After the storm: Short term USD markets in the wake of 2a-7 reform

December 12, 2016

CRÉDIT AGRICOLE
CORPORATE & INVESTMENT BANK

2a-7 Reform: Background

A regulatory-driven dislocation

Context

- With >1500B USD in AUM, Prime Funds were a large factor in the Short Term USD markets and a significant counterparty for large foreign Banks.
- In the wake of liquidity and solvency issues post-Lehman, the SEC adopted changes to the 2a-7 regulations that govern money market funds (MMFs).
- Regulations were announced in 2014 but took effect in October 2016
- As of October 14, 2016:
    - Institutional Prime Funds must use a variable net asset value (VNAV), as well as fees & gates in the event of a run.
    - Retail Prime Funds must impose fees and gates, but can retain constant net asset value (CNAV) pricing.
    - Government funds are exempt from the changes (they can retain CNAV /no fees and gates.)
- In effect, daily liquidity is still “free” for gov’t funds, but is no longer “free” for prime funds
- Some investors didn’t want to, or couldn’t, accept fees/gates or VNAVs, so AUM moved from Prime to Gov’t Funds, via fund conversions or investor withdrawals.
    - Complexes, e.g. Fidelity, began converting some prime funds to gov’t funds in Nov. 2015. (Total conversions - $350B)
    - Investors began withdrawing USD from prime funds beginning in July 2016 (Total withdrawals– $750B)

2a-7 Reform: How it played out

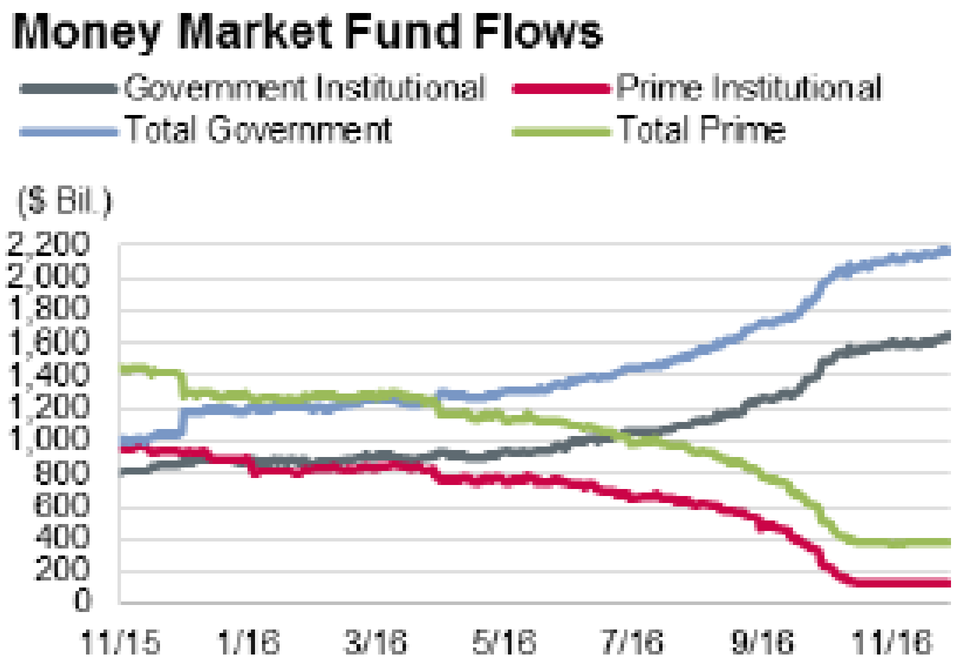
Transition was orderly, but larger and more back-loaded than anticipated

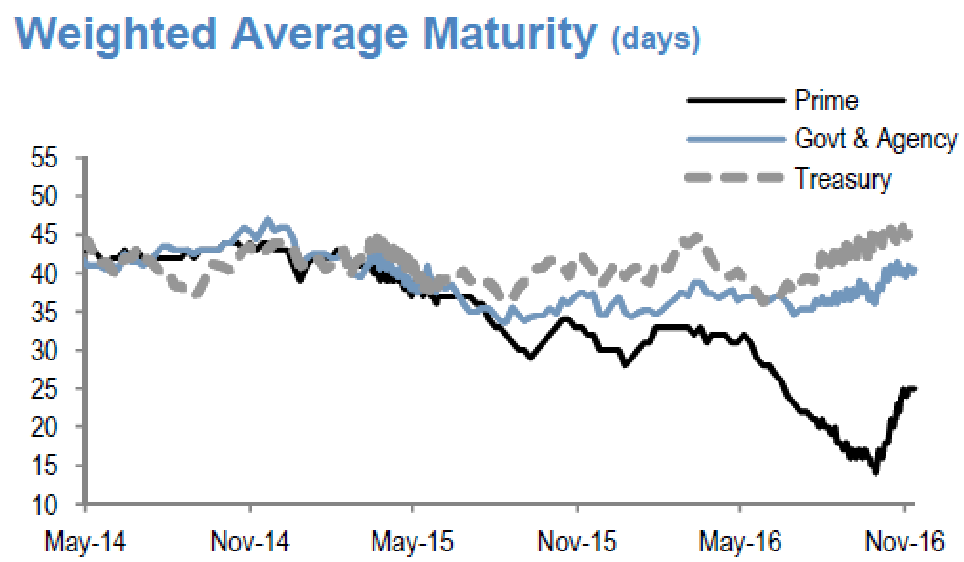
Transition was:

- Orderly
    - Funds shortened their tenors so significantly in anticipation of the deadline that the cash was useless from a ratio standpoint long before it disappeared (By Oct 1, institutional prime WAMs had dropped 69% YOY to 10 days, and 83% of assets were <=7 days tenor)
    - Markets worked
        - Banks offered higher rates for tenor and non-2a-7 investors stepped up to take them (3ML moved from 0.65 on July 1 to 0.88 on Oct 14)
        - Short term investors were more diverse (from the standpoint of regulatory regime) than we realized - e.g. JPIM is not a 2a-7complex – it is a short term complex with 2a-7 funds, separately managed accounts (SMAs), Short Term Investment Funds (STIFs), offshore funds, ultra-short term bond funds (USB), Securities Lending Reinvestment.
        - Corporations, municipalities and central banks also stepped up.
- Larger than expected (1.1TUSD total movement)
- More back-loaded than expected
    - Transition started in November 2015 with Fidelity Cash Reserves
    - 750BUSD moved post –Brexit, of which
    - 300BUSD moved in the last three weeks before the deadline

2a-7 Reform: How it played out

Two Concerns: Underlying Dynamics and Event Risk



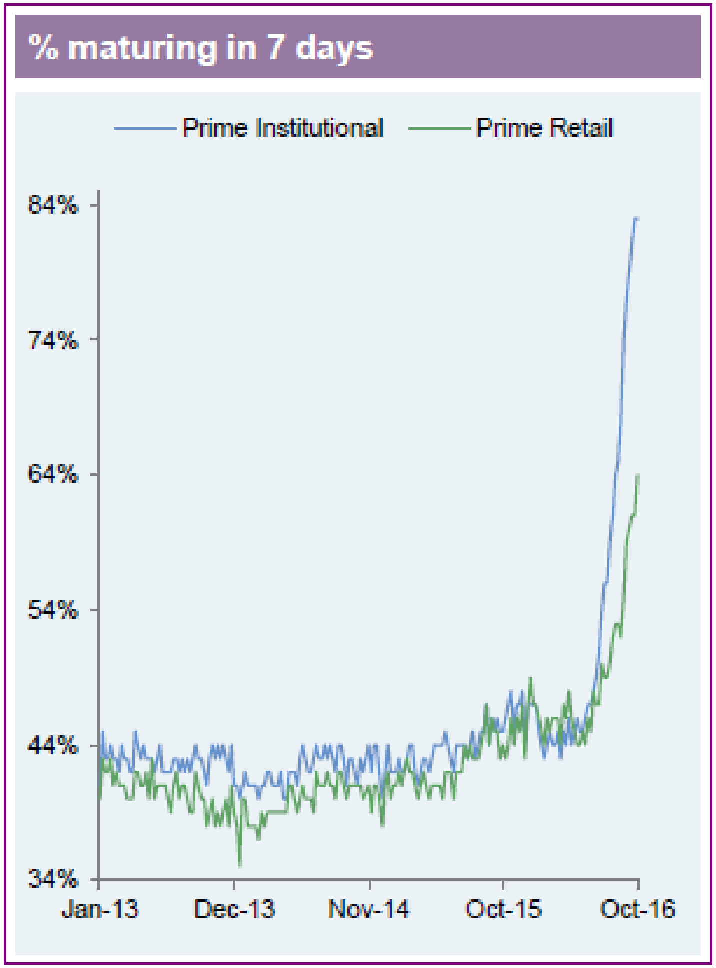


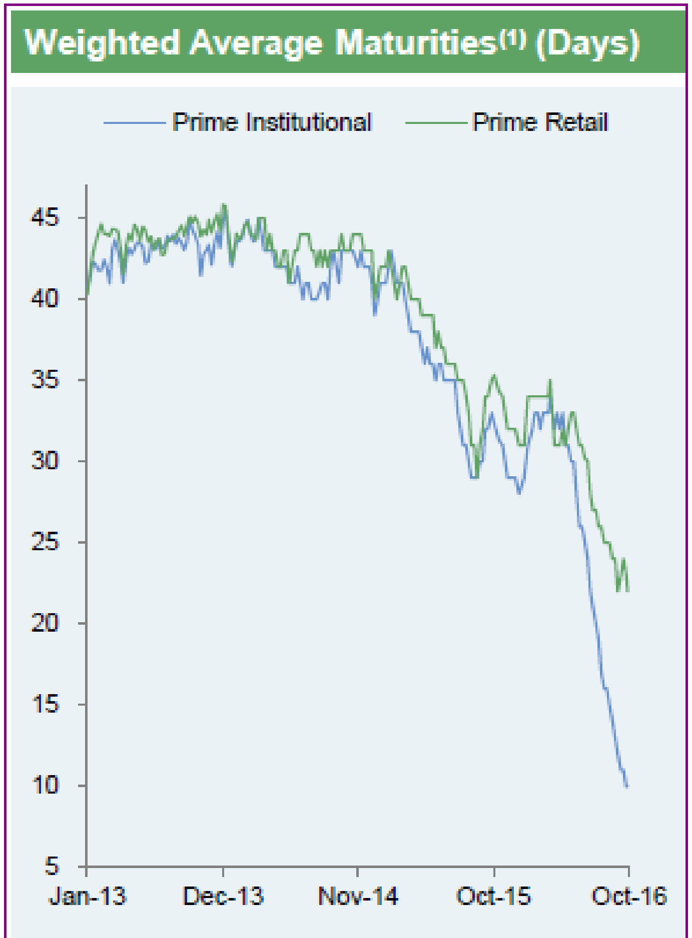
Investors eventually moved significant AUM

Because of uncertainty around investor timing, MMF portfolio managers reduced their WAMs dramatically

2a-7 Reform: How it played out

Like Y2K, the event risk was worse than the underlying

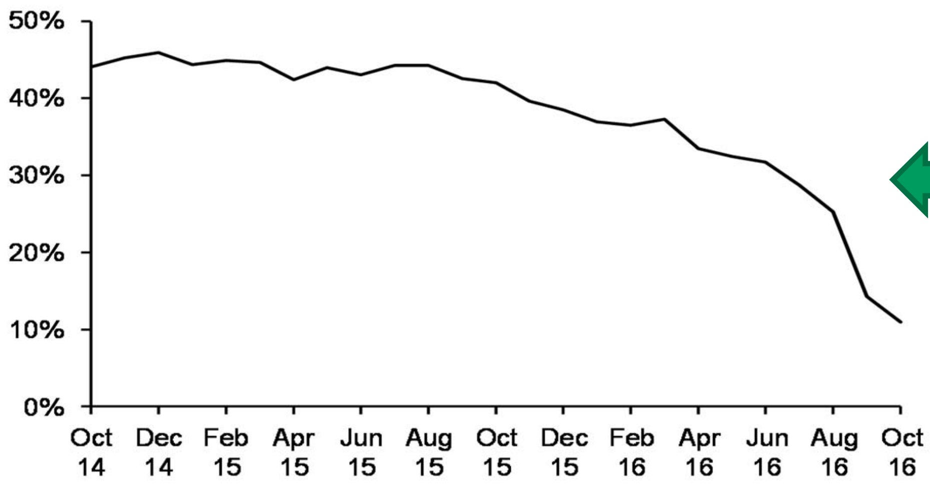




Source: iMoneyNet, J.P. Morgan as of September 30, 2016

2a-7 Reform: How it played out

Foreign Banks Liabilities from 2a-7 Funds declined



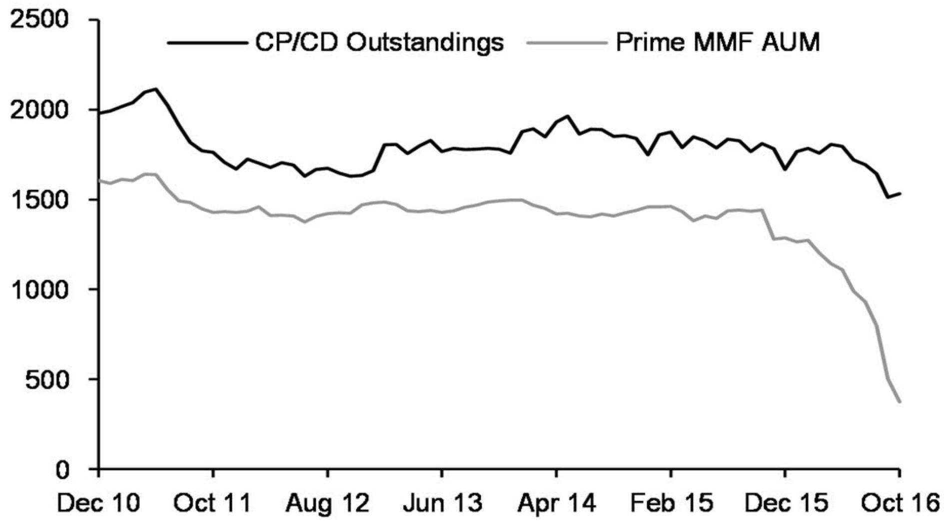
Prime MMFs' exposure to CP/CD as a percentage of the US CP/CD market

Source: JPM

2a-7 Reform: How it played out

As 2a-7 Funds pulled back, other investors stepped up

US CP/CD outstandings versus prime MMF AUM ($bn)



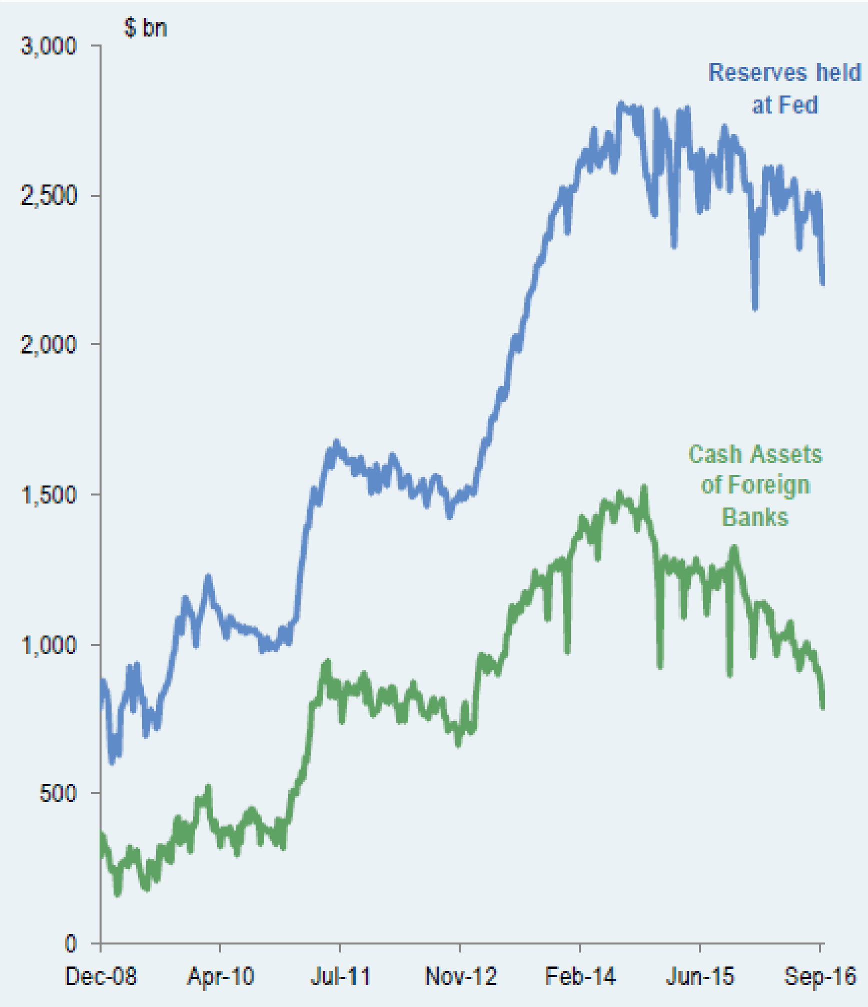
But overall outstandings viewed over a longer timeframe paint a less alarming picture

Significant increase on deposits or cd's from separately managed accounts (SMAs), Short Term Investment Funds (STIFs),offshore funds, ultra-short term bond funds (USB), Securities Lenders ,Corporations, municipalities and central banks.

2a-7 Reform: Aftershocks

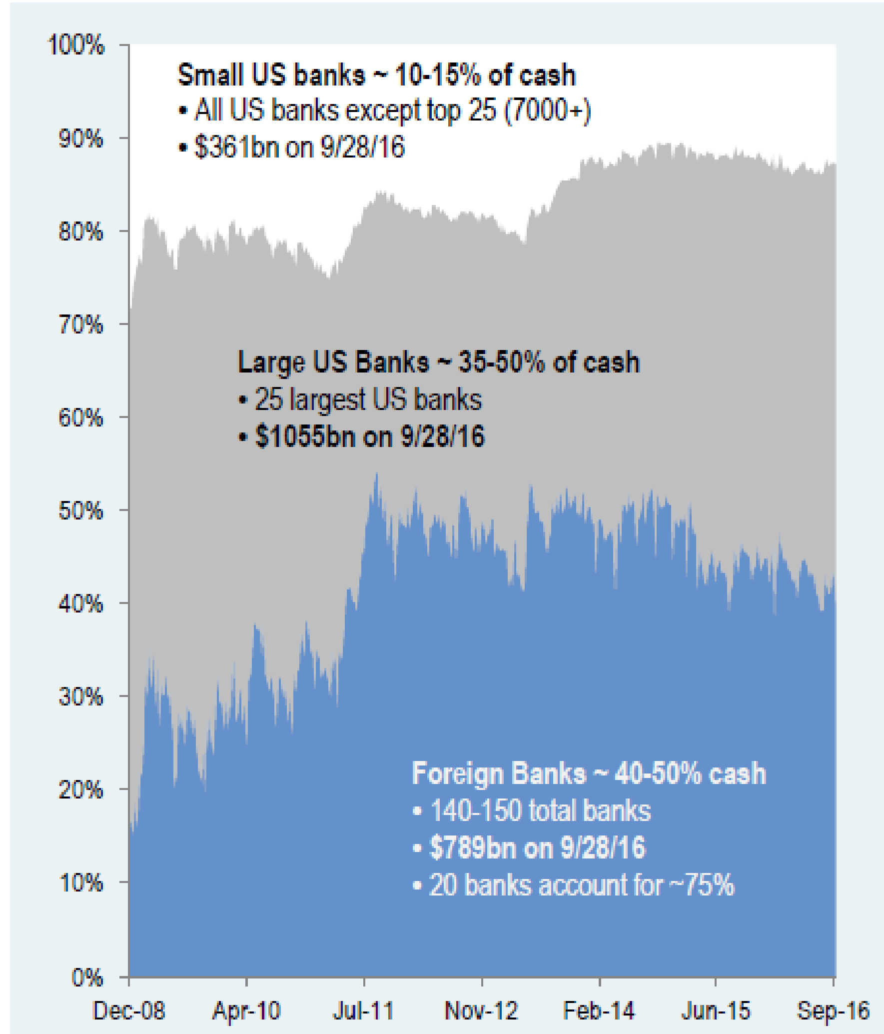
Less cash in the bank space means lower IOER balances and tighter spreads

Amount of reserves held at the Fed ($bn)



Source: Federal Reserve H.4.1 and H.8 statistical releases as of September 30, 2016

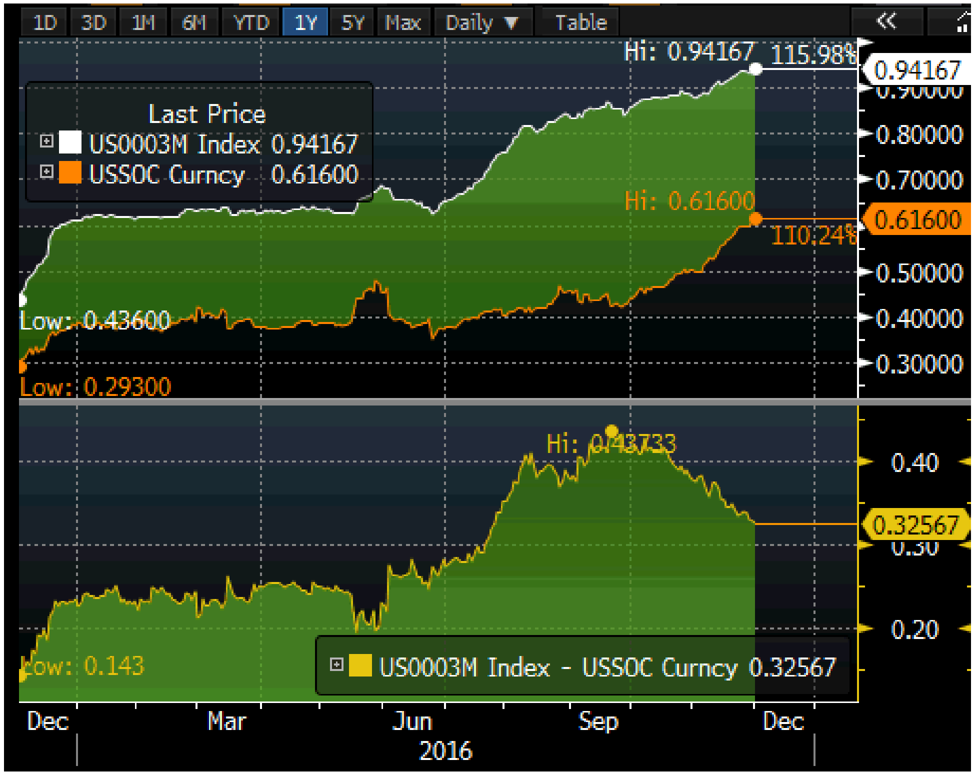
Composition of Fed reserves (%)



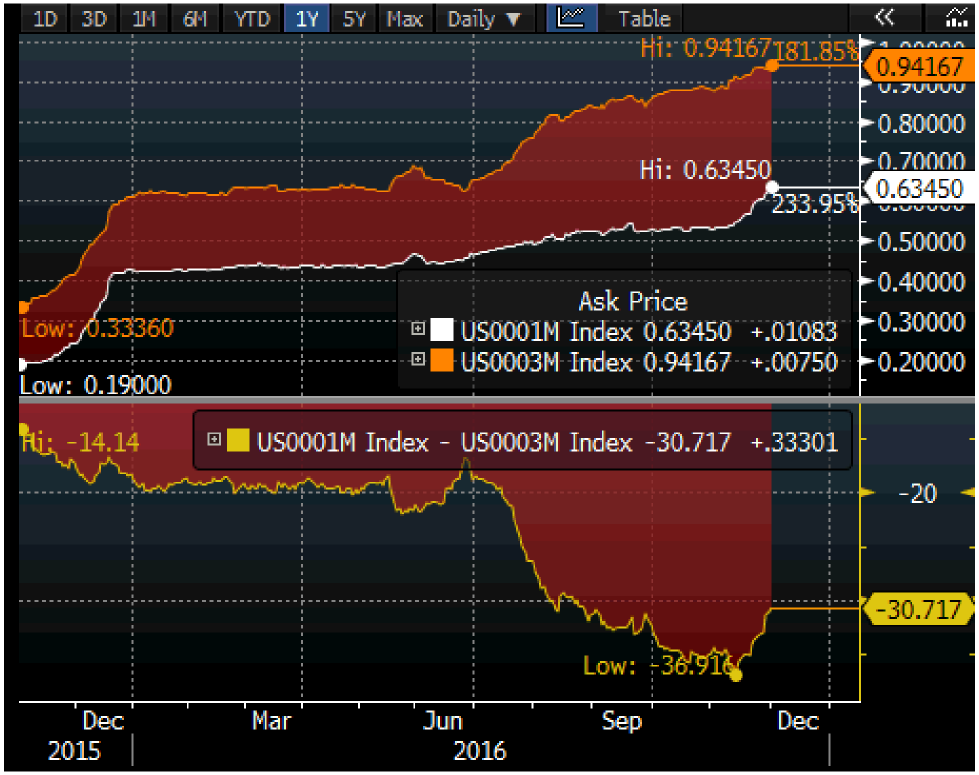
2a-7 Reform: Aftershocks

Spreads blew out in advance of the date, but distortions are healing

LOIS (LIBOR OIS) blew out but is beginning to narrow



1s3s spread displayed similar behavior



2a-7 Reform: Going Forward

- The actual AUM move was large (1100BUSD), but the event risk disappeared on Oct 14 (although turbulence/aftershocks are a given).
- MMFs have started moving toward more typical tenors. (Institutional and retail WAMs increased by 9 days since 9/30 to 21 days/31 days – still well below “normal”
- Prime fund yields (0.29) now 22BP above govt funds but EOY, FOMC tightening, inertia prevents immediate leakage back into the prime space
- The prime *space* will recover – but without the implicit subsidy, prime *funds* will likely play a smaller role
- A 1.1 Trillion drain leaves a thinner market and wider bid/offer spreads - If you need cash – you will pay up
- There is potential supply pressure on Governments - RRP is higher than normal
- Foreign Banks are generally meeting their ratios without 2a-7 funds, so downside risk is limited.

Dodd Franck Act – Enhanced prudential Standards

A/ What is Enhanced Prudential Standards (EPS)?

Context of the new rule

- **Dodd-Franck Act (DFA) paved the way to reinforced regulation on US banks and the US activities of foreign banks**
  - Using the broad supervisory powers given to it under the DFA, the Federal Reserve is increasing its focus and redefining its approach to consolidated supervision of the US operations of Foreign Banking Organizations (FBOs) with $50 Billion or more in combined US assets.
  - The following rule makings are a direct consequence of the DFA:
    1. Section 165(d) – Resolution Plans
    2. Section165 Enhanced Prudential Standards
    3. Volcker rule

- **EPS became effective July 1st 2016, and apply new requirements for FBOs:**
  - EPS imposes a new governance dedicated to monitoring enterprise-wide risks with a focus on liquidity risk
    - ✓ The EPS require FBOs to have a risk-management framework for its combined U.S. operations commensurate with their structure, risk profile, complexity, activities and size consistent with the FBO's enterprise wide risk management policies
    - ✓ A Framework Document must describe such framework for the FBO US Operations including by reference to existing and newly created policies, procedures, processes and controls at the level of each U.S. entity
    - ✓ A US Risk committee must oversee the Framework, and periodically make recommendation to the Board of Directors of the FBO for approval
  - FBOs with US subsidiary assets of $50 Billion or more must set up an Intermediate Holding Company (IHC) that oversees all FBO's US subsidiaries

$ Onshore / $ offshore : Repo market

A market depending on cash providers in Europe

- US Treasuries/Agencies GC level repo rates well below the Fed facility:

Tullett Prebon Information | 66) MSG contributeur 15:37:03 | Zoom 100%

Tullett Prebon -> Marchés monétaires -> Repo -> USD -> USD GC (GDCO 10516 12)

Repo Rates General Collateral	Bid	Ask	Dern
1) O/N	0.2900	0.2700	00:42
2) 1 Week	0.3510	0.3310	00:42
3) 2 Week	0.5170	0.4970	00:42
4) 3 Week	0.6480	0.6180	00:42
5) 1 Month	0.7160	0.6860	00:42
6) 2 Month	0.7610	0.7310	00:42
7) 3 Month	0.8040	0.7640	15:28
8) 6 Month	0.8440	0.8040	15:32
9) 1 Year	0.9370	0.8970	15:34

- Euro Agencies and Supras well above the Fed Facility:

	T/N	1W	2W
EIB/ KFW	0.62	0.66	0.73
EBRD	0.65	0.70	0.78
IBRD	0.65	0.70	0.78

- A market not liquid enough due to a lack of US investors

$ Onshore / $ offshore : fx swaps

the eur/usd swaps back to the highest levels

24/06/2016 : Brexit

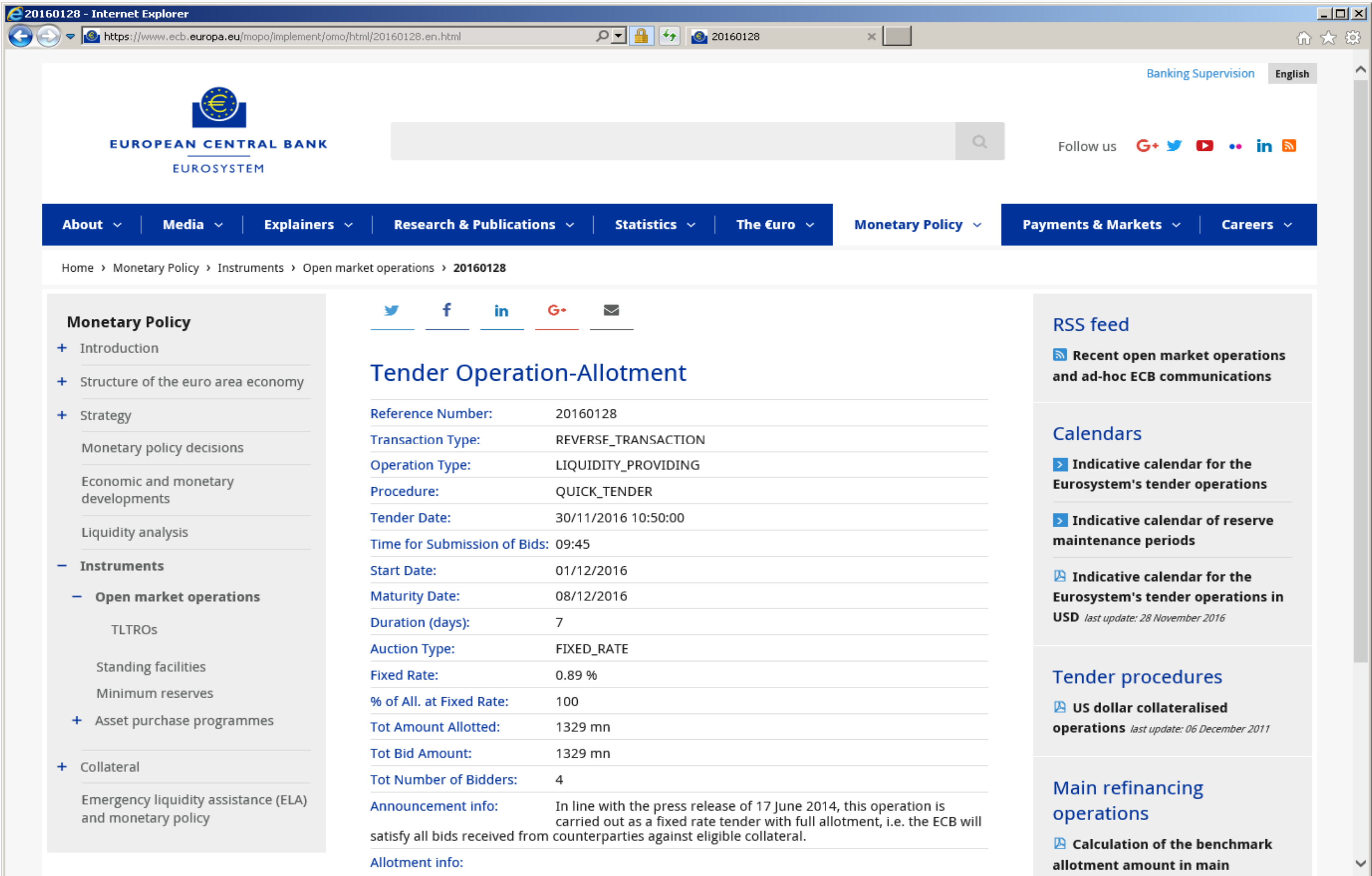
01/07/2016 : FED Enhanced Prudential Standards

14/10/2016 : US MMF reform

- *The lack of liquidity coming from US has driven the fx swap to levels unseen since 2012*

$ Onshore / $ offshore : ECB tender

A facility not very used



20160128 - Internet Explorer

https://www.ecb.europa.eu/mopo/implement/omo/html/20160128.en.html

Banking Supervision English

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Tender Operation-Allotment

Reference Number:	20160128
Transaction Type:	REVERSE_TRANSACTION
Operation Type:	LIQUIDITY_PROVIDING
Procedure:	QUICK_TENDER
Tender Date:	30/11/2016 10:50:00
Time for Submission of Bids:	09:45
Start Date:	01/12/2016
Maturity Date:	08/12/2016
Duration (days):	7
Auction Type:	FIXED_RATE
Fixed Rate:	0.89 %
% of All. at Fixed Rate:	100
Tot Amount Allotted:	1329 mn
Tot Bid Amount:	1329 mn
Tot Number of Bidders:	4
Announcement info:	In line with the press release of 17 June 2014, this operation is carried out as a fixed rate tender with full allotment, i.e. the ECB will satisfy all bids received from counterparties against eligible collateral.
Allotment info:	

RSS feed

Recent open market operations and ad-hoc ECB communications

Calendars

Indicative calendar for the Eurosystem's tender operations

Indicative calendar of reserve maintenance periods

Indicative calendar for the Eurosystem's tender operations in USD *last update: 28 November 2016*

Tender procedures

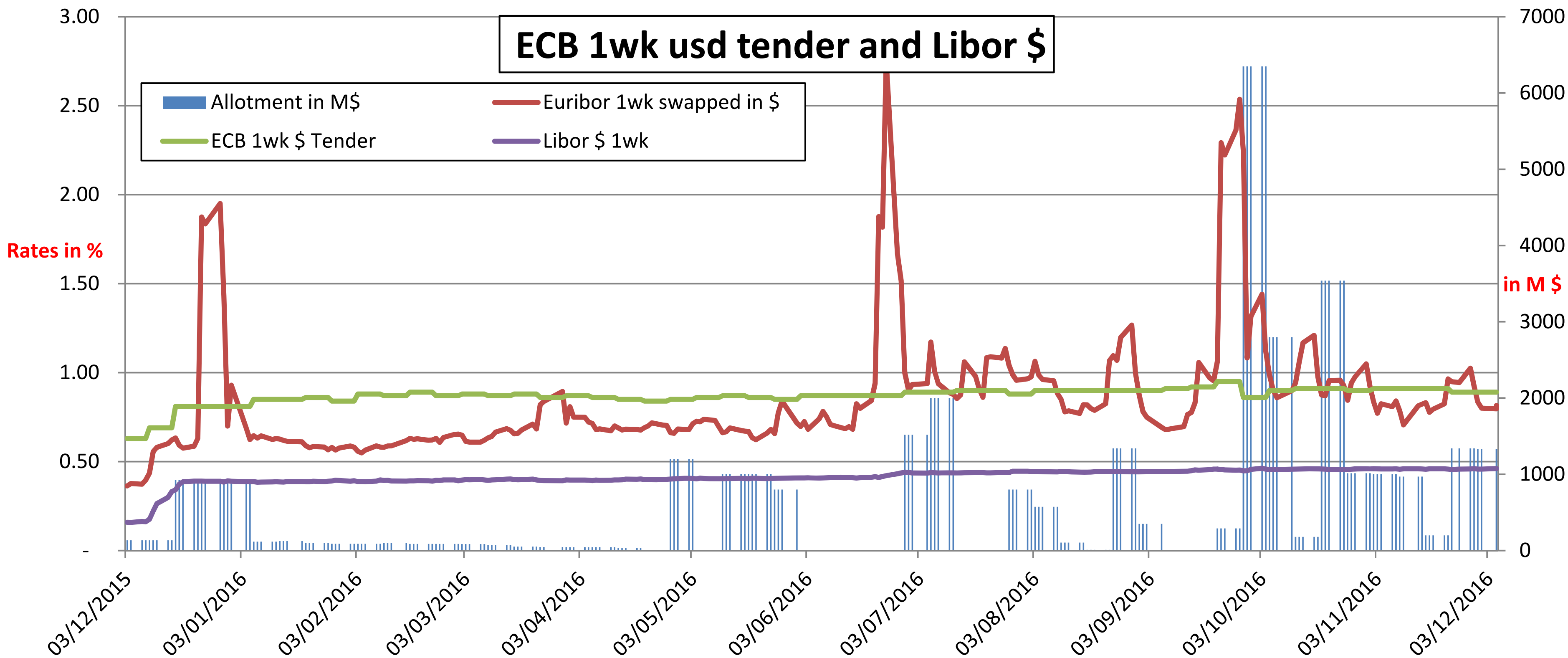
US dollar collateralised operations *last update: 06 December 2011*

Main refinancing operations

Calculation of the benchmark allotment amount in main

$ Onshore / $ offshore : ECB tender

A facility not very used



- The ECB usd facility is not very used.