶ Letter dated Jan. 23, 2012, to Ben Bernanke, Chairman, Federal Reserve Board, from George Osborne, Chancellor of the Exchequer, United Kingdom. See “UK’s Osborne Lodges ‘Volcker Rule’ Complaint,” *Wall Street Journal*, Feb. 1, 2012 (“Mr. Osborne’s critique follows similar objections from the European Commission, Japan and Canada. The rule comes at a particularly fraught time for euro-zone countries struggling with rising funding costs amid the continent’s debt crisis.”).

¹¹⁷ Letter dated Feb. 8, 2012, to Ben Bernanke, Chairman, Federal Reserve Board, from Adair Turner, Chairman, Financial Services Authority, United Kingdom.

countries' sovereign debt. Reducing liquidity in these non-U.S. markets can only generate systemic risk in global financial markets, to the detriment of the U.S. market.¹¹⁸

ICSA members are extremely concerned that the Proposed Rule as it currently stands would have a number of adverse consequences, including increased funding costs for sovereign governments outside of the U.S., reduced liquidity and increased funding costs in non-U.S. as well as the U.S. corporate debt market, inhibitions on the development of mutual funds and similar types of savings and investment vehicles outside of the U.S., and restrictions on the ability of non-U.S. financial firms to provide their non-U.S. clients with core asset management services. We believe that these adverse consequences could lead to a decrease in global financial stability without any corresponding benefit to U.S. financial stability and/or the safety and soundness of U.S. banks.¹¹⁹

The rule would give US Treasury bonds preferential treatment over, for example, EU sovereign debt, and thus create an un-level playing field in sovereign debt markets. This would be a major concern for EU Member States.¹²⁰

The Volcker Rule exempts prohibited proprietary trading and fund investment activities “solely outside the U.S.”. The scope of the Agencies’ proposal in this respect, however, has been extended to cover a much wider range of non-U.S. trading and fund activities than the U.S. Congress intended. For example, the proposed rule appears to require non-U.S. entities to institute detailed and complex compliance regimes. . . . As currently proposed, the exemption could adversely affect the liquidity and pricing of all non-U.S. sovereign debt. . . . The scope of the

¹¹⁸ Letter dated Feb. 13, 2012, to the Federal Reserve Board from Guido Ravoet, Chief Executive, European Banking Federation.

¹¹⁹ Letter dated Feb. 13, 2012, to the Federal Reserve Board from Kun Ho Hwang, Chairman, International Council of Securities Associations (ICSA), and Duncan Fairweather, Chairman, ICSA Standing Committee on Regulatory Affairs.

¹²⁰ Letter dated Feb. 21, 2012, from Margrethe Vestager, Minister for Economic Affairs, Denmark, and the Interior, President of the Council of the European Union 2012.

“Super 23A” provision should be narrowed in order to avoid intruding on business that is carried out solely outside the U.S. . . . The proposed extraterritorial expansion of the affiliate transaction restrictions to entities that do not benefit from the federal safety net is inconsistent with the existing legal framework and the logic supporting that framework.¹²¹

We are very much concerned that such a wide implementation of the Volcker rule might have strong negative implications on sovereign bond markets worldwide, resulting in lower liquidity and higher spreads.¹²²

We also would like to point to negative implications for the competitive position of the United States as a leading international financial center if the VR proposal's restrictive interpretation of the foreign trading exemption were retained in the Final Rule. Non-U.S. banks then would be strongly induced to avoid, on a global scale, U.S. trade counterparties, execution facilities and agents. This, in turn, would reduce liquidity in U.S. markets, encourage migration of trade execution activities overseas and cause job losses in the United States. . . . This would come down to a certainly unintended, but nevertheless highly unwelcome negative impact on European government bond markets. This could also backfire on the financial market and economic development in the U.S. For example, lower liquidity and increased volatility in European government bond markets could hamper U.S. investors.¹²³

Because many US-located banks (US and foreign) play an important role in market-making for Government bonds, this will certainly affect liquidity. Furthermore, government

¹²¹ Letter dated Feb. 13, 2012, to the Federal Reserve Board from Pierre de Lauzun, Director General, Federation Bancaire Francaise.

¹²² Letter dated Feb. 14, 2012, to the Federal Reserve Board from Ramon Fernandez, Director, Direction Generale du Tresor, Jean-Pierre Joyet, Chairman, Autorite des marches, and Christian Noyer, Chairman, Autorite de controle prudential, France.

¹²³ Letter dated Feb. 10, 2012, from Tobias Unkelbach, Director, Association of German Banks.

securities play a crucial role in the liquidity management for global banks. . . . [T]he rule would interfere with banks' management of liquidity and funding requirements. . . . [I]n its current form the Volcker Rule extends U.S. regulation to foreign jurisdictions and may create distortion in Governmental bond markets.¹²⁴

The proposed regulation does not recognize that in emerging market economies banks play a central role in preserving liquid and efficient financial markets by taking risk positions and holding inventories. Given that U.S. banks and their Mexican affiliates are important providers of liquidity, restraining their activities would create significant disruptions in Mexican financial markets. The proposed regulation would effectively decrease the risk positions that U.S. banks and other subsidiaries of foreign banks operating in Mexico, including one of the largest banks, would be willing to take in derivatives, foreign-exchange forwards, and Mexican sovereign and corporate debt. This would reduce liquidity in secondary markets significantly and in turn cause greater volatility. Diminished liquidity would limit the ability of mutual funds and other institutional investors to efficiently manage their investments and risks. It would also increase funding costs for corporate issuers and trigger decreases in the value of existing financial instruments held by pension funds, institutions and customers. The proposed Rule would also make it more difficult and costlier for the Mexican government to issue and distribute its debt. Finally, it would affect Banco de Mexico's ability to conduct open market operations as part of their implementation of monetary policy.¹²⁵

I am particularly concerned that the proposed rule could severely impact the liquidity of Canadian government debt markets and interfere with the risk management practices of banks in Canada. The draft rule could also have serious unintended consequences for Canadian bank-sponsored

¹²⁴ Letter dated Feb. 10, 2012, to the Federal Reserve Board from Deutsche Bundesbank.

¹²⁵ Letter dated Feb. 14, 2012, to the Federal Reserve Board from Agustin Guillermo Carstens Carstens, Governor, Banco de Mexico.

mutual funds, hampering the ability to provide services to their Canadian clients. . . . The Volcker rule could apply to transactions between Canadian banks that are simply facilitated by U.S.-based financial infrastructure, such as U.S. clearing houses. This could have unintended adverse consequences for the U.S. financial system. . . . The proposed Volcker rule could force foreign banks to clear and settle transactions in non-U.S. jurisdictions, or to avoid U.S. exchanges altogether. The current draft of the Volcker rule would limit the liquidity of Canadian government bond markets.¹²⁶

The Volcker Rule . . . is expected to have a considerable impact on the revenues and organizational structures of foreign banking entities because of its wide application. Thus, strengthening the regulations of a single country could result in the world financial system as a whole becoming less stable and impeding the global economy's recovery. . . . In particular, the Volcker rule . . . could cause the global economy to deteriorate by squeezing sovereign debt market transactions around the world and reducing market liquidity resulting from a shortage of USD [dollar] supply. We believe that the domestic regulations of the U.S. should not encourage instability of the international financial system. Furthermore, this rule should be drafted in such a way that contradictions and inconsistencies do not arise vis-a-vis global efforts to prevent the re-occurrence of a financial crisis, such as SIFI regulations and Basel III regulations.¹²⁷

[T]he proposed rule appears to extend well beyond U.S.-insured depository institutions and imposes significant restrictions on Canadian banking entities by limiting their use of U.S.-based resources, personnel and market infrastructure and by preventing them from trading with U.S. counterparties. These restrictions may have important adverse consequences for Canada, limiting the liquidity of

¹²⁶ Letter dated Feb. 13, 2012, to the Federal Reserve Board from James M. Flaherty, Minister of Finance, Ottawa, Canada.

¹²⁷ Letter dated Jan. 13, 2012, to the Federal Reserve Board, from the Japanese Bankers Association.

Canadian markets and hence the resilience of the Canadian financial system. Indeed, the proposed rule may undermine, rather than support, progress toward creating a safer, more resilient and more efficient global financial system.¹²⁸

The Province is concerned that by imposing such a restriction on foreign government securities, liquidity will be negatively impacted, particularly for Canadian issuers due to the close inter-linkages between the U.S. and Canadian financial markets. . . .The exemptions under the Volcker Rule raise serious concerns that the Rule will impact the behavior of Canadian institutions in the Canadian capital markets. If this is the outcome, this is an infringement on Canadian regulatory jurisdiction and risks contravening Canadian regulation, adding unwanted uncertainties and potential inefficiencies in the Canadian capital markets.¹²⁹

The Volcker Rule, in its current form, will make it more difficult and expensive for the Government of Canada and for Canadian provinces to borrow money at a time when greater access to capital is needed to fund deficits and refinance existing debt.¹³⁰

As a result, OSFI is concerned that the draft regulations may have the unintended consequence of significantly impeding Canadian and other foreign financial institutions' ability to manage their risks in a cost-effective manner, which could give rise to prudential concerns in Canada and abroad. In other words, OSFI would not wish to see US regulators taking actions that may enhance the stability of their financial system at the cost of undermining the stability of other systems around the world. . . . and they

¹²⁸ Letter dated Feb. 13, 2012, to the Federal Reserve Board from, from Mark Carney, Governor, Bank of Canada.

¹²⁹ Letter dated Feb. 10, 2012, to the Federal Reserve Board from Kevin Falcon, Minister and Deputy Premier, British Columbia.

¹³⁰ Letter dated Jan. 31, 2012, to the Federal Reserve Board from Gadi Mayman, Chief Executive Officer, Ontario Financing Authority.

could undermine the ability of foreign banks to efficiently manage their liquidity¹³¹

XX. MMF Municipal Portfolio Holdings

Municipal bonds purchased by MMFs provide useful financing for municipal airports, community development, education, government and education facilities, healthcare, hospitals, higher education, housing, pollution control, power, school districts, student loans, transportation, utilities, water, and other uses. MMFs hold more than one-half of all short-term municipal debt and provide an efficient means by which investors can benefit from the tax-exempt status of municipal securities.

If MMFs did not purchase municipal securities, municipalities still would be able to obtain direct financing from banks. However, banks could not replace the same volume of financing due to regulatory capital requirements, which limit their lending capacity, and their inability to pass-through the tax-exempt status of municipal securities to investors. MMFs expand the credit available to municipalities and to projects guaranteed by municipalities, which employ millions of Americans.

The following are examples of the portfolio holdings of two typical state-specific tax-exempt municipal MMFs as of March 30, 2012—a California fund and a Virginia fund. The name of the issuer, amortized cost value, effective maturity, and final maturity are shown, along with the percentage of the fund's portfolio represented by each holding and the name of the bank providing a backup letter credit ("LOC") or other credit enhancement.

¹³¹ Letter dated Dec. 28, 2012, to the Federal Reserve Board, from Julie Dickson, Superintendent, Office of the Superintendent of Financial Institutions Canada.

California Tax-Exempt Municipal Fund Portfolio as of March 31, 2012

Security Description	Amortized Cost Value	Effective Maturity	Final Maturity	Rule 2a-7 Category of Investment
California Statewide Communities Development Authority (North Peninsula Jewish Campus) (Series 2004) Daily VRDNs, (Bank of America N.A. LOC), 0.230%	\$ 12,000,000	4/2/2012	7/1/2034	Variable Rate Demand Note
California Statewide Communities Development Authority (Penny Lane Centers) (Series 2008) Weekly VRDNs, (U.S. Bank, N.A. LOC), 0.180%	\$ 1,025,000	4/9/2012	9/1/2038	Variable Rate Demand Note
California Statewide Communities Development Authority (Plan Nine Partners LLC) (Series 2005A: Sweetwater Union High School District) Weekly VRDNs (Union Bank, N.A. LOC) 0.180%	\$ 5,500,000	4/9/2012	2/1/2035	Variable Rate Demand Note
California Statewide Communities Development Authority Multi-Family Housing (Beaumont CA Leased Housing Associates I, LP) (2010 Series B: Mountain View Apartments) Weekly VRDNs,(Federal Home Loan Mortgage Corp. LOC), 0.190%	\$ 1,200,000	4/9/2012	8/1/2045	Variable Rate Demand Note
California Statewide Communities Development Authority Multi-Family Housing (Irvine Apartment Communities LP) Putters (Series 2680) Weekly VRDNs,(JPMorgan Chase Bank, N.A. LIQ)/(JPMorgan Chase Bank, N.A. LOC), 0.270%	24,035,000	4/9/2012	5/15/2018	Variable Rate Demand Note
California Statewide Communities Development Authority Multi-Family Housing (Lincoln Walk Studios, LP) (2010 Series D: Lincoln Walk Apartments) Weekly VRDNs,(PNC Bank, N.A. LOC), 0.170%	\$ 9,450,000	4/9/2012	10/1/2050	Variable Rate Demand Note
California Statewide Communities Development Authority, (Series 2009D) , CP , (Kaiser Permanente) , 0.240%	\$ 20,000,000	8/10/2012	8/10/2012	Other Municipal Debt
California Statewide Communities Development Authority, (Series 2011A-1), TRANS, (Butte County, CA), 2.000%	\$ 4,518,540	6/29/2012	6/29/2012	Other Municipal Debt
California Statewide Communities Development Authority, (Series 2011A-2), TRANS, (Pacific Grove, CA), 2.000%	\$ 1,079,245	6/29/2012	6/29/2012	Other Municipal Debt
California Statewide Communities Development Authority, (Series 2011A-3), TRANS, (Redding, CA), 2.000%	\$ 3,514,249	6/29/2012	6/29/2012	Other Municipal Debt
California Statewide Communities Development Authority, Gas Supply Variable Rate Revenue Bonds (Series 2010) Weekly VRDNs,(GTD by Royal Bank of Canada, Montreal)/(Royal Bank of Canada, Montreal LIQ), 0.180%	\$ 2,000,000	4/9/2012	11/1/2040	Variable Rate Demand Note
California Infrastructure & Economic Development Bank (Hillview Mental Health Center, Inc.), (Series 2008A) Weekly VRDNs,(Comerica Bank LOC), 0.290%	\$ 3,010,000	4/9/2012	8/1/2033	Variable Rate Demand Note
California Infrastructure & Economic	\$ 3,065,000	4/9/2012	12/1/2029	Variable Rate

Development Bank (Humane Society of Sonoma County), (Series 2004) Weekly VRDNs,(Comerica Bank LOC), 0.290%				Demand Note
California Infrastructure & Economic Development Bank (RAND Corp.), (Series 2008B) Daily VRDNs,(Bank of America N.A. LOC), 0.230%	\$ 5,700,000	4/2/2012	4/1/2042	Variable Rate Demand Note
California Infrastructure & Economic Development Bank (Saddleback Valley Christian Schools), (Series 2010A) Weekly VRDNs,(Federal Home Loan Bank of San Francisco LOC), 0.170%	\$ 5,000,000	4/9/2012	12/1/2040	Variable Rate Demand Note
California Infrastructure & Economic Development Bank (St. Margaret of Scotland Episcopal School), (Series 2008) Monthly VRDNs,(Federal Home Loan Bank of San Francisco LOC), 0.320%	\$11,955,000	4/30/2012	1/1/2038	Variable Rate Demand Note
California Infrastructure & Economic Development Bank (Tobinworld), (Series 2007A) Weekly VRDNs,(Comerica Bank LOC), 0.290%	\$ 4,000,000	4/9/2012	11/1/2036	Variable Rate Demand Note
California Municipal Finance Authority (Central Coast YMCA), (Series 2008A) Weekly VRDNs,(Federal Home Loan Bank of San Francisco LOC), 0.180%	\$ 2,705,000	4/9/2012	12/1/2038	Variable Rate Demand Note
California Municipal Finance Authority (Gideon Hausner Jewish Day School), (Series 2008) Weekly VRDNs,(U.S. Bank, N.A. LOC), 0.190%	\$ 4,915,000	4/9/2012	7/1/2038	Variable Rate Demand Note
California PCFA (Arcata Community Recycling Center, Inc.), (Series 2005A) Weekly VRDNs,(CALSTRS (California State Teachers' Retirement System) LOC), 0.200%	\$ 5,035,000	4/9/2012	12/1/2030	Variable Rate Demand Note
California PCFA (Crown Disposal Company, Inc.), (Series 2010A) Weekly VRDNs,(Union Bank, N.A. LOC), 0.220%	\$ 5,850,000	4/9/2012	9/1/2030	Variable Rate Demand Note
California PCFA (Garden City Sanitation, Inc.), (Series 2009A) Weekly VRDNs,(Union Bank, N.A. LOC), 0.220%	\$ 8,450,000	4/9/2012	7/1/2039	Variable Rate Demand Note
California PCFA (Garden City Sanitation, Inc.), (Series 2009B) Weekly VRDNs,(Comerica Bank LOC), 0.260%	\$ 1,115,000	4/9/2012	7/1/2039	Variable Rate Demand Note
California PCFA (MarBorg Industries), (Series 2009A) Weekly VRDNs,(Union Bank, N.A. LOC), 0.220%	\$ 3,335,000	4/9/2012	6/1/2039	Variable Rate Demand Note
California PCFA (Mission Trail Waste Systems, Inc.) , (Series 2010A) Weekly VRDNs,(Comerica Bank LOC), 0.260%	\$ 2,875,000	4/9/2012	12/1/2030	Variable Rate Demand Note
California State Department of Water Resources, Floater Certificates (Series 2008-2991) Weekly VRDNs,(Morgan Stanley Bank, N.A. LIQ), 0.340%	\$ 11,910,000	4/9/2012	12/10/2028	Variable Rate Demand Note
California State University Institute, (Series A) , CP ,(JPMorgan Chase Bank, N.A. LOC)/(State Street Bank and Trust Co. LOC), 0.160%	\$ 25,000,000	6/1/2012	6/1/2012	Other Municipal Debt
California State, (Series A-1), RANs, 2.000%	\$ 12,529,366	5/24/2012	5/24/2012	Other Municipal Debt
California State, (Series A-2), RANs, 2.000%	\$ 17,987,984	6/26/2012	6/26/2012	Other Municipal Debt

California State, Floater Certificates (Series 2008-3162) Weekly VRDNs,(INS by Assured Guaranty Municipal Corp.)/(Morgan Stanley Bank, N.A. LIQ), 0.340%	\$ 21,000,000	4/9/2012	3/1/2040	Variable Rate Demand Note
California State, Trust Receipts (Series 2012 FR-2U) , RANs,(GTD by Barclays Bank PLC), 0.230%	\$ 10,000,000	6/28/2012	6/28/2012	Other Municipal Debt
California Statewide Communities Development Authority (Cruzio Holding Company, LLC), (Series 2010: Recovery Zone Facility) Weekly VRDNs,(Comerica Bank LOC), 0.250%	\$ 2,700,000	4/9/2012	11/1/2035	Variable Rate Demand Note
California Statewide Communities Development Authority (Elder Care Alliance of Camarillo) , (Series 2000) Weekly VRDNs,(Bank of the West, San Francisco, CA LOC), 0.550%	\$ 12,560,000	4/9/2012	11/1/2030	Variable Rate Demand Note
California Statewide Communities Development Authority (House Ear Institute), (Series 2007) Weekly VRDNs,(Federal Home Loan Bank of San Francisco LOC), 0.180%	\$ 1,000,000	4/9/2012	8/1/2037	Variable Rate Demand Note
California Statewide Communities Development Authority (Kaiser Permanente), (Series 2009 C-2) Weekly VRDNs, 0.180%	\$ 10,000,000	4/9/2012	4/1/2046	Variable Rate Demand Note
California Statewide Communities Development Authority (Nonprofits' Insurance Alliance of California) , (Series 2000A) Weekly VRDNs,(Comerica Bank LOC), 0.250%	\$ 1,505,000	4/9/2012	9/1/2020	Variable Rate Demand Note
California Statewide Communities Development Authority (North Peninsula Jewish Campus), (Series 2004) Daily VRDNs,(Bank of America N.A. LOC), 0.230%	\$ 12,000,000	4/2/2012	7/1/2034	Variable Rate Demand Note
California Statewide Communities Development Authority (Penny Lane Centers), (Series 2008) Weekly VRDNs,(U.S. Bank, N.A. LOC), 0.180%	\$ 1,025,000	4/9/2012	9/1/2038	Variable Rate Demand Note
California Statewide Communities Development Authority (Plan Nine Partners LLC), (Series 2005A: Sweetwater Union High School District) Weekly VRDNs,(Union Bank, N.A. LOC), 0.180%	\$ 5,500,000	4/9/2012	2/1/2035	Variable Rate Demand Note
California Statewide Communities Development Authority Multi-Family Housing (Beaumont CA Leased Housing Associates I, LP), (2010 Series B: Mountain View Apartments) Weekly VRDNs,(Federal Home Loan Mortgage Corp. LOC), 0.190%	\$ 1,200,000	4/9/2012	8/1/2045	Variable Rate Demand Note
California Statewide Communities Development Authority Multi-Family Housing (Irvine Apartment Communities LP), Putters (Series 2680) Weekly VRDNs,(JPMorgan Chase Bank, N.A. LIQ)/(JPMorgan Chase Bank, N.A. LOC), 0.270%	\$ 24,035,000	4/9/2012	5/15/2018	Variable Rate Demand Note
California Statewide Communities Development Authority Multi-Family Housing (Lincoln Walk Studios, LP), (2010 Series D: Lincoln Walk Apartments) Weekly VRDNs,(PNC Bank, N.A. LOC), 0.170%	\$ 9,450,000	4/9/2012	10/1/2050	Variable Rate Demand Note
California Statewide Communities Development Authority, (Series 2009D), CP, (Kaiser Permanente), 0.240%	\$ 20,000,000	8/10/2012	8/10/2012	Other Municipal Debt

California Statewide Communities Development Authority, (Series 2011A-1), TRANs, (Butte County, CA), 2.000%	\$ 4,518,540	6/29/2012	6/29/2012	Other Municipal Debt
California Statewide Communities Development Authority, (Series 2011A-2), TRANs, (Pacific Grove, CA), 2.000%	\$ 1,079,245	6/29/2012	6/29/2012	Other Municipal Debt
California Statewide Communities Development Authority, (Series 2011A-3), TRANs, (Redding, CA), 2.000%	\$ 3,514,249	6/29/2012	6/29/2012	Other Municipal Debt
California Statewide Communities Development Authority, Gas Supply Variable Rate Revenue Bonds (Series 2010) Weekly VRDNs,(GTD by Royal Bank of Canada, Montreal)/(Royal Bank of Canada, Montreal LIQ), 0.180%	\$ 2,000,000	4/9/2012	11/1/2040	Variable Rate Demand Note
Chino Basin, CA Regional Financing Authority (Inland Empire Utilities Agency), Spears (Series DBE-500) Weekly VRDNs,(Deutsche Bank AG LIQ)/(GTD by Deutsche Bank AG), 0.250%	\$ 13,440,000	4/9/2012	11/1/2038	Variable Rate Demand Note
Clipper Tax-Exempt Certificates Trust (California Non-AMT) Series 2009-46 Weekly VRDNs,(GTD by State Street Bank and Trust Co.)/(State Street Bank and Trust Co. LIQ), 0.220%	\$ 23,135,000	4/9/2012	12/1/2022	Variable Rate Demand Note
Clipper Tax-Exempt Certificates Trust (California Non-AMT) Series 2009-61 (California State) Weekly VRDNs,(State Street Bank and Trust Co. LIQ)/(State Street Bank and Trust Co. LOC), 0.190%	\$ 11,440,000	4/9/2012	2/1/2023	Variable Rate Demand Note
Corcoran Joint Powers Finance Authority, CA (Corcoran, CA Water System), (Series 2008) Weekly VRDNs,(Union Bank, N.A. LOC), 0.200%	\$ 9,480,000	4/9/2012	7/1/2036	Variable Rate Demand Note
Davis Joint Unified School District, CA, TRANs, 2.000%	\$ 9,012,509	5/1/2012	5/1/2012	Other Municipal Debt
Dry Creek, CA Joint Elementary School District, TRANs, 2.000%	\$ 2,920,497	10/4/2012	10/4/2012	Other Municipal Debt
East Side Union High School District, CA, Spears (Series DBE-296) Weekly VRDNs, (Deutsche Bank AG LIQ)/(GTD by Deutsche Bank AG), 0.270%	\$ 8,470,000	4/9/2012	8/1/2031	Variable Rate Demand Note
Grossmont-Cuyamaca, CA Community College District, Stage Trust (Series 2008-31Z), TOBs (Wells Fargo & Co. LIQ)/(Wells Fargo & Co. LOC), 0.250%	\$ 13,325,000	10/25/2012	8/1/2031	Other Municipal Debt
Hartnell, CA Community College District, Stage Trust (Series 2009-64Z) Weekly VRDNs,(GTD by Wells Fargo & Co.)/(Wells Fargo & Co. LIQ), 0.190%	\$ 3,000,000	4/9/2012	8/1/2049	Variable Rate Demand Note
Hollister, CA Redevelopment Agency (San Benito County Community Services Development Corp.), (Series 2004) Weekly VRDNs,(CALSTRS (California State Teachers' Retirement System) LOC), 0.200%	\$ 4,740,000	4/9/2012	2/1/2029	Variable Rate Demand Note
Long Beach, CA , TRANs , 2.000%	\$ 13,109,611	9/28/2012	9/28/2012	Other Municipal Debt
Santa Clara County, CA, Stage Trust (Series 2009-19C) Weekly VRDNs,(Wells Fargo & Co. LIQ), 0.190%	\$ 10,455,000	4/9/2012	8/1/2039	Variable Rate Demand Note

School Project For Utility Rate Reduction, CA, (Series 2011), RANs, 2.000%	\$ 3,262,936	8/1/2012	8/1/2012	Other Municipal Debt
Simi Valley, CA Unified School District, Spears (Series DBE-445), TOBs, (Deutsche Bank AG LIQ)/(GTD by Deutsche Bank AG)/(INS by Assured Guaranty Municipal Corp.), 0.400%	\$ 12,125,000	4/5/2012	8/1/2032	Other Municipal Debt
South Coast, CA Local Education Agencies, (Series 2011B), TRANs, (Capistrano, CA Unified School District), 2.000%	\$ 10,019,207	5/15/2012	5/15/2012	Other Municipal Debt
Tustin, CA Unified School District, Special Tax District: Community Facilities District #07-1, (Series 2010) Daily VRDNs, (Bank of America N.A. LOC), 0.220%	\$ 19,000,000	4/2/2012	9/1/2050	Variable Rate Demand Note
West Covina, CA Public Financing Authority (West Covina, CA), (Series 2002B) Weekly VRDNs,(CALSTRS (California State Teachers' Retirement System) LOC), 0.170%	\$ 16,590,000	4/9/2012	9/1/2035	Variable Rate Demand Note
West Covina, CA Redevelopment Agency (West Covina, CA), (Series 1988: The Lakes Public Parking Project) Weekly VRDNs,(Wells Fargo Bank, N.A. LOC), 0.240%	\$ 3,785,000	4/9/2012	8/1/2018	Variable Rate Demand Note
William S. Hart, CA Union High School District, Rocs (Series 648WFZ) Weekly VRDNs,(GTD by Wells Fargo & Co.)/(Wells Fargo & Co. LIQ), 0.220%	\$ 575,000	4/9/2012	9/1/2021	Variable Rate Demand Note
Total	\$872,782,586			

Virginia Tax-Exempt Municipal Fund Portfolio as of March 31, 2012

Municipal Security Letter of Credit Percentage of Portfolio	Amortized Cost Value	Effective Maturity	Final Maturity	Type
Albemarle County, VA IDA (Jefferson Scholars Foundation) , (Series 2007) Weekly VRDNs,(SunTrust Bank LOC), 0.370%	\$ 2,000,000	4/9/2012	10/1/2037	Variable Rate Demand Note
Alexandria, VA IDA (Alexandria County Day School) , (Series 2000) Weekly VRDNs,(PNC Bank, N.A. LOC), 0.200%	\$ 3,360,000	4/9/2012	6/1/2025	Variable Rate Demand Note
Alexandria, VA IDA (Institute for Defense Analyses) , (Series 2000B) Weekly VRDNs,(Branch Banking & Trust Co. LOC), 0.190%	\$ 4,235,000	4/9/2012	10/1/2030	Variable Rate Demand Note
Alexandria, VA IDA (Institute for Defense Analyses), (Series 2005) Weekly VRDNs,(Branch Banking & Trust Co. LOC), 0.190%	\$ 12,620,000	4/9/2012	10/1/2030	Variable Rate Demand Note
Amherst County, VA EDA (Rech Properties, LLC) (Series 2007) Weekly VRDNs, (Branch Banking & Trust Co. LOC), 0.350%	\$ 1,980,000	4/9/2012	2/1/2027	Variable Rate Demand Note
Arlington County, VA IDA (Gates of Ballston Apartments), (Series 2005) Weekly VRDNs,(PNC Bank, N.A. LOC), 0.230%	\$ 24,065,000	4/9/2012	1/1/2038	Variable Rate Demand Note

Arlington County, VA IDA (National Science Teachers Association), (Series 2000A) Weekly VRDNs,(SunTrust Bank LOC), 0.370%	\$ 1,035,000	4/9/2012	2/1/2030	Variable Rate Demand Note
Arlington County, VA IDA (Westover Apartments, LP) , (Series 2011A) Weekly VRDNs,(Federal Home Loan Mortgage Corp. LOC), 0.220%	\$ 6,150,000	4/9/2012	8/1/2047	Variable Rate Demand Note
Arlington County, VA IDA, (Series 2004), BONDS, (Arlington County, VA), 5.000%	\$ 1,015,761	8/1/2012	8/1/2012	Other Municipal Debt
Bedford County, VA IDA (David R. Snowman and Carol J. Snowman) , (Series 1999) Weekly VRDNs, (SunTrust Bank LOC), 0.410%	\$ 1,125,000	4/9/2012	6/1/2020	Variable Rate Demand Note
Botetourt County, VA IDA (Altec Industries, Inc.), (Series 2001) Weekly VRDNs,(Bank of America N.A. LOC), 0.520%	\$ 8,000,000	4/9/2012	1/1/2027	Variable Rate Demand Note
Campbell County, VA IDA (Georgia-Pacific Corp.) Weekly VRDNs,(U.S. Bank, N.A. LOC), 0.190%	\$ 13,000,000	4/9/2012	12/1/2019	Variable Rate Demand Note
Fairfax County, VA EDA (Fair Lakes D&K LP) , (Series 1996) Weekly VRDNs, (Wells Fargo Bank, N.A. LOC), 0.350%	\$ 3,295,000	4/9/2012	8/1/2016	Variable Rate Demand Note
Fairfax County, VA EDA (Public Broadcasting Service), (Series 2005) Weekly VRDNs, (Bank of America N.A. LOC), 0.310%	\$ 1,000,000	4/9/2012	7/1/2040	Variable Rate Demand Note
Fairfax County, VA EDA (Young Men's Christian Association of Metropolitan Washington), (Series 2001) Weekly VRDNs,(Manufacturers & Traders Trust Co., Buffalo, NY LOC), 0.240%	\$ 6,530,000	4/9/2012	11/1/2025	Variable Rate Demand Note
Fairfax County, VA IDA (Inova Health System), (Series 1988D) Weekly VRDNs, (Branch Banking & Trust Co. LIQ), 0.160%	\$ 2,500,000	4/9/2012	10/1/2025	Variable Rate Demand Note
Fairfax County, VA IDA (Inova Health System), (Series 2005C-2) Weekly VRDNs, (Northern Trust Co., Chicago, IL LOC), 0.150%	\$ 17,775,000	4/9/2012	5/15/2026	Variable Rate Demand Note
Fairfax County, VA IDA (Inova Health System), (Series 2010A-1) VRENS, 0.310%	\$ 8,000,000	10/26/2012	5/15/2039	Variable Rate Demand Note
Fairfax County, VA IDA (Inova Health System), Rocs (Series 11733) Weekly VRDNs,(Citibank NA, New York LIQ), 0.210%	\$ 6,600,000	4/9/2012	11/15/2029	Variable Rate Demand Note
Fairfax County, VA IDA (Inova Health System), Rocs (Series 11772) Weekly VRDNs,(Citibank NA, New York LIQ), 0.190%	\$ 7,045,000	4/9/2012	5/15/2017	Variable Rate Demand Note
Fairfax County, VA, Barclays Floater Certificates (Series 2011-104W) Weekly VRDNs, (Barclays Bank PLC LIQ), 0.210%	\$ 10,165,000	4/9/2012	10/1/2017	Variable Rate Demand Note
Falls Church, VA IDA (Tax Analysts), (Series 2006) Weekly VRDNs, (Citibank NA, New York LOC), 0.220%	\$ 3,580,000	4/9/2012	7/1/2031	Variable Rate Demand Note
Farmville, VA IDA (Longwood University Real Estate Foundation, Inc.), (Series 2007) Weekly VRDNs,(Bank of America N.A. LIQ)/(INS by Assured Guaranty Corp.), 0.380%	\$ 30,945,000	4/9/2012	9/1/2036	Variable Rate Demand Note
Fauquier County, VA IDA (Wakefield School, Inc.), (Series 2008) Weekly VRDNs, (PNC Bank, N.A. LOC), 0.150%	\$ 115,000	4/9/2012	4/1/2038	Variable Rate Demand Note
Fauquier County, VA IDA (Warrenton Development Co.) Weekly VRDNs,(Bank of America N.A. LOC), 0.950%	\$ 2,685,000	4/9/2012	12/1/2014	Variable Rate Demand Note

Halifax, VA IDA, MMMs, PCR (Series 1992), CP, (Virginia Electric & Power Co.), 1.250%	\$ 2,350,000	4/5/2012	4/5/2012	Other Municipal Debt
Hampton, VA IDA (Waste Management, Inc.) , (Series 1998) Weekly VRDNs, (Wells Fargo Bank, N.A. LOC), 0.250%	\$ 4,880,000	4/5/2012	4/1/2013	Variable Rate Demand Note
Hampton, VA Redevelopment & Housing Authority (Township Apartments), (Series 1998) Weekly VRDNs, (Federal National Mortgage Association LOC), 0.190%	\$ 9,300,000	4/9/2012	10/15/2032	Variable Rate Demand Note
Hanover County, VA IDA (Rhapsody Land & Development LLC), (Series 2005A) Weekly VRDNs, (Wells Fargo Bank, N.A. LOC), 0.350%	\$ 2,400,000	4/9/2012	8/1/2025	Variable Rate Demand Note
Harrisonburg, VA IDA (Virginia Mennonite Retirement Community), (Series B) Weekly VRDNs,(Branch Banking & Trust Co. LOC), 0.180%	\$ 5,000,000	4/9/2012	4/1/2036	Variable Rate Demand Note
Harrisonburg, VA Redevelopment & Housing Authority (Richfield Place Associates LP), (Series 2001A: Huntington Village Apartments) Weekly VRDNs, (Federal National Mortgage Association LOC), 0.220%	\$ 7,500,000	4/9/2012	8/15/2033	Variable Rate Demand Note
Harrisonburg, VA Redevelopment & Housing Authority (Woodman West Preservation, LP), (Series 2008) Weekly VRDNs, (Federal National Mortgage Association LOC), 0.200%	\$ 9,950,000	4/9/2012	6/15/2043	Variable Rate Demand Note
Henrico County, VA EDA (Bon Secours Health System) , (Series 2008D) Weekly VRDNs, (JPMorgan Chase Bank, N.A. LOC), 0.200%	\$ 9,015,000	4/9/2012	11/1/2025	Variable Rate Demand Note
Henrico County, VA EDA (JAS-LCS LLC), (Series 2001) Weekly VRDNs, (Wells Fargo Bank, N.A. LOC), 0.350%	\$ 1,555,000	4/9/2012	8/1/2026	Variable Rate Demand Note
James City County, VA IDA (CMCP Williamsburg LLC), (Series 2002) Weekly VRDNs,(Federal National Mortgage Association LOC), 0.190%	\$ 1,230,000	4/9/2012	11/15/2032	Variable Rate Demand Note
King George County IDA, VA (Garnet of Virginia, Inc.) , (Series 1996) Weekly VRDNs, (JPMorgan Chase Bank, N.A. LOC), 0.210%	\$ 11,040,000	4/9/2012	9/1/2021	Variable Rate Demand Note
Loudoun County, VA IDA (Howard Hughes Medical Institute), (Series 2003C) Weekly VRDNs, 0.160%	\$ 2,130,000	4/9/2012	2/15/2038	Variable Rate Demand Note
Lynchburg, VA IDA (Centra Health, Inc.) , (Series 2004 B) Weekly VRDNs,(Branch Banking & Trust Co. LOC), 0.180%	\$ 6,000,000	4/9/2012	1/1/2035	Variable Rate Demand Note
Lynchburg, VA IDA (Centra Health, Inc.), (Series 2004 C) Weekly VRDNs, (Branch Banking & Trust Co. LOC), 0.180%	\$ 10,000,000	4/9/2012	1/1/2035	Variable Rate Demand Note
New Kent County, VA (Basic Construction Co. LLC), (Series 1999) Weekly VRDNs, (SunTrust Bank LOC), 0.410%	\$ 1,250,000	4/9/2012	8/1/2014	Variable Rate Demand Note
Newport News, VA IDA (CNU Warwick LLC), (Series 2004) Weekly VRDNs, (Bank of America N.A. LOC), 0.290%	\$ 8,685,000	4/9/2012	11/1/2028	Variable Rate Demand Note
Norfolk, VA EDA (Sentara Health Systems Obligation Group), (Series 2010B) 7 Month Window VREns, 0.310%	\$ 10,910,000	10/26/2012	11/1/2034	Variable Rate Demand Note

Norfolk, VA EDA, (Series 2009A), TOBs, (Sentara Health Systems Obligation Group), 0.410%	\$ 12,000,000	4/26/2012	4/26/2012	Other Municipal Debt
Norfolk, VA Redevelopment and Housing Authority (E2F Student Housing I, LLC), (Series 2005) Weekly VRDNs, (Bank of America N.A. LOC), 0.290%	\$ 10,615,000	4/9/2012	7/1/2034	Variable Rate Demand Note
Portsmouth, VA IDA (Ocean Marine LLC), (Series 2001A) Weekly VRDNs, (Wells Fargo Bank, N.A. LOC), 0.250%	\$ 4,300,000	4/9/2012	8/1/2022	Variable Rate Demand Note
Richmond, VA IDA (PM Beef), (Series 1997) Weekly VRDNs, (U.S.S. Bank, N.A. LOC), 0.290%	\$ 795,000	4/9/2012	7/1/2027	Variable Rate Demand Note
Roanoke County, VA IDA (Nordt Properties LLC), (Series 2000) Weekly VRDNs, (SunTrust Bank LOC), 0.410%	\$ 1,400,000	4/9/2012	12/1/2020	Variable Rate Demand Note
Salem, VA IDA (Oak Park Apartments, L.P.), (Series 2008) Weekly VRDNs, (Federal National Mortgage Association LOC), 0.190%	\$ 2,740,000	4/9/2012	8/15/2043	Variable Rate Demand Note
Suffolk, VA Redevelopment & Housing Authority (North Beach Apartments, Inc.), (Series 1998) Weekly VRDNs, (Wells Fargo Bank, N.A. LOC), 0.350%	\$ 890,000	4/9/2012	9/1/2019	Variable Rate Demand Note
Surry County, VA IDA (Windsor Mill Properties LLC), (Series 2007) Weekly VRDNs, (Wells Fargo Bank, N.A. LOC), 0.350%	\$ 1,035,000	4/9/2012	2/1/2032	Variable Rate Demand Note
Sussex County, VA IDA (McGill Environmental Systems, Inc.), (Series 2007) Weekly VRDNs, (Branch Banking & Trust Co. LOC), 0.250%	\$ 2,160,000	4/9/2012	3/1/2021	Variable Rate Demand Note
Virginia Beach, VA Development Authority (ASI-London Bridge LLC), (Series 2007) Weekly VRDNs, (SunTrust Bank LOC), 0.450%	\$ 2,495,000	4/9/2012	5/1/2033	Variable Rate Demand Note
Virginia Beach, VA Development Authority (Chesapeake Bay Academy), (Series 2000) Weekly VRDNs, (Wells Fargo Bank, N.A. LOC), 0.300%	\$ 3,110,000	4/9/2012	4/1/2025	Variable Rate Demand Note
Virginia Beach, VA Development Authority (S & H Co.), (Series 2001) Weekly VRDNs, (Wells Fargo Bank, N.A. LOC), 0.300%	\$ 220,000	4/5/2012	7/1/2012	Variable Rate Demand Note
Virginia Beach, VA Development Authority (Virginia Wesleyan College), (Series 2007) Weekly VRDNs, (Bank of America N.A. LOC), 0.310%	\$ 11,120,000	4/9/2012	7/1/2033	Variable Rate Demand Note
Virginia Beach, VA, Putters (Series 2667) Weekly VRDNs, (JPMorgan Chase Bank, N.A. LIQ), 0.190%	4,745,000	4,745,000	10/1/2015	Variable Rate Demand Note
Virginia Biotechnology Research Partnership Authority (Virginia Blood Services), (Series 2006) Weekly VRDNs, (SunTrust Bank LOC), 0.370%	\$ 1,635,000	4/9/2012	10/1/2028	Variable Rate Demand Note
Virginia College Building Authority, (Series 2003A), BONDS, 5.000%	\$ 1,529,677	9/1/2012	9/1/2012	Other Municipal Debt
Virginia Commonwealth Transportation Board (Virginia State), P-Floats (Series MT-716) Weekly VRDNs, (Bank of America N.A. LIQ), 0.250%	\$ 3,235,000	4/9/2012	5/15/2019	Variable Rate Demand Note
Virginia Commonwealth Transportation Board (Virginia State), Rocs (Series 11983X) Weekly VRDNs, (Citibank NA, New York LIQ), 0.190%	\$ 6,170,000	4/9/2012	5/15/2019	Variable Rate Demand Note

Virginia Peninsula Port Authority, Coal Terminal Revenue Refunding Bonds (Series 1987A), CP, (Dominion Terminal Associates), (U.S.S. Bank, N.A. LOC), 0.140%	\$ 10,000,000	4/3/2012	4/3/2012	Other Municipal Debt
Virginia Public School Authority, (Series 2011), BONDS, (Prince William County, VA), 5.000%	\$ 2,356,891	7/15/2012	7/15/2012	Other Municipal Debt
Virginia Small Business Financing Authority (Carilion Health System Obligated Group), (Series 2008B) Daily VRDNs, (PNC Bank, N.A. LOC), 0.170%	\$ 2,000,000	4/2/2012	7/1/2042	Variable Rate Demand Note
Virginia Small Business Financing Authority (Moses Lake Industries) Weekly VRDNs, (Key Bank, N.A. LOC), 0.320%	\$ 825,000	4/9/2012	4/1/2017	Variable Rate Demand Note
Virginia Small Business Financing Authority (Sentara Health Systems Obligation Group), Putters (Series 3791Z) Weekly VRDNs, (JPMorgan Chase Bank, N.A. LIQ), 0.190%	\$ 6,650,000	4/9/2012	5/1/2018	Variable Rate Demand Note
Virginia State Housing Development Authority, (Series D) , BONDS , 3.700%	\$ 2,521,498	7/1/2012	7/1/2012	Other Municipal Debt
Virginia State Housing Development Authority, Commonwealth Mortgage Bonds, Series 2007A-4, BONDS, 3.500%	\$ 3,429,928	10/1/2012	10/1/2012	Other Municipal Debt
Virginia State Housing Development Authority, Merlots (Series 2006-B16) Weekly VRDNs, (Wells Fargo Bank, N.A. LIQ), 0.250%	\$ 3,810,000	4/9/2012	1/1/2031	Variable Rate Demand Note
Virginia State Housing Development Authority, Merlots (Series 2006-B19) Weekly VRDNs,(Wells Fargo Bank, N.A. LIQ), 0.250%	\$ 3,240,000	4/9/2012	4/1/2033	Variable Rate Demand Note
Virginia State Housing Development Authority, Merlots (Series 2006-B20) Weekly VRDNs, (Wells Fargo Bank, N.A. LIQ), 0.250%	\$ 6,285,000	4/9/2012	1/1/2022	Variable Rate Demand Note
Virginia State Housing Development Authority, Merlots (Series 2006-B21) Weekly VRDNs, (Wells Fargo Bank, N.A. LIQ), 0.250%	\$ 735,000	4/9/2012	7/1/2031	Variable Rate Demand Note
Virginia State Housing Development Authority, Merlots (Series 2006-B22) Weekly VRDNs, (Wells Fargo Bank, N.A. LIQ), 0.250%	\$ 3,000,000	4/9/2012	10/1/2031	Variable Rate Demand Note
Virginia State Housing Development Authority, Merlots (Series 2006-C3) Weekly VRDNs, (Wells Fargo Bank, N.A. LIQ), 0.250%	\$ 2,030,000	4/9/2012	1/1/2017	Variable Rate Demand Note
Virginia State Housing Development Authority, Merlots (Series 2008-C10) Weekly VRDNs, (Wells Fargo Bank, N.A. LIQ), 0.250%	\$ 6,150,000	4/9/2012	7/1/2021	Variable Rate Demand Note
Williamsburg, VA IDA (Colonial Williamsburg Foundation Museum), (Series 1988) Weekly VRDNs, (Bank of America N.A. LOC), 0.510%	\$ 3,162,000	4/9/2012	12/1/2018	Variable Rate Demand Note
Total	\$421,765,755			