Regulatory Watch

29 June 2017

EU money market fund reforms a big deal for rates?

Fouad Mehadi
Senior Fixed Income Strategist
Tel: +31 20 628 19 66
fouad.mehadi@nl.abnamro.com

Kim Liu
Senior Fixed Income Strategist
Tel: +31 20 343 4669
kim.liu@nl.abnamro.com

- **Following the reforms in the US in 2016, money market funds (MMFs) had less demand for bank paper and banks had to resort to unsecured interbank funding.**
- **However, they had to face other banks in a similar situation. This had increased lending rates and led to a decrease in liquidity in the interbank market and led to a rise in Libor**
- **So with the new EU money market fund regulation - which will come into force in Q2 2018, with an 18-month implementation period starting soon - the question is whether we will see the same jump in interbank benchmark rates in Europe**
- **The current maturity restrictions remain the same under the new regulations. However, the reforms will lead to the emergence of new MMF types, which are expected to change the investment behaviour of MMF investors**
- **This could lead to a slight reallocation of capital between the different MMF types as corporates and financial institutions would still need a better alternative than a bank deposit**
- **Therefore a proportion of capital invested in Euro bank paper in prime MMFs - which are subject to a conversion to mark-to-market valuations - would need to find its way to MMFs that are permitted to use amortized cost accounting. With the latter having the main preference for investors**
- **On the other hand, as corporate treasuries and institutional investors don't have many options to park their excess liquidity, the expected capital flow away from bank paper into EGBs could be muted**
- **We therefore calculate that a maximum of EUR 50bn invested in prime MMFs would be subject to this reallocation into short-term EGBs, but it will likely be much lower**
- **In contrast to the US MMF reforms, we don't expect a tightening of unsecured interbank lending conditions**

New regulations are changing the European money market fund industry

In this note we assess the likely impact on the European fixed income market of the anticipated implementation of the new money market fund reforms in Europe in 2018. The European money market fund (MMF) reforms follow the US MMF reforms, which were implemented on 14 October 2016. The US MMF reforms were introduced to increase the resilience of the money market industry. However, the reforms also led to a structural shift in the industry structure. These changing dynamics led to an outflow of funds from non-government paper and pushed up interbank rates (for a more detailed discussion on the US MMF reform please see the appendix). In this report we assess whether the same could happen in Europe.

What are money market funds?

With almost EUR 1.2 trillion in AUM the European money market fund industry is deemed a key player in facilitating short-term funding to corporations and banks. Money market funds are open ended mutual funds that pool excess liquidity and offer investors a higher return than on a bank deposit at relatively low risk. Capital preservation, high liquidity and diversification are reasons why investors would invest their excess liquidity in MMFs. Money market funds typically invest in very short term and predominantly highly liquid assets.

European MMF structure, reforms and its implications

On 4 November 2013, the EU commission first published a draft for the new MMF regulation and on 5 April 2017 the European parliament formally adopted the final version, which received official Council endorsement on 16 May 2017. By the end of the first half of 2017 the new regulation is expected to be published in the Official Journal of the European Union and after 20 days the 18 month transition period will start for existing MMFs. The reform is expected to go into force in Q2 2018, with full transition by Q4 2018. According to the new regulation three different types of MMFs will be introduced:

- *Variable Net Asset Value (VNAV) and Public Debt Constant Net Asset Value (Public Debt CNAV)*: with the latter containing at least 99.55% allocation to government debt (EU or non-EU securities and securities issues by central banks and other prescribed financial institutions). These would have a mark-to-market valuation regime, similar to what was implemented in the US MMF reform (please see Appendix B for more details).

- *Low Volatility Net Asset Value (LVNAV)*: LVNAV MMF type will be introduced as well. The LVNAV allows for amortised cost accounting[1] as is the case for the CNAV where shares of the MMF could be issued or redeemed at a price equal to its constant NAV, however:
    - this is only applicable to money market securities with a remaining maturity less than 75 days. Additionally, the difference between the market value and amortised cost needs to remain below 10bps.
    - Also, the cumulated difference between the NAV and the NAV calculated based on mark-to-market valuation should be less than 20bps.

Characteristics EU MMF reform and liquidity requirements

Characteristics	Short-term MMFs		Standard MMFs
Eligible fund type	CNAV, LVNAV	VNAV	VNAV
Weighted Average Maturity	<=60 days	<=60 days	<=6 months
Weighted Average Life	<=120 days	<=120 days	<=12 months
Residual Maturity	<=397 days	<=397 days	<=2 years, conditional upon 397 days remaining time until next interest rate reset
Liquidity constraints	Min 10% in daily maturing assets & min 30% in weekly maturing assets	Min 7.5% in daily maturing assets & min 15% in weekly maturing assets	-
Additional constraints	Max 17.5% of weekly maturing assets held in government debt	-	-

Source: ABN AMRO Group Economics, European Parliamentary Research Service

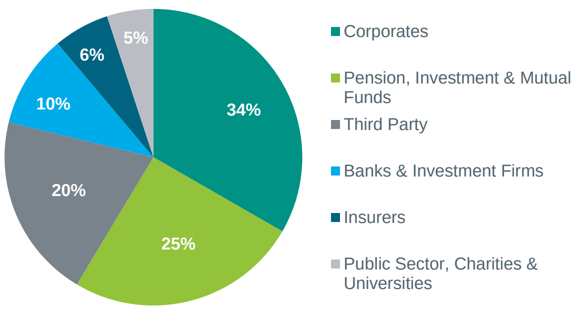
[1] "Internationally recognised amortised cost method as set out under international accounting standards", European parliament, 5 April 2017.

Furthermore, the new regulation also differentiates between a Short-Term MMF and a Standard MMF. According to the European parliament standard MMFs have the objective of offering returns slightly higher than money market returns, and they therefore invest in assets that have an extended maturity.[2]

Finally, similar liquidity fees and gates (redemption hurdles) as in the US MMF reform are applied to the European reforms (please see Appendix B for more details). When the weekly maturing assets fall below 30% of the AUM for CNAV and LVNAV MMFs and when daily redemptions request exceed 10% of the total asset value, then the board of directors have the discretion to decide whether to apply liquidity fees on redemptions, redemption gates or even the suspension of redemptions all together.

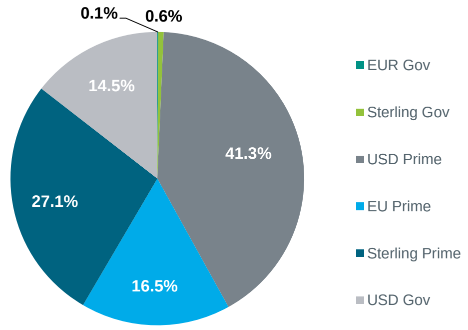
Most important regulatory change involves the differences between the MMF types
The MMF reforms don't lead to any changes in the maturity requirements for the securities held in the various MMF types. The most important change involves the fact that for CNAV MMFs more than 99% needs to be invested in government debt. This means that the current CNAV prime MMFs that mainly consist of investments in bank paper would need to be converted to either a VNAV or LVNAV (the latter for securities with a maturity longer than 75 days). Also the introduction of the LVNAV MMF type gives investors more flexibility. Additionally, the fees and gates are similar to the existing rules, but won't apply to VNAV MMFs.

Corporates and financial institutions are the main investors in CNAV MMFs
With almost EUR 1.2 trillion[3] invested in European money market funds as per Q4 2016, more than 54% of the MMF are designated as CNAV MMFs and over 45% as VNAV. From all of the European CNAV MMFs more than 84% are Prime funds.



…with more than 84% of the CNAV are prime funds

As per March 2015



Source: ABN AMRO Group Economics, ECB, MMCG[5]

As we have seen in the US, the assumption of a constant value of the portfolio is the key that will influence how investors will use MMFs after the regulatory changes. Approximately 16% of the total CNAV investments in Europe is invested in Europe Prime MMFs[6]. We estimate

[2] European parliament, 5 April 2017, http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P8-TA-2017-0109+0+DOC+XML+V0//EN&language=EN
[3] ECB, *Statistical Data Warehouse*, http://sdw.ecb.europa.eu/reports.do?node=1000003507
[4] Data from ECB Money Market Contact Group
[5] Data from ECB Money Market Contact Group
[6] European / American MMF: Review of the new regulation, https://www.ecb.europa.eu/paym/groups/pdf/mmcg/20150318/2015-03-18_presentation_item5.pdf

that this size would correspond to almost EUR 105bn in AUM. Additionally, in European Prime MMFs almost 53% is invested in European bank paper. This would correspond to approximately EUR 55bn in total AUM. We also find that the majority of the issued bank paper originates from French and German banks, with EU-domiciled MMFs being mostly based in France, Ireland and Luxembourg (please see the table below).

European Prime CNAV MMF mainly dominated by bank paper

In %

Country	Banks	Govies	Corporates	Total Allocation
France	28.4	4.6	1.0	34.0
Germany	14.0	0.7	0.7	15.5
UK	10.2	0.0	0.0	10.2
US	2.7	0.0	3.0	5.7

Source: ABN AMRO Group Economics, MMCG

The upcoming reforms do not differ much from current MMF maturity requirements
The current rules regarding the maximum weighted average maturity (WAM), weighted average life (WAL) and residual maturity remain the same under the new regulations. Any potential changes in maturity requirements per MMF type could have had significant implications on potential rebalancing flows of investors between the three MMF types. When we take a closer look at the current holdings of the largest European MMFs, we find that the average WAM of all the securities held is 47 days and the average WAL is 54.8 days. These are all within the limits of the current and new MMF regulations. We therefore judge that no significant changes will occur in the duration of the assets held by the various MMFs after the reform goes live.

No change in European Prime CNAV maturity requirements

Characteristics	Days
Weighted Average Maturity	47.0
Average Residual Maturity	54.8

Source: ABN AMRO Group Economics, IMMFA

However, survey results suggest that some investors heavily rely on the availability of CNAV MMFs, clearly emphasising the importance of a constant NAV
According to the *European Money Market Mutual Fund Survey on Regulation* conducted by the company Treasury Strategies, 69% of the number of CNAV-only investors would reduce or discontinue using MMFs as an investment vehicle if CNAV were not permitted. This would correspond to a reduction in the total portfolio value of 91% of total CNAV investments in Europe.[7] However, as noted before, in the new regulations a constant NAV would still be permitted in the form of a Public Debt CNAV and LVNAV - the latter under strict conditions[8] - as indicated earlier. This would mean that a proportion of Euro bank paper in CNAV prime MMFs - which are subject to conversion to VNAV or LVNAV - would need to find its way to MMFs that are permitted to use amortized cost accounting for their valuation. Taking

[7] Treasury Strategies, *European Money Market Mutual Fund Survey on Regulation: Summary Results & Analysis*, 2013, https://www.treasurystrategies.com/wp-content/uploads/TSI_EuropeanMMFRegulationSurvey.pdf
[8] Amortised cost is used for instruments with a maturity <=75 days and mark-to-market valuation is used for instruments with a maturity longer than 75 days.

everything together, we calculate that a maximum of EUR 50bn invested in CNAV prime MMFs would be subject to this reallocation.

A portion of the potentially EUR 50bn conversion out of bank paper should go into very short term EGBs

We expect a stronger skew from investors towards CNAV vis-a-vis LVNAV MMFs as the liquidity restrictions for the latter could be deemed to be too stringent. This could become even more problematic in a market environment in which QE tapering will start to be gradually priced in. The expect rise in yield and volatility could make it more difficult for LVNAV MMFs to make sure that the amortized cost value doesn't deviate too much from the mark-to-market value. It will also make it more difficult to maintain capital preservation and achieve its return goals. This will also force LVNAV MMFs more into less risky short term EGBs than into short term financials.

However, the market impact should be muted

Therefore, we expect corporate and institutional investors to 'tip-toe' the use of VNAV and LVNAV MMFs during the implementation phase. On the other hand, as corporate treasuries and institutional investors don't have many options to park their excess liquidity and still want a more attractive alternative compared to bank deposits, the expected capital flow away from bank paper into EGBs could be muted. All in all, we judge that only a portion of the potential EUR 50bn conversion out of bank paper into very short term EGBs would materialize. Finally, taking the relatively long implementation period of the reform into account, the overall market impact on very short term EGBs should be small.

In contrast to US MMF reforms we don't expect a tightening of unsecured interbank funding conditions following the European reforms

The European banking sector has been relying much more on the overnight unsecured interbank funding market than their US counterparts. Even as the European unsecured overnight market has been decreasing markedly over the past 10 years, it is still significant with a quarterly volume of more than EUR 2.8 trillion as measured by the ECB for Q4 2015. This is in contrast to an average of USD 238 billion in Q2 2016 for the United States.[9]

In contrast to what happened in the US, we concluded that MMFs will not be inclined to purchase less bank paper (please see Appendix E for more details on the relationship between the US interbank unsecured funding volumes, MMF flows and US money market rates). Following the reforms in the US, MMFs had less demand for bank paper and banks had to resort to unsecured interbank funding. However, they had to face other banks in a similar situation. This had increased lending rates and led to a decrease in liquidity in the interbank market. However, given the size of the European market and the expected muted reaction from investors to these new regulations, we judge that in Europe the correlation between the MMF rebalancing flows and a related decrease in unsecured lending will be less than witnessed in the US.

Finally, the reforms recently adopted indicate that it will become effective in Q2 2018. Therefore, as we have seen in the US, the rebalancing could start months earlier (please see Appendix C and D). We expect that during the beginning of the transition phase in the second half of 2017 the first conversion of MMFs and subsequently any portfolio rebalancing could start, with the most noticeable impact starting in Q1 2018 if any.

[9] U.S. data for 2015 is not available and European data for 2016 is not yet available.

Appendix A:

The US money market reform overhaul

During the financial crisis, it became painfully apparent that US money market funds, were still exposed to risks. The bankruptcy of Lehman and its subsequent debt write-off forced the US money market fund ‘Reserve Primary Fund’ to ‘break the buck’. The term ‘to break the buck’ means that the Net Asset Value (NAV) or share price of the fund fell below USD 1 and that the market value of the money market fund assets was lower than its liabilities. A situation of a fund to break the buck was seen as an extremely rare event and sparked investor anxiety. Investors reacted therefore by redeeming their holdings so that funds were forced to liquidate investments and to impose limits on redemptions. As money market funds were also an important funding tool for short term debt issuers, there was concern of contagion, which prompted the US Treasury to introduce measures to support the money market industry. These events are seen as the starting point for a regulatory overhaul to increase the resilience of the US money market sector.

On 14 October 2016 the new US Money Market Fund regulations were officially adopted. While the SEC gave money market mutual funds a two-year compliance time to implement the new Variable Net Asset Value (VNAV) reform. The key goal of the MMF reform in the US is ‘*to address money market funds’ susceptibility to heavy redemptions in times of stress, improve their ability to manage and mitigate potential contagion from such redemptions, and increase the transparency of their risks, while preserving, as much as possible, their benefits*.’[10]

Appendix B:

The impact of the regulatory overhaul on the US money market industry

The US money market fund industry historically has a relatively stable AUM of around USD 3 trillion. The US money market fund industry before the reform could be divided into Prime, Government and Tax Exempt MMFs. This distinction was mostly due to the different type of investments of the money market funds. The ‘Prime’ fund primarily invested in fixed income securities ranging from deposits to short-dated corporate debt while ‘Government’ MMFs only invested in government debt.[11]

After the reforms some funds were tailored exclusively for retail investors while others were specifically set up for institutional investors. Another key change was the classification between MMFs according to a constant and variable Net Asset Value (i.e. CNAV and VNAV).

- *CNAV*: these are MMFs which use amortised cost accounting[12]. It aims to maintain a constant share value of USD 1 where income is distributed to investors periodically. This includes MMFs in the ‘Prime Retail’ and ‘Government’ category.
- *VNAV*: these MMF funds allow some of the assets to be valued according to mark-to-market[13] (the NAV will therefore fluctuate) and was one of the key changes in the U.S. MMF reform. This includes the ‘Prime Institutional’ category.

[10] Securities and Exchange Commission, *Money market Fund Reform, Final Rule*, https://www.sec.gov/rules/final/2014/33-9616.pdf
[11] IMMFA Insights, *Selecting a Money Market Fund*, 2016.
[12] Asset valued according to purchase price, premium or discount amortized (linearly) over life of the asset.
[13] Current market price of the asset.

In addition, certain liquidity fees and redemption limits must be imposed to retail MMFs and non-US government institutional funds when liquid assets breach the minimum requirements. A redemption fee up to 2% could be charged when weekly liquid assets fall below 30% or redemptions (i.e. gates) could be stopped for 10 days. When weekly liquid assets fall below 10% then a 1% redemption fee could be charged if the MMF board deems it necessary. Finally, US government MMF are exempt from the regulations and remain CNAV, but could impose liquidity fees and redemption gates.

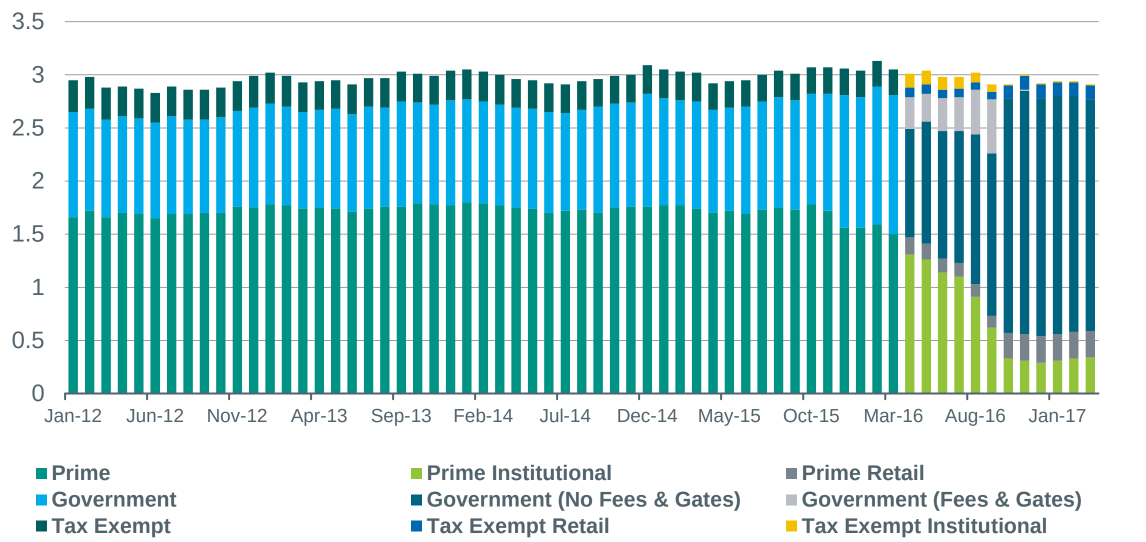
Appendix C:

US Prime Institutional (VNAV) MMFs experienced significant outflows

The figure below shows the historical development of the US money market industry in the run up to and after the implementation of the reforms in October 2016. We have broken down the market into the main categories Prime, Government and Tax Exempt. The break down clearly shows the significant decrease in Prime money market funds from the beginning of 2016 as indicated by the decline of the total AUM of the newly set up 'Prime Institutional' and the 'Prime Retail' MMFs. Of the new prime money market fund categories, we also observe that the Prime institutional funds, which were converted due to the reforms into VNAV, experienced a persistent decline (see next graph). Interestingly, while the total AUM of Prime institutional funds declined, the investments per geographical area remained constant. Another main conclusion is that the total decrease in Prime funds is almost fully substituted by a strong inflow in CNAV Government money market funds.

Only three MMF types before the reforms and afterwards a significant outflow from Prime MMFs

In $trn, (monthly data as per April 2016 funds are displayed in six categories to reflect changes in SEC regulations, all government funds displayed as 'Government (No Fees and gates)' before April 2016)[14]

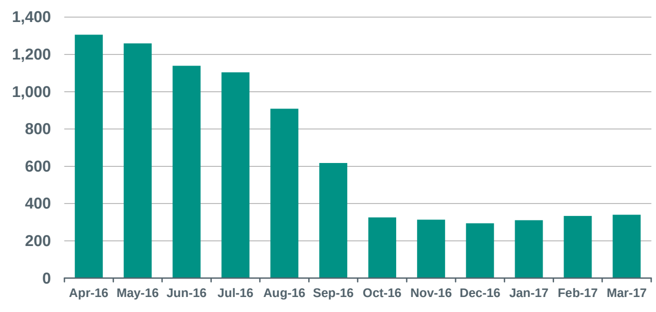


Source: ABN AMRO Group Economics, Office of Financial Research U.S. Department of the Treasury

[14] Office of Financial Research U.S. Department of the Treasury, *U.S. Money Market Fund Monitor*, https://www.financialresearch.gov/money-market-funds/us-mmfs-investments-by-fund-category/

USD 965bn outflows from Prime institutional VNAV

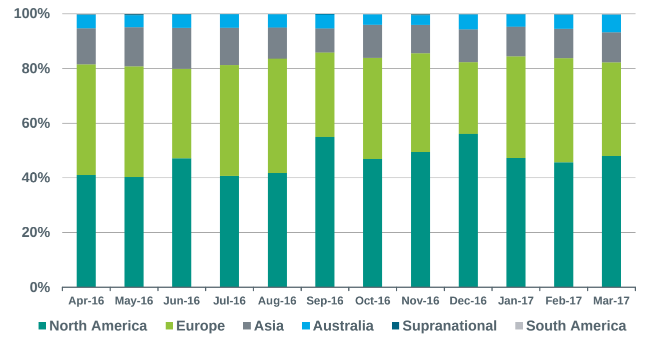
In USD trillion, (monthly data)



Source: ABN AMRO Group Economics, Office of Financial Research U.S. Department of the Treasury

…but allocation per geography remained relatively stable

In %



Source: ABN AMRO Group Economics, Office of Financial Research U.S. Department of the Treasury

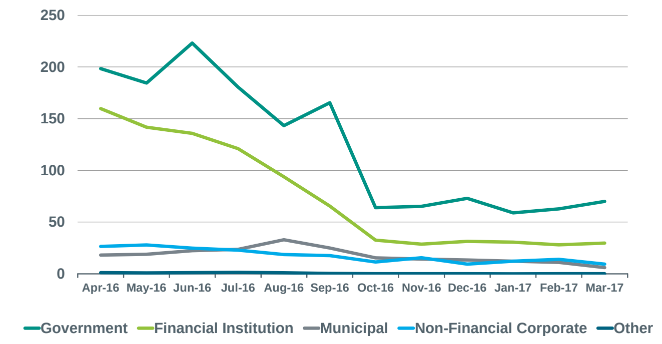
Appendix D:

US reforms prompted an outflow from financials by VNAV Prime Institutional funds…

While the AUM of VNAV Prime institutional funds declined and geographical distribution remained constant, we observe that the allocation to the type of investment changed noticeably. The changes are most significant in absolute values for financials and government investments. From a relative asset allocation approach, we find that the investment allocation to financial institutions dropped from 40% to around 25%. For government short-term paper it hovered between 50%-60%. Interestingly, non-financial corporates jumped from an allocation of around 7% to more than 12% directly after October 2016 with volatile swings between 12% and 8% afterwards. Finally, municipal investments rose steadily from 4% peaking to over 12% in October 2016 to drop gradually afterwards.

Gov & Financials impact VNAV Prime Institutional

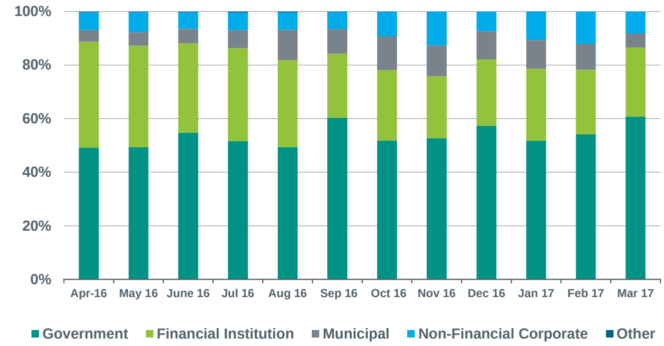
In USD bn, (monthly data)



Source: ABN AMRO Group Economics, Office of Financial Research U.S. Department of the Treasury

…% allocation weights in financials dropped mostly

In %



Source: ABN AMRO Group Economics, Office of Financial Research U.S. Department of the Treasury

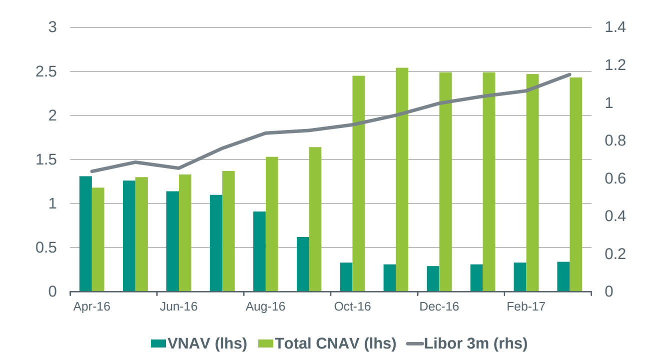
Appendix E:

Libor rates pushed higher due to a decrease in interbank unsecured funding

The decline in net demand for financial investments, like commercial paper and certificates of deposits also affected the rates market. The outflow from these VNAV Prime Institutional MMFs has led to lower demand for these short term paper issued by banks. This meant that banks had to find other sources for funding. As banks tried to meet their funding needs in the interbank market they faced bank counterparts who were also in need of other sources of funding. Therefore demanding a compensation for providing funding via higher interbank rates. As such, the funding costs of these financial counterparties rose[15] and consequently pushed up Libor. We calculate that even before the reforms were officially implemented a shift had already taken place from prime funds to government securities, amounting to a size of almost USD 1 trillion.

3m Libor and outflows of Prime Institutional VNAV MMFs increased

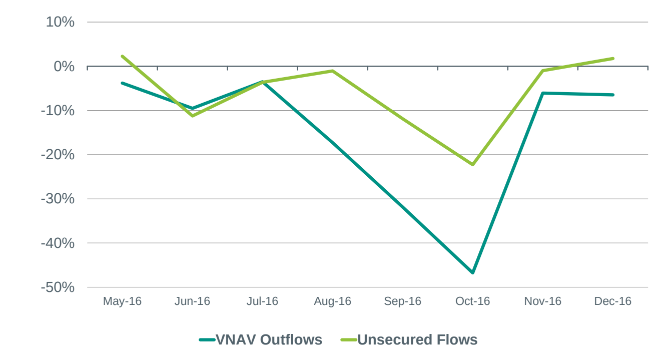
In USD trillion,



Source: ABN AMRO Group Economics, Office of Financial Research U.S. Department of the Treasury

% changes show a strong correlation between Interbank and MMF flows

In %



Source: ABN AMRO Group Economics, Office of Financial Research U.S. Department of the Treasury

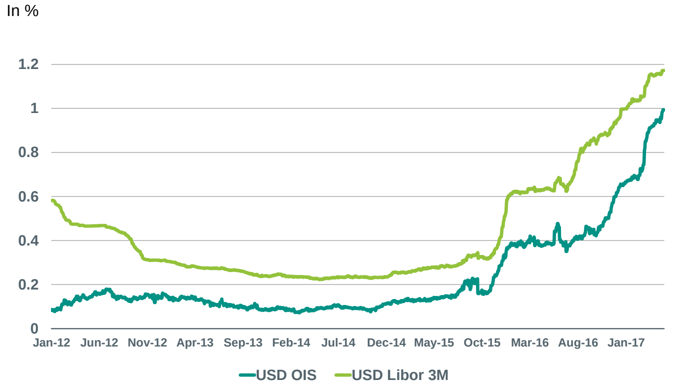
We also take the relative size of the overnight unsecured interbank market and compare it with the total flows out of VNAV funds. In the United States we have seen that there has been a strong correlation between the outflows from the Prime VNAV funds and the decrease in interbank unsecured lending volumes. To put the sizes of these two markets into context, from September to the end of October 2016 the VNAV funds experienced an outflow of USD 620 billion to USD 330 billion (i.e. 42% decrease). While the total volume size of the overnight unsecured interbank market dropped from USD 220 billion to USD 171 billion (i.e. 22% decrease). This helps to clarify the relationship between the decrease in demand from MMFs for paper issued by banks amongst others, the reluctance of banks to provide interbank funding to one another - as proxied by the decrease in overnight unsecured interbank flows - and the increase in interbank rates. Additionally, in the months surrounding the effective date of the MMF reform, VNAV AUM decreased by 78% and the unsecured interbank market volumes dropped by 40% in the same period.

We also estimate that approximately 20bps of the total rise in 3m Libor over the first half of 2016 was attributable to the first rate hike in seven years by the Federal Reserve in December

[15] Reuters, *Libor rise, driven by U.S. money market rules, seen topping near 1.0 percent.*

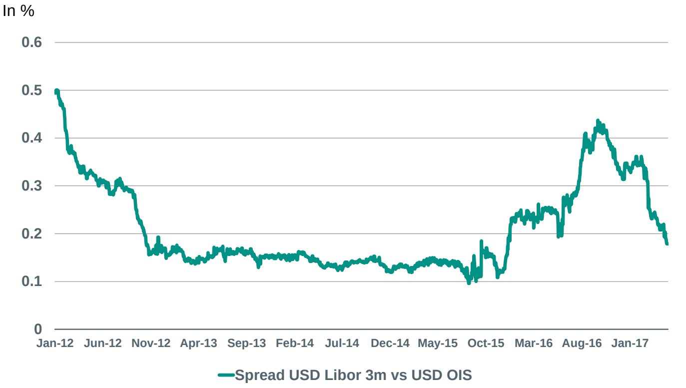
2015. We also notice that the percentage of total MMF investments in Government MMF surpassed the Prime MMF investments in June 2016.

USD OIS & Libor 3M rise after Fed rate hike end Q4 2015…



Source: ABN AMRO Group Economics, Bloomberg

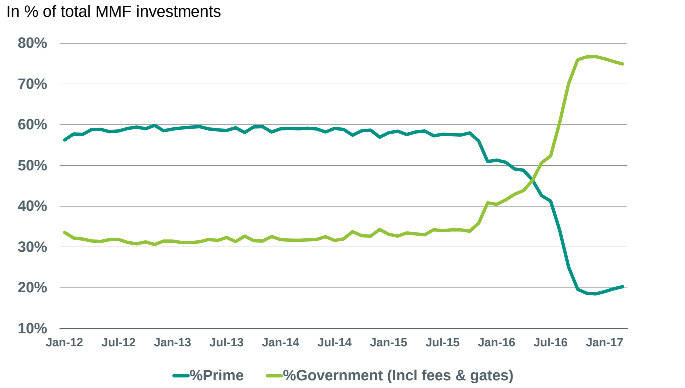
Spread peaked at MMF reform implementation day…



Source: ABN AMRO Group Economics, Bloomberg

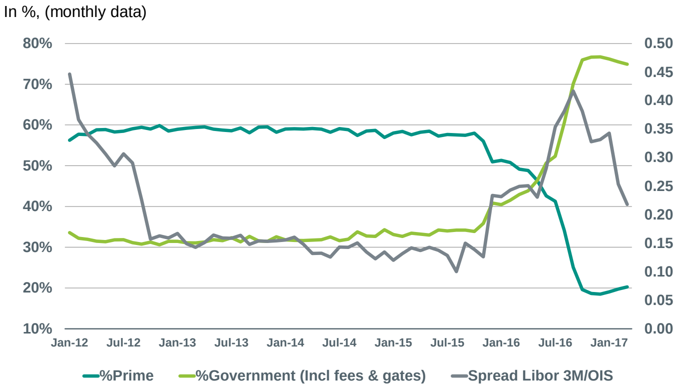
In our view this development attributed to a further push in Libor 3m/OIS spread widening from around 20bps to its peak of over 42bps by the end of September 2016, one month before the new MMF reforms would go live.

Total Investment in Prime MMF decreased rapidly in 2016



Source: ABN AMRO Group Economics, Bloomberg, Office of Financial Research U.S. Department of the Treasury

Shift from Prime to Gov MMF initiated after rate hike



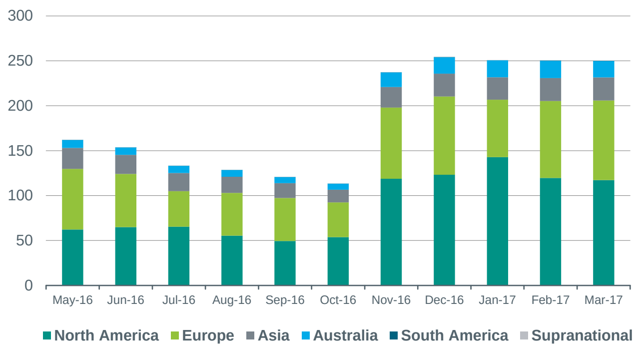
Source: ABN AMRO Group Economics, Bloomberg, Office of Financial Research U.S. Department of the Treasury

Appendix F:

Reallocation of assets in anticipation of MMF type conversion already apparent before implementation date

CNAV US Prime Retail MMF investments increased substantially

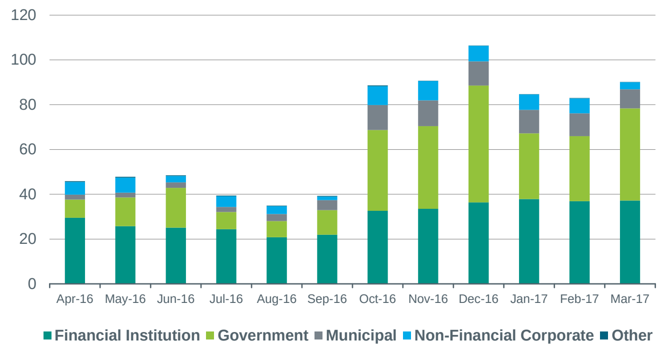
In USD bn,



Source: ABN AMRO Group Economics, Office of Financial Research U.S. Department of the Treasury

…with inflows mainly driven by UST investments

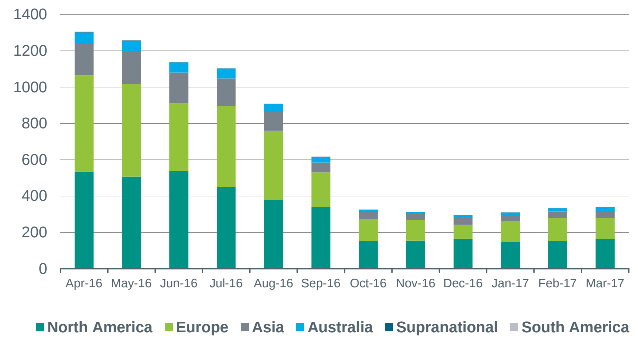
In USD bn,



Source: ABN AMRO Group Economics, Office of Financial Research U.S. Department of the Treasury

…VNAV US Prime Institutional MMFs experienced outflows

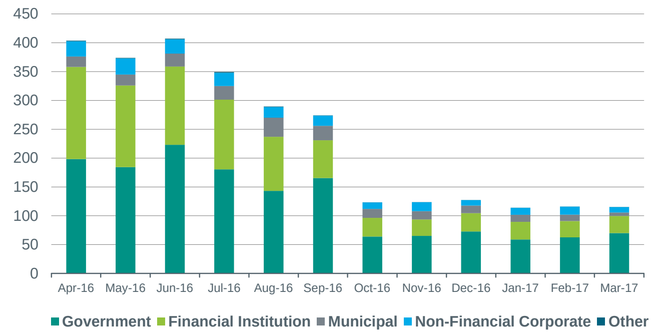
In USD bn,



Source: ABN AMRO Group Economics, Office of Financial Research U.S. Department of the Treasury

…driven by UST and Financial Institutions issued paper

In USD bn,



Source: ABN AMRO Group Economics, Office of Financial Research U.S. Department of the Treasury

ABN·AMRO