Prime MMFs at the Onset of the Pandemic: Asset Flows, Liquidity Buffers, and NAVs

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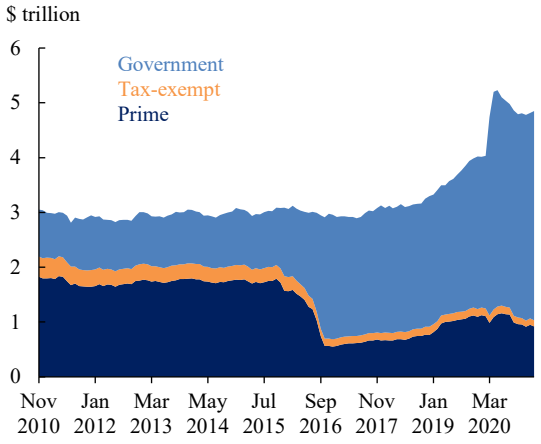
Using weekly data filed by prime money market funds (MMFs) on a monthly Form N-MFP, this article offers a granular view of the funds' cash flows, liquidity buffers, and net asset values (NAVs) per share during the heightened market volatility at the onset of the pandemic in March 2020.

Prime MMFs landscape

Prime MMFs can invest in a broad range of short-term, high quality fixed-income instruments such as U.S. Treasury bills, federal agency notes, certificates of deposit, corporate commercial paper, repurchase agreements, and obligations of states, cities, or other types of municipal agencies. At the onset of the pandemic, in mid-March 2020, amidst heightened volatility throughout financial markets, investors redeemed $134 billion from prime and tax-exempt MMFs, while government MMFs received inflows of $838 billion (Figure 1).[2] Although the MMF industry as a whole grew during this period, the large outflows from prime MMFs highlighted the remaining structural vulnerabilities in these funds.[3]

Prime MMFs can be divided into two categories: retail and institutional. SEC regulation requires retail MMFs to limit their investors to natural persons.[4] Prime institutional MMFs are available to all investors and are typically used by corporate treasurers or by managers of large portfolios of assets. In February 2020, before the events in mid-March, there were 82 prime MMFs (excluding feeder funds), comprising 50 prime institutional MMFs and 32 prime retail MMFs, managed by 35 fund families.[5] A number of fund families revised their MMF offerings in 2020, resulting in a 13% decrease in the number of prime MMFs available. By February 2021, there were 71 prime MMFs, including 44 institutional funds and 27 retail funds.

Figure 1: Prime MMF net assets dropped in March 2020, while government MMF assets grew substantially



Source: Form N-MFP

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[2] Tax-exempt or municipal MMFs mainly invest in short-term, high-quality municipal obligations or obligations of states and local governments that may provide income exempt from federal and state income taxes. Government MMFs must invest 99.5% or more of their total assets in short-term Treasury securities, securities issued by governmental agencies, repurchase agreements backed by these securities, or cash.

[3] *See* Report of the President's Working Group on Financial Markets, "Overview of Recent Events and Potential Reform Options for Money Market Funds" (December 2020).

[4] *See* rule 2a-7(a)(21).

[5] Funds (or series) are counted at the portfolio level. Feeder funds, which are invested in the master portfolios, are excluded to avoid double-counting of assets under management that are consolidated at the master portfolio level.

Prime institutional MMFs can be further divided into publicly offered funds and funds that are not offered to the public. A few U.S. asset managers established non-public prime institutional MMFs that are used mainly for internal cash management needs. These funds are sometimes referred to as "internal" or "central" MMFs. In February 2020, there were seven "internal" prime institutional MMFs. This number did not change through February 2021.

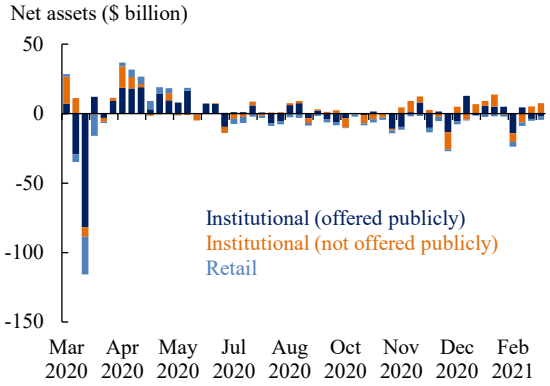
Publicly offered prime institutional MMFs had the most outflows in March 2020

In March 2020, investors withdrew roughly $125 billion from prime MMFs, both institutional and retail, or around 11% of their net assets (Figure 2). Prime institutional MMFs had the most outflows. In the last three weeks of March these funds lost around $95 billion, or roughly 14% of their total net assets, including around $88 billion in outflows in the third week of the month (Figure 3).[6]

Prime institutional MMFs offered to the public had significantly larger outflows than the "internal" funds in the last three weeks of March. During this period, publicly offered funds lost nearly $99 billion, or around 21% of their total net assets. Of this amount, close to $82 billion, or 19% of these funds' total net assets, were the outflows in the third week of the month alone. In the last three weeks of March, the "internal" funds had net inflows of close to $4 billion, or roughly 2% of their total net assets, but there were outflows of around $7 billion (or roughly 3% of net assets) in the third week. The inflows in the "internal" funds in the first and the second weeks of March 2020 reflected increased overall cash balances across the asset management complex.

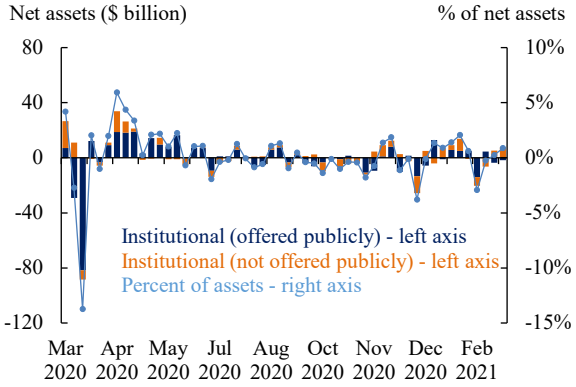
Prime retail MMFs had outflows of around $48 billion in the last three weeks of March 2020, or roughly 11% of their total net assets, including a $27 billion outflow in the third week of the month (Figure 2). The outflows from both institutional and retail prime MMFs reversed in April. Net assets of prime MMFs continued to grow until June 2020, when they reached $1,162 billion. Then the trend reversed and the net assets declined to $920 billion by February 2021.

Figure 2: In the third week of March 2020, prime institutional MMFs offered to the public had the largest outflows among prime MMF categories



Note: Weekly asset changes take into account asset flows and valuation changes.
Source: Form N-MFP

Figure 3: In the third week of March 2020, prime institutional MMFs had outflows of around $88 billion with 92% attributed to the publicly offered funds



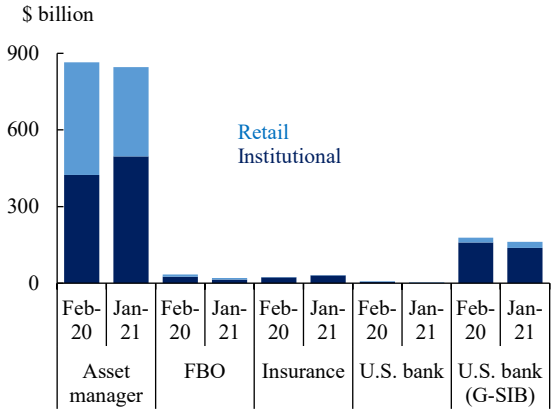
Note: Weekly asset changes take into account asset flows and valuation changes.
Source: Form N-MFP

[6] Percentages of flows during a specific time period are calculated using net subscriptions and redemptions during the period divided by the net assets at the end of the prior period.

Prime institutional MMFs managed by bank-affiliated advisers had the most outflows in March 2020

Advisers of prime MMFs are sometimes majority owned by firms in other types of financial services, such as banking or insurance, although most prime MMF net assets are managed by advisers without such affiliations. In February 2020, 78% of prime MMF net assets were managed by asset managers that are not majority owned by other types of financial services firms, close to 20% of net assets were managed by advisers owned by firms with significant banking business, and 2% of net assets were managed by advisers owned by insurance companies (Figure 4). This breakdown remained largely unchanged during 2020.

Figure 4: Prime MMF assets are managed by advisers owned by firms in other types of financial services

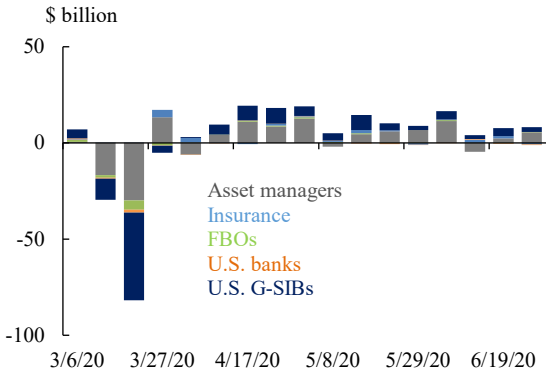


Note: FBO - foreign banking organization.
Source: Form N-MFP, authors' calculations

The largest outflows in mid-March were from the publicly offered prime institutional MMFs with advisers owned by banking firms (Figure 5). For example, the funds with advisers owned by the largest U.S. banks designated as global systemically important banks ("G-SIBs") accounted for 56% of the outflows in the third week of March even though these funds managed only around 28% of net assets in publicly offered prime institutional MMFs.[7]

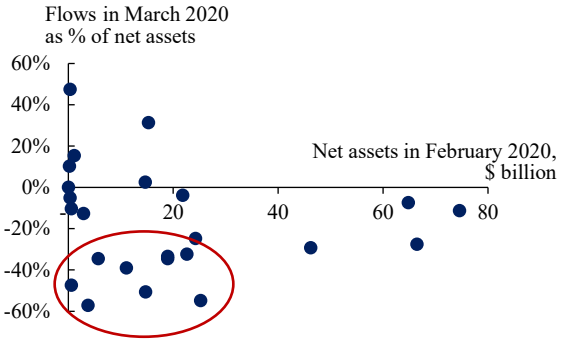
On the other hand, prime retail MMFs with advisers in the asset management business accounted for 94% of the total $48 billion outflows in the last three weeks of March 2020. This is broadly consistent with the share of prime retail MMF assets managed by these advisers, which is 93% of the total.

Figure 5: Publicly offered prime institutional MMFs that are affiliated with the largest U.S. banks had the most outflows in March 2020



Note: Weekly asset changes take into account asset flows and valuation changes.
Source: Form N-MFP, authors' calculations

Figure 6: Fund families with small to mid-size prime institutional MMF assets had the most outflows in March 2020 although some had inflows



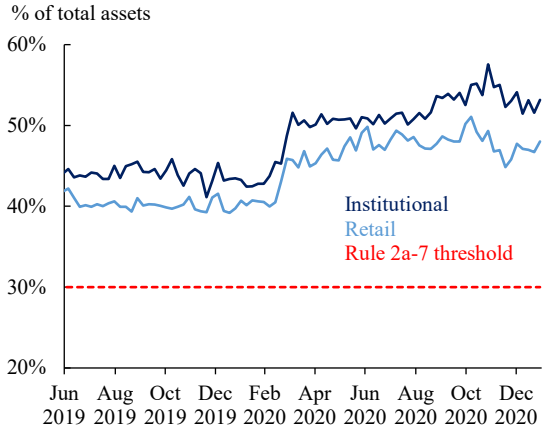
Note: Monthly changes in net assets take into account asset flows and valuation changes. Only assets in publicly offered prime institutional MMFs are depicted; assets are consolidated at the fund family level.
Source: Form N-MFP

The data also show that fund complexes with smaller assets under management in publicly offered prime institutional MMFs generally had larger outflows from their funds, on a percent of assets basis (Figure 6). Similarly, smaller prime retail MMF complexes had the largest outflows on a percent of assets basis.

[7] *See* Financial Stability Board, "2020 list of global systemically important banks (G-SIBs)" (November 2020).

A few prime institutional MMFs, mainly within fund families owned by insurance firms, had inflows in March 2020, when the industry outflows were in focus. The divergent cash flows illustrate that investors may have various motivations even during the stress market events.

Figure 7: Prime institutional and retail MMFs' median WLAs increased by the end of March 2020



Source: Form N-MFP

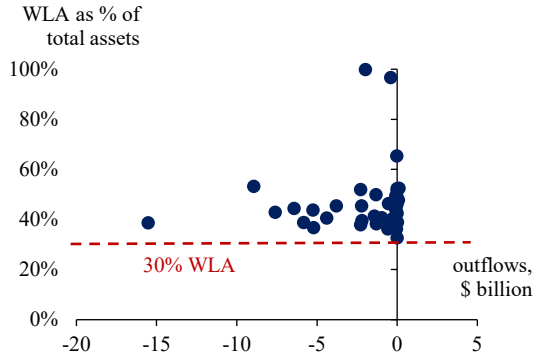
Outflows reduced prime MMFs' liquidity buffers

Outflows from prime MMFs reduced their weekly liquid assets (WLA), which in some cases approached or fell below the 30% threshold set by SEC rules.[8] If an MMF's portfolio falls below the 30% WLA threshold, it may not acquire any assets other than WLA until it meets this threshold.[9] A prime MMF may impose liquidity fees or temporarily suspend redemptions if the fund's WLA declines below 30% of its total assets.[10] To date, no MMF has used these tools. Historically, most funds have maintained WLA that are well in excess of 30% of their total assets (Figure 7).

The data show that most of the largest asset outflows in the third week of March 2020 were from the funds with WLA close to 40%, and in some cases above 40%, in the prior week (Figure 8). However, the daily outflows at the onset of the pandemic exceeded available liquidity for some funds and consumed additional liquidity buffers. The lowest WLA of 27% was reached by one prime institutional MMF in the third week of March, but it did not impose a liquidity fee nor did it suspend redemptions.[11]

The median WLAs for both prime institutional and prime retail MMFs increased notably by the end of March as the funds enhanced their liquidity buffers and the official sector took steps to support the flow of credit in the economy.[12] During the rest of 2020, the median WLA of prime institutional MMFs continued to increase, reaching a high of 58% of total assets in the last week of November 2020. As of February 2021, the median WLA remained above 50% of total assets.

Figure 8: Many publicly offered prime institutional MMFs had large outflows in the third week of March 2020 even with WLA well above 30% in the prior week



Note: WLA as of 3/13/20; weekly net flows for the week ending 3/20/20. Only data of publicly offered prime institutional MMFs are included.
Source: Form N-MFP

Volatility of prime MMFs' NAV per share increased at the onset of the pandemic

By regulation, prime institutional MMFs must sell and redeem their shares at a market-based NAV.[13] Nonetheless, these funds strive to preserve principal and are normally managed to minimize volatility of their NAV per share. Since

[8] Weekly liquid assets are: cash; direct obligations of the U.S. government; agency discount notes with remaining maturities of 60 days or less; certain securities that will mature (or be payable through a demand feature) within five business days; or amounts unconditionally due within five business days from pending security sales. *See* rule 2a-7(a)(28).

[9] *See* rule 2a-7(d)(4)(iii).

[10] *See* rule 2a-7(c)(2)(i).

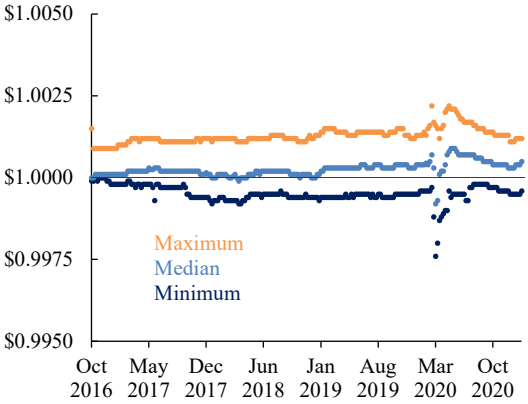
[11] The lowest WLA figure is based on the fund's daily website reporting.

[12] The list of funding, credit, liquidity, and loan facilities established in response to the Covid-19 is available on the Federal Reserve Board's website.

[13] *See* rule 2a-7(c)(1).

October 2016, when weekly data became available, median NAV per share of the publicly offered prime institutional MMFs has stayed within a range of 5 basis points around $1.0000 (one basis point is 1/100th of 1%) (Figure 9).

Figure 9: NAVs of publicly offered prime institutional MMFs declined in the third week of March 2020



Note: Weekly NAV per share reported as of Fridays. Some NAV per share were normalized to $1.0000 for comparability.
Source: Form N-MFP

In March 2020, elevated market volatility and constrained liquidity at the onset of the pandemic negatively affected valuation of assets held by prime MMFs. In response, the NAV per share of these funds declined. In the third week of March, the week of the highest NAV volatility, the minimum NAV per share of publicly offered prime institutional MMFs dropped to $0.9976, while the median NAV per share was $0.9992 (Figure 9).

The MMF filings data did not show any apparent relationship between the level of the funds' NAV per share and outflows in the third week of March 2020. For example, the prime institutional MMF with the lowest NAV per share had only modest outflows of around $6 million, which was less than 1% of the fund's net assets. On the other hand, the prime institutional MMF with the largest outflow as a percentage of its net assets (54%) during that week had a $1.0001 NAV per share.

Similarly, the prime retail MMF with the lowest market-based NAV per share ($0.9980) in the third week of March 2020 had outflows of only 0.1% of its net assets that week. The prime retail MMF with the largest outflows as a percentage of its net assets (19%) had a market-based NAV per share equal to its stable price of $1.0000.

The dispersion of NAV per share abated after market liquidity improved in the second quarter of 2020, supporting the market value of assets. Moreover, as market interest rates declined, the value of assets purchased by prime MMFs before March 2020 increased, pushing the median NAV per share higher.