Money Market Funds – Preserving Systemic Benefits, Minimizing Systemic Risks

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During September 2008, soon after Lehman Brothers filed for Chapter 11 protection, the Reserve Primary Fund, a large and prominent money market mutual fund, "broke the buck": it declared a net asset value that was less that the $1 per share that is standard for such funds as a result of marking down the value of Lehman debt in its portfolio. This event triggered a large number of redemptions from money market funds with a large institutional investor shareholder base, as those investors rushed to redeem their shares out of concern that they too might fall in value below $1 per share. A significant number of large money market funds avoided "breaking the buck" and stemmed redemptions only because their managers, often affiliated with large financial institutions, injected capital into the funds by purchasing troubled assets at par. Nonetheless, the cycle of redemptions did not stop until the U.S. Treasury stepped in and guaranteed (albeit on a limited and temporary basis) money market fund shares against loss.

These events re-ignited a policy debate that has existed since the invention of the money market fund in the early 1970s. On one side of the debate are those who argue that money market funds are "shadow banks" that perform functions that are similar to those performed by banks and present similar risks: in particular, because the funds offer daily redemption rights but invest in assets with longer terms, there is a maturity mismatch that makes funds susceptible to runs. On the other side of the debate are those who argue that money market funds are different from banks because they are more transparent and invest in less risky and shorter-term assets and thus are fundamentally safer, and because of the effectiveness of existing SEC regulation of money market funds. The Treasury Department has pushed federal financial regulators into this

debate, requiring the President's Working Group on Financial Markets to study the problem and make recommendations to the Financial Stability Oversight Council, which is tasked with determining whether money market funds present a systemic risk and thus should be subjected to bank-like prudential regulation by the Federal Reserve. The PWG's study analyzed a number of potential regulatory responses, including changing SEC rules that allow money market funds to maintain a stable $1 NAV per share, requiring funds to participate in a liquidity facility or to maintain insurance, and regulating them as special purpose banks.

In this article, the author assesses both the potential for systemic risk presented by money market funds as well as their systemic benefits. While the literature describes both the funds' susceptibility to runs and the benefits of keeping funds' assets and activities out of the banking system and FDIC guarantees, it is underappreciated the extent to which money funds reduce systemic risk because they constitute an alternative from the banking system for financing the working capital needs of businesses that is insulated from other risks in the banking system. The author also examines the regulatory regime for money market funds and the recent response of the SEC to tighten standards for their investments, as well as some of the various proposals to further address these funds' susceptibility to run-like cycles of redemptions.

The Role of Money Market Funds in the U.S. Financial System

A money market fund is a specialized type of mutual fund, which means that it is a pooled investment vehicle that is regulated under the Investment Company Act of 1940 (the "1940 Act"). Money market funds invest in short-term debt obligations and seek to provide their investors with preservation of their capital and money market yields. The 1940 Act requires money market funds, like all mutual funds, to permit their investors upon request to redeem their

shares in the fund on any business day, with exceptions for certain emergencies. Unlike other types of mutual funds, money market funds seek to maintain a stable net asset value per share ("NAV") of $1. For other types of mutual funds, the fund's NAV fluctuates with the value of the assets in the fund's portfolio: under the 1940 Act, a mutual fund is required to value assets for which there is a "readily available market value" at that value and to value all other assets at "fair value," which under SEC interpretations is generally performed using a methodology based on market values. However, the SEC has provided an exception for money market funds under rule 2a-7, which allows money market funds to value their assets at "amortized cost" – their purchase price, with any discount amortized and any premium accreted daily from the date of purchase to the date of maturity. Amortized cost valuation allows money market funds to avoid daily fluctuation in the value of their assets, and if the NAV stays between $0.995 per share and $1.005 per share, the fund can round its NAV to $1. If an asset suffers a default or a credit event, however, the fund has to write down the value of that asset to its market value (if available) or fair value.

The ability to use amortized cost valuation comes with a trade-off: rule 2a-7 imposes a number of conditions on money market fund assets' maturity, liquidity, credit quality and diversification. The rule limits the maturity of each fund instrument as well as the average maturity of all assets in the fund. It limits funds to investing in securities with the two highest ratings of any credit rating agency (or their equivalent), and it limits the amount that a fund can invest in "second-tier" securities (those with the second highest rating). The rule also limits the amount that a fund can invest in the securities issued by any particular firm. The SEC also requires money market funds to periodically publish a schedule listing their assets and stating their "shadow NAV," the net value of their assets using market prices rather than amortized cost.

After the financial crisis, the SEC amended rule 2a-7 to tighten each of these requirements and to add several more. (See discussion below.) In particular, the SEC added requirements that funds invest a proportion of their assets in immediately liquid assets so as to be able to meet redemptions; the SEC is also poised, in response to a mandate in the Dodd-Frank Act, to eliminate the references to credit ratings in the credit quality conditions and replace them with more holistic credit analytics.

The SEC also strictly regulates money market fund disclosures and marketing, in particular requiring these to state that an investment in the fund is not a bank deposit and can lose value. Notwithstanding these restrictions, investors generally have an expectation that money market funds will maintain their $1 NAV for purposes of purchasing and redeeming shares. With two exceptions, money market funds have met this expectation; prior to the Reserve Primary Fund breaking the buck, only one other money fund has done so, although on a number of occasions where money fund sponsors have supported their funds to prevent them from breaking the buck. For this reason, it came as a shock when the Reserve Primary Fund broke the buck.

Money market funds generally invest their assets in a variety of money market instruments, which are debt instruments with short-term maturities. The most common such investments are commercial paper, repurchase agreements, bank certificates of deposit, U.S. Treasury bills and notes, U.S. government agency obligations and the debt of U.S. states and municipalities. Money market fund holdings represent approximately one-quarter of the money market instruments in the U.S., including approximately 39% of the commercial paper, 24% of short-term U.S. Treasury debt, 23% of repurchase agreements, and 65% of short-term municipal debt. Many money market funds focus their investments in particular instruments: *e.g.*,

Treasury money funds invest primarily or exclusively in Treasuries, municipal money funds in short-term municipal debt, and prime money funds in commercial paper, repurchase agreements and other corporate obligations.

Money market funds play a particularly important role in the commercial paper market. Money market funds and the commercial paper market have grown and developed together since the early 1980s to the point where each represents a significant alternative to the banking system. Commercial paper is short-term debt with a term of up to 270 days, and U.S. industrial and financial firms issue commercial paper as a way of financing their working capital needs. Commercial paper is in many ways a more efficient means of financing working capital than bank loans or lines of credit. For larger and seasoned issuers in particular, the market rate of interest on commercial paper is frequently lower than that charged by banks for working capital loans; commercial paper can typically be issued and sold to the market more quickly than a loan can be negotiated; and commercial paper comes without the same intrusive covenants associated with bank loans. At its peak (before the financial crisis hit in 2007), commercial paper represented approximately $2.1 trillion in financing, in comparison with $3.6 trillion in bank and finance company non-mortgage loans.

Similarly, money market funds in many ways have proved more attractive to savers than bank deposits. For most of their history, money market funds have offered a higher rate of interest than bank checking or savings accounts; the current period of very low relative yields is an anomaly created by the low-interest-rate monetary policy of the U.S. Federal Reserve. Many money market funds also offer their shareholders the ability to redeem shares through check-writing; this feature has led many critics to consider money market funds to be equivalent to checking demand deposit accounts, although it is worth pointing out that (according the research

from the Investment Company Institute) money market fund investors generally use check-writing not for daily transactions but rather for large payments such as tuition. Like banks offering demand deposits, money market funds also seek preservation of capital, and money market funds offer daily liquidity, which is comparable to if not as attractive as the immediate right to withdraw from a demand deposit account. There is currently approximately $3 trillion invested in U.S. money market funds, in contrast with approximately $8 trillion in deposits at US commercial banks.

Tax-exempt money market funds also play a crucial role in the market for the short-term debt of U.S. states and municipalities, holding the majority of this debt. By holding this debt money market funds do not just assist with the short-term financing needs of state and local governments; they also provide a large share of the financing for industrial development organizations, infrastructure, hospitals, schools, low income housing and other public projects. In addition, money market funds buy large amounts of repurchase agreements and thereby are a significant source of overnight funding for U.S. financial institutions, and they are the primary source of funding for U.S. government securities dealers.

The Financial Crisis and the "Run" on Money Market Funds

On September 15, 2008, Lehman Brothers filed for Chapter 11 bankruptcy protection. The next day, the Reserve Primary Fund, a money market fund with approximately $62 billion in assets, wrote down the value of its holdings of short-term Lehman debt from $785 million to zero, forcing the fund to "break a buck." The fund immediately received a large number of redemption orders, primarily from institutional investors, and the fund sought to liquidate its entire portfolio, possibly worsening conditions in the already-tight short-term credit markets.

Within four days, the redemption orders amounted to almost $60 billion, and the fund filed with the SEC a request to suspend shareholder redemptions.

The failure of Lehman Brothers also set off a broad freeze in the credit markets, including in the money markets. Many investors suddenly became risk averse, and there was a flight to the safety of Treasury bills, as investors reassessed the solvency of many large financial institutions as well as the U.S. government's willingness to support those that were "too big to fail." The commercial paper market virtually dried up, making it difficult to mark commercial paper to market, and credit spreads increased to near-record levels. These conditions prompted a cycle of large-scale redemptions from prime money market funds, as investors redeemed over $300 billion, leading these funds to sell assets such as commercial paper and to decline to roll over repurchase agreements. Because of the decline in the value of holdings of Lehman debt and other debt distressed by the credit freeze, a number of money funds would have broken the buck if their sponsors had not provided support by purchasing assets at par. According to Moody's, at least 20 money fund sponsors injected approximately $12 billion into their prime funds; at least two sponsors relied on access to the Federal Reserve discount window to do so, and at least two more consolidated their funds on their balance sheets.

The U.S. government responded to the credit freeze with a number of programs designed to support the credit markets generally and the money markets specifically. The Federal Reserve established a number of liquidity facilities intended to stabilize the money markets, either by lending to financial institutions to buy commercial paper, by guaranteeing commercial paper, or by directly purchasing commercial paper. Equally important, the U.S. Treasury created a program under which it temporarily guaranteed investors' account balances that existed before (but not after) the program was established in money funds that chose to participate in the

program and pay a premium. Competitive pressures assured that virtually all money funds did so, and the cycle of redemptions ended; indeed, by mid-October, money market funds were experiencing net inflows, even though new amounts invested were not guaranteed. Nonetheless, for many months the credit markets remained frozen, and money market funds, like all investors in debt instruments, had difficulty in pricing their assets. Many money fund managers, like many banks, believed that distressed market prices did not reflect the actual value of their assets.

This episode was the worst in the history of money funds and the money markets. No money fund had previously broken the buck (with one exception, a small fund that pooled community bankers' and not retail investors funds), although according to Moody's at least 136 funds before the crisis have needed sponsor support to avoid breaking the buck. Significantly, money market funds did not trigger the crisis but rather were swept up into it. Arguably, the cycle of redemptions and asset sales from money funds aggravated the severity of the crisis after it began, as money funds withdrew liquidity from the markets for commercial paper and repurchase agreements. However, it is worth noting that, as of two years later, investors in the Reserve Primary Fund had received more than 99 cents on the dollar, and no investors in any other sponsor's money funds lost any money at all.

The Systemic Risks of Money Market Funds

To their detractors, the experience of prime money market funds during the financial crisis illustrates their systemic riskiness. To these critics, the difference between amortized cost pricing of assets and their market values creates a type of instability that is inherent in money market funds: as the market value of the assets in a fund that contains distressed assets begins to approach $0.995 per share, investors that are aware of the distress or have concerns about

potentially distressed assets will want to redeem their shares before the market value crosses that threshold, since if they wait too long, they will only be able to redeem at $0.99 per share or lower, resulting in a loss of capital. Moreover, the savvy investor also knows that other investors also will want to redeem quickly, thereby increasing the urgency of redeeming. Enough such investors and the rush to redeem can become a self-fulfilling and self-reinforcing cycle of redemptions, and as investors redeem, the fund will sell liquid assets that are not distressed, thereby increasing the concentration of distressed assets in the fund, magnifying the effect of their write-down, and making it more likely that the fund will "break a buck." Ironically, as the 2008 crisis illustrates, it is not retail investors who are most likely to set off a redemption cycle, but rather institutional investors, which generally have conducted due diligence on the fund and its portfolio and keep a close eye on market developments; contrast this situation with bank runs, where unsubstantiated concerns or even rumors about the solvency of a bank, or concerns raised by contagion from the distress of other banks, frequently spread among retail customers, set off the run.

As the crisis illustrates, contagion also can cause a cycle of redemptions to spread from one money market fund to another, and when this happens, a large number of funds are forced to raise cash to pay investors immediately. They will do so by selling assets such as commercial paper and by declining to roll over or renew repurchase agreements on which other financial institutions rely; because money market funds form such a large part of the money markets, large asset sales may lead to a market-wide decline, and the market for money market instruments may become less liquid or dry up altogether. This will result in financial institutions and other companies that customarily rely on the money markets for short-term financing to lose a primary, if not the primary source of their working capital. If this effect happens on a large

enough scale, significant number of financial firms as well as industrial companies will in short order be unable to finance some of their operations, resulting in a contraction in economic and financial activity.

Thus, from the perspective of banking regulators, money market funds can be seen as "shadow banks" that replicate many, if not most, of the features of banks that require regulation. In this view, the ability to redeem money fund shares daily is comparable to the ability to withdraw bank deposits on demand, and the public expectation of a stable $1 per share NAV is comparable to the confidence of bank depositors in their ability to withdraw their deposits at the value of the account. Because of this comparability, some believe that retail investors confuse their money fund investments with bank deposits, or at least believe that they are comparably safe and even insured (even though funds are required to disclose the opposite). Money funds, like banks, are maturity-mismatched in that their obligations are short-term and their assets longer-term, and as described above, they are susceptible to a cycle of redemptions that resembles a bank run. As a result, when crisis hit in 2008, money fund account balances needed to be guaranteed by the U.S. government even though there was no prior formal guarantee program. Moreover, many money fund sponsors felt compelled by reputational considerations to provide support to their funds during the crisis to prevent them from breaking the buck, and a number of these sponsors were affiliates of financial holding companies that received government support through the Federal Reserve discount window or other Federal Reserve liquidity facilities, meaning that their money funds are indirectly supported by the regulated banking system.

To put the criticism in its strongest form (as does former Federal Reserve chairman Paul Volcker), money market funds represent a form of regulatory arbitrage: they receive the benefits

of a government guarantee (or the perception thereof), without either paying into the insurance fund or being subject to capital requirements or prudential supervision and regulation by banking regulators. In this view, the regulatory differences thus tilt the competitive playing field in favor of money funds, which thereby drain resources from and thereby weaken the safety and soundness of the regulated banking system and increase the size of the portion of the financial system that is exposed to instability from runs or run-like cycles of redemptions.

Nonetheless, this criticism overstates the systemic risks presented by money market funds. First and foremost, money market funds have never themselves set off a systemic crisis. There have been only two times in their history that a money fund has broken the buck, and although two is not a scientific sample, the contrast is illustrative. When the first such fund broke the buck in 1994, it involved a small fund in the context of a relatively stable financial environment: while the Federal Reserve had surprised the markets by starting to raise interest rates, there were no widespread concerns about the solvency of financial institutions or other issuers of commercial paper and counterparties of repurchase agreements. As a result, there was no contagion, and both the money fund system and the larger financial system did not suffer a panic, run or cycle of redemptions.

However, when the Reserve Primary Fund broke the buck in September 2008, the context could not have been more different: one of the largest investment banks in the world had just failed (which was the very reason the fund broke a buck); there were widespread reports that the U.S. government was bailing out AIG, the largest insurance company in the U.S.; the broader credit markets were already freezing up; panic was setting in; and most importantly, there were, and had been for many months, widely held concerns among investors that the balance sheets of most, if not all, major financial institutions were contaminated by illiquid and overvalued “toxic”

assets such as subprime mortgage-backed securities. Since such financial institutions were among the largest issuers of commercial paper and counterparties for repurchase agreements held by money funds, there was widespread concern among money fund investors over the potential exposure of their money fund investments to these toxic assets; in this atmosphere of anxiety and uncertainty, redeeming first and asking questions later was the more prudent course of action. Nevertheless, at its most fundamental level, the concerns about money funds and the cycle of money fund redemptions in 2008 were rooted in a crisis in the regulated banking and investment banking sectors, and not in the funds themselves or their structural features. Indeed, analysis of money funds' structure and investor conduct show why they are more stable than the regulated banking system.

The Systemic Benefits of Money Market Funds

A number of commentators have noted that money market funds are less systemically risky than banks and have systemic benefits. First, money market funds invest in debt with far shorter maturities than do the large majority of banks, meaning that they are subject to far less risk that their assets will decline in value from increases in interest rates. Credit quality standards are also tighter for money market funds than for banks, and thus money market funds are exposed in general to lower credit risk than banks. Because of the diversification requirements under rule 2a-7, a money fund's credit risk will be more broadly spread than that in many banks, whose credit exposure may be concentrated in certain regions or sectors. In addition, money that is invested in money market funds and not in the banking system is not subject to guarantee by the Federal Deposit Insurance Corporation (the "FDIC"), thus alleviating demand on the FDIC Deposit Insurance Fund ("DIF") and making it less likely that the DIF will run out of resources and have to tap either the Treasury or insured banking entities (through

additional assessments) for funding. To be sure, money fund critics have noted that the Treasury guarantee during the financial crisis had the same result, and they argue that money market funds now have an implicit guarantee from the U.S. government, for which funds do not pay, that creates the same systemic risks.

However, the primary reason that money market funds have systemic benefits is that they are the linchpin of an alternative system to the banking system for providing short-term financing to US industrial and financial firms and to state and local governments. This alternative system disintermediates financial institutions and replaces them with markets. Two such markets – the market for investments in money market funds and the market for commercial paper – are particularly important in that they are better than financial institutions at bringing market pricing and market discipline to the service of providing savers and investors with liquid capital preservation and to the financing of working capital needs respectively.

Money market funds are significantly more transparent than banks. On a quarterly basis, each money fund is required under SEC regulations to publish, and investors can see, a schedule of all of the fund's assets, and they must calculate and publish a net asset value every business day. Banks are not required to, and generally do not, do either; banks' financial statements categorize their assets in summary format. In addition, the assets of money market funds are required by law to be segregated from the sponsor's assets and held in a separate account by a separate custodian (generally itself a bank). The operations of money market funds are simple and straightforward: to raise capital, they sell one "product," a single class of common equity shares, and they invest the proceeds in the limited number of types of short-term debt instruments that permitted by rule 2a-7. In contrast, the business operations of even the most basic bank are much more complicated. A bank generally has a number of sources of capital,

including a variety of different checking and savings deposit accounts offered to retail consumers and institutions, and banks frequently raise capital "wholesale" by issuing short-term and long-term debt to institutional investors or other banks. Banks' capital structures are thus levered and much more complicated than those of money funds. A bank will typically lend to a wide variety of commercial borrowers in different businesses, to consumers for a number of types of purposes and purchases (*e.g.*, real estate loans, automobile loans, and retail credit), and to commercial real estate firms, in each case under contracts with many different maturities, conditions, covenants and restrictions and with a broad range of security or collateral (or perhaps none at all). These loans are frequently long-term, with terms lasting years, and indeed earning the interest rate spread between long-term loans and short-term funding is a primary source of bank revenue. In addition, banks typically generate revenue from a variety of fee-generating businesses that can be more akin to a retailing business than to a financial business.

As a result, the typical retail customer opening a checking or savings demand deposit account is for all purposes unable to perform due diligence on a bank to understand its safety and soundness, and indeed the financial analytic skills necessary to understand the relative strengths and weaknesses of financial institutions require years of training and experience. Demand deposits by necessity are a type of "informationally insensitive" services, ones for which customers cannot and will not base their decisions on information about the bank but rather on the basic features of the services it offers. Therefore, customer shopping for banks, at least at the retail level, cannot and does not exert sufficient market discipline upon banks, and there is an incentive for banks to compete on features such as interest rates that tend to undermine the safety and soundness of the bank. It is this insufficiency of market discipline that underlies the need for much of banking regulation.

In contrast, the task of the investor who wants to perform due diligence on a money market fund is relatively straightforward: the investor needs to interview and assess the skills of a fund's portfolio managers (and particularly the credit analysts), and the investor needs to periodically review the fund's portfolio to test that the portfolio managers are managing the fund in a conservative manner. While retail investors cannot be expected to perform this analysis, institutional investors (who are most likely to redeem in a crisis) can, and they generally do, and they constitute almost two-thirds of money fund investors by assets: for example, many corporate treasuries rely on money funds to manage their cash. Institutions' due diligence exerts market discipline on money market fund managers, and this market discipline has positive externalities because institutional and retail investors invest in the same funds, in the same portfolios and in shares with equal priority in the capital structure (many funds issue separate institutional and retail classes whose only difference lies in fees and expenses). Retail investors benefit from the due diligence of institutions, and the entire market for money market fund shares reflects their discipline, creating market pressures for conservative management.

In all but the most extreme circumstances (so far, only the crisis of 2008), this market discipline, reinforced by SEC regulation and the strict standards of rule 2a-7, has proven effective at preventing cycles of redemptions: sophisticated institutions understand that their investments are not at risk from most threats to the banking and larger financial systems, and accordingly do not redeem in response to these threats. In addition, the evidence indicates that many retail investors do not view or treat their money market fund investments as equivalents to their demand deposit accounts: rather than using fund investments to meet day-to-day cash and payment needs, they use money market funds as a vehicle for earning some interest on cash that will be used for larger and less frequent transactions, such as payment of tuition or investments

in longer-term vehicles. Such fund investments are less sensitive to loss of principal than cash held to meet immediate needs, and thus the incentive to redeem during moments of market distress is weaker.

Money market funds similarly more bring more discipline to the market for financing working capital needs than do banks. Commercial paper is a negotiable instrument, and it is issued and trades in a market that is deeper and more transparent than the market for bank loans or lines of credit. Investors that want to gain exposure purely to short-term debt from companies with strong balance sheets and good credit can do so through commercial paper; an investment in bank stock creates exposure to the business risk of the bank and the risks of its broader portfolio. Thus, for larger, seasoned companies, commercial paper can generally be sold at a lower interest rate than that available from a line of credit or loan, and the placement fees for commercial paper are generally lower than those charged by banks for maintaining a line of credit. As a result, the commercial paper market sends stronger and more frequent and reliable signals about the costs of extending credit to a company than the market for bank loans, and the market can be unforgiving for companies that are no longer creditworthy. Thus, the commercial paper market, because of its transparency and more effective market discipline, is more efficient at allocating working capital than bank loans, at least for large and seasoned issuers.

Just as importantly, the commercial paper market is less exposed to, and more insulated from, credit problems in the wider debt markets. Distress in the banking system at large generally leads to banks tightening credit across all lender types and maturities, including for working capital purposes, whereas the commercial paper market generally only contracts because of issues in that market. This relative insulation is a result of the disintermediated nature of the commercial paper market: while events at issuers and investors (*e.g.,* money funds) can

dramatically affect the market, there are no intermediaries whose distress could depress the market. In addition, banking institutions are generally leveraged: even a well-capitalized bank can be leveraged 10:1, and this leverage magnifies the contagion effect of a banking crisis; in contrast, money market funds do not use leverage. The 2008 crisis is the exception that proves the rule: it occurred only because a very large and highly leveraged financial institution/issuer failed in an environment in which investors were very concerned about the solvency of a number of other large and leveraged financial institutions/issuers and about the ability of the highly leveraged financial sector as a whole to absorb the resulting losses. It fundamentally was a crisis in the regulated banking and investment banking sectors that spread to the commercial paper markets. In more ordinary times, thousands of banks have failed without seriously impacting the commercial paper market. Until the crisis in 2008, the commercial paper markets had been extremely stable: before Lehman's failure, only eight issuers had defaulted on their commercial paper.

These are not arguments that money market funds do not present systemic risks; rather, they are arguments that these systemic risks are much less significant than those created by the regulated banking system and of a different type, and that they have distinct and important systemic benefits. As a result, money market funds warrant a different regulatory response.

Addressing the Risks Without Eliminating the Benefits

Nonetheless, the 2008 crisis exposed weaknesses in the regulation of money market funds, and there have been two regulatory initiatives to address them. First, in February 2010, the SEC amended rule 2a-7 in an effort to reduce money funds' vulnerability to loss by tightening the requirements of the rule; the amendments mostly track recommendations made by

an industry task force organized by the Investment Company Institute. The SEC lowered the portion of a money fund's assets that can be invested in second-tier securities, and it required closer board oversight of the use of credit ratings; to implement a mandate under the Dodd-Frank Act, the SEC also has proposed eliminating references to credit ratings altogether in the definitions of first-tier and second-tier securities. The SEC also reduced the maximum weighted average maturity of a money fund's assets from 90 days to 60 days and added new restrictions on the weighted average life of a fund's assets, which unlike maturity is calculated without giving credit for interest rate reset dates. The SEC now requires money funds to make monthly filings with the SEC that include not only portfolio holdings but also a fund's shadow NAV; the SEC publishes these reports 60 days after they are filed, creating more transparency for investors.

Perhaps most importantly, the SEC tightened existing portfolio liquidity standards and added new liquidity standards. The SEC reduced the maximum amount of illiquid assets that a fund can hold from 10% to 5%. The SEC added a new general requirement that a money fund must at all times hold highly liquid securities sufficient to meet reasonably foreseeable redemptions, as well as two specific requirements: all taxable (*i.e.*, non-municipal) money funds must hold at least 10% of their total assets in daily liquid assets, and all money funds must hold at least 30% of their total assets in weekly liquid assets; while these assets could become illiquid in a crisis, the SEC is requiring that they mature daily or weekly respective, meaning that their issuer will have to pay the underlying principal irrespective of market conditions. These liquidity requirements function in a similar way to bank reserve requirements, by creating a dedicating pool of resources to address potential claims on the fund's assets. Finally, money funds are now required to perform periodic stress testing of the fund's portfolio – testing the fund's ability to maintain a stable NAV based upon certain hypothetical events, including

increases in short-term interest rates or shareholder redemptions, a security's downgrade or default, and the widening or narrowing of spreads between yields of an appropriate overnight rate benchmark and those of the fund's securities.

While the SEC's new rules unquestionably reduced the risk of loss for money market funds and their investors, a number of commentators have criticized the SEC for failing to address money market funds' susceptibility to cycles of redemptions during crises. One critic has argued that the SEC's changes have even made this problem worse: by shortening the weighted average maturity of fund assets, the rules make it easier for funds to refuse to roll over commercial paper holdings. Indeed, statements by SEC staffers have indicated that the SEC itself does not believe that it is finished with money market fund reform.

The U.S. Treasury Department has pushed the SEC and other federal financial regulators to address this question by requiring the President's Working Group on Financial Markets ("PWG") to study the potential systemic risk of money funds and to make recommendations to the Financial Stability Oversight Council, which under Dodd-Frank is tasked with determining whether money market funds present a systemic risk and thus should be subjected to bank-like prudential regulation by the Federal Reserve. In October 2010, the PWG release a report that analyzed a number of potential regulatory responses to money funds' potential systemic risks. The four most important of these potential responses are (1) changing rule 2a-7 to force money market funds to have a floating NAV rather than a stable $1 NAV per share by no longer permitting amortized cost valuation, (2) requiring money funds to participate in a private, industry-wide liquidity facility, (3) requiring money funds to maintain government insurance, and (4) regulating money funds as special purpose banks. I address each of these in turn.

First, the PWG discussed the advantages and disadvantages of requiring the NAVs of money market funds to float rather than remain stable at $1 per share. The PWG argued that a floating NAV would reduce investor incentives to redeem shares from distressed funds and increase investors' tolerance for NAV fluctuations: since a floating NAV fund's losses would be borne on a *pro rata* basis by all shareholders, whether they redeem or not, it would thereby eliminate or reduce some of the incentives to redeem when a money fund has experienced a loss and thereby reduce the likelihood of contagion. However, it also pointed out that a floating NAV could severely reduce money funds' appeal to investors, which could lead to fewer assets invested in money funds and thus less capacity to provide short-term credit. Advocates of money market funds would put it more strongly – that eliminating the stable NAV would eliminate money funds and damage the market-based alternative to the banking system of which they are the linchpin. The PWG report also argues that, if investors respond negatively when money fund NAVs fluctuate more frequently, a floating NAV might not prevent runs but rather could result in increased investor redemptions. Money fund advocates also point out that floating NAV funds could also be subject to cycles of redemptions in a crisis, since investors might rush to redeem their investments out of a concern that the fund's assets were overvalued or otherwise distressed and likely to lose value quickly. The report also expresses the concern that the transition from a stable NAV to a floating NAV industry could itself be systemically risky by prompting a wave of preemptive investor redemptions.

Second, the PWG report discusses the possibility of establishing a private, industry-wide emergency facility that could provide liquidity to funds that need it during times of market stress. Depending on its structure, such a private facility might have access to government support, such as the Federal Reserve discount window or a line of credit from the Treasury. The Report

describes a number of benefits from such a liquidity facility. First, a private facility could bolster money funds' ability to withstand redemptions without selling assets into potentially illiquid markets during a crisis. While it could not prevent a fund whose assets had lost sufficient value from breaking the buck, it could prevent contagion from spreading from this fund to money funds that had not broken the buck. A private, industry-run facility would provide efficiency gains from risk pooling and could internalize the cost of liquidity protection to the money fund industry and thereby provide appropriate incentives for investors.

The report recognized that establishing such a facility would create a number of challenges. First, if participation was not mandatory, some funds would be able to free-ride on the industry-wide benefits of the facility, and if participation was mandatory, regulatory oversight of the facility would be necessary. In addition, the facility might not have sufficient capacity to handle moments of crisis, and its effectiveness during a crisis could be impeded by conflicts between the interests of participating money funds and the facility's shareholders, who might want to limit or restrict liquidity provision. It could take many years before the facility accumulated sufficient assets to be able to provide enough liquidity to withstand a large-scale crisis, and during this accumulation phase, it would de facto depend on government support. Both the pricing of access to the facility and of government support would have to be structured in such a way as to limit moral hazard.

Third, the PWG report discussed the possibility of establishing a permanent government insurance program for the account balances of money fund shareholders. The report notes that while such a program would largely eliminate the threat of run-like cycles of redemptions, it would create a number of other problems. It would shift fund managers' incentives away from conservative management and create moral hazard, much as has FDIC deposit insurance. It also

could give money funds a regulatory advantage over banks in that money could offer the same government-backed guarantee with lower regulatory costs, unless regulators addressed this moral hazard through bank-like prudential regulation. Thus, government insurance is not really a separate alternative to bank-like regulation.

Fourth, the PWG report analyzes the option of regulating money market funds as special purpose banks, thereby subjecting them to bank-like capital and liquidity requirements as well as government supervision of their capital, liquidity, quality of assets and earnings, and management teams. The report notes that bank regulation of money market funds would bring systemic benefits, in that required capital, access to the Federal Reserve discount window and deposit insurance would assure investors and prevent run-like cycles of redemptions and obviate the need for money fund sponsors to support their funds in times of distress. If insurance were priced properly, it also would prevent government insurance for money funds from tilting the regulatory playing field towards funds and away from banks. The report notes, however, that banking regulation would place significant burdens on money market funds, which would have to raise capital and set aside reserves, as well as on the U.S. government in that it would be guaranteeing and supervising many trillions more in assets in the financial system. In addition, if there were limits on the amount of fund balances that was insured (as is the case with FDIC insurance), money funds would still be vulnerable to run-like cycles of redemptions from institutional investors.

However, the PWG report does not recognize that banking regulation would be ill-suited to the lessened systemic risks created by money funds, nor does it analyze the impact of banking regulation on the alternative system of working capital finance for which money funds are the linchpin. Bank regulation did not prevent the crisis of 2008, nor if applied to money funds

would it have prevented the freeze in the money markets that afflicted money funds during the crisis. Moreover, bank-like capital requirements would fundamentally alter the nature and economics of money funds. They would require money funds to become leveraged vehicles that would treat their current investors as creditors and that would have to issue shares of equity to other investors whose investments would serve as a cushion insulating the fund's creditors from loss. Equity investors would in exchange demand a higher rate of return from their investments, which would diminish the yields that could be paid to the funds' creditors. The costs of insurance and of regulatory compliance would further diminish yields, as would the need to set aside regulatory reserves. Taken together, these requirements are a recipe for converting money funds into banks and limiting or even eliminating their appeal to investors and their ability to provide an alternative to bank deposits. As a result, significantly fewer assets would flow into the markets for commercial paper and other money market instruments, thereby limiting the systemic benefits and discipline created by these markets. More assets would flow into the regulated banking system, creating less market discipline and less efficient allocation of capital, less systemic transparency, greater moral hazard and a greater insurance burden on the U.S. government.

In sum, there are no perfect or easy solutions to the systemic risk created by money market funds. However, my analysis suggests that some cures would be worse than the disease. Requiring money funds to float their NAVs or to be regulated as banks would shift assets into the systemically more risky banking sector and limit a market-based alternative system for financing working capital. Nonetheless, additional steps can be taken. While not perfect, a private, industry-wide liquidity facility would be the best of the available options to address money funds' potential for systemic risk. A liquidity facility could go a long way towards

limiting the potential contagion from another money fund breaking the buck, if the details about governance, oversight, conflicts of interest, pricing of access and sources of funding are properly resolved. Moreover, an examination of some of the systemic risks that implicate money funds reveals that they are better regulated at their sources. For instance, the reliance of many financial institutions on short-term funding (through commercial paper and repurchase agreements) provided by money funds is a systemic issue, but it is at its core a problem created by these institutions' potentially excessive reliance on short-term funding. Rather than regulate money funds' ability to provide such financing, it would be more effective for prudential regulators to restrict financial institutions' ability to rely on short-term funding, a step that they are in fact taking through the Basel III accords. Taken as a whole, and analyzed in the context of the larger financial system, the issues raised by money funds do not warrant a major overhaul of their regulation, and there is a real likelihood that the most interventionist proposals – floating the NAV and bank-like regulation – would on balance create more systemic risk.