US Fixed Income Strategy
Short-Term Fixed Income Markets Research Note
J.P. Morgan Securities LLC
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Prime money market fund holdings update

March 2015

Short Duration Strategy

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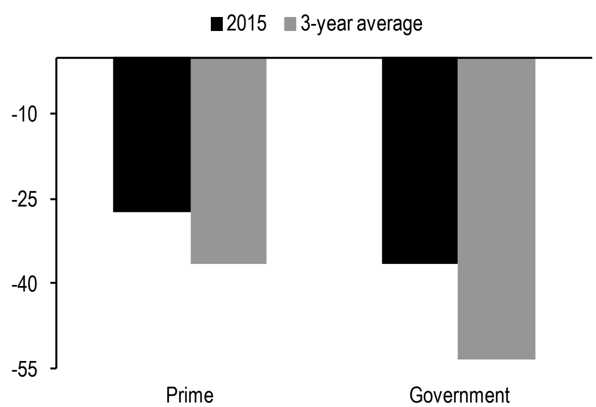
- **Prime money market funds experienced $20bn in outflows during March.** Assets invested in prime institutional funds decreased by $18bn, while prime retail balances fell by $2bn. Separately, government fund assets decreased by $17bn during the month.

- **Taxable MMF assets decreased by $64bn during the first quarter of 2015.** The decline was split almost evenly between prime and government MMFs: government fund AuM decreased by $37bn, while prime fund AuM decreased by $28bn. First quarter net outflows from taxable funds are typical as cash built up around year-end begins to dissipate, and this year's decline showed to be in line with recent history (Exhibit 1).

- **Prime funds shortened their maturity profiles over the course of March, likely as a means to meet anticipated investor redemptions at the end of the month.** Composite weighted average maturities of prime MMFs dropped by 3 days mostly during the last days of March. At 39 days, prime fund WAMs currently stand near their multi-year low (Exhibit 2). Additionally, holdings of US Treasury securities increased by $17bn or 25% month-over-month (Exhibit 3), which could be another sign of fund managers attempting to bolster liquidity.

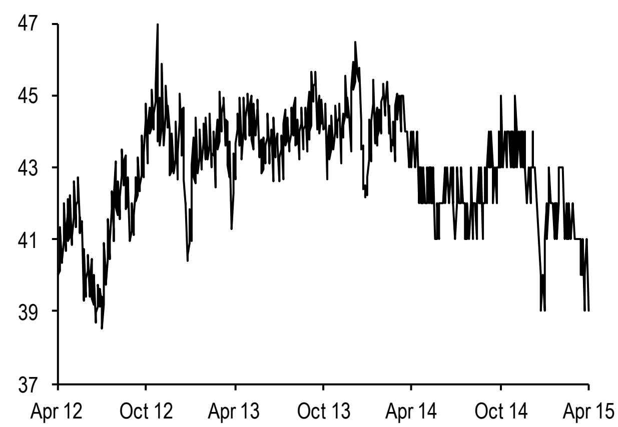
- **Looking forward, we expect prime funds to become increasingly conscientious of building liquidity as SEC money market fund reform continues to reshape the industry.** The combination of investors shifting their cash out of prime funds and large fund families modifying their product offerings is likely to put emphasis on ensuring

Exhibit 1: The first quarter's decline in MMF assets was mostly in line with the previous three year average
Prime and government MMF change in AuM during the first quarter ($bn)



Source: iMoneyNet

Exhibit 2: Prime MMF WAMs are near their multi-year low
Prime MMF composite weighted average maturity (days)



Source: iMoneyNet

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that ample liquidity is maintained for prime MMFs. Indeed, to date, six major complexes representing almost half of the MMF business in terms of AuM have made some form of formal announcement to address their respective strategy for dealing with money fund reform rules (Exhibit 4). Whether it be converting prime funds into government fund status, or instituting short maturity funds, higher liquidity levels will be needed.

- **Prime money market funds decreased exposures to banks by $141bn month-over-month (Exhibit 5).** The sharp pullback in bank outstandings was driven primarily by time deposits balances, which fell $117bn. European banks were the primary drivers behind the time deposit contraction: French, Norwegian, Swedish, and UK banks decreased outstandings by $41bn, $26bn, $30bn, and $18bn respectively (Exhibit 6).

- **In addition to time deposit shedding, many banks also reduced outstandings in the repo market at the end of March (Exhibit 7).** Although almost all of this activity was with government MMF counterparties, it further illustrates the temporary shedding of short-term wholesale funding that occurs around quarter-ends. This trend has grown more prominent of late, as many banks are required to publically disclose their Basel III leverage ratio and LCR starting this year. Based on the way that these ratios are calculated, there is added incentive for European banks in particular to shrink their balance sheet the end of the quarter as we have witnessed in our holdings data.

Exhibit 3: Prime fund holdings of US Treasuries increased by 25% month-over-month

Prime MMF exposures by sector ($bn)

Issuer Type	Mar-15	% of total	m/m chg	chg since Dec-14	m/m % chg	% chg since Dec-14
Banks (US)	158	11%	6	(10)	4%	-6%
Banks (Eurozone)	173	12%	(61)	5	-26%	3%
Banks (Other Yankee)	609	42%	(91)	(17)	-13%	-3%
ABCP/CCP (Banks)	68	5%	4	(0)	6%	0%
ABCP (Non-banks)	18	1%	1	3	9%	18%
ABS issuers	2	0%	0	1	34%	60%
Corporates (Financial)	12	1%	(2)	(2)	-13%	-13%
Corporates (Non-financial)	41	3%	(4)	5	-10%	14%
US Treasuries	86	6%	17	8	25%	10%
US Agencies	60	4%	(13)	(37)	-18%	-38%
US S&L Govt/Munis	11	1%	1	(1)	11%	-12%
Foreign SSA	41	3%	(1)	6	-1%	19%
Central Banks (Fed RRP)	172	12%	114	(7)	198%	-4%
Other	2	0%	0	(2)	10%	-43%
Total	**1,452**	**100%**	**(26)**	**(49)**	**-2%**	**-3%**

*Includes bank sponsored, non-bank sponsored, and government/agency sponsored conduits.
Source: J.P. Morgan estimates, fund holdings reports, iMoneyNet
Note: J.P. Morgan estimates of exposures in prime money market funds are based on a sample of large funds including funds managed by Fidelity, BlackRock, JPMorgan, Vanguard, Federated, Dreyfus, Wells Fargo, Goldman Sachs, Morgan Stanley, UBS, Schwab, SSgA, American Funds, BofA, First American, Northern, RBC, Western Asset Management. Sample represents 85% of US prime MMF in terms of AUMs. Allocation %s are calculated from the sample and then applied to the period's total prime fund AUMs. Banks include unsecured CP, ABCP, CD, time deposits, repo, and other notes. Corporates include CP and other notes. US Treasuries include T-bills and coupons. US Agencies include discount notes and fixed/floating notes. US S&L Govt/Muni include muni CP, notes, and VRDNs. Foreign SSA includes CP, CDs, ad other notes. Central banks include repo. Other includes investments in funds including other MMFs and tax-exempt preferreds.
**Actual total amount used for "Central Banks (Fed RRP)", causing difference between iMoneyNet total AUM of $1,432bn for 3/31 vs. total AUM of $1,452bn in table.

Exhibit 4: Six large MMF complexes which account for almost half of the MMF industry have made formal announcements addressing their strategies for dealing with MMF reform

Summary of MMF reform related announcements made by large fund complexes

Complex	AuM* ($bn)	Prime ($bn) Inst	Prime ($bn) Ret	Govt ($bn) Inst	Govt ($bn) Ret	Municipal ($bn) Inst	Municipal ($bn) Ret	Date of Announcement	Summary of announcement
Fidelity	406	135	117	58	24	5	67	1/30/2015	- No plans to institute liquidity gates and fees for its government MMFs - Will convert three of its retail prime funds into government fund status
Federated	199	63	16	74	29	12	6	2/19/2015	- No plans to institute liquidity gates and fees for its government MMFs - Intends to restructure a portion of its institutional prime and muni MMFs into 60-day max maturity funds
JPMorgan	252	116	15	86	9	19	7	2/20/2015	- No plans to institute liquidity gates and fees for its government MMFs - No intentions to institute floating NAVs in its prime MMFs and fees and gates in its non-government MMFs before 2H2016
Dreyfus	166	71	1	87	1	5	1	3/12/2015	- Working out strategy for providing daily liquidity for floating NAV funds - Currently reviewing the efficacy of 60-day max maturity funds - Possibly supplementing current offerings with unregistered cash management alternatives
BlackRock	211	137	11	51	3	4	5	4/6/2015	- No plans to institute liquidity gates and fees for its government MMFs - Intends to offer intraday liquidity through at least three NAV calculations throughout the day for institutional prime MMFs - Intends to restructure a portion of its institutional prime and muni MMFs into 7-day max maturity funds - Will convert certain retail prime funds into government status
Legg Mason	45	14	1	26	2	1	1	4/7/2015	- No plans to institute liquidity gates and fees for its government MMFs - Will offer two non-money market short duration bond funds that will not be subject to liquidity fees and redemption gates (but will transact at a floating NAV)
Total Announced	**1279**	**536**	**162**	**382**	**67**	**46**	**87**		
Total Announced as % of Mkt	**49%**	**56%**	**34%**	**52%**	**36%**	**61%**	**47%**		

Source: iMoneyNet, JPMorgan
* Data as of 4/2/2015

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Exhibit 5: Reductions in time deposits and CP/CD balances outstanding drove the $141bn decrease in bank exposures during March

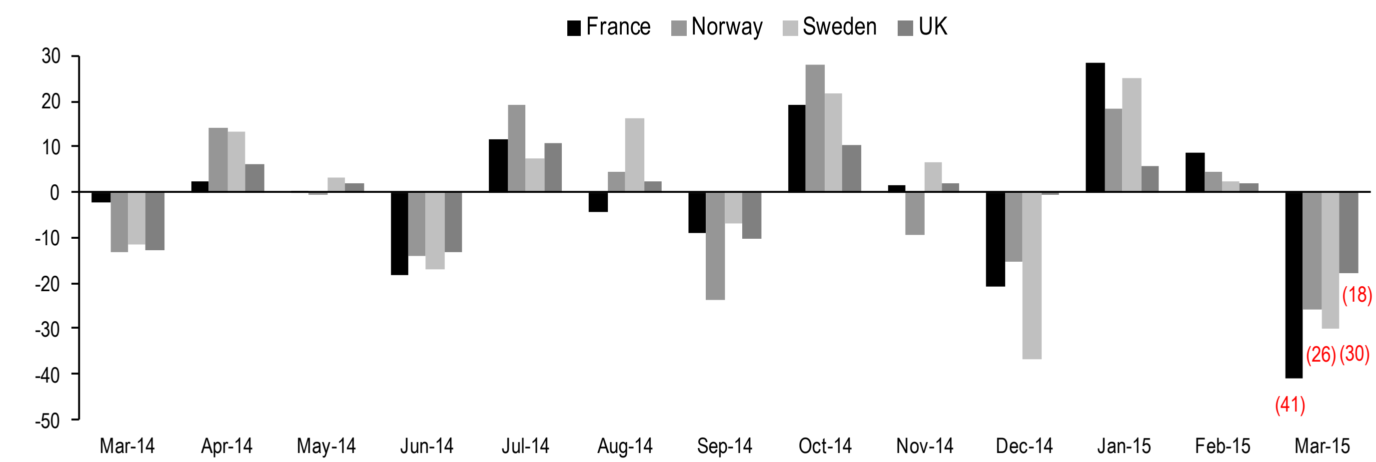
J.P. Morgan estimate of prime MMF exposures to banks ($bn)

		Mar-15										m/m change										Change since Dec-14									
	Issuer # / Top 3	CP	CD	TD	ABCP	CCP	Agy RP	Tsy RP	Oth RP	Other	Total	CP	CD	TD	ABCP	CCP	Agy RP	Tsy RP	Oth RP	Other	Total	CP	CD	TD	ABCP	CCP	Agy RP	Tsy RP	Oth RP	Other	Total
Total	**75 / 14%**	**162**	**516**	**62**	**53**	**15**	**42**	**12**	**90**	**55**	**1,007**	**(19)**	**(22)**	**(117)**	**5**	**(1)**	**4**	**4**	**1**	**4**	**(141)**	**(2)**	**(6)**	**(23)**	**(1)**	**1**	**3**	**(1)**	**(3)**	**9**	**(23)**
Eurozone	**15 / 53%**	**24**	**101**	**14**	**16**	**2**	**14**	**4**	**11**	**4**	**191**	**(3)**	**(10)**	**(48)**	**2**	**(0)**	**(0)**	**1**	**(0)**	**0**	**(58)**	**(1)**	**10**	**(3)**	**(1)**	**(0)**	**(1)**	**(2)**	**(1)**	**3**	**4**
Belgium	1 / 100%	-	3	-	-	-	-	-	-	-	3	-	(2)	(6)	-	-	-	-	-	-	(8)	-	2	-	-	-	-	-	-	-	2
France	5 / 81%	12	53	10	13	2	10	2	8	2	110	(3)	(11)	(41)	2	(0)	(1)	(1)	(1)	1	(55)	(2)	3	(4)	(0)	(0)	(1)	(3)	(0)	2	(6)
Germany	5 / 86%	3	11	2	2	-	2	1	1	0	22	0	1	(0)	0	-	1	0	0	0	3	0	2	(1)	(0)	-	0	0	0	0	2
Luxembourg	1 / 100%	1	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	0	1	-	-	-	-	-	-	-	-	1
Netherlands	3 / 100%	8	35	3	1	-	2	2	3	2	55	(1)	2	(1)	0	-	(0)	1	0	(1)	2	0	3	2	(0)	-	0	1	(0)	0	6
Other Europe	**13 / 47%**	**35**	**67**	**29**	**8**	**-**	**0**	**1**	**22**	**12**	**175**	**(13)**	**(4)**	**(73)**	**(1)**	**(1)**	**(1)**	**(2)**	**1**	**3**	**(93)**	**(3)**	**(2)**	**(15)**	**(1)**	**(0)**	**0**	**(1)**	**2**	**5**	**(15)**
Norway	1 / 100%	9	2	1	-	-	-	-	-	0	11	0	(2)	(26)	-	-	-	-	-	0	(28)	(1)	(1)	(3)	-	-	-	-	-	0	(4)
Sweden	4 / 83%	15	21	21	-	-	-	-	-	9	66	(2)	(4)	(30)	-	-	-	-	-	2	(34)	(4)	(7)	(2)	-	-	-	-	-	3	(10)
Switzerland	2 / 100%	2	24	-	4	-	-	0	21	1	51	(0)	1	-	(0)	-	(0)	0	2	(0)	2	0	2	-	(0)	-	-	0	3	(1)	4
UK	6 / 82%	10	20	7	4	-	0	1	2	3	46	(11)	1	(18)	(1)	(1)	(1)	(2)	(1)	1	(33)	2	3	(10)	(1)	(0)	0	(1)	(0)	2	(5)
Other Regions	**47 / 22%**	**104**	**348**	**20**	**29**	**13**	**29**	**7**	**56**	**38**	**641**	**(3)**	**(8)**	**4**	**4**	**1**	**6**	**5**	**1**	**1**	**10**	**2**	**(14)**	**(5)**	**1**	**2**	**4**	**2**	**(5)**	**2**	**(12)**
Australia	6 / 76%	60	19	8	-	-	-	-	-	5	92	(1)	(2)	4	(0)	-	-	-	-	(0)	(1)	3	(3)	(1)	(0)	-	-	-	-	(1)	(2)
Canada	7 / 69%	11	131	2	10	6	4	1	6	7	179	3	(1)	0	1	1	1	1	(1)	1	5	3	(1)	(4)	2	2	(1)	0	(2)	1	1
Chile	4 / 91%	1	2	-	-	-	-	-	-	0	3	(0)	0	-	-	-	-	-	-	0	0	(0)	0	-	-	-	-	-	-	0	0
China	3 / 100%	0	1	1	-	-	-	-	-	0	3	0	0	1	-	-	-	-	-	(0)	1	(0)	(3)	0	-	-	-	-	-	0	(3)
Japan	8 / 72%	10	142	5	10	-	3	-	4	0	174	0	0	2	3	-	1	-	0	0	6	1	5	1	1	-	2	-	(1)	(0)	9
Kuwait	1 / 100%	-	1	1	-	-	-	-	-	1	2	-	0	0	-	-	-	-	-	0	0	-	0	0	-	-	-	-	-	1	1
Singapore	3 / 100%	9	2	2	-	-	-	-	-	2	16	(2)	(1)	(1)	-	-	-	-	-	(0)	(5)	(3)	(2)	(1)	-	-	-	-	-	1	(5)
US	15 / 74%	12	51	1	8	7	21	6	46	21	173	(2)	(3)	(1)	(0)	0	4	4	1	0	3	(1)	(10)	(1)	(2)	(0)	3	2	(2)	0	(13)

Source: J.P. Morgan estimates, fund holdings reports, iMoneyNet. * Top 3 issuer concentrations by country. Note: Other category includes money market eligible notes/bonds. Table does not include exposures to VRDN credit/liquidity providers.

Exhibit 6: European banks led the pullback in time deposit balances over quarter-end

Monthly changes of prime MMF held time deposit holdings for selected regions ($bn)



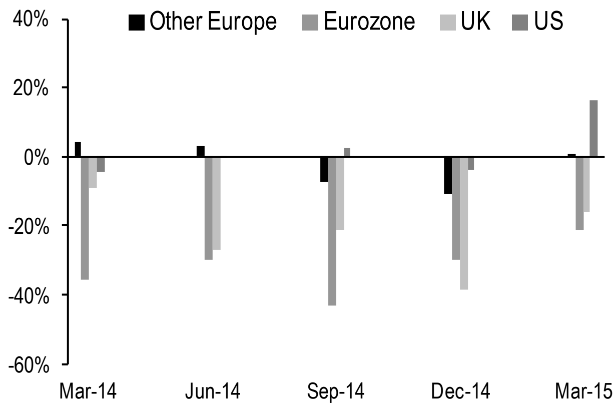
Source: J.P. Morgan estimates, fund holdings reports, iMoneyNet

- Away from time deposits, bank balances of CP and CD fell by $19bn and $22bn respectively, concentrated in the United Kingdom and France. Allocations to ABCP/CCP, repo, and other bank paper went practically unchanged across most regions.

- **Money market funds represented $310bn, or 82% of aggregate Fed RRP usage at quarter-end.** MMFs took down $144bn of the $176bn in total usage for the two term operations conducted prior to the end of the March. During the overnight operation conducted on March 31st, money funds took down $167bn of the $202bn in total overnight RRP usage.

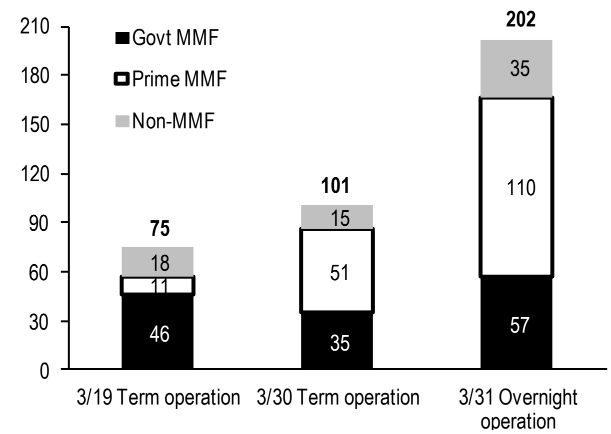
- Similar to what transpired at the end of the year, prime funds used the RRP increasingly towards the end of the quarter, whereas government fund demand was more consistent. While government MMFs were the largest

Exhibit 7: Repo balances for large banks tend to contract at quarter-ends
Percentage of previous two month average: Repo balances outstanding



Source: Crane Data

Exhibit 8: Money market funds took down a total of $310bn in RRP at the end of the quarter
Summary of Fed RRP usage over quarter-end ($bn)



Source: Federal Reserve, Fund holdings reports

users of the first term operation conducted on March 19th, prime funds came in more for the last term offering on March 30th, and overnight offering on the 31st (Exhibit 8). Higher yielding market rates likely lured prime funds away from the RRP and into alternative product until the end of the month when a source of temporary backstop supply was needed.

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