USD FUNDING CONDITIONS AND XCCY DEVELOPMENTS

ECB MMCG

JUNE 16TH 2020

PATRICK CHAUVET

CORPORATE & INSTITUTIONAL BANKING
GLOBAL MARKETS

BNP PARIBAS

The bank for a changing world

Summary

USD money market

The Fed has introduced a large number of crisis support mechanisms including direct Fed intervention, support of bank-intermediated activity and targeted measures.

Acute dash to cash in March with strong inflows into govt-only money market funds outflows from prime funds could be reversed.

Fed balance sheet assets and liabilities exploded in March with repo operation increases, Fed QE and a plethora of Fed liquidity programmes.

Excess liquidity chasing quality collateral assets compressed front-end USD liquidity spreads (including fed funds, SOFR and T-bills), but not 3m Libor at a first stage as 90-day CP issuance took more than 1 month to resume.

3m Libor/OIS rose to 135bp with wider 90d financial CP/OIS, despite 5y financial CDS tightening and other Fed funding support. As financial CP issuance slowed and shortened sharply, several Libor Panel members certainly had to contribute 3m Libor by observing FX swap prices and other proxies / indicators, using expert judgement only for some time.

This created an unprecedented dislocation of the BOR BOR XCCY curve as OIS OIS XCCY curves came back while USD Libor stayed elevated.

Xccy basis

The FED USD vs collateral facility at 25 bp cost was a major action in favour of the “Eurodollar” liquidity and the global banking system functioning

The quarter end turn was also a clear relief for funding markets as it had clearly intensified the widening in the front-end xccy basis in the second half of March. Q1 typically sees the second-largest widening, after the Q4 turn, amid the reduced availability of USD funding.

Banks had more appetite for the 3-month USD supply operation, but the 7-day operation offered on a daily basis clearly came as a very welcome backstop and dampened the volatility in the xccy basis.

From there the 3mth OISOIS EURUSD basis tightened back slowly but surely to the -40bp and then to the -25 bp level (of the facility)

Propagation of USD scarcity impact to longer tenors of the XCCY curve was clearly stopped by the FED facility, combined with QE, Credit and fiscal support.

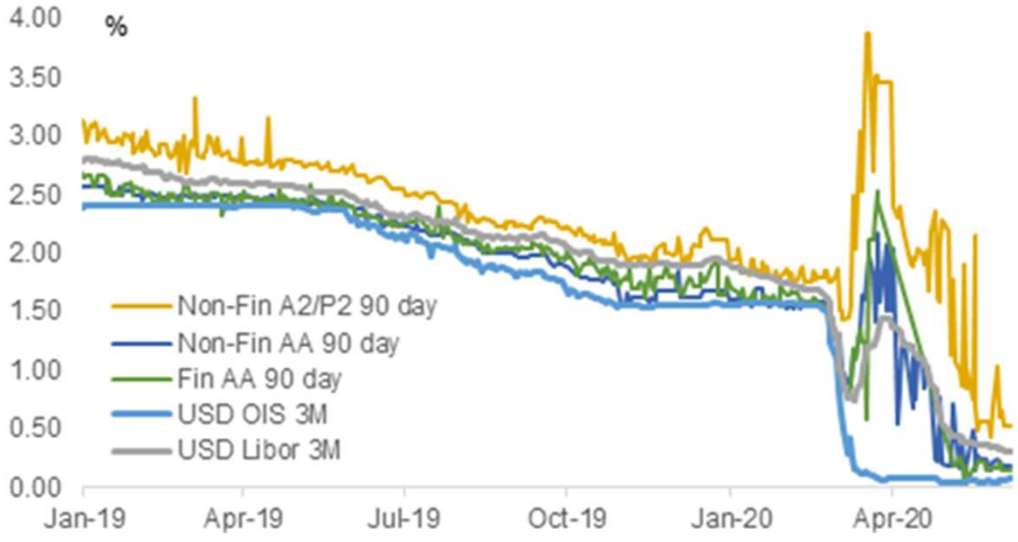
Global Credit and fiscal support were key in keeping opened capital markets and allowed record long term issuance could go through in USD and EUR notably, fuelling the liquidity in XCCY markets and anchoring the long part of the curve. Best rated European Corporate and SSA issuance in USD notably helped.

As the 84 days operations done in March and April expire, amid the coming June Quarter end, TGA accounts balance increase, but with record excess liquidity in USD, market looks confident that it will be able to deal with some reduction of the facility usage as its backstop dimension remains present.

1 USD money market

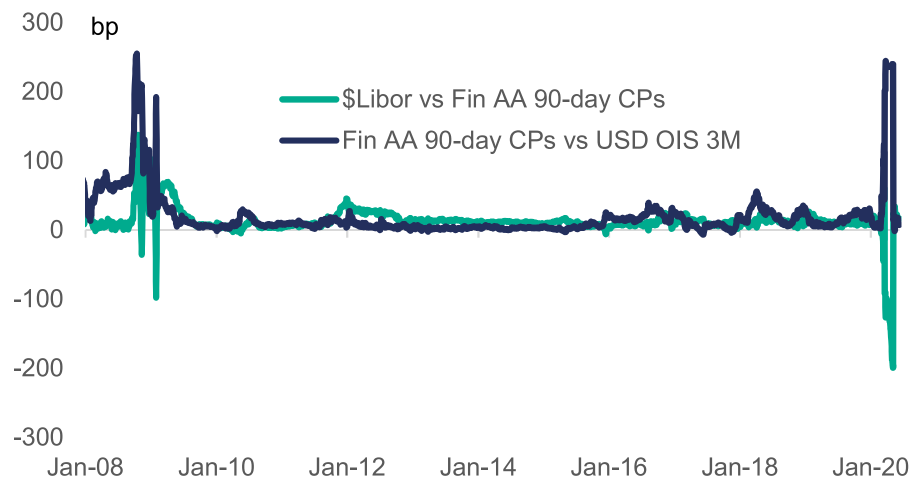
US money market: Most of the Stress is gone (data to June 4th)

Fig. 1: A2P2 paper close to previous levels against Libor



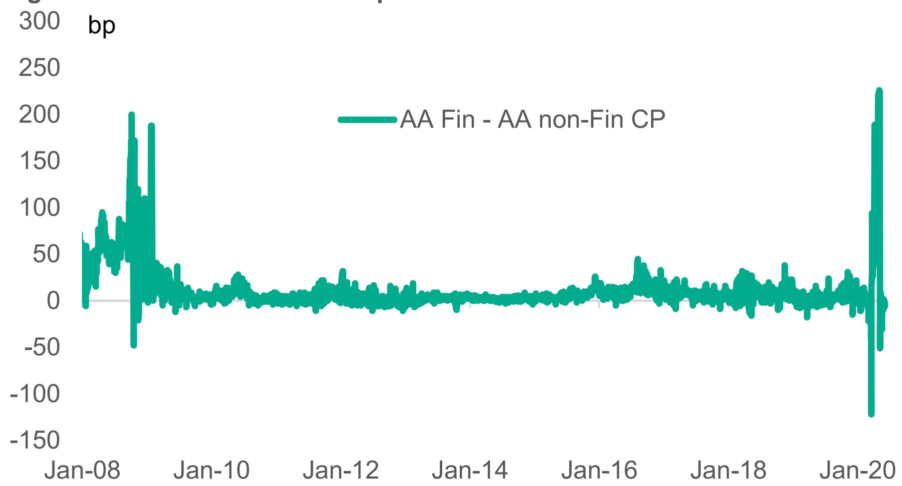
Sources: Federal Reserve, DTCC, BNP Paribas

Fig. 2: It looked like 2008 all over again



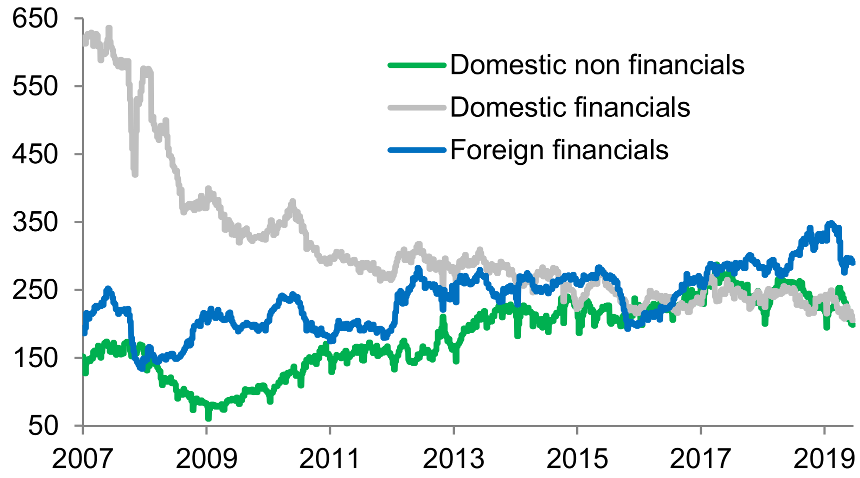
Sources: Federal Reserve, DTCC, BNP Paribas

Fig. 3: Non-financial tensions spill over to financials



Sources: Federal Reserve, DTCC, BNP Paribas

Fig. 4: Foreign financials CP outstanding dropped from record highs



Sources: Federal Reserve, BNP Paribas

US Federal Reserve: what happened

- **15 March:** Central banks around the globe reinstated provisions of USD liquidity via 3-month USD FX swap lines on a weekly basis, at a reduced cost of OIS+25bp, to restore access to USD funding.

- **17 March:** The Fed's Commercial Paper Funding Facility (CPFF) was announced. However, the initial price, OIS+200bp for 3m CPs, was disappointing.

  One could argue that to some extent this triggered a further cheapening of commercial paper toward that price. Lowering it was therefore the most likely option.

- **18 March:** The Fed established the Money Market Mutual Fund Liquidity Facility (MMLF), a programme that began on 23 March.

- **20 March:** Since this date, 7-day USD operations have been offered on a daily basis (they were previously offered weekly).

- **23 March:** The Fed lowered the cost on the CPFF to OIS+110bp for CPs rated at least A1/P1, a welcome but necessary development, and to OIS+200bp for CPs rated A2/P2. It also clarified that eligible issuers included US branches of foreign banks.

  At the same time, the Fed announced a set of targeted measures aiming to tackle the problem at the source: corporates and SMEs. These measures came on top of the announced MMLF that addresses spillovers to money market funds.

- **31 March:** Fed announces temporary FIMA repo facility allowing overseas central banks to enter in repo agreements exchanging their US Treasury for US dollars. Active from 6 April and will continue for at least six months.

- Limited direct buying of commercial paper by the Fed combined with other measures managed to bring back market to function, and slowly recover from the end of March, as we see in next slides

US money market: Dash to cash, excess liquidity chasing quality collateral

Fig. 1: Big inflows into govt-only stabilized, outflows from prime funds nearly corrected

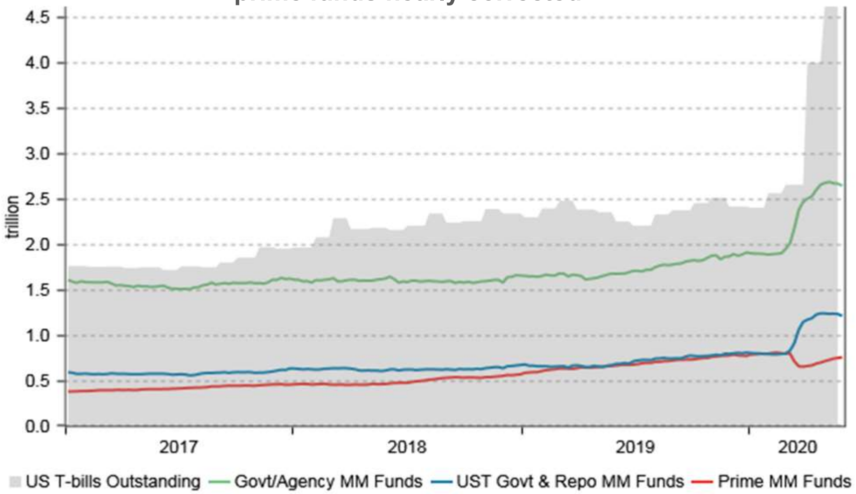
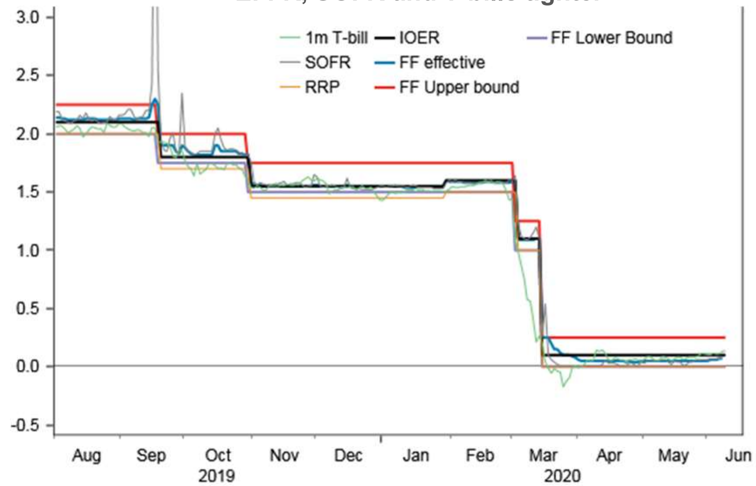


Fig. 2: Massive Fed liquidity and flight-to-quality leads EFFR, SOFR and T-bills tighter



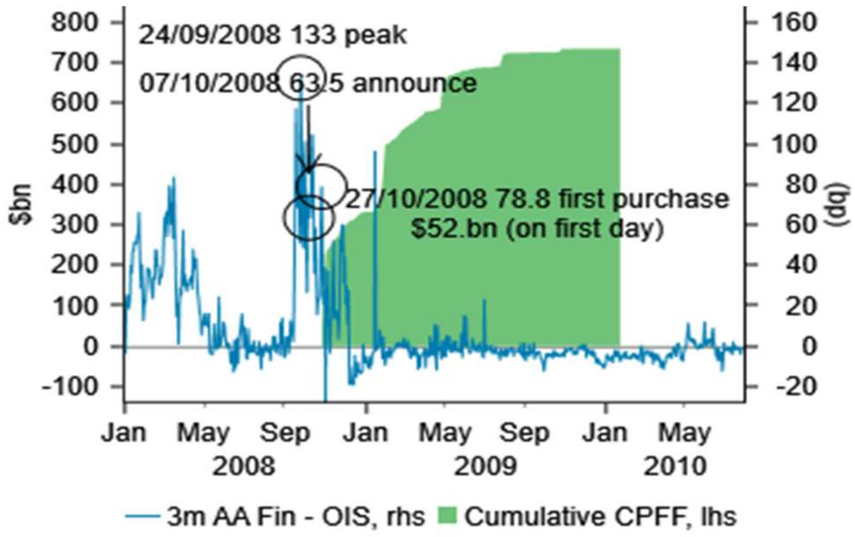
MMF Type	03-Jun-20 AUM ($Bn)	AUM Change ($Bn) 1wChg	1m Chg	3m chg	6m chg	1y chg	AUM Change (%) 1wChg	1m Chg	3m chg	6m chg	1y chg
Prime	758	7	59	-41	-19	96	1%	8%	-5%	-2%	15%
Treasury & Repo	1,213	-21	-29	414	417	541	-2%	-2%	52%	52%	81%
Govt/Agency	2,662	-22	-9	698	781	974	-1%	0%	36%	42%	58%
Total Taxable	4,633	-36	21	1071	1180	1611	-1%	0%	30%	34%	53%

Sources: ICI, Bloomberg, Macrobond, BNP Paribas

- Money market funds showed strong flight to cash and quality pressures in March:
  - First,$150bn outflows from prime funds (-20%) with shortening in WAMs. Huge inflow into govt-only funds ($750bn, +30%).
- Fed balance sheet assets and liabilities exploded in March with repo, Fed QE and plethora of Fed liquidity programmes.
  - Assets – Repo (+$157bn), UST (+$800bn), MBS (+$150bn), CB $ swaps (+206bn), PDCF (+$28bn), MMFL (+$31bn).
  - Liabilities – Currency in circulation/cash (+$72bn), Foreign RRP (+$44bn), RRP (+$95bn), Other deposits (+$203bn), Reserves (+$800bn).
- Compression in front-end liquidity spreads: Fed funds flat to IOER, SOFR went 9bp through fed funds, T-bills yields went negative for a while
  - Risk was that SOFR (overnight) print negative with volume of USTs trading with negative repo rates amidst heavy Fed quantitative easing.

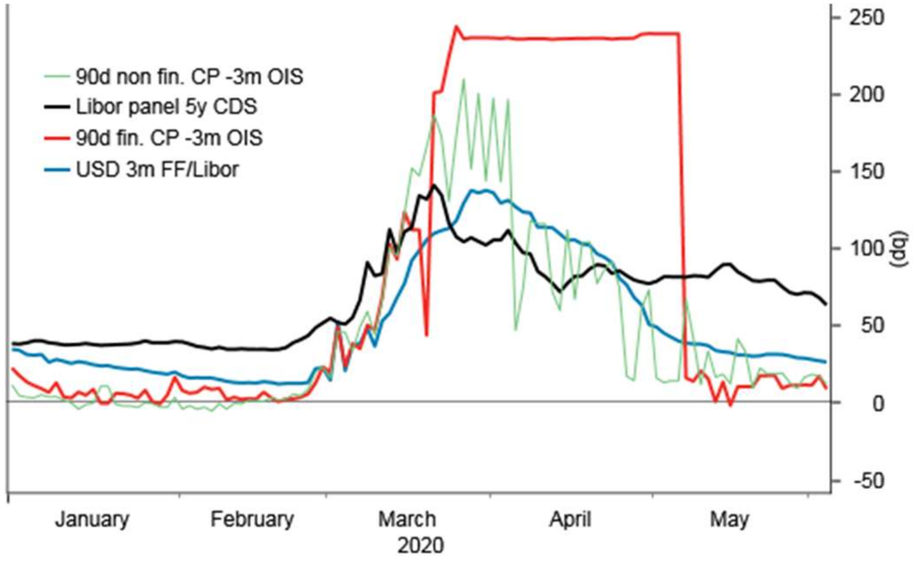
US CPFF 2.0: more of a backstop and part of a global answer

Fig. 1: 2008 CPF engineered a big, fast and sustained tightening in CP



Sources: Federal Reserve, Bloomberg, BNP Paribas

Fig. 2: 3m Libor/OIS has widened towards 140bp in sympathy with wider CP spreads



Sources: Federal Reserve, Bloomberg, BNP Paribas

- US commercial paper market remained broken for all April despite the XCCY program and the FED starting to buy CP mid April
  - Volume of 90-day CP (and even 30d) issuance (financials) had collapsed, making short-term bank funding costs volatile and difficult to observe.
  - There were signs of very short-term rolling financing for A2/P2 (non-fin) issuers amidst ongoing credit crunch.
- Design of CPF 2.0 had its flaws, but the Fed has overall been very responsive in this liquidity crisis management
  - Delay: Implementation took some time
  - Accessibility: Lack of access to foreign banking parents limits scope and efficacy of reducing USD funding needs.
  - Credit spectrum: Very limited support for A2 borrowers (hardest hit?) at punitive credit spreads.
- 3m Libor/OIS rose to 135bp, less than 90d financial CP/OIS, with 5y financial CDS tightening thanks to other forms of Fed / CBs funding support
- Deep and diverse Fed crisis support mechanisms including direct Fed intervention and support of bank-intermediated activity. New Fed repo facility from 6th April!
  - Higher bank reserves with QE, credit purchases (PMCCF, SMCCF) and USD liquidity (swap/repo lines, CPFF, PDCF and MMLF, FIMA repo facility) allowed to bring back down the price of liquidity and avoid a full bank credit crisis by improving availability of USDs and reducing need to sell USTs.
  - It was also clear during the end of March that the announcements of huge US (and later worldwide) Fiscal packages helped to slow and revert the fears of a Banking system collapse amid unprecedented Corporate and employment crisis, contributing to a normalisation of the availability of USD for non US too

2

Xccy basis

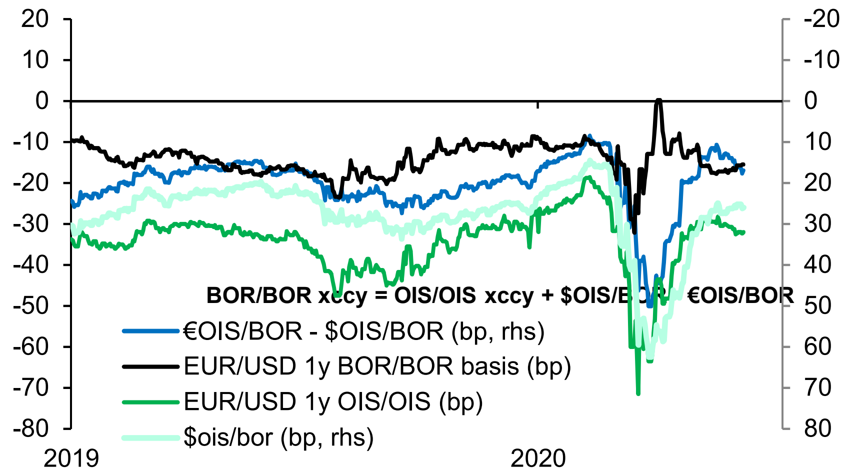
Xccy: BORBOR versus OISOIS

- A surge in the cost of unsecured USD funding (wider $OIS/BOR) is typically accompanied by a surge in the cost of 'secured' USD funding (secured by the exchange of notionals, collateral and measured by the wider OIS/OIS xccy basis).
- While the central bank 3-month USD funding operation initially had a mixed impact on the xccy basis, the 7-day operation switched from weekly to daily on 20 March, leading to a stabilisation in the xccy basis.

Front-end OIS/OIS basis versus longer BOR/BOR tenors

- OIS/OIS xccy – the standard measure at the front end – measures the true cost of funding USD via xccy swaps.
- BOR/BOR xccy – the standard measure in 1y+ tenors – is polluted by OIS/BOR in both currencies.
- As the $OIS/BOR spread widened significantly, much more than in EUR, the overall impact from OIS/BOR has been that of a tightening (less negative) impact on the BOR/BOR xccy basis, as it partially offsets the widening in the OIS/OIS xccy basis.

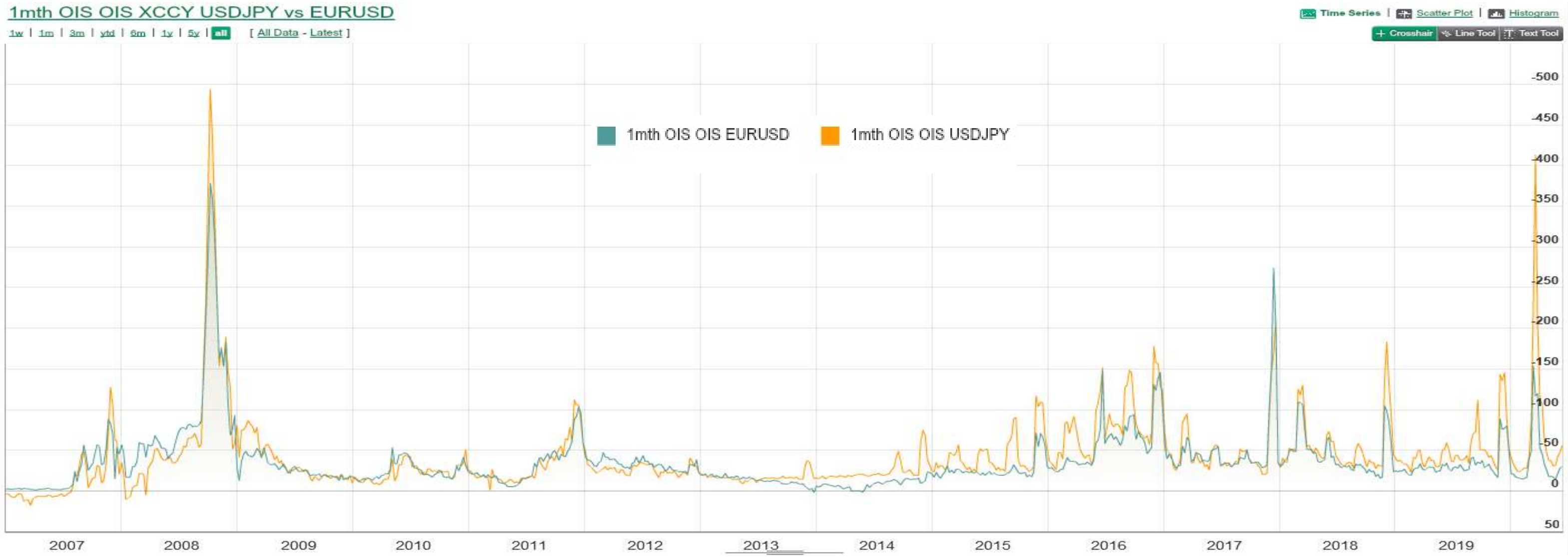
Fig. 1: From OIS/OIS to BOR/BOR xccy basis



Sources: BNP Paribas

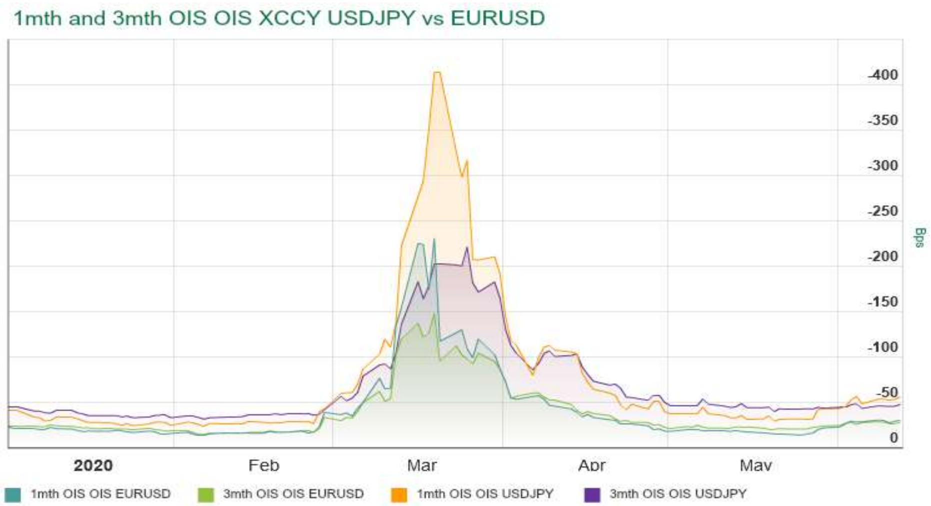
Xccy: OIS OIS historical, a very sudden spike quickly contained

Fig. 1: 1mth USDJPY basis spike



Sources: BNP Paribas

Fig. 2: EUR market turned on the 16th, USDJPY on the 20th



1mth OIS OIS XCCY in USDJPY move was highest since 2008 it was more contained in EURUSD

- The strength of the turn in JPY was certainly part of the explanation of that difference
- Going into FED Facility rolls, the market is not showing any significant tension, despite 1mth moving wider than 3mth (turn again?)

Sources: BNP Paribas

Xccy: Q1 end played a role in worsening the situation in March

Quarter turn: reduced availability of USD

- According to internal data, the Q1 turn typically sees the second-largest widening, after the Q4 turn.

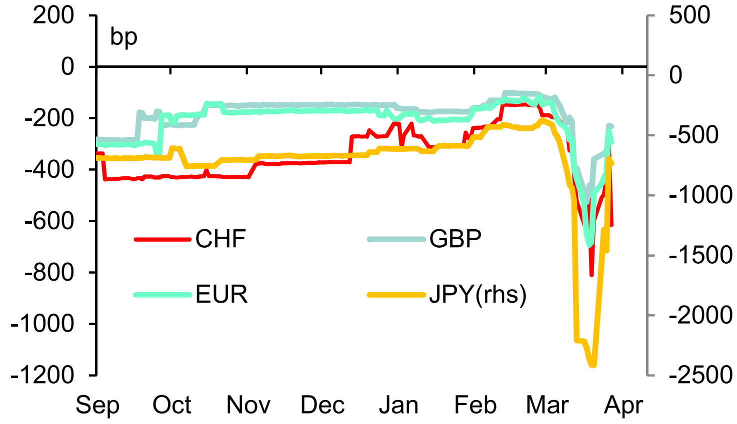
Fig. 1: EUR/USD quarter turn: 3-month average into the turn

(in bp)	2016	2017	2018	2019	2020	Avg
Q1	-276	-519	-266	-168	-233	-307
Q2	-463	-251	-317	-125		-289
Q3	-258	-179	-128	-387		-238
Q4	-435	-574	-1361	-946		-829
Avg	-358	-381	-518	-407		

- The front-end basis typically widens into the quarter end due to the reduced availability of USD around reporting dates.
- The turn is particularly acute in JPY/USD basis, as 31 March marks the end of the fiscal year in Japan.

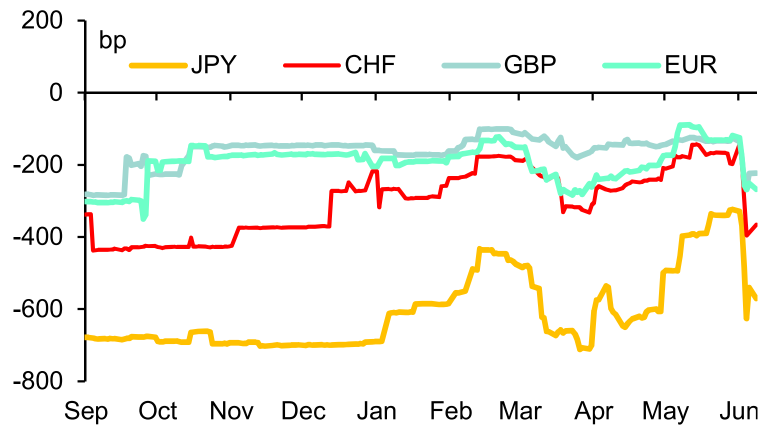
Sources:v BNP Paribas

Fig. 2: Q1 2020 turn across currencies



Sources: BNP Paribas

Fig. 3: Q2 2020 turn: on a widening trajectory



Xccy: OIS OIS historical, an overall well contained impact?

2mth in 1mth forward allows to remove / smooth partly the Quarter end / Year end impacts,

1y1y shows the impact for longer maturities

- 2mth in 1mth EURUSD level didn't go beyond other crisis levels (2008 excluded)
- Both EURUSD and USDJPY 1mth2mth widened much less than in 2008
- 1y1y in EUR remained well below last decade tension levels. Even USDJPY move was more contained
- FED and other CBs have succeeded in stopping the process before it became a banking system liquidity and credit crisis

Fig. 1: 2mth in 1mth forward OISOIS basis showing much less impact than 2008

Sources: BNP Paribas

Fig. 2: OISOIS 1y1y EUR far from previous crisis levels

Sources: BNP Paribas

Xccy: FED facility usage

Fig. 1: Japan and Europe main users, >90% in 84d

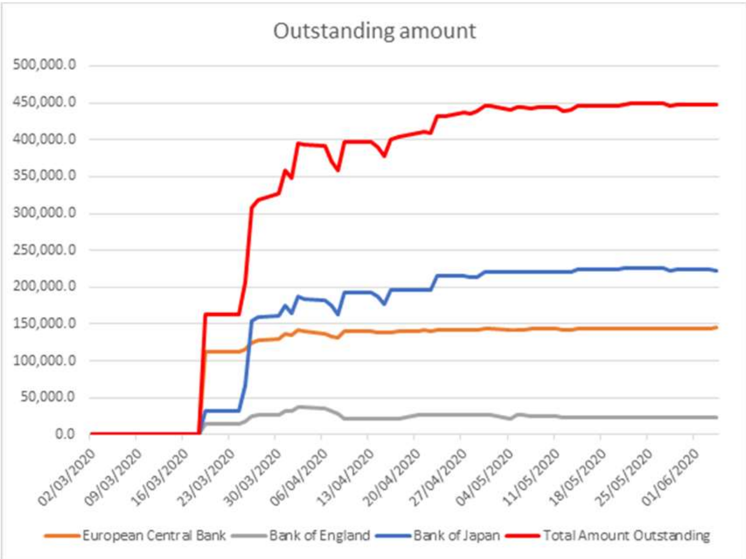
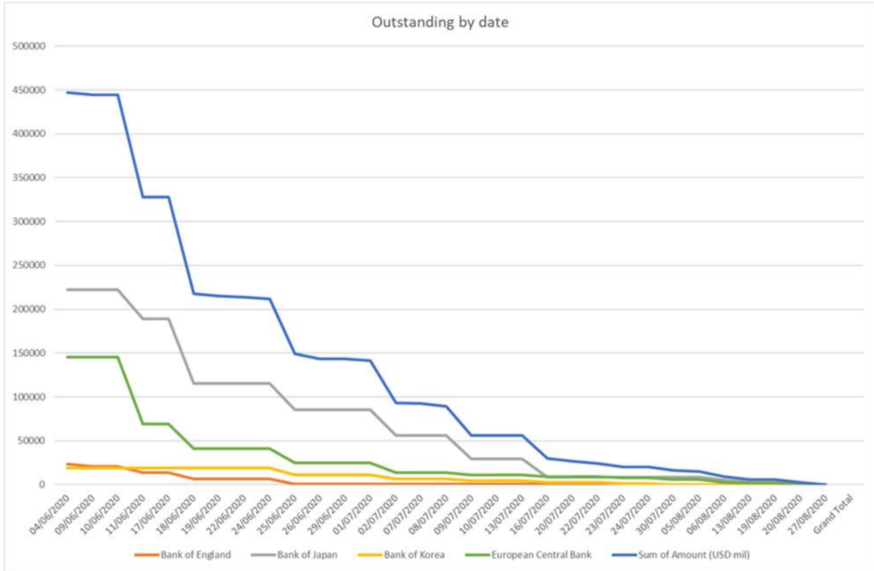
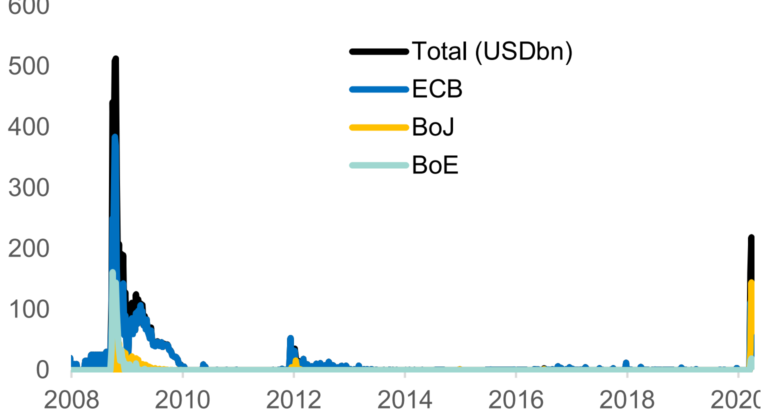


Fig. 2: 50% of outstanding to mature by June 18th and 90% by mid July



Sources: BNP Paribas

Fig. 3: USD liquidity provisions by ECB, BoE, and BoJ



Sources: BNP Paribas

Fig. 4: Latest outstanding per country

12/06/2020

FED USD Swap Lines to Central Banks	Amounts ($bn)			Percentage		
	7 days	84 days	All Maturities	7 days	84 days	All Maturities
Bank of Japan	0,0	189,0	189,0	0%	58%	58%
European Central Bank	0,0	69,0	69,0	0%	21%	21%
Bank of England	0,0	13,4	13,4	0%	4%	4%
Bank of Korea	0,0	18,8	18,8	0%	6%	6%
Swiss National Bank	0,0	10,5	10,5	0%	3%	3%
Banco de Mexico	0,0	6,6	6,6	0%	2%	2%
Monetary Authority of Singapore	0,2	9,3	9,6	100%	3%	3%
Norges Bank	0,0	5,4	5,4	0%	2%	2%
Reserve Bank of Australia	0,0	1,2	1,2	0%	0%	0%
Danmarks Nationalbank	0,0	4,3	4,3	0%	1%	1%
Total	0,2	327,5	327,7	0%	100%	100%

Sources: BNP Paribas

DISCLAIMER