

# MONEY MARKET FUNDS AND THE 2020 COVID CRISIS



MAY 2021





# COMMITTEE ON CAPITAL MARKETS REGULATION



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**Money Market Funds  
and the 2020 COVID Crisis**





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## Executive Summary

This report by the Committee on Capital Markets Regulation (the “**Committee**”) examines the role of money market funds (“**MMFs**”) in the March 2020 COVID crisis and sets forth reforms that would enhance the liquidity of MMFs that primarily invest in short-term private debt securities (“**prime MMFs**”). The Committee’s recommendations are intended to significantly reduce the likelihood that government intervention to support prime MMFs will be necessary in a future crisis.

Prime MMFs played a central role in the 2008 financial crisis and again played a part in the 2020 COVID crisis. During the 2008 crisis, prime MMFs experienced a widespread run by investors. Prime MMFs that are held by institutional investors (“**institutional prime MMFs**”) experienced larger and faster withdrawals than prime MMFs held by retail investors (“**retail prime MMFs**”). In order to halt the run, the U.S. Treasury Department guaranteed investments in MMFs and the Federal Reserve created a liquidity facility for MMFs.

Following the 2008 crisis, prime MMFs were subject to new regulations to prevent a similar event from recurring. The Securities and Exchange Commission (“**SEC**”) required that prime MMFs hold a liquidity buffer of 30% of assets invested in cash, private debt securities that mature within one week, and certain short-term government debt securities. Also, the boards of prime MMFs were provided the authority to impose fees and gates on retail and institutional investors if a MMF’s liquid assets fell below the 30% minimum. Institutional prime MMFs were further required to adopt a floating net asset value (“**NAV**”), meaning that MMF shares would be priced and redeemed based on the fair market value of assets.

However, prime MMFs again experienced significant investor withdrawals during the 2020 COVID crisis, predominantly from institutional prime MMFs. The Federal Reserve intervened to provide liquidity to MMFs, but the Treasury Department did not guarantee MMFs. Following the 2020 crisis, there is widespread agreement among policymakers that the recent regulatory reforms failed at making prime MMFs sufficiently resilient against future crises. In this report, we set forth reforms to enhance their resiliency.

We begin Part I by providing an overview of the regulation of MMFs and trends in assets under management (“**AUM**”) by MMFs. We also describe the role of prime MMFs in providing short-term funding to the financial system. In Part II, we provide an overview of the role of prime MMFs in the 2008 and 2020 crises, including the size of withdrawals and government support provided by the Federal Reserve and U.S. Treasury Department. We identify key differences between the two crises that indicate the prime MMFs were better positioned to withstand the 2020 crisis than the 2008 financial crisis. For example, prime MMFs had lower credit risk and higher liquidity buffers in 2020 than in 2008. Withdrawals from prime MMFs in 2020 were also half the size of withdrawals in 2008 and Federal Reserve lending to MMFs was lower in 2020 than it was in 2008. There also was not a government guarantee of MMFs in 2020 as there was in 2008.

In Part III, we examine the cause of the withdrawals on prime MMFs in 2020. We find that institutional investors withdrew from prime MMFs in order to avoid liquidity fees and gates that could be imposed on investors when a prime MMF’s buffer of liquid assets falls below the 30% minimum. We also consider the risk that prime MMFs could pose for the financial system and

evidence from the 2020 crisis indicating whether that risk materialized. We find that individual financial institutions and non-financial companies only rely on prime MMFs for a small amount of their funding and that the loss of such funding is highly unlikely to cause their insolvency. We also find no evidence to support that withdrawals from prime MMFs triggered a broader run in short-term funding markets during the 2020 crisis.

In Part IV, we evaluate policy reforms to prime MMFs that would enhance their resiliency and reduce the likelihood of future government support. We begin by evaluating whether prime MMFs should be abolished. We find that doing so would not eliminate the contagion risk associated with uninsured wholesale short-term funding of which prime MMFs represent only a very small share. Prohibiting prime MMFs would also have unclear effects on financial stability as institutional investors could shift their assets to less-regulated alternatives. Abolishing prime MMFs could also have unintended consequences, including increasing funding costs for issuers of short-term debt and reducing returns for investors in prime MMFs. We therefore do not support abolishing prime MMFs.

We then set forth recommendations for enhancing the resiliency of prime MMFs. The 2020 crisis demonstrated that prime MMFs' liquidity buffers did not function as intended. Investors in prime MMFs treated the 30 percent minimum as a floor, because breaching that minimum provided MMF boards with the authority to restrict or apply a fee to withdrawals. The SEC can therefore reduce the incentive of investors to withdraw by simply eliminating liquidity fees and gates thereby allowing prime MMFs to use their liquidity buffers to meet investor withdrawals. We further recommend that the SEC enhance the quality of prime MMFs' liquidity buffers to promote investor confidence in the ability of prime MMFs to withstand market stress. One way that the SEC could do so is by requiring that prime MMFs hold 25-50% of their weekly liquidity buffer in short-term U.S. government securities, including U.S. government agency securities.

Next, we examine proposals to impose capital buffers on prime MMFs. We find that capital requirements would substantially increase the cost of operating prime MMFs, which would likely prevent sponsors from offering such funds. Even if sponsors continued to offer prime MMFs with capital requirements, it is not clear that capital buffers against losses would meaningfully reduce the incentive of investors to withdraw in a crisis. We therefore do not support capital buffers for prime MMFs. Finally, we consider swing pricing proposals for prime MMFs. Swing pricing authorizes prime MMFs to impose additional fees on redeeming investors, typically after a certain withdrawal threshold based on total AUM is met (e.g., such as 10% of total AUM are withdrawn from a fund). We find that swing pricing would be impractical to implement for prime MMFs as doing so would prevent same-day settlement--a key feature for institutional investors in prime MMFs. Swing pricing would also be ineffective at reducing the incentive of investors to withdraw in a crisis. We therefore do not support swing pricing for prime MMFs.

## Part I: Overview of MMFs: Regulation, Trends in AUM and Role in Short-Term Funding

### A. Regulation

Money market funds (“MMFs”) are a type of mutual fund registered under the Investment Company Act of 1940 (the “Act”), and since 1983, regulated under Securities and Exchange Commission (“SEC”) Rule 2a-7 of the Act.<sup>1</sup> MMFs invest in short-term, high-quality debt securities and seek to preserve capital while offering investors a diversified portfolio with low-risk returns and daily liquidity (with some MMFs offering intraday liquidity).<sup>2</sup>

There are three types of money market funds. Government money market funds invest 99.5% or more of their total assets in cash, government securities and/or repurchase agreements that are fully collateralized with government securities.<sup>3</sup> Prime money market funds invest primarily in private debt instruments issued by non-financial companies and banks, including commercial paper and certificates of deposit, in addition to government debt.<sup>4</sup> And finally, tax-free or municipal MMFs invest primarily in municipal debt and offer tax-exempt income to shareholders.<sup>5</sup>

Each of these three types of MMFs can be further bifurcated based on whether they are offered exclusively to retail investors or offered to institutions.<sup>6</sup> Institutional MMFs currently account for about two-thirds of the assets under management (“AUM”) in MMFs.<sup>7</sup>

Unlike other investment companies, government MMFs, tax-exempt funds and retail prime funds seek to maintain a stable Net Asset Value (“NAV”) of \$1.00.<sup>8</sup> However, a MMF’s \$1.00 share price is not government guaranteed and MMFs must publicly state that their shares can lose value.<sup>9</sup> MMFs with a stable NAV can use amortized cost accounting when valuing their assets.<sup>10</sup> Amortized cost accounting facilitates the maintenance of a stable NAV because it permits stable NAV MMFs to value their assets at the amount paid for the investments rather than at fair market

<sup>1</sup> 17 C.F.R. § 270.2a-7. See also INVESTMENT COMPANY INSTITUTE, *Investment Company Fact Book*, 60<sup>th</sup> Edition, 300 (2020), [https://www.ici.org/pdf/2020\\_factbook.pdf](https://www.ici.org/pdf/2020_factbook.pdf) [“ICI Fact Book”].

<sup>2</sup> See U.S. SEC. & EXCH. COMM’N, *Money Market Funds* (2021), [https://www.blackrock.com/cash/literature/investment-guide/operational-guide-to-cash-investing.pdf](https://www.investor.gov/introduction-investing/investing-basics/investment-products/mutual-funds-and-exchange-traded-5#:~:text=Government%20money%20market%20funds%20are, collateralized%20fully%20with%20government%20securities; BLACKROCK, <i>Operational guide to cash investing: BlackRock U.S. Money Market Funds</i> (2020), <a href=);

<sup>3</sup> 17 C.F.R. § 270.2a-7(a)(14); ICI Fact Book, *supra* note 1, at 298.

<sup>4</sup> ICI Fact Book, *supra* note 1, at 301.

<sup>5</sup> FIDELITY, *What are money market funds?* (2021), <https://www.fidelity.com/learning-center/investment-products/mutual-funds/what-are-money-market-funds>.

<sup>6</sup> The SEC defines “retail” as as natural persons. 17 C.F.R. § 270.2a-7(a)(14); ICI Fact Book, *supra* note 1, at 298, 302.

<sup>7</sup> INVESTMENT COMPANY INSTITUTE, *Money Market Fund Assets* (February 24, 2021), <https://www.ici.org/research/stats/mmf/>.

<sup>8</sup> 17 C.F.R. § 270.2a-7(c)(1)(i).

<sup>9</sup> SEC Reform (2014), *infra* note 21, at 47816.

<sup>10</sup> 17 C.F.R. § 270.2a-7(c)(1)(i).

value.<sup>11</sup> Amortized cost accounting only requires a readjustment to the value of assets if there is an event that jeopardizes the repayment expectation, such as a default by an issuer.<sup>12</sup> Institutional prime MMFs, on the other hand, must value their assets based on fair market value and as a result they generally do not maintain a stable NAV of \$1.00.<sup>13</sup> The “floating NAV” requirement for institutional prime MMFs is described in further detail later in this section.

*i. 2010 Liquidity Rules for MMFs*

In February 2010, the SEC amended Rule 2a-7 to significantly increase the liquidity of MMFs.<sup>14</sup> The SEC adopted liquidity reforms to MMFs in order to reduce the risk of another run on prime MMFs as experienced in 2008 and described in further detail in **Part II** of this report.<sup>15</sup>

The SEC enhanced the liquidity of MMF portfolios in three key ways. First, the SEC reduced the maximum permitted weighted average portfolio maturity of MMFs from 90 days to 60 days.<sup>16</sup> Second, as shown by **Table 1** below, the SEC required that MMFs invest at least 10% of their portfolios in “daily liquid assets,” including cash, U.S. government securities, and other securities that provide the holder the right to demand payment within one day.<sup>17</sup> And third, the SEC required MMFs to hold 30% of their portfolio in “weekly liquid assets,” which include daily liquid assets, U.S. government agency discount notes maturing in 60 days or less, and other private debt securities maturing within five business days, as also shown in **Table 1**.<sup>18</sup> Critically, these daily and weekly liquidity buffers are meant to be available to be drawn down in a crisis to allow MMFs to meet investor withdrawals.<sup>19</sup>

**Table 1: Liquid Assets**<sup>20</sup>

Daily Liquid Assets	Weekly Liquid Assets
Cash (including demand deposits at banks)	Daily liquid assets (see column at left)
Direct obligations of the U.S. government (primarily U.S. Treasury bills, notes, and bonds).	Government agency discount notes with remaining maturities of 60 days or less.
Securities that will mature or are subject to a demand feature that is exercisable and payable within one business day (including commercial paper and certificates of deposit).	Securities that will mature or are subject to a demand feature that is exercisable and payable within five business days (including commercial paper and certificates of deposit).
Receivables scheduled to be paid within one business day.	Receivables scheduled to be paid within five business days.

<sup>11</sup> Dennis R. Beresford, *Amortized Cost is “Fair” for Money Market Funds*, CENTER FOR CAPITAL MARKETS COMPETITIVENESS, 3 (Fall 2012), [http://www.centerforcapitalmarkets.com/wp-content/uploads/2010/04/Money-Market-Funds\\_FINAL.layout.pdf](http://www.centerforcapitalmarkets.com/wp-content/uploads/2010/04/Money-Market-Funds_FINAL.layout.pdf).

<sup>12</sup> *Id.*

<sup>13</sup> 17 C.F.R. § 270.2a-7(c)(1)(ii).

<sup>14</sup> U.S. SEC. & EXCH. COMM’N, *Money Market Fund Reform*, 75 FED. REG. 10059 (March 4, 2010), <https://www.federalregister.gov/documents/2010/03/04/2010-4059/money-market-fund-reform> [“**SEC Reform (2010)**”].

<sup>15</sup> CCMR, *What to Do About Contagion? A Call By The Committee on Capital Markets Regulation for a Public Debate*, 23 (Sept. 2014), <https://www.capmktreg.org/wp-content/uploads/2018/10/What-to-do-About-Contagion.pdf>.

<sup>16</sup> 17 C.F.R. § 270.2a-7(a)(8), (d)(1)(ii).

<sup>17</sup> 17 C.F.R. § 270.2a-7(a)(8), (d)(4)(ii).

<sup>18</sup> 17 C.F.R. § 270.2a-7(a)(28), (d)(4)(iii).

<sup>19</sup> See SEC Reform (2010), *supra* note 14, at 10062 (describing the new MMF requirements as “liquidity buffers that will help them withstand sudden demands for redemptions.”).

<sup>20</sup> 17 C.F.R. § 270.2a-7(a)(8), (28).

ii. *Additional 2014 Reforms to Prime MMFs*

In 2014, the SEC finalized additional reforms to prime MMFs to further reduce the risk of investor runs.<sup>21</sup> These reforms include the authorization of liquidity fees and gates for prime MMFs and a floating NAV requirement for institutional prime MMFs.<sup>22</sup> The SEC allowed for a two-year transition period, so the rules came into effect in 2016.<sup>23</sup>

The 2014 reforms authorized boards of prime MMFs (including retail and institutional funds) to impose liquidity (redemption) fees of up to 2 percent or to suspend redemptions for up to ten days if the fund's weekly liquid assets fall below the 30 percent weekly liquid asset requirement.<sup>24</sup> Liquidity fees are intended to provide investors continued access to cash redemptions but reduce the incentive to redeem because of the increased cost of doing so.<sup>25</sup> Liquidity gates prevent redemptions altogether and thereby allow MMFs to temporarily avoid a potentially costly fire-sale of assets.<sup>26</sup>

The 2014 reforms also require institutional prime MMFs to value their portfolio securities at fair market value rather than amortized cost accounting and require institutional prime MMFs to sell and redeem their shares based on a floating NAV.<sup>27</sup> The floating NAV must be priced to the fourth decimal place or 1/100<sup>th</sup> of a basis point, so \$1.0000.<sup>28</sup> In other words, the 2014 reforms prohibited institutional prime MMFs from using the special pricing and valuation conventions that permitted them to maintain a constant share price of \$1.00.<sup>29</sup> The floating NAV requirement is intended to prevent investors from redeeming at a stable share price of \$1.00 when the fair market value of an institutional prime MMF's portfolio has fallen below \$1.00.<sup>30</sup> Instead, investors in institutional prime MMFs are only able to receive cash withdrawals in the same amount as the fair market value of the fund's assets.<sup>31</sup> The floating NAV is also intended to make it more transparent to investors that they bear the risk of loss.<sup>32</sup>

However, MMF investors still have an incentive to redeem early during periods of market stress as they may fear that withdrawals by other investors will result in the depletion of the MMF's highest quality assets or that the MMF will incur future losses. Floating NAVs therefore do not forestall the possibility of large withdrawals from prime MMFs during market stress.

<sup>21</sup> U.S. SEC. & EXCH. COMM'N, *Money Market Fund Reform; Amendments to Form PF*, 79 FED. REG. 47735 (Aug. 14, 2014), <https://www.federalregister.gov/documents/2014/08/14/2014-17747/money-market-fund-reform-amendments-to-form-pf> ["SEC Reform (2014)"].

<sup>22</sup> CCMR, *What to Do About Contagion? A Call By The Committee on Capital Markets Regulation for a Public Debate*, 23 (Sept. 2014), <https://www.capmksreg.org/wp-content/uploads/2018/10/What-to-do-About-Contagion.pdf>.

<sup>23</sup> SEC Reform (2014), *supra* note 21, at 47775.

<sup>24</sup> 17 C.F.R. § 270.2a-7(c)(2).

<sup>25</sup> SEC Reform (2014), *supra* note 21, at 47747-47748.

<sup>26</sup> SEC Reform (2014), *supra* note 21, at 47747-47748.

<sup>27</sup> SEC Reform (2014), *supra* note 21, at 47775.

<sup>28</sup> 17 C.F.R. § 270.2a-7(1)(ii).

<sup>29</sup> SEC Reform (2014), *supra* note 21, at 47775.

<sup>30</sup> SEC Reform (2014), *supra* note 21, at 47773-47774.

<sup>31</sup> SEC Reform (2014), *supra* note 21, at 47773-47774.

<sup>32</sup> SEC Reform (2014), *supra* note 21, at 47775.

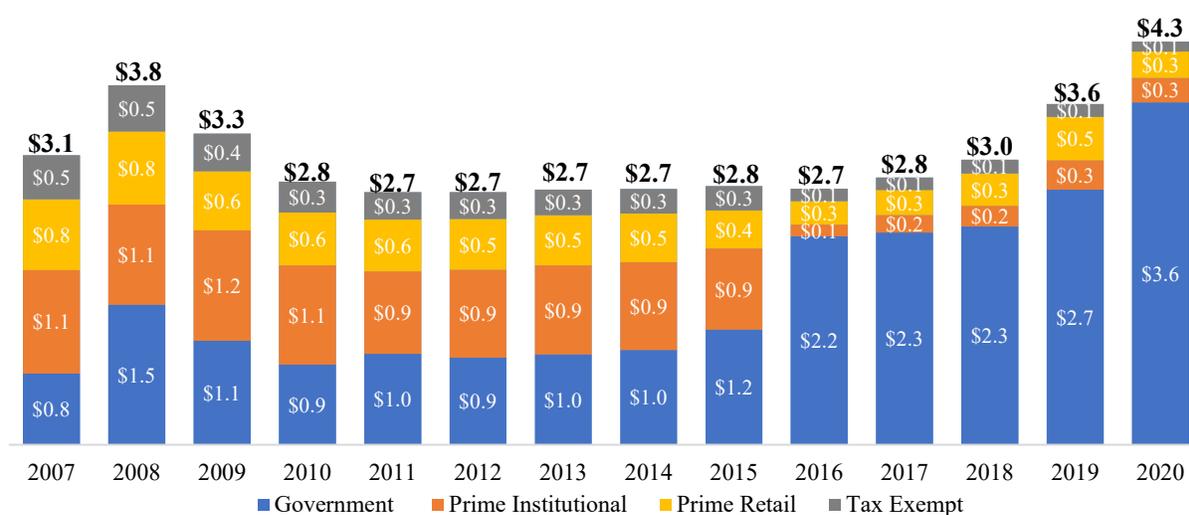
**B. MMF Assets – Size and Trends**

**Figure 1** provides an overview of trends in assets under management (“AUM”) by MMFs from 2007 to year-end 2020.

From 2007-2014, prime MMFs constituted the majority of total AUM by MMFs. However, following the implementation of liquidity fees and gates for prime MMFs and a floating NAV requirement for institutional prime MMFs in 2016, total AUM by prime MMFs quickly fell by 70% to a record low of \$400 billion. The AUM by government MMFs also nearly doubled in 2016 to \$2.2 trillion as institutional investors shifted out of prime MMFs and into government MMFs that could still offer a stable NAV and were not subject to liquidity fees and gates.<sup>33</sup>

As of year-end 2020, government MMFs accounted for \$3.6 trillion in assets (84% of all MMF assets), prime MMFs held \$600 billion total assets (14% of all MMF assets), and the remaining 2% of MMF assets were in tax-exempt MMFs. We note that total AUM in prime MMFs at the year-end 2020 were approximately one-third of their total AUM during the 2008 financial crisis.

**Figure 1: 2007-2020 U.S. MMF Assets by Fund Type, 2007-2020 (\$T)** <sup>34</sup>



<sup>33</sup> See generally Catherine Chen, Marco Cipriani, Gabriele La Spada, Philip Mulder, Neha Shah, *Money Market Funds and the New SEC Regulation*, FEDERAL RESERVE BANK OF NEW YORK (March 20, 2017), <https://libertystreeteconomics.newyorkfed.org/2017/03/money-market-funds-and-the-new-sec-regulation.html>; Viktoria Baklanova, Isaac Kuznits, Trevor Tatum, *Primer: Money Market Funds and the Commercial Paper Market*, U.S. SEC. & EXCH. COMM’N (Feb. 4, 2021), <https://www.sec.gov/files/primer-money-market-funds-commercial-paper-market.pdf>.

<sup>34</sup> INVESTMENT COMPANY INSTITUTE, *Statistics* (2021), <https://www.ici.org/statistics> [“ICI Data”].

**C. The Role of Prime MMFs in Short-Term Funding Markets**

Based in part on data from the Investment Company Institute (“ICI”), **Table 2** on the next page provides an overview of the role of prime MMFs’ investments in certain U.S. short-term assets as of June 2020, including U.S. Treasury bills, repurchase agreements on U.S. Treasuries, commercial paper (including financial and non-financial commercial paper) and certificates of deposit. It demonstrates the total dollar value of prime MMFs holdings for each type of asset, as well as the percentage share owned by prime MMFs.

As of June 2020, prime MMFs held 5% or less of total outstanding short-term U.S. Treasuries, U.S. agency debt and repurchase agreements. Prime MMFs represent a larger share of outstanding commercial paper (21%) and certificates of deposit (13%).

Security type	Total amount outstanding (\$B)	Prime (\$B)		Prime (% of total outstanding)	
		Retail	Institutional	Retail	Institutional
Taxable short-term assets	\$13,762	\$413	\$275	3%	2%
Short-term US Treasuries <sup>1</sup>	\$7,141	\$143	\$0	2%	0%
Repurchase agreements <sup>2</sup>	\$2,425	\$49	\$73	2%	3%
Short-term US agency debt <sup>3</sup>	\$938	\$19	\$0	2%	0%
Commercial paper <sup>4</sup>	\$1,007	\$121	\$91	12%	9%
Certificates of deposit <sup>5</sup>	\$1,753	\$123	\$105	7%	6%
Eurodollar deposits <sup>6</sup>	\$497	\$0	\$0	0%	0%

**Table 3** shows that prime MMFs total dollar holdings as well as total share owned of commercial paper and certificates of deposit are substantially reduced from end-2007. At end-2007, prime MMFs held 37% of outstanding commercial paper and 18% of certificates of deposit.

Security type	Total amount outstanding (\$B)	Prime (\$B)		Prime (% of total outstanding)	
		Retail	Institutional	Retail	Institutional
Commercial paper	\$1,786	\$274	\$400	15%	22%
Certificates of deposit	\$2,015	\$150	\$219	7%	11%

<sup>35</sup> INVESTMENT COMPANY INSTITUTE, *Report of the COVID-19 Market Impact Working Group: Experiences of US Money Market Funds During the COVID-19 Crisis*, Figure 3.3 (November 2020), <https://www.sec.gov/comments/credit-market-interconnectedness/cil10-8026117-225527.pdf>; SEC Form N-MFP; FEDERAL RESERVE SYSTEM, *Financial Accounts of the United States - Z.1* (2021), <https://www.federalreserve.gov/releases/z1/default.htm>.

<sup>36</sup> ICI Data, *supra* note 34; FEDERAL RESERVE SYSTEM, *Financial Accounts of the United States - Z.1* (2021), <https://www.federalreserve.gov/releases/z1/default.htm>.

## Part II: Assessing the Role of Prime MMFs in the 2008 and 2020 Crises

### A. MMFs During the 2008 Financial Crisis

**Figure 2** on the next page illustrates the run on prime MMFs during the 2008 financial crisis and the subsequent interventions by the Federal Reserve and U.S. Treasury Department to stop the run.

During September 2008, prime MMFs experienced \$386 billion in total outflows—or approximately 19% of total AUM. As demonstrated by **Figure 2**, withdrawals from prime MMFs began on Friday, September 12<sup>th</sup> and intensified on Monday, September 15<sup>th</sup> when Lehman Brothers filed for bankruptcy.<sup>37</sup> The run on prime MMFs further accelerated on Tuesday, September 16<sup>th</sup> when the Reserve Primary Fund, the largest prime MMF, “broke the buck”(i.e., its NAV fell below \$1.00) due to the fact that the Reserve Primary Fund owned commercial paper issued by Lehman Brothers that was in default.<sup>38</sup>

On Friday, September 19<sup>th</sup>, the Federal Reserve announced the implementation of the Asset-Backed Commercial Paper Money Market Fund Liquidity Facility (the “**AMLF**”), which financed bank purchases of asset-backed commercial paper from MMFs, and became operational on September 22<sup>nd</sup>.<sup>39</sup> This slowed the run on prime MMFs but, as demonstrated by **Figure 2** below, withdrawals continued until the U.S. Treasury Department announced on September 29<sup>th</sup> that it would guarantee all investments in MMFs through the Exchange Stabilization Fund (the “**ESF**”).<sup>40</sup>

During the 2008 crisis, outflows from institutional prime MMFs accounted for the vast majority of outflows from prime MMFs—approximately 92 percent or \$354 billion—while government MMFs experienced large inflows.

<sup>37</sup> Jill E. Fisch, *The Broken Buck Stops Her Here: Embracing Sponsor Support in Money Market Fund Reform*, 93 N.C. L. Rev. 935 (2015),

[https://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=2324&context=faculty\\_scholarship](https://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=2324&context=faculty_scholarship).

<sup>38</sup> Marco Cipriani, Michael Holscher, Antoine Martin, Patrick E. McCabe, *Money Market Funds and Systemic Risk*, FEDERAL RESERVE BANK OF NEW YORK: LIBERTY STREET ECONOMICS (June 11, 2012),

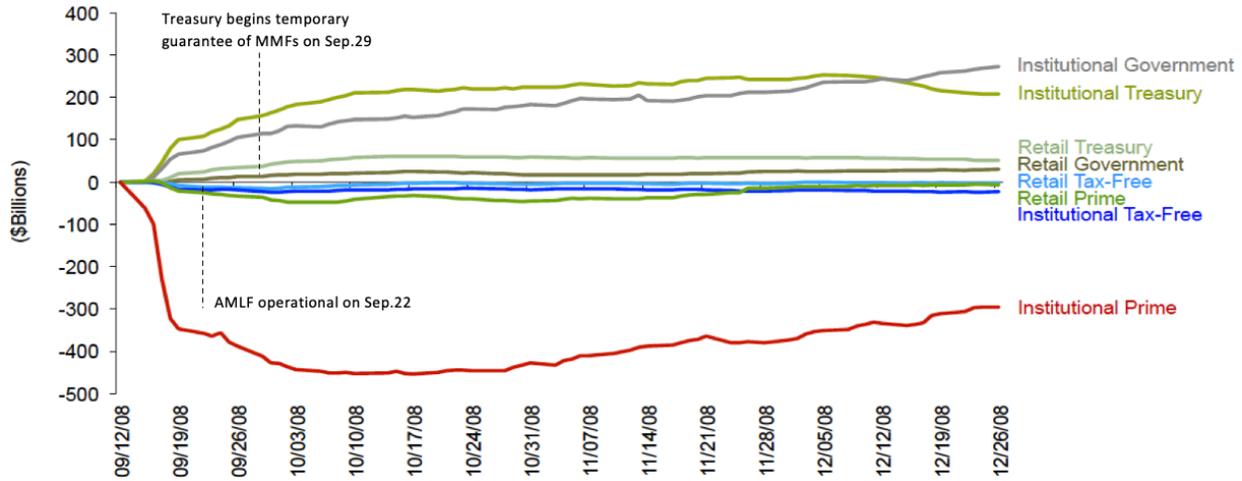
<https://libertystreeteconomics.newyorkfed.org/2012/06/money-market-funds-and-systemic-risk.html>.

<sup>39</sup> Naohiko Baba, Robert N McCauley, Srichander Ramaswamy, *US dollar money market funds and non-US banks*, BANK FOR INTERNATIONAL SETTLEMENTS, 74-79 (March 2009), [https://www.bis.org/publ/qtrpdf/r\\_qt0903g.pdf](https://www.bis.org/publ/qtrpdf/r_qt0903g.pdf); FEDERAL RESERVE SYSTEM, *Federal Reserve Board announces two enhancements to its programs to provide liquidity to markets* (Sept. 19, 2008),

<https://www.federalreserve.gov/newsevents/pressreleases/monetary20080919a.htm>.

<sup>40</sup> U.S. DEPT. OF TREASURY, *Treasury Announces Temporary Guarantee Program for Money Market Funds* (Sept. 29, 2008), <https://www.treasury.gov/press-center/press-releases/pages/hp1161.aspx>.

**Figure 2: U.S. MMF Asset Flows during 2008 Crisis** <sup>41</sup>



**B. MMFs During the March 2020 COVID Crisis**

**Figure 3** illustrates the withdrawals on prime MMFs during the March 2020 COVID crisis and the Federal Reserve intervention to halt investor withdrawals.

During March 2020, prime money market funds saw total outflows of \$139 billion or 17% of total assets.<sup>42</sup> As illustrated by **Figure 3**, Prime MMFs experienced \$86 billion in outflows from March 11<sup>th</sup> to March 18<sup>th</sup>. The Federal Reserve then announced on March 18<sup>th</sup> that it would create the Money Market Fund Liquidity Facility (the “MMLF”) to provide liquidity to MMFs.<sup>43</sup> Although the pace of withdrawals from prime MMFs immediately slowed, an additional \$53 billion was withdrawn from prime MMFs from March 18<sup>th</sup> to March 23<sup>rd</sup>. Withdrawals from prime MMFs stopped after the MMLF launched on March 23<sup>rd</sup>.<sup>44</sup>

Similar to 2008, **Figure 3** below further shows that withdrawals from prime MMFs were primarily from institutional prime MMFs (\$91 billion) rather than from retail prime MMFs (\$48 billion) and that government MMFs experienced large inflows from investors during the 2020 COVID crisis.

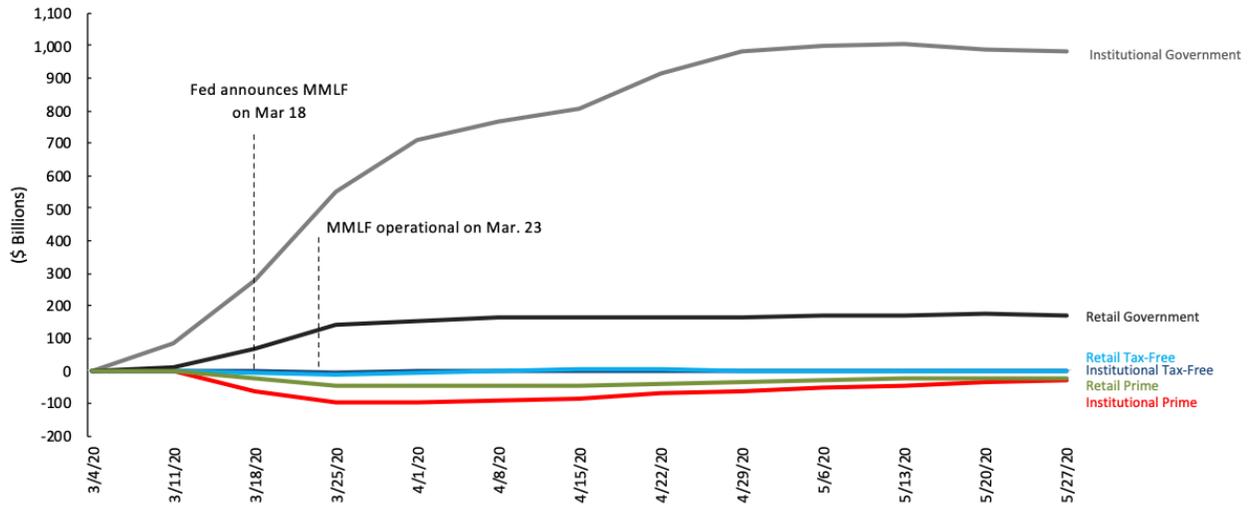
<sup>41</sup> IMONEYNET, *Money Market Mutual Funds Asset Flows* (July 29, 2013), available at <http://www.imoney.net.com>.

<sup>42</sup> ICI Data, *supra* note 34.

<sup>43</sup> FEDERAL RESERVE SYSTEM, *Money Market Mutual Fund Liquidity Facility* (April 12, 2021), <https://www.federalreserve.gov/monetarypolicy/mmlf.htm>.

<sup>44</sup> COMMITTEE ON CAPITAL MARKETS REGULATION, *Treasury and Fed Lending Programs: An Assessment and Call for Continued Support for SMEs*, 2 (Dec. 2020), <https://www.capmksreg.org/wp-content/uploads/2020/12/CCMR-Report-Treasury-Fed-Programs-Assessment-and-Recommendations-12.29.2020.pdf>

Figure 3: U.S. MMF Asset Flows During 2020 Crisis<sup>45</sup>



<sup>45</sup> ICI Data, *supra* note 34.

### C. Key Differences Between the Role of MMFs in the 2008 and 2020 Crises

In this section we describe key differences between the role of prime MMFs in the 2008 financial crisis as compared to the role of prime MMFs during the 2020 COVID crisis.<sup>46</sup> We conclude that prime MMFs in 2020 faced less credit risk than prime MMFs in 2008 and were also more liquid. The run on prime MMFs in 2008 was also larger than withdrawals from prime MMFs in 2020, and substantially more government support to prime MMFs was provided in 2008 than in 2020.<sup>47</sup> These differences indicate that prime MMFs were better positioned going into the 2020 COVID crisis than they were going into the 2008 financial crisis.

First, in 2008, prime MMFs experienced losses on their investments after Lehman Brothers failed.<sup>48</sup> There was also widespread concern that other major financial institutions were insolvent and that other short-term debt securities held by prime MMFs would be further impaired.<sup>49</sup> Prime MMFs were also heavily invested in the asset backed commercial paper market,<sup>50</sup> which largely consisted of commercial paper backed by subprime loans that were in default. Prime MMFs therefore faced significant credit risk and incurred actual losses in 2008. However, in 2020, the issuers of commercial paper and other short-term assets held by prime MMFs did not default on their obligations or go into bankruptcy as Lehman Brothers did in 2008. Nor was there similar widespread concern (as there was in 2008) that issuers of the short-term debt securities held by prime MMFs would default. Indeed, Li et al. (2020) find that credit risk concerns were not a factor in investor withdrawals in 2020.<sup>51</sup>

Prime MMFs were also more liquid in 2020 than they were in 2008 meaning that prime MMFs were better positioned to meet investor withdrawals in 2020 than in 2008. For example, in 2020, the weighted average maturity of prime MMFs portfolios was 35 days and in 2008 it was 46 days (a portfolio with a shorter maturity is more liquid).<sup>52</sup> Furthermore, in 2020, over 40% of prime MMF assets were invested in weekly liquid assets. Prior to the 2008 crisis, prime MMFs held less than 30% of assets in weekly liquid assets.<sup>53</sup>

<sup>46</sup> See generally BLACKROCK, *Lessons from COVID-19: U.S. Short-Term Money Markets* (July 2020), <https://www.blackrock.com/corporate/literature/whitepaper/viewpoint-lessons-from-covid-19-us-short-term-money-markets-july-2020.pdf> [“BlackRock on MMFs”]; INVESTMENT COMPANY INSTITUTE, *Experiences of US Money Market Funds During the COVID-19 Crisis*, 2 (Nov. 2020), <https://www.sec.gov/comments/credit-market-interconnectedness/cil10-8026117-225527.pdf> [“ICI on MMFs during COVID”].

<sup>47</sup> See BlackRock on MMFs, *supra* note 46, at 14.

<sup>48</sup> See, e.g., Marco Cipriani, Michael Holscher, Antoine Martin, and Patrick E. McCabe, *Twenty-Eight Money Market Funds That Could Have Broken the Buck: New Data on Losses during the 2008 Crisis*, FEDERAL RESERVE BANK OF NEW YORK: LIBERTY STREET ECONOMICS (Oct. 9, 2013), <https://libertystreeteconomics.newyorkfed.org/2013/10/twenty-eight-money-market-funds-that-could-have-broken-the-buck-new-data-on-losses-during-the-2008-c.html>

<sup>49</sup> See, e.g., ICI on MMFs during COVID, *supra* note 46, at 12.

<sup>50</sup> See BlackRock on MMFs, *supra* note 46, at 6.

<sup>51</sup> Lei Li, Yi Li, Marco Macchiavelli, and Xing (Alex) Zhou, *Liquidity Restrictions, Runs, and Central Bank Interventions: Evidence from Money Market Funds* (Dec. 30, 2020), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3607593](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3607593). See also Fernando Avalos and Dora Xia, *Investor size, liquidity and prime money market fund stress*, BANK FOR INTERNATIONAL SETTLEMENTS (March 1, 2021), [https://www.bis.org/publ/qtrpdf/r\\_qt2103b.htm](https://www.bis.org/publ/qtrpdf/r_qt2103b.htm) (“In March 2020, prime institutional money market funds serving large investors experienced withdrawals irrespective of the liquidity of underlying assets.”).

<sup>52</sup> ICI on MMFs during COVID, *supra* note 46, at Figure 3.11.

<sup>53</sup> ICI on MMFs during COVID, *supra* note 46, at Figure 3.12.

Unsurprisingly given the decline in prime MMF assets since 2014, the size of withdrawals were much larger in 2008 than in 2020. Prime MMFs in 2008 experienced total withdrawals of \$386 billion whereas prime MMFs in 2020 only experienced total withdrawals of \$139 billion.<sup>54</sup> As a result, prime MMFs received significantly less government support in 2020 than in 2008. Most importantly, there was no government guarantee of investments in MMFs in 2020 as there was in 2008.<sup>55</sup> And the Fed's AMLF program in 2008 lent \$152 billion in support of MMFs whereas the Fed's MMLF in 2020 lent \$53 billion to MMFs at its peak.<sup>56</sup>

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<sup>54</sup> ICI Data, *supra* note 34; IMONEYNET, *supra* note 41.

<sup>55</sup> U.S. DEPT. OF TREASURY, *Treasury Announces Temporary Guarantee Program for Money Market Funds* (Sept. 29, 2008), <https://www.treasury.gov/press-center/press-releases/pages/hp1161.aspx>.

<sup>56</sup> ICI on MMFs during COVID, *supra* note 46, at 25; COMMITTEE ON CAPITAL MARKETS REGULATION, *Treasury and Fed Lending Programs: An Assessment and Call for Continued Support for SMEs*, 2 (Dec. 2020), <https://www.capmktsreg.org/wp-content/uploads/2020/12/CCMR-Report-Treasury-Fed-Programs-Assessment-and-Recommendations-12.29.2020.pdf>

### Part III: Cause of 2020 Withdrawals and Systemic Risk Posed by Prime MMFs

#### A. Liquidity Fees & Gates Drove Withdrawals from Prime MMFs in 2020 Crisis

Despite the fact that prime MMFs faced less credit risk and were more liquid in the 2020 COVID crisis than they were in the 2008 financial crisis, prime MMFs still experienced large withdrawals in 2020. In this section, we evaluate the driver of investor withdrawals in the 2020 COVID crisis.

Empirical research by Avalos and Xia (2021) at the Bank for International Settlements (2021),<sup>57</sup> Cipriana and La Spada (2020) at the New York Fed,<sup>58</sup> and Li et. al (2020) at the Federal Reserve Board<sup>59</sup> find that institutional investors withdrew from prime MMFs to avoid liquidity fees and gates that could be triggered by a fund's board once a fund's 30% minimum WLA threshold is breached. Rather than enhancing the stability of prime MMFs, liquidity fees and gates exacerbated investor withdrawals.<sup>60</sup> Investor surveys by ICI confirm that the avoidance of liquidity fees and gates was the primary factor in motivating withdrawals.<sup>61</sup> ICI further found that although prime MMFs generally maintained liquidity buffers in excess of the 30% minimum requirement and no fees and gates were actually imposed on investors, withdrawals accelerated as soon as funds' WLA approached 35%.<sup>62</sup>

A further indicator of the importance of avoiding breaching the 30% minimum WLA requirement is provided by the prime MMFs managed by Goldman Sachs and BNY Mellon. These funds are notable because they experienced some of the largest withdrawals of any prime institutional MMFs on a percentage basis, as demonstrated by **Table 4** on the next page. In response to investor withdrawals, Goldman Sachs and BNYMellon each purchased \$1.2 billion and \$2.5 billion in securities from their institutional prime MMFs in order to avoid breaching the 30% WLA threshold.<sup>63</sup> Thus, sponsors clearly sought to avoid breaching the 30% WLA threshold.

Of course, the experience of Goldman Sachs and BNYMellon raises the question as to why these funds experienced some of the largest withdrawals. One commonality that both funds share is that they are both managed by bank sponsors. It could be that bank sponsors took on more liquidity risk and were therefore more likely to experience large withdrawals. However, Li et al. (2020) studied this possibility and found that prime institutional MMFs sponsored by banks were

<sup>57</sup> Fernando Avalos and Dora Xia, *Investor size, liquidity and prime money market fund stress*, BANK FOR INTERNATIONAL SETTLEMENTS (March 2021), [https://www.bis.org/publ/qtrpdf/r\\_qt2103b.pdf](https://www.bis.org/publ/qtrpdf/r_qt2103b.pdf)

<sup>58</sup> Marco Cipriani and Gabriele La Spada, *Sophisticated and Unsophisticated Runs*, FEDERAL RESERVE BANK OF NEW YORK (Dec. 2020), [https://www.newyorkfed.org/medialibrary/media/research/staff\\_reports/sr956.pdf](https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr956.pdf).

<sup>59</sup> Lei Li, Yi Li, Marco Macchiavelli, and Xing (Alex) Zhou, *Liquidity Restrictions, Runs, and Central Bank Interventions: Evidence from Money Market Funds* (Dec. 30, 2020), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3607593](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3607593).

<sup>60</sup> See ICI on MMFs during COVID, *supra* note 46, at 2; BlackRock on MMFs, *supra* note 46, at 10.

<sup>61</sup> INVESTMENT COMPANY INSTITUTE, *Letter to the SEC re: Report of the President's Working Group on Financial Markets*, 11-12 (April 12, 2021), <https://www.sec.gov/comments/s7-01-21/s70121-8662926-235321.pdf>.

<sup>62</sup> INVESTMENT COMPANY INSTITUTE, *Letter to the SEC re: Report of the President's Working Group on Financial Markets*, 11-12 (April 12, 2021), <https://www.sec.gov/comments/s7-01-21/s70121-8662926-235321.pdf>

<sup>63</sup> BlackRock on MMFs, *supra* note 46, at 13; Lei Li, Yi Li, Marco Macchiavelli, and Xing (Alex) Zhou, *Liquidity Restrictions, Runs, and Central Bank Interventions: Evidence from Money Market Funds*, 60 (Dec. 30, 2020), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3607593](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3607593).

not more likely to experience investor withdrawals than prime institutional MMFs sponsored by independent asset managers.<sup>64</sup>

**Table 4** sets forth the fall in AUM by large sponsors of prime MMFs. It demonstrates that Northern Trust, DWS and Wells Fargo also experienced a fall in AUM of similar magnitude as Goldman Sachs and BNY Mellon. One commonality between these five sponsors is that each of them are very small in terms of total AUM as compared to other sponsors of prime MMFs. This could indicate that small prime MMFs face concentration risk from withdrawals by large investors.

Sponsor	Assets as of Feb 28 (\$M)	Assets as of Mar 31 (\$M)	Change in Assets Feb 28 to Mar 31 (\$M)	% Change in Assets Feb 28 to Mar 31
American Funds	\$104,887	\$99,091	-\$5,796	-5.5%
BlackRock	\$74,166	\$65,861	-\$8,305	-11.2%
BMO	\$576	\$516	-\$60	-10.4%
Columbia	\$16,197	\$14,664	-\$1,533	-9.5%
Dreyfus/BNY	\$14,594	\$7,112	-\$7,482	-51.3%
DWS	\$498	\$261	-\$237	-47.6%
Federated	\$46,209	\$32,708	-\$13,501	-29.2%
Fidelity	\$81,808	\$67,116	-\$14,692	-18.0%
First American	\$372	\$363	-\$9	-2.5%
Goldman Sachs	\$25,235	\$11,405	-\$13,830	-54.8%
Invesco	\$2,501	\$2,092	-\$408	-16.3%
JPMorgan	\$66,468	\$48,140	-\$18,328	-27.6%
Meeder	\$362	\$343	-\$19	-5.2%
Morgan Stanley	\$18,863	\$12,535	-\$6,328	-33.5%
Northern Trust	\$3,780	\$1,622	-\$2,158	-57.1%
PGIM	\$17,113	\$15,271	-\$1,842	-10.8%
Schwab	\$5,699	\$3,732	-\$1,967	-34.5%
State Street	\$22,007	\$14,543	-\$7,464	-33.9%
T Rowe Price	\$21	\$21	\$0	0.0%
UBS	\$23,833	\$18,074	-\$5,759	-24.2%
Vanguard	\$67,231	\$64,817	-\$2,414	-3.6%
Wells Fargo	\$11,084	\$6,760	-\$4,324	-39.0%
Western	\$2,131	\$1,759	-\$371	-17.4%
<b>Total</b>	<b>\$605,634</b>	<b>\$488,805</b>	<b>-\$116,829</b>	<b>-19.3%</b>

Note: Calculations only include funds that experienced a decline in assets for the period February 28, 2020 to March 31, 2020.

<sup>64</sup> Lei Li, Yi Li, Marco Macchiavelli, and Xing (Alex) Zhou, *Liquidity Restrictions, Runs, and Central Bank Interventions: Evidence from Money Market Funds* (Dec. 30, 2020), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3607593](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3607593).

<sup>65</sup> CCMR calculations based on Crane Data, *supra* note 70.

Although the boards of prime MMFs have the authority to impose liquidity fees and gates once a fund breaches the 30% minimum WLA, they are not required to do so.<sup>66</sup> This raises the question of why boards of prime MMFs did not simply notify institutional investors that they did not intend to suspend redemptions or impose liquidity fees—since doing so could have reduced the incentive of investors to withdraw to avoid such liquidity fees and gates.

The answer is that the SEC generally prohibits funds from making such an advance determination. In the adopting release for the rule providing the boards of prime MMFs with the authority to impose liquidity fees and gates, the SEC states, “commenters proposed that boards should be permitted to reasonably determine and commit themselves in advance to a policy to not allow a fee or gate to...be imposed on a fund. We disagree. A blanket decision on the part of a fund board to not impose fees or gates...would be flatly inconsistent with the fees and gates amendments we are adopting today.”<sup>67</sup>

However, even without the SEC prohibition, pre-emptively refusing to exercise liquidity fees or liquidity gates could be inconsistent with a fund board’s fiduciary duty to act in the best interest of remaining fund shareholders.<sup>68</sup> Remaining shareholders in a fund may be better off with the imposition of gates to stop withdrawals and allow a more orderly liquidation of assets, especially during market stress. Thus, fund boards could also be constrained by their fiduciary duties from pre-emptively announcing an intention not to exercise liquidity fees and gates.

Of course, boards of prime MMFs are not required to impose liquidity fees and gates, so institutional investors withdrew from prime MMFs under the assumption that the boards of prime MMFs might impose liquidity fees and gates, even if under the circumstances it is unlikely that the board of a prime MMF would do so. An ICI survey of institutional investors in prime MMFs found that investors withdrew because “they could not predict how a fund board might act if the fund breached [the 30% WLA threshold].”<sup>69</sup>

## B. Prime MMFs, Contagion and Systemic Risk in 2020 and Beyond

A run on prime MMFs could pose systemic risk in two ways. First, if financial institutions and non-financial corporates rely on prime MMFs as a critical source of short-term funding then losing access to such funding could threaten their solvency. Second, withdrawals by investors in prime MMFs could act as a trigger setting off contagion in money markets more broadly.

**Table 5** demonstrates that as of end-Q1 2021 the largest U.S. banks each rely on prime MMFs for less than 1% of total funding. **Table 5** further shows that large U.S. banks’ reliance on prime MMFs for funding is down 75% from 2012 when large banks received 1-4% of total funding from prime MMFs.

<sup>66</sup> 17 C.F.R. § 270.2a-7(c)(2).

<sup>67</sup> SEC Reform (2014), *infra* note 21, at 47761.

<sup>68</sup> See K&L GATES, *Duties of Directors and Trustees of Registered Investment Companies* (2012), [https://files.klgates.com/files/upload/dc\\_im\\_09\\_duties\\_directors\\_trustees.pdf](https://files.klgates.com/files/upload/dc_im_09_duties_directors_trustees.pdf).

<sup>69</sup> INVESTMENT COMPANY INSTITUTE, *Letter to the SEC re: Report of the President’s Working Group on Financial Markets*, 11-12 (April 12, 2021), <https://www.sec.gov/comments/s7-01-21/s70121-8662926-235321.pdf>

September 30, 2012			March 31, 2021		
Bank	\$ Billions	% of Total Funding	Bank	\$ Billions	% of Total Funding
Goldman Sachs	\$36.5	3.80%	Goldman Sachs	\$8.0	0.61%
Bank of America	\$64.0	3.00%	Bank of America	\$13.2	0.44%
JPMorgan	\$51.0	2.20%	JPMorgan	\$23.8	0.65%
Citigroup	\$42.0	2.20%	Citigroup	\$8.6	0.37%
Wells Fargo	\$17.5	1.30%	Wells Fargo	\$7.2	0.37%

**Table 6** demonstrates that the same is true for foreign banks as it is for U.S. banks. Foreign banks rely on prime MMFs for less than 1% of their total funding and such reliance is down substantially from 2012. U.S. and foreign banks have clearly further diversified their funding sources.

September 30, 2012			March 31, 2021		
Bank	\$ Billions	% of Total Funding	Bank	\$ Billions	% of Total Funding
Barclays	\$84.5	3.30%	Barclays	\$19.0	1.03%
Credit Agricole	\$31.5	1.40%	Credit Agricole	\$19.8	0.89%
Société Générale	\$31.0	1.90%	Société Générale	\$16.8	0.93%
BNP Paribas	\$33.5	1.30%	BNP Paribas	\$27.0	0.88%
HSBC	\$24.5	0.90%	HSBC	\$4.1	0.14%

Prime MMFs provide an even smaller amount and share of total funding to non-financial corporates than financial companies. As shown in **Table 7**, as of end Q1 2021, the non-financial corporations that receive the largest dollar amount of funding from prime MMFs include Toyota (\$1.9 billion) and Exxon Mobil (\$1.6 billion).<sup>72</sup> However, each of these large non-financial corporates issue large amounts of non-financial commercial paper. Toyota has \$22 billion in commercial paper outstanding,<sup>73</sup> and Exxon Mobil has \$18 billion outstanding.<sup>74</sup> Thus, prime MMFs hold less than 10% of their commercial paper. Furthermore, non-financial companies have access to sources of short-term funding other than commercial paper. For example, Toyota has a

<sup>70</sup> CRANE DATA, *Money Market Fund Intelligence* (2021), <https://cranedata.com/subscribers/content/> [“Crane Data”]; selected bank’s balance sheets available on their investor relations websites.

<sup>71</sup> Crane Data, *supra* note 70; selected bank’s balance sheets available on their investor relations websites.

<sup>72</sup> Crane Data, *supra* note 70.

<sup>73</sup> TOYOTA MOTOR CORPORATION, *Form 20-F, fiscal year ended March 21, 2020* (June 24, 2020), [https://s3.amazonaws.com/toyota-cms-media/toyota-pdfs/20-F\\_202003\\_final.pdf](https://s3.amazonaws.com/toyota-cms-media/toyota-pdfs/20-F_202003_final.pdf).

<sup>74</sup> EXXONMOBIL, *2020 Annual Report* (2020), <https://corporate.exxonmobil.com/-/media/Global/Files/investor-relations/annual-meeting-materials/annual-report-summaries/2020-Annual-Report.pdf>.

large unused short-term revolving line of credit of \$17.5 billion<sup>75</sup> and Exxon Mobil has the same for \$11.3 billion.<sup>76</sup>

Company	CP Outstanding (\$B)	Prime MMF Holdings (\$B)	% of CP Outstanding
Toyota	\$38.0	\$1.9	5.00%
Exxon Mobil	\$17.3	\$1.6	9.24%

Prime MMFs therefore only provide a very small share of total funding for large financial institutions and non-financial companies. It is therefore highly unlikely that the loss of funding from prime MMFs alone could cause the failure of large financial institutions or non-financial companies.<sup>78</sup>

Although prime MMFs play a limited role in directly funding large financial institutions, it is still possible that a run on prime MMFs could act as a “spark” setting off a run in short-term funding markets generally and that such a widespread run could pose systemic risk. However, as illustrated by **Figure 4** on the next page, prime MMFs were not the “spark” that set off contagion in financial markets in 2020. Instead, the most significant problems in short-term funding markets in 2020 occurred *before* there were withdrawals on prime MMFs.<sup>79</sup> **Figure 4** below shows that the FRA-OIS spread, which measures the cost of short-term funding for banks, increased *before* withdrawals on prime MMFs began on March 11<sup>th</sup>.<sup>80</sup> Similarly, spreads on off-the-run Treasuries, which measures liquidity in the Treasury markets that financial institutions rely on for short-term funding through repurchase agreements, were also elevated *before* withdrawals on prime MMFs began on March 11<sup>th</sup>.<sup>81</sup> Stress in these short-term funding markets actually *declined* shortly after the run on prime MMFs began, likely due to large purchases of U.S. Treasuries by the Federal Reserve.

<sup>75</sup> TOYOTA MOTOR CORPORATION, *Form 20-F, fiscal year ended March 21, 2020* (June 24, 2020), [https://s3.amazonaws.com/toyota-cms-media/toyota-pdfs/20-F\\_202003\\_final.pdf](https://s3.amazonaws.com/toyota-cms-media/toyota-pdfs/20-F_202003_final.pdf).

<sup>76</sup> EXXONMOBIL, *2020 Annual Report* (2020), <https://corporate.exxonmobil.com/-/media/Global/Files/investor-relations/annual-meeting-materials/annual-report-summaries/2020-Annual-Report.pdf>.

<sup>77</sup> Crane Data, *supra* note 70.

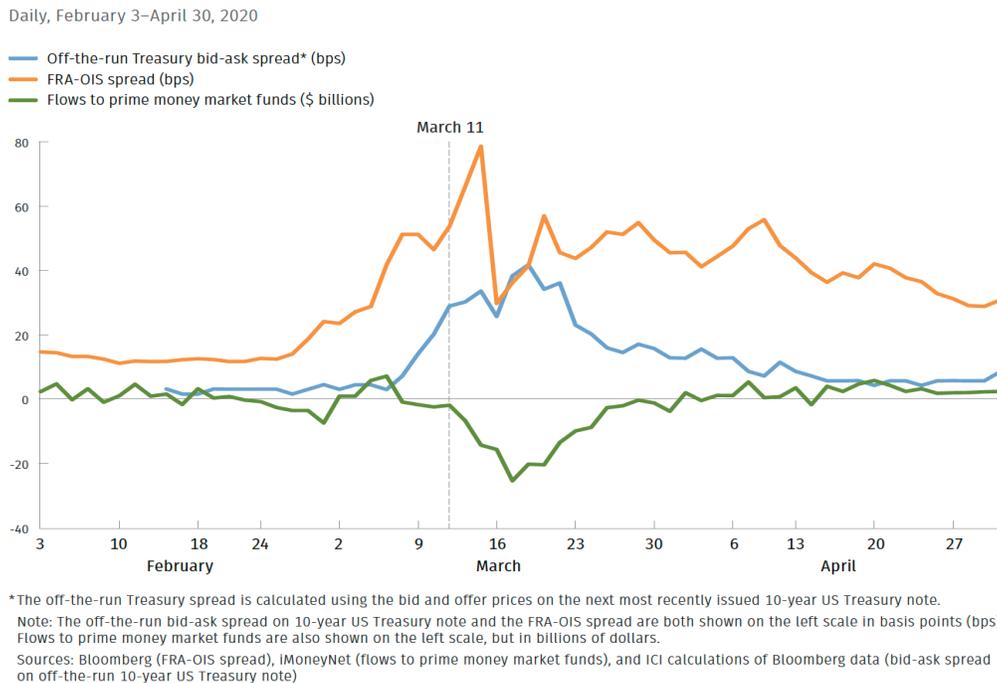
<sup>78</sup> See Hal S. Scott, *Connectedness and Contagion: Protecting the Financial System from Panics*, Kindle Ed., THE MIT PRESS, loc. 7491-7646 (2016).

<sup>79</sup> ICI on MMFs during COVID, *supra* note 46, at 15.

<sup>80</sup> Alex Harris, *Why It Matters That the FRA-OIS Spread Is Widening*, BLOOMBERG (March 9, 2020), <https://www.bloomberg.com/news/articles/2020-03-09/why-it-matters-that-the-fra-ois-spread-is-widening-quicktake?sref=a6D9m9Mp/>.

<sup>81</sup> ICI on MMFs during COVID, *supra* note 46, at 15.

**Figure 4: Stresses in Short-Term Funding Markets Preceded Prime MMF Outflows** <sup>82</sup>



Even if prime MMFs were not the “spark” that set off contagion in 2020, they could have still contributed to the stress in short-term funding markets by liquidating assets, such as repurchase agreements and commercial paper. However, Treasury markets stabilized on the week of March 16<sup>th</sup> shortly after withdrawals on prime MMFs began, likely due to Federal Reserve purchases of U.S. Treasuries.<sup>83</sup> Thus, there are no signs that the unwinding of Treasury repurchase agreements by prime MMFs contributed to stress in short-term funding markets. On the other hand, stresses in commercial paper markets were evident during and shortly after withdrawals on prime MMFs were at their peak. And, as we noted earlier in this report, prime MMFs hold 22% of outstanding commercial paper,<sup>84</sup> so large withdrawals from prime MMFs and attendant sales of commercial paper could significantly exacerbate stress in commercial paper markets. However, prime MMFs sold only \$6.2 billion in commercial paper during the week of March 9<sup>th</sup>, representing less than 20% of the \$29 billion in commercial paper sold that week.<sup>85</sup> In our view, \$6.2 billion in sales of commercial paper by prime MMFs is unlikely to have been the primary cause of stresses in commercial paper markets with approximately \$1 trillion in commercial paper outstanding. Although commercial paper markets are not the focus of this report, we note that enhancing the secondary market structure for commercial paper would likely enhance the liquidity of commercial paper markets during periods of market stress and warrants further examination.<sup>86</sup>

<sup>82</sup> ICI on MMFs during COVID, *supra* note 46, at 15.

<sup>83</sup> <https://www.capmktreg.org/wp-content/uploads/2021/03/NBTF-US-Treasury-Markets-During-Covid.pdf>

<sup>84</sup> ICI Data, *supra* note 34; FEDERAL RESERVE SYSTEM, *Financial Accounts of the United States - Z.1* (2021), <https://www.federalreserve.gov/releases/z1/default.htm>.

<sup>85</sup> INVESTMENT COMPANY INSTITUTE, *Letter to the SEC re: Report of the President’s Working Group on Financial Markets*, 44 (April 12, 2021), <https://www.sec.gov/comments/s7-01-21/s70121-8662926-235321.pdf>.

<sup>86</sup> See, e.g., BlackRock on MMFs, *supra* note 46, at 2.

In conclusion, we find that individual financial institutions and non-financial companies only rely on prime MMFs for a small amount of their funding and the loss of such funding is highly unlikely to cause their insolvency. As to contagion risk, it is possible that a run on prime MMFs could trigger a broader run in short-term funding markets, including commercial paper, however, we find no evidence to support that prime MMFs posed such contagion risk in 2020.

## Part IV: Policy Recommendations

In 2020, prime MMFs experienced \$139 billion in investor withdrawals and received \$53 billion in liquidity support from the Federal Reserve. Clearly the post-2008 regulatory reforms to prime MMFs failed to ensure that prime MMFs were sufficiently resilient against future crises. We therefore strongly support reforms to prime MMFs that would enhance their resilience and significantly reduce the likelihood of future government support. In Part IV of this report, we assess policy recommendations focused on enhancing prime MMF liquidity, capital requirements for prime MMFs and swing pricing.<sup>87</sup>

However, certain policymakers, such as Boston Federal Reserve President Eric Rosengren, have gone so far as to recommend abolishing prime MMFs altogether.<sup>88</sup> We do not believe that the 2020 COVID crisis provides support for abolishing prime MMFs. As we demonstrated in Part III, there is no evidence to support the view that prime MMFs acted as a trigger for contagion in 2020 nor that the loss of funding from prime MMFs would have threatened the solvency of large financial institutions or non-financial companies. It is therefore unclear that Federal Reserve lending to prime MMFs was necessary to protect the financial system in 2020. We believe that in future crises the Fed should consider the limited role of prime MMFs in short-term funding markets before establishing a lending program for prime MMFs, as such a program may not be necessary.

However, we cannot rule out the possibility that the Federal Reserve would create a new lending program for MMFs in a future financial crisis. The only way to guarantee that such a program would not be created is to abolish prime MMFs. Doing so, however, would not address the root cause of the need for government liquidity—the risk of financial contagion. Contagion involves the withdrawal of investors or depositors from providing short-term funding to the financial system that is not government guaranteed.<sup>89</sup> In the face of uncertainty, depositors and investors are incentivized to withdraw short-term funding and shift to cash or assets that are government guaranteed. Such runnable liabilities include—uninsured bank deposits, repurchase agreements, commercial paper, and securities lending in addition to prime MMFs. **Figure 5** on the next page demonstrates that prime MMFs constitute only 4% of such runnable liabilities. Thus, eliminating prime MMFs would not eliminate the need for future government liquidity support during a crisis.

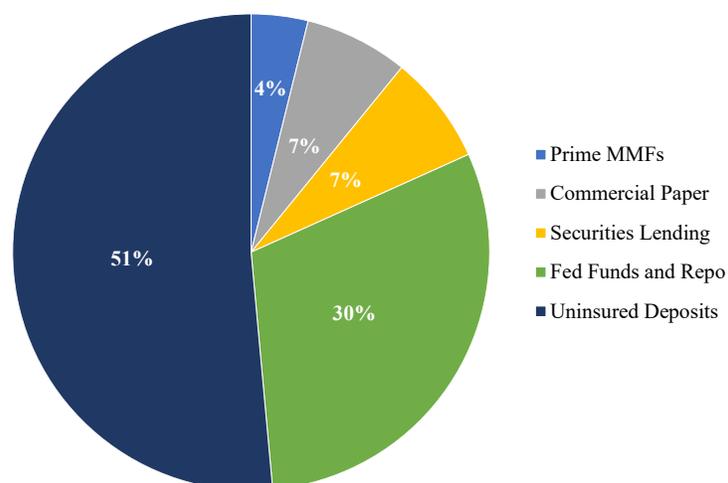
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<sup>87</sup> We do not support expanding the floating NAV requirement from institutional prime MMFs to retail prime MMFs. As noted in Part I of the report, the floating NAV requirement does not sufficiently discourage investors from withdrawing from prime MMFs during a crisis.

<sup>88</sup> in November 2020, Boston Fed President Eric Rosengren said that “my personal preference would be not to have prime money market funds” because efforts to reform the sector were “not very successful.” Greg Robb, *Prime money-market funds on the regulatory hot seat*, MORNINGSTAR (Nov. 16, 2020), <https://www.morningstar.com/news/marketwatch/20201116361/prime-money-market-funds-on-the-regulatory-hot-seat>; FEDERAL RESERVE BANK OF BOSTON, *President Rosengren to speak about the economy and current financial conditions* (Nov. 10, 2020), <https://www.bostonfed.org/news-and-events/events/presidents-speeches/2020/1110b.aspx>

<sup>89</sup> Hal S. Scott, *Connectedness and Contagion: Protecting the Financial System from Panics*, Kindle Ed., THE MIT PRESS, loc. 2528 (2016).

**Figure 5: Uninsured Short-Term Wholesale Funding (end-2020)** <sup>90</sup>



Moreover, the potential impact on financial stability, issuers, and investors from a prohibition on prime MMFs does not support a prohibition. If prime MMFs were banned, then investors in prime MMFs could shift to less regulated alternatives. Such a shift could negatively impact financial stability. Abolishing prime MMFs would also likely increase the cost of capital for financial institutions and non-financial companies that receive funding from prime MMFs. And investors in prime MMFs that choose to shift their assets to government MMFs or bank deposits, would likely suffer from lower yields. It is thus far from clear that abolishing prime MMFs would enhance financial stability and doing so could come at a significant cost to investors and borrowers.

### A. Enhancing Prime MMF Liquidity

The 2020 crisis demonstrated that prime MMF’s liquidity buffers did not function as intended. As described in **Part III**, empirical evidence and investor surveys clearly demonstrate that when a prime MMF’s assets began to approach the 30 percent minimum WLA buffer, institutional investors quickly withdrew from the fund. Thus, although these funds had plentiful liquid assets with which to meet redemptions, the liquidity buffers created a trip wire that investors sought to avoid, rather than a robust source of liquidity. As the Committee cautioned in its comment letter in 2014, the threat of liquidity fees and gates could “accelerate redemptions as investors scramble to redeem their shares before the gates are lowered or a liquidation fee is assessed.”<sup>91</sup> Policymakers can therefore provide prime MMFs with enhanced liquidity *and* reduce

<sup>90</sup> FEDERAL RESERVE SYSTEM, *Financial Accounts of the United States - Z.1* (2021), <https://www.federalreserve.gov/releases/z1/default.htm>; FEDERAL DEPOSIT INSURANCE CORPORATION, *FDIC Quarterly Banking Profile* (2021), <https://www.fdic.gov/bank/analytical/qbp/>; ICI Data, *supra* note 34.

<sup>91</sup> COMMITTEE ON CAPITAL MARKETS REGULATION, *Letter to the SEC re: Money Market Fund Reform Proposal*, 5 (Sept. 17, 2013), <https://www.capmktreg.org/wp-content/uploads/2013/09/CCMR-comment-letter-on-SEC-MMF-1.pdf>.

the incentive of investors to withdraw by simply eliminating liquidity fees and gates, thereby allowing prime MMFs to use their liquidity buffers to meet investor withdrawals.

We further recommend that regulators consider enhancing the quality of the liquid assets that qualify for inclusion as part of the 30% WLA buffer, as doing so would enhance investor confidence in the ability of prime MMFs to withstand market stress. Presently, cash, government debt securities (including agency debt) and private debt securities, such as commercial paper, with a maturity of less than five days qualify as WLA.<sup>92</sup> We recommend that the SEC consider requiring that prime MMFs hold 25-50% of their weekly liquidity buffer in short-term U.S. government securities, including U.S. government agency securities.

Although we believe our recommendations would enhance the stability of prime MMFs in a future crisis, we acknowledge that even large liquidity buffers that can actually be used are limited in their ability to satisfy large investor withdrawals, so enhanced liquidity cannot guarantee that future government support of prime MMFs will not be necessary.

## B. Capital Requirements for Prime MMFs

Capital requirements would provide a layer of protection for MMF investors against investment losses.<sup>93</sup> By reducing the likelihood of investment losses, capital requirements would also potentially reduce investors' incentive to redeem shares during market stress.<sup>94</sup> Capital requirements can take several forms--sponsors of prime MMFs could be required to commit their own capital to prime MMFs or they could be required to raise capital in the form of a subordinated share class or subordinated debt.<sup>95</sup> In any case, the provider of the capital buffer would bear the first loss position before investors in the prime MMF could be exposed to losses.<sup>96</sup>

In the past, sponsors have used their own capital to provide support to their prime MMFs.<sup>97</sup> Sponsor support can take various forms including capital contributions, purchases of impaired

<sup>92</sup> 17 C.F.R. § 270.2a-7(a)(28).

<sup>93</sup> See U.S. TREASURY DEPT., *Report of the President's Working Group on Financial Markets Overview of Recent Events and Potential Reform Options for Money Market Funds*, 31 (Dec. 2020), <https://home.treasury.gov/system/files/136/PWG-MMF-report-final-Dec-2020.pdf> [“**Treasury Report (2020)**”]; FINANCIAL STABILITY OVERSIGHT COUNCIL, *Proposed Recommendations Regarding Money Market Mutual Fund Reform*, 38 (Nov. 2012), <https://www.treasury.gov/initiatives/fsoc/Documents/Proposed%20Recommendations%20Regarding%20Money%20Market%20Mutual%20Fund%20Reform%20-%20November%202013,%202012.pdf?n=45388> [“**FSOC Recommendations (2012)**”]; David Scharfstein, *Perspectives on Money Market Mutual Fund Reforms*, Testimony Before the Senate Committee on Banking, Housing, and Urban Affairs (June 21, 2012), [https://www.hbs.edu/ris/Publication%20Files/MMF\\_Senate\\_Testimony\\_6-21-12\\_eaaf2533-02f6-4633-b117-987b035ad00c.pdf](https://www.hbs.edu/ris/Publication%20Files/MMF_Senate_Testimony_6-21-12_eaaf2533-02f6-4633-b117-987b035ad00c.pdf).

<sup>94</sup> Treasury Report (2020), *supra* note 93, at 31.

<sup>95</sup> See **FSOC Recommendations (2012)**, *supra* note 93, at 39-40.

<sup>96</sup> Samuel G. Hanson, David Scharfstein, and Adi Sunderam, *An Evaluation of Money Market Fund Reform Proposals*, IMF ECONOMIC REVIEW, 2 (May 2014), <https://scholar.harvard.edu/davidscharfstein/publications/evaluation-money-market-fund-reform-proposals>

<sup>97</sup> Stefan Jacewitz and Haluk Unal, *Shadow Insurance? Money Market Fund Investors and Bank Sponsorship*, FED. DEP. INS. COMM'N (June 2020), <https://www.fdic.gov/analysis/cfr/working-papers/2020/cfr-wp2020-03.pdf>; Marco Cipriani, Michael Holscher, Antoine Martin, and Patrick E. McCabe, *Twenty-Eight Money Market Funds That Could Have Broken the Buck: New Data on Losses during the 2008 Crisis*, FEDERAL RESERVE BANK OF NEW YORK:

securities at par, letters of credit, capital support agreements, letters of indemnity or performance guarantees.<sup>98</sup> For example, as noted in Part III, Goldman Sachs and BNYMellon purchased long-term securities from their prime MMFs in March 2020 to ensure that their liquidity buffers remained above the 30% minimum. Research by the NY Fed shows that during the 2008 crisis more than two dozen prime MMFs received support from their sponsors, including prime MMFs sponsored by independent asset managers and prime MMFs sponsored by banks.<sup>99</sup>

An alternative means of effectively requiring capital buffers for prime MMFs would be through mandatory sponsor support agreements, whereby sponsors are required to provide capital support to their funds under certain situations, such as when a fund's liquid assets fall below a certain threshold, or a default event occurs.<sup>100</sup> Mandatory sponsor support agreements are similar to capital requirements, because sponsors would have to hold capital against these contingent events. Mandatory support agreements would have particularly significant consequences for banks, as they may require the consolidation of prime MMFs onto bank balance sheets.<sup>101</sup>

Our primary concern with capital requirements for prime MMFs is that capital requirements are intended to reduce credit risk for investors, but withdrawals on prime MMFs in 2020 were not driven by credit risk. As noted earlier, the primary driver was investor fear that they would lose access to their cash due to liquidity gates and fees. Indeed, Li et al. (2020) found that credit risk concerns were not a factor in investor withdrawals in 2020.<sup>102</sup>

The size of the capital buffer is also a fundamental problem when attempting to address liquidity risk. First, proposed capital buffers of 1-3% of total AUM for prime MMFs would likely not be sufficient to absorb losses from a major credit event, such as the failure of Lehman Brothers,

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LIBERTY STREET ECONOMICS (Oct. 9, 2013), <https://libertystreeteconomics.newyorkfed.org/2013/10/twenty-eight-money-market-funds-that-could-have-broken-the-buck-new-data-on-losses-during-the-2008-c.html>.

<sup>98</sup> See MOODY'S INVESTOR'S SERVICE, *Sponsor Support Key to Money Market Funds*, 3 (Aug. 9, 2010), [https://www.alston.com/files/docs/Moody's\\_Report.pdf](https://www.alston.com/files/docs/Moody's_Report.pdf); Steffanie Brady, Kenechukwu Anadu, and Nathaniel Cooper, *The Stability of Prime Money Market Mutual Funds: Sponsor Support from 2007 to 2011* (Aug. 13, 2012), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3015986](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3015986).

<sup>99</sup> Marco Cipriani, Michael Holscher, Antoine Martin, and Patrick E. McCabe, *Twenty-Eight Money Market Funds That Could Have Broken the Buck: New Data on Losses during the 2008 Crisis*, FEDERAL RESERVE BANK OF NEW YORK: LIBERTY STREET ECONOMICS (Oct. 9, 2013), <https://libertystreeteconomics.newyorkfed.org/2013/10/twenty-eight-money-market-funds-that-could-have-broken-the-buck-new-data-on-losses-during-the-2008-c.html>.

<sup>100</sup> Treasury Report (2020), *supra* note 93, at 33; Jill E. Fisch, *The Broken Buck Stops Her Here: Embracing Sponsor Support in Money Market Fund Reform*, 93 N.C. L. REV. 935, 993 (2015), [https://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=2324&context=faculty\\_scholarship](https://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=2324&context=faculty_scholarship).

<sup>101</sup> J.P. MORGAN ASSET MANAGEMENT, *Letter to the SEC re: Potential Money Market Fund Reform Measures in President's Working Group Report (File No. S7-01-21)*, 18 (April 12, 2021), <https://www.sec.gov/comments/s7-01-21/s70121-8662454-235280.pdf>. See also BANK FOR INTERNATIONAL SETTLEMENTS, *Consultative document: Guidelines: Identification and management of step-in risk*, 12 (March 2017), <https://www.bis.org/bcbs/publ/d398.pdf>.

<sup>102</sup> Lei Li, Yi Li, Marco Macchiavelli, and Xing (Alex) Zhou, *Liquidity Restrictions, Runs, and Central Bank Interventions: Evidence from Money Market Funds* (Dec. 30, 2020), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3607593](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3607593). See also Fernando Avalos and Dora Xia, *Investor size, liquidity and prime money market fund stress*, BANK FOR INTERNATIONAL SETTLEMENTS (March 1, 2021), [https://www.bis.org/publ/qtrpdf/r\\_qt2103b.htm](https://www.bis.org/publ/qtrpdf/r_qt2103b.htm).

and/or the costs associated with a fire sale of assets from a widespread run.<sup>103</sup> To the extent that MMF investors may run out of fear of such large losses, the capital buffer would not seem to solve the problem of an investor run.

Second, and perhaps most importantly, evidence shows that the cost of an even modestly-sized capital buffer could be prohibitive and result in sponsors no longer offering prime MMFs. For example, a 2013 study by the SEC’s Division of Economic Research and Analysis found that a capital buffer of 0.6% would reduce investor returns from prime MMFs so that they would no longer exceed government MMFs rendering prime MMFs unattractive to investors.<sup>104</sup> Similarly, a 2012 study by BlackRock found that a capital buffer of 0.7% would cause sponsors to exit the business because their cost of capital would exceed their returns from offering prime MMFs.<sup>105</sup>

We therefore do not support capital requirements for prime MMFs, because capital requirements are intended to address credit risk not liquidity risk, would be too small to disincentivize investor withdrawals and would be too costly to implement in practice.

### C. Swing Pricing

MMFs allow shareholders to purchase and redeem shares at the fund’s NAV.<sup>106</sup> However, funds incur transaction costs associated with selling assets to meet redemptions, and these transaction costs are passed onto the remaining shareholders in the fund.<sup>107</sup> In 2016, the SEC permitted registered open-end investment companies--other than MMFs and exchange-traded funds--to adopt “swing pricing” to pass on transaction costs to certain redeeming investors.<sup>108</sup>

Under swing pricing, when the level of net redemptions meets a specified percentage of total assets (the “**swing threshold**”), then the fund may adjust the redemption price for the redeeming investor so that the estimated transaction cost is imposed directly on the redeeming investor (the “**swing factor**”).<sup>109</sup> Swing pricing can also be “always on,” whereby the swing

<sup>103</sup> CCMR, *What to Do About Contagion? A Call By The Committee on Capital Markets Regulation for a Public Debate*, 25-26 (Sept. 2014), <https://www.capmktreg.org/wp-content/uploads/2018/10/What-to-do-About-Contagion.pdf>.

<sup>104</sup> Craig Lewis, *The Economic Implications of Money Market Fund Capital Buffers*, U.S. SEC. & EXCH. COMM’N (Nov. 2013), <https://www.sec.gov/files/rsfi-wp2014-01.pdf>.

<sup>105</sup> BLACKROCK, *Viewpoint: Money Market Funds: The Debate Continues*, 5 (March 2012), <https://www.blackrock.com/corporate/literature/whitepaper/viewpoint-mmfs-debate-continues-mar-2012.pdf>; BlackRock on MMFs, *supra* note 46, at 17.

<sup>106</sup> 17 C.F.R. § 270.2a-7(c)(1).

<sup>107</sup> Swing Pricing Rule (2016), *supra* note 108, at 82084- 82085.

<sup>108</sup> U.S. SEC. & EXCH. COMM’N, *Investment Company Swing Pricing*, 81 FED. REG. 82084 (Nov. 18, 2019), <https://www.federalregister.gov/documents/2016/11/18/2016-25347/investment-company-swing-pricing>; U.S. SEC. & EXCH. COMM’N, *Investment Company Swing Pricing* (Nov. 23, 2016), <https://www.sec.gov/divisions/investment/guidance/secg-swing-pricing.htm#:~:text=Swing%20pricing%20is%20the%20process,associated%20with%20their%20trading%20activity> [“**Swing Pricing Rule (2016)**”].

<sup>109</sup> U.S. SEC. & EXCH. COMM’N, *SEC Adopts Rules to Modernize Information Reported by Funds, Require Liquidity Risk Management Programs, and Permit Swing Pricing* (Oct. 13, 2016), [https://www.sec.gov/news/pressrelease/2016-215.html#:~:text=Swing%20pricing%20is%20the%20process,associated%20with%20their%20trading%20activity.&text=The%20reforms%20will%20permit%20open,ETFs\)%20to%20use%20swing%20pricing](https://www.sec.gov/news/pressrelease/2016-215.html#:~:text=Swing%20pricing%20is%20the%20process,associated%20with%20their%20trading%20activity.&text=The%20reforms%20will%20permit%20open,ETFs)%20to%20use%20swing%20pricing).

threshold is set to zero and a swing factor is always applied to withdrawing investors. The SEC did not authorize prime MMFs to adopt swing pricing because the boards of prime MMFs already have the authority to impose liquidity fees on redeeming investors, which are similar to swing pricing in that they impose higher costs on redeeming investors after minimum liquidity thresholds are breached.<sup>110</sup>

There are two key issues with swing pricing. First, swing pricing would be highly difficult to implement for prime MMFs, because prime MMFs price their shares multiple times per day and provide same-day T+0 settlement for investors with investors often receiving the proceeds from redemptions within hours.<sup>111</sup> These features are critical for large institutions that rely on prime MMFs for day-to-day cash management needs. Other mutual funds generally value their fund only at the end of the day and provide settlement on a T+1 basis.

In order to continue to price shares multiple times per day and provide same-day settlement, prime MMFs would need to calculate the “swing factor” (or in other words estimate the transaction costs associated with redemptions) multiple times per day. This would require timely and accurate information regarding investor withdrawals throughout the day and associated costs from those withdrawals. Sponsors of prime MMFs report that doing so would be impractical and prime MMFs could likely no longer offer intraday pricing and T+0 settlement.<sup>112</sup> We note that even U.S. mutual funds that received the authority to implement swing pricing in 2016 have yet to implement swing pricing due to these practical considerations and how they would impact pricing and settlement.<sup>113</sup>

Second, the 2020 COVID crisis demonstrated that liquidity fees exacerbate investor withdrawals from prime MMFs during market stress.<sup>114</sup> Swing pricing would likely do the same. Investors would likely redeem earlier to avoid the swing threshold at which they would incur higher costs for withdrawing from the fund. Real-world experience with swing pricing for bond funds in Europe also demonstrates that swing pricing does not enhance fund resilience. For example, Lewrick & Schanz (2017) compared bond mutual funds in Luxembourg (where swing pricing is permitted) to funds in the US (where it was not permitted at the time) and found that swing pricing does not enhance fund stability during stress episodes.<sup>115</sup>

In our view, “always on” swing pricing would also likely encourage investors to withdraw earlier in market stress. In principle, “always on” swing pricing can marginally reduce the first mover advantage by always imposing the transaction costs associated with redemption on the redeeming investors and thereby reducing their incentive to sell first in order to avoid such

<sup>110</sup> Swing Pricing Rule (2016), *supra* note 108, at 82089-82091

<sup>111</sup> See BLACKROCK, *Letter to the SEC re: : S7-01-21: Comments on the Report of the President’s Working Group on Financial Markets*, 8 (April 12, 2021), <https://www.sec.gov/comments/s7-01-21/s70121-8662484-235306.pdf>. See also BLACKROCK, *Operational guide to cash investing: BlackRock U.S. Money Market Funds* (2020), <https://www.blackrock.com/cash/literature/investment-guide/operational-guide-to-cash-investing.pdf>.

<sup>112</sup> INVESTMENT COMPANY INSTITUTE, *Letter to the SEC re: Report of the President’s Working Group on Financial Markets*, 5 (April 12, 2021), <https://www.sec.gov/comments/s7-01-21/s70121-8662926-235321.pdf>; BLACKROCK, *Letter to the SEC re: : S7-01-21: Comments on the Report of the President’s Working Group on Financial Markets*, 8 (April 12, 2021), <https://www.sec.gov/comments/s7-01-21/s70121-8662484-235306.pdf>

<sup>113</sup> Treasury Report (2020), *supra* note 93, at 30.

<sup>114</sup> See *infra* notes 57-62.

<sup>115</sup> Ulf Lewricka and Jochen Schanz, *Is the price right? Swing pricing and investor redemptions*, BANK FOR INTERNATIONAL SETTLEMENTS, 23 (Oct. 2017), <https://www.bis.org/publ/work664.pdf>.

transaction costs. However, during periods of significant market stress and illiquidity, the spreads on the assets sold by prime MMFs increase and thus so will transaction costs and hence the swing factor. Therefore, as a crisis worsens, the swing factor will get higher. In our view, investors are likely to redeem earlier in market stress in order to avoid the higher swing factor that would apply if the crisis worsens and they were to redeem later.

We therefore do not support swing pricing for prime MMFs, because swing pricing is impractical for prime MMFs and could exacerbate investor withdrawals during market stress.

## Part V: Conclusion

In this report, we provided an assessment of the role of prime MMFs in the 2020 COVID crisis and set forth recommendations for how to enhance the liquidity of prime MMFs so that they would be better positioned to withstand future market stress and to significantly reduce the likelihood of future government support.

In Part I, we provided an overview of the regulation of MMFs, including post-2008 reforms to prime MMFs, such as liquidity requirements, liquidity fees and gates and the floating NAV requirement. We then provided an overview of trends in AUM by MMFs and the role of prime MMFs in short-term funding markets.

In Part II, we compared the role of prime MMFs in the 2008 financial crisis with the role of prime MMFs in the 2020 COVID crisis. Although prime MMFs received government support in both crises, we found that prime MMFs were more liquid and faced lower credit risk in the 2020 COVID crisis than the 2008 financial crisis.

In Part III, we evaluated the cause for the withdrawals from prime MMFs in the 2020 COVID crisis, finding that investors withdrew from MMFs to avoid the potential imposition of liquidity fees and gates. We then examined whether withdrawals from prime MMFs in 2020 posed systemic risk either due to large financial institutions' dependence on prime MMFs for funding or as a trigger for a widespread run-on money markets. We find no evidence to support that prime MMFs posed such risk in 2020.

Finally, in Part IV, we examine policy recommendations for prime MMFs, including prohibition, enhanced liquidity requirements, capital buffers and swing pricing. We conclude by recommending that the SEC abolish liquidity fees and gates and consider requiring that 25-50% of prime MMFs' weekly liquid assets be held in short-term U.S. government securities.



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