Abstract

On September 16, 2008 following heavy losses on its holdings of Lehman Brothers commercial paper in the wake of the Lehman bankruptcy filing, The Reserve Primary Fund “broke the buck” when its net asset value fell below the $1.00 per share target traditionally maintained by money market mutual funds (MMMFs). The resulting losses to investors in the Primary Fund sparked a panic among prime (nongovernment) MMMF investors more generally as they became aware that it was possible to lose money in accounts that were typically viewed as safe. Within a week, roughly $300 billion had been withdrawn from prime MMMFs. To arrest this run on MMMFs, the United States Treasury announced the creation of the Temporary Guarantee Program for Money Market Funds (the Guarantee Program) on September 19th. Under the Guarantee Program, participating MMMFs paid a fee in return for which Treasury agreed to protect investors from any losses on existing holdings resulting from a breaking of the buck. With the fear of losses thus removed, the run on prime MMMFs came to a halt as mass redemptions from prime MMMFs ended almost completely by the end of October. Treasury suffered no losses under the Guarantee Program and earned approximately $1.2 billion in participation fees.

Keywords: Money market mutual funds, runs, guarantee program, commercial paper, Lehman Brothers, The Reserve Primary Fund

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1 Overview

1.1 Background

When Lehman Brothers filed for bankruptcy on September 15, 2008, the fallout in financial markets was widespread. Among those most immediately impacted was The Reserve Primary Fund, a $65 billion money market mutual fund (MMMF) that held $785 million in Lehman Brothers commercial paper. With the value of this commercial paper devastated by Lehman’s bankruptcy, the following day the Primary Fund announced that it was “breaking the buck” and reported a net asset value (NAV) of $0.97 per share instead of the $1.00 per share traditionally maintained in the MMMF industry. (Kacperczyk and Schnabl, 2010). While temporary declines in NAV below $1.00 were not uncommon, the sponsors of MMMFs would usually intervene to restore the buck and protect investors from any losses. When that did not happen here, investors conditioned to think of MMMFs as “safe” investments panicked, running not only from the Primary Fund but also from prime MMMFs more generally (i.e. those funds that invest primarily in the debt of private companies like Lehman Brothers rather than primarily in government debt). Within a week, roughly $300 billion had been withdrawn from prime MMMFs even though many such funds had little to no exposure to Lehman. (Schmidt et al., 2014). As a result, MMMFs were forced to attempt to sell assets at depressed prices and borrowers who relied on MMMFs to meet their financing needs found themselves unable to secure adequate funding.

1.2 Program Description

Faced with this run on MMMFs, the United States Treasury on September 19, 2008 announced the Temporary Guarantee Program for Money Market Funds (the Guarantee Program) to “enhance market confidence and alleviate investors’ concerns about the ability for money market mutual funds to absorb a loss.” In so doing, it noted that MMMFs “play an important role as an investment vehicle for many Americans; they are also a fundamental source of financing for our capital markets and financial institutions.”

In order to stop the run on MMMFs, the Guarantee Program enabled participating MMMFs to pay a fee in return for which Treasury agreed to protect investors from any losses resulting from a breaking of the buck. Only eligible MMMFs with a NAV of at least $0.995 as of the announcement could participate (to ensure that the Guarantee Program protected against future losses rather than subsidized existing ones) and only MMMF shares owned as of the September 19th announcement date were eligible (to remove the incentive for a post-announcement run from non-insured accounts to MMMFs). Eligible MMMFs could be prime or government funds, even though the run from the former initially involved a flight to the latter. Additionally, eligible MMMFs had to be registered under the Investment Company Act of 1940, offer securities registered under the Securities Act of 1933 and operate in compliance with Rule 2a-7. The program was designed to last three months, subject to extension for up to one year.

To participate in the Guarantee Program, MMMFs executed legal documentation (including a guarantee agreement setting forth program terms) and paid a fee. The MMMF could then disclose their participation in the Guarantee Program to investors. If the NAV
of a participating MMMF fell below $0.995 per share and was not restored (perhaps by the intervention of the MMMF’s sponsor), the MMMF would alert Treasury and then begin liquidating itself in an orderly manner designed to maximize the proceeds. If the return of such proceeds to investors did not result in payment of at least $1.00 per share for shares covered by the Guarantee Program, Treasury would pay an amount necessary to ensure that $1.00 per share was received.

The funding for the Guarantee Program would come from the Exchange Stabilization Fund (ESF), a reserve fund established at Treasury by a provision in the Gold Reserve Act of 1934. The mandate of the ESF was to ensure “orderly exchange arrangements and an orderly system of exchange rates,” but it had been used before to intervene in a financial crisis during the Mexican Peso Crisis of 1994-1995 where, as here, Treasury could not get Congressional approval for providing assistance. The amount of money available under the Guarantee Program was thus limited to what was in the ESF, approximately $50 billion at the time of the Guarantee Program’s inception.

1.3 Outcomes

The Guarantee Program initially met with considerable opposition when it was first proposed to the industry. Concerns included the fear that the Guarantee Program would be used as a pretext for the long-term regulation of the industry, doubt among stronger MMMFs that they needed the protection offered and anxiety about the potential for stigma for those participating. As described in more detail below, the Treasury was able to overcome these concerns and secure widespread involvement by the MMMF industry. At its height, the Guarantee Program included 1,486 MMMFs with $3.2 trillion in assets, or 93% of the assets in the MMMF market as of the September 19, 2008 eligibility cutoff date. This $3.2 trillion figure inflates Treasury’s true exposure, both because only funds invested as of the cutoff date were covered by the Guarantee Program and because a significant percentage of MMMF assets were invested in Treasury securities. As it turned out, Treasury incurred no costs from claims made under the Guarantee Program and collected $1.2 billion in participation fees. While as many as one-third of the top 100 MMMFs experienced declines in NAV that could have caused them to break the buck, in each case the MMMF sponsor intervened to prevent it from happening. The continued willingness of MMMF sponsors to intervene despite the existence of the Guarantee Program likely stems from the perceived negative consequences (including reputational) of the liquidation required in order to make a claim. (Congressional Oversight Panel, 2009).

The Guarantee Program expired on September 18, 2009, having been extended twice after its initial three-month term to reach the full one-year maximum established at the outset of the program. As indicated in Figure 1 below, following the Guarantee Program’s announcement on September 19, 2008 the run on prime MMMFs almost immediately became a walk and by late October had been halted altogether.

The exact effect of the Guarantee Program in producing this result remains somewhat uncertain given that the Federal Reserve (the Fed) announced a second program – the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF) – on the same day that also strengthened MMMFs and may have made investors less likely to run. Under AMLF, eligible borrowers could obtain funds to finance their purchases of high-
quality asset-backed commercial paper from MMMFs. This was intended in part to enhance the ability of MMMFs to sell assets to meet redemptions and thereby reduce the demand for redemptions in the first place. Market participants thus continue to debate which program was more responsible for stopping the run. (Baba et al., 2009).

To learn more about the AMLF, click here: INSERT LINK HERE.

Figure 1: Daily MMMFs Flows by Fund Category

Source: Schmidt et al. (2014)

2 Key Design Decisions

2.1 Only funds with a market-based NAV per share of at least $0.995 as of September 19, 2009 were eligible.

At the time that it was designing the Guarantee Program, Treasury believed that the vast majority of MMMFs were not in danger of breaking the buck and that the purpose of the guarantee should be to protect against things that might happen in future rather than socialize the losses associated with events that had already happened. Thus, Treasury needed to apply an eligibility cutoff that excluded MMMFs that had already sustained losses. The Securities and Exchange Commission (SEC) allows funds to round up from $0.995 to $1.00 in determining whether they are maintaining the targeted $1.00 per share NAV. Treasury adopted this same threshold as its eligibility cutoff for consistency. It did so with the belief that all but a few MMMFs would be eligible using this cutoff.

2.2 Only shares owned as of September 19, 2008 were eligible.

Treasury initially designed the Guarantee Program to cover all shares owned at the time a fund broke the buck. This would have meant that any money shifted to participating...
MMMFs after the announcement of the Guarantee Program would be eligible for the guarantee. Realizing that such a design could trigger a bank run as investors shifted non-insured money such as deposits in excess of the FDIC insurance limit to MMMFs, officials from the Federal Deposit Insurance Corporation contacted Treasury to insist that the Guarantee Program apply only to MMMF shares owned at the time of the Guarantee Program’s announcement on September 19, 2008.

Having been made aware of this bank run risk, Treasury agreed that the Guarantee Program would apply only to MMMF shares owned as of September 19th. As a result, there was no incentive for investors to move money from other sources into MMMFs upon learning about the Guarantee Program. Instead, MMMF investors were encouraged to refrain from running and to keep their existing shares secure in the knowledge that Treasury would protect them from losses.

2.3 The Guarantee Program was designed to last for three months, subject to extension for up to one year by Treasury.

Despite the fact that Treasury intended it to protect the MMMF industry from potentially devastating runs, the Guarantee Program initially met with considerable opposition when it was first proposed to the industry. One of the fears underlying this opposition was the concern that the Guarantee Program would represent a first step toward the long-term regulation of the industry, which had up to that point been lightly regulated. In order to assuage this fear, Treasury made clear from the outset that the Guarantee Program would be of limited duration. This also served to limit Treasury’s exposure under the Guarantee Program and protect US taxpayers.

The specific structure of an initial three-month term with the possibility of extending for up to one year gave Treasury the ability to introduce the program and identify any unforeseen design problems that could then be corrected prior to extension.

2.4 Participating funds had to pay either 1 basis point (if their NAV was at least $0.9975) or 1.5 basis points (if their NAV was at least $0.995) for the initial three-month period, with the aggregate, annualized fee for the Guarantee Program’s full one-year duration either 4 basis points or 6 basis points.

Another source of industry opposition to the proposed guaranteeing of MMMFs was skepticism among stronger MMMFs that they needed the Guarantee Program and an unwillingness to pay to participate in it. Treasury saw universal participation in the Guarantee Program as critical to its success because such participation would lessen concerns about there being stigma associated with involvement in the program. Treasury thus had to set participation fees at a level that protected it financially, but that did not prevent MMMFs from participating. Employing both a “bottom up” approach that calculated participation fees using standard insurance industry methodology of determining probability of loss, cost of loss, etc. and a “top down” approach that looked at what the industry could afford to pay, Treasury set participation fees at either 4 or 6 basis points annually (versus MMMF industry profits
of approximately 10 basis points per year), with lower fees for stronger MMMFs as measured by NAV as of September 19, 2008.

2.5 Funding for the Guarantee Program would have been provided from the ESF, and amounts payable pursuant to the Guarantee Program were limited to what was available in the ESF.

The ESF was an existing pool of money that could be used by Treasury without seeking Congressional approval, and had been used in responding to past financial crises such as the Mexican Peso Crisis of 1994-1995. Given that it appeared unlikely that Congress would provide timely approval for something like the Guarantee Program at this stage in the crisis, Treasury viewed the ESF as the only tool available to it.

2.6 In order to make a claim pursuant to the Guarantee Program, a MMMF would have to liquidate.

Historically there have been a number of MMMFs that would have broken the buck except that their investment company sponsors have intervened to restore the $1.00 per share NAV. Treasury did not want the existence of the Guarantee Program to interfere with this traditional form of sponsor protection. Additionally, Treasury saw its role as the protection of fund investors rather than the funds themselves. Thus, Treasury designed the Guarantee Program to be a form of “death insurance” that would assist the investors in a MMMF that would cease to exist rather than a form of “life insurance” that would help the MMMF remain in business. It was believed that to avoid the consequences of a liquidation (and in particular reputational concerns), MMMF sponsors would do everything possible to assist their funds prior to resorting to the Guarantee Program.

Another significant feature of the liquidation process was that Treasury’s obligations under the Guarantee Program would only occur after an orderly liquidation had taken place and investors had received the proceeds. Thus, a $100 million fund that liquidated for $90 million would distribute the $90 million to investors and then Treasury would provide the $10 million balance. An alternate approach that Treasury specifically rejected in designing the Guarantee Program would have had Treasury pay investors $100 million as soon as the fund broke the buck and then recover $90 million of that amount via liquidation of the fund’s assets. Having Treasury’s obligation under the Guarantee Program occur only after orderly liquidation was intended to preserve the limited funds it had available for the program and not leave it chasing recovery via liquidation.

3 Evaluation

The Guarantee Program is generally seen as having been successful, although its specific role in ending the run on prime MMMFs is difficult to determine with precision given that
the Fed announced the AMLF on the same day and it was also designed to reduce redemptions in MMMFs by restoring investor confidence in the ability of MMMFs to sell assets to meet redemptions. Participation was widespread, with MMMFs representing about 93% of industry assets joining. The Guarantee Program resulted in no actual claims and generated approximately $1.2 billion in participation fees.

Baba et al. (2009) have argued that the mere possibility of the Guarantee Program helped slow the run on prime MMMFs, with the run abating on September 18th (the day prior to the program’s announcement) amid discussion of a guarantee. (Baba et al., 2009). Moreover, the Guarantee Program appears to have significantly reduced redemptions not only among those MMMFs that actually enrolled, but also among peer MMMFs not yet enrolled. This positive spillover effect does not seem to be the result of confusion about the Guarantee Program or which funds were enrolled given that the primary parties who remained with and returned to MMMFs in the wake of the program’s announcement were institutional investors. Rather, there may have been a positive contagion effect whereby stability spread across the system more broadly as the threat posed by a given MMMF was contained upon its enrollment in the Guarantee Program. (Kim, 2013).

The stabilization of MMMFs is seen as having had a positive effect on funding markets. In its report on the Guarantee Program the Congressional Oversight Panel noted that “there is evidence that yields of commercial paper were substantially affected by the financing available in the healthy and stable [MMMF] market buttressed by [the Guarantee Program] and related Federal Reserve initiatives. Commercial paper yields, as measured by spreads over Treasury securities, quickly declined after the program was instituted and remained at low levels for the duration of the program.” (Congressional Oversight Panel, 2009).

References


4 Appendix A - List of Resources

4.1 Summary of Program


4.2 Implementation Documents


- Guarantee Agreement – for use by investment companies that are organized as series companies and whose funds seek to maintain a stable net asset value or share price of $1.00. http://som.yale.edu/sites/default/files/files/Guarantee%20Agreement%2024Aug15%20v1.pdf

- Guarantee Agreement (Single Fund) – for use by investment companies that are “stand alone” MMMFs that are not organized as series companies and whose funds seek to maintain a stable net asset value or share price of $1.00. http://som.yale.edu/sites/default/files/files/Guarantee%20Agreement%20Single%20Fund%2024Aug15%20v1.pdf

- Guarantee Agreement (Stable Value) – for use by investment companies that are organized as series companies and whose funds seek to maintain a stable net asset value or share price of more than $1.00. http://som.yale.edu/sites/default/files/files/Guarantee%20Agreement%20Stable%20Value%2024Aug15%20v1.pdf
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- Guarantee Agreement (Stable Value Single Fund) – for use by investment companies that are “stand alone” MMMFs that are not organized as series companies and whose funds seek to maintain a stable net asset value or share price of more than $1.00. [http://som.yale.edu/sites/default/files/files/Guarantee%20Agreement%20Stable%20Value%20Single%20Fund%2024Aug15%20v1.pdf](http://som.yale.edu/sites/default/files/files/Guarantee%20Agreement%20Stable%20Value%20Single%20Fund%2024Aug15%20v1.pdf)

- Portfolio Schedule Template – for use in disclosing information about the securities held by a fund as required by the Guarantee Agreements. [http://som.yale.edu/sites/default/files/files/Portfolio%20Schedule%20Template%2024Aug15%20v1.xls](http://som.yale.edu/sites/default/files/files/Portfolio%20Schedule%20Template%2024Aug15%20v1.xls)


4.3 Legal/Regulatory Guidance


- IRS Notice 2008-81 – guidance from the IRS that the Guarantee Program does not violate restrictions against federal guarantees of tax-exempt bonds with respect to the tax-exempt bond assets of tax-exempt money market funds which would impair the tax-exempt status of dividends received by their shareholders. [https://www.irs.gov/pub/irs-tege/n-08-81.pdf](https://www.irs.gov/pub/irs-tege/n-08-81.pdf)

- IRS Notice 2008-92 – guidance from the IRS on the tax effects of the Guarantee Program on money market funds whose beneficial interests are held exclusively by one or more segregated asset accounts of one or more insurance companies. [https://www.irs.gov/pub/irs-drop/n-08-92.pdf](https://www.irs.gov/pub/irs-drop/n-08-92.pdf)

4.4 Press Releases/Announcements

4 APPENDIX A - LIST OF RESOURCES


• Treasury Announces Conclusion of Enrollment Period for Temporary Money Market Guarantee Program and Technical Correction (10/08/2008) – Treasury press release announcing the correction of a technical error that had previously excluded funds that seek to maintain a stable net asset value or share price of more than $1.00 from the Guarantee Program. https://www.treasury.gov/press-center/press-releases/Pages/hp1188.aspx


4.5 Media Stories


4.6 Key Academic Papers

• US Dollar Money Market Funds and Non-US Banks (Baba et al., 2009) – analyzes the role of money market funds in meeting the need of European banks for US dollars, how the collapse of Lehman undid this role, and how the Guarantee Program was one of the
programs that succeeded in restoring this role. [http://www.bis.org/publ/qtrpdf/r_qt0903g.pdf](http://www.bis.org/publ/qtrpdf/r_qt0903g.pdf)


- Runs on Money Market Mutual Funds (Schmidt et al., 2014) – studies daily money market mutual fund flows at the individual share class level during financial crisis. [http://econweb.ucsd.edu/~lschmidt/Schmidt_Timmermann_Wermers.pdf](http://econweb.ucsd.edu/~lschmidt/Schmidt_Timmermann_Wermers.pdf)

### 4.7 Reports/Assessments


### 5 Appendix B - Road Map

The following is a list of key questions to be asked and steps to be undertaken in order to implement a program similar to the Temporary Guarantee Program for Money Market Funds (the Guarantee Program), i.e., one intended to guarantee the value of a fund so that investors do not run from that fund.

#### 5.1 Key Questions

1. **Does the agency have the authority to set up such a program?**
   
   i) What is the basis of this authority?
   
   ii) What particular elements/terms must be satisfied to fit within the authority?
   
   iii) Once designed, have all required elements been satisfied?
iv) Guarantee Program – established pursuant to existing authority granted to the United States Treasury (Treasury) in connection with its management of the Exchange Stabilization Fund (ESF)

2. What will be the source of funding for the operating expenses of the program and for any guarantee payments that ultimately have to be made?
   i) Are any approvals or procedures necessary to obtain the funding?
   ii) Will there be a limit on the funding?
   iii) Guarantee Program – funding to be provided by the ESF and therefore limited to the amount in the ESF ( $50 billion)

3. Who will be eligible for the guarantee?
   i) Who will have the ability to apply to participate in the guarantee – individual investors in the fund or the fund itself?
   ii) Is the guarantee intended to provide assistance for funds that are already in trouble/get into trouble in the future or assistance only for funds that get into trouble in the future?
   iii) Will the guarantee protect all amounts invested as of the date the protection is needed or only those amounts invested as of the program announcement?
   iv) Guarantee Program
      I) Funds must apply to participate in the guarantee (individual investors cannot)
      II) Assistance only for funds that get into trouble in the future. Eligible funds must have a net asset value (NAV) of at least $0.995 as of the program announcement (i.e., not already have broken the buck)
      III) Protection only for amounts invested as of the program announcement. Protection of all funds could have triggered a post-announcement run from non-insured accounts (e.g., bank deposits in excess of the FDIC insurance limit) to money market mutual funds (MMMFs)

4. How long will the guarantee last?
   i) Will there be a fixed expiration date that can/cannot be extended?
   ii) Guarantee Program
      I) Short term given desire to limit taxpayer exposure and need to overcome industry concerns about long-term regulation of MMMFs
      II) Initially designed to last three months, subject to extension for up to one year. Initial three month term allows for trial period during which problems with program design can be identified and corrected prior to extension

5. How much will it cost to participate in the guarantee?
i) Will the participation fee be “bottom up” (typical insurance industry approach of calculating probability of loss, cost of loss, etc.) or “top down” (based on industry profit margins so that it is not prohibitively expensive to participate)?

ii) Will the fee be the same for all participants or vary by participant?

iii) Will the fee remain the same throughout the program or vary over time?

iv) Guarantee Program
   I) Combined both bottom up and top down approaches
   II) Initial fee of 1.0-1.5 basis points per quarter (depending on fund NAV) given annual industry profit margin of approximately 10.0 basis points
   III) Fees raised for subsequent extensions covering longer periods of time, but aggregate annualized fee for program duration was 4.0-6.0 basis points

6. **What information will be disclosed about the program’s operations and fund participation?**

   i) Are there existing reporting/disclosure requirements that apply specifically or generally to the program?

   ii) What other information will be disclosed about the program’s operations and fund participation and when?

   iii) Guarantee Program
       I) Intended to stop the run on MMMFs, so disclosure of Guarantee Program’s existence and funds’ involvement in it critical
       II) Click here to see FINRA guidance on how funds should disclose their participation in the Guarantee Program

7. **How will the agency ensure that participation in the guarantee is widespread enough for it to work (e.g., that there is no stigma to participating, that enough funds participate to stop the run, etc.)?**

   i) Does the agency have the authority to mandate participation in the guarantee?

   ii) What are the obstacles to participation in the guarantee and how can they be addressed?

   iii) Does the agency have other forms of leverage in dealing with potential participants?

   iv) Guarantee Program
       I) Designed to overcome specific industry objections – short term (to reduce fear of long-term regulation of industry) with fees set based on industry profit margins (so as not to be prohibitively expensive)
5.2 Implementation Steps

1. Develop description of the program, including legal authority, source of funding, purpose, eligibility requirements, duration, fees, etc. and seek input from industry and other stakeholders

2. If necessary, seek approval for program, funding, etc.

3. Draft detailed terms and conditions and frequently asked questions. Click on the links to see the Guarantee Program’s Term Sheet, FAQ and Technical FAQ

4. Draft legal documents required for establishing the program and participating in it. Click on the links to see the Guarantee Program’s base Guarantee Agreement, First Extension documentation and Second Extension documentation

5. Develop a template for program data collection. Click on the link to see the Guarantee Program’s Portfolio Schedule Template

6. Develop instructions for completing the documentation necessary to participate in the program. Click on the link to see the Guarantee Program’s Instructions for Execution and Delivery of Guarantee Agreement