QE: LESSONS FROM THE PAST AND CURRENT EXPERIENCES

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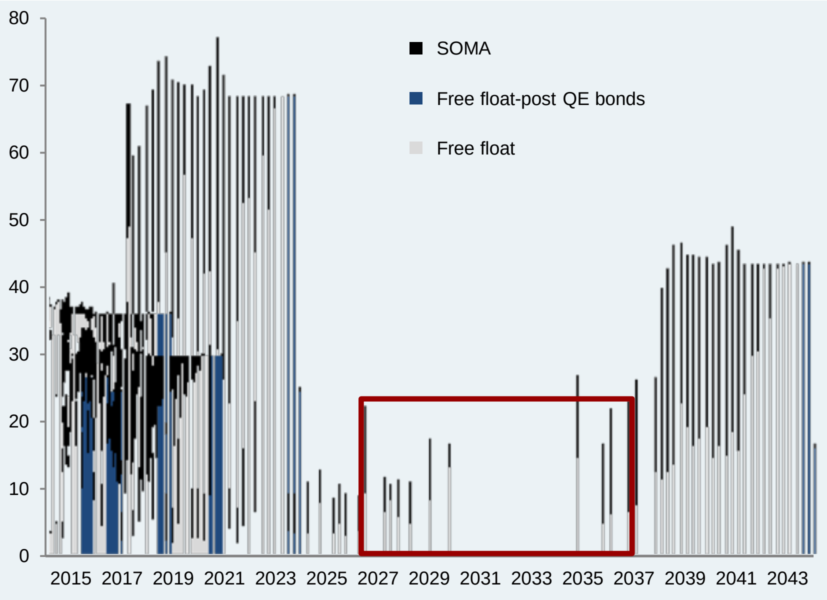
QE experience: US and UK

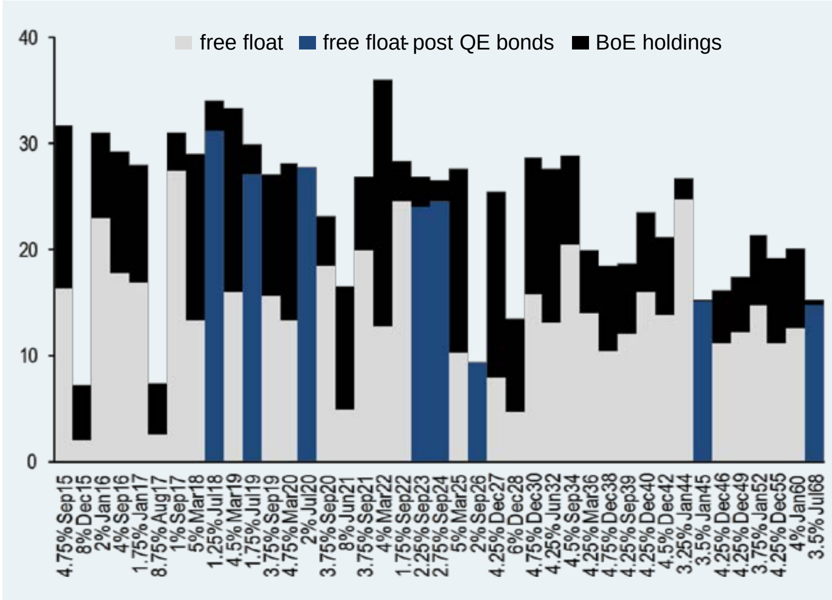
Some off-the-runs suffer from poor liquidity

US bonds: Free-float for post-QE bonds and other bonds, Fed ownership; $bn



Some off-the-runs suffer from poor liquidity

UK bonds: Free-float for post-QE bonds and other bonds, BoE ownership; £bn



- In the US and UK the lasting legacy of QE is the market segmentation caused by large QE purchases of **bonds with low notional outstanding**. These bonds trade with larger than average bid-offer spreads and market makers are reluctant to short them even if securities lending facilities are in place
- We do not see changes in the composition of the **investor base** post-QE
- In the US experience, expectations about **tapering** announcement caused massive volatility.

QE experience so far: Euro area govies (1)

Market depth has fallen more in Germany than in the US

1W moving average of market depth in 10Y Bund futures[1] and 10Y US Treasury notes[2]; €mn and $mn respectively

Source: Brokertec, Eurex, J.P. Morgan

[1] Average size of the top three bids and offers on front and back Bund futures, averaged between 8am and 3pm (Frankfurt time) daily.

[2] Average size of the top three bids and offers for the on-the-run 10Y Treasury note, averaged between 8:30 am and 10:30 am daily.

- **Market depth** has fallen more in Germany than in the US in relative terms, hinting that QE can be blamed
- In general the role of regulation is more important than QE distortions: low market depth in case of market volatility is here to stay

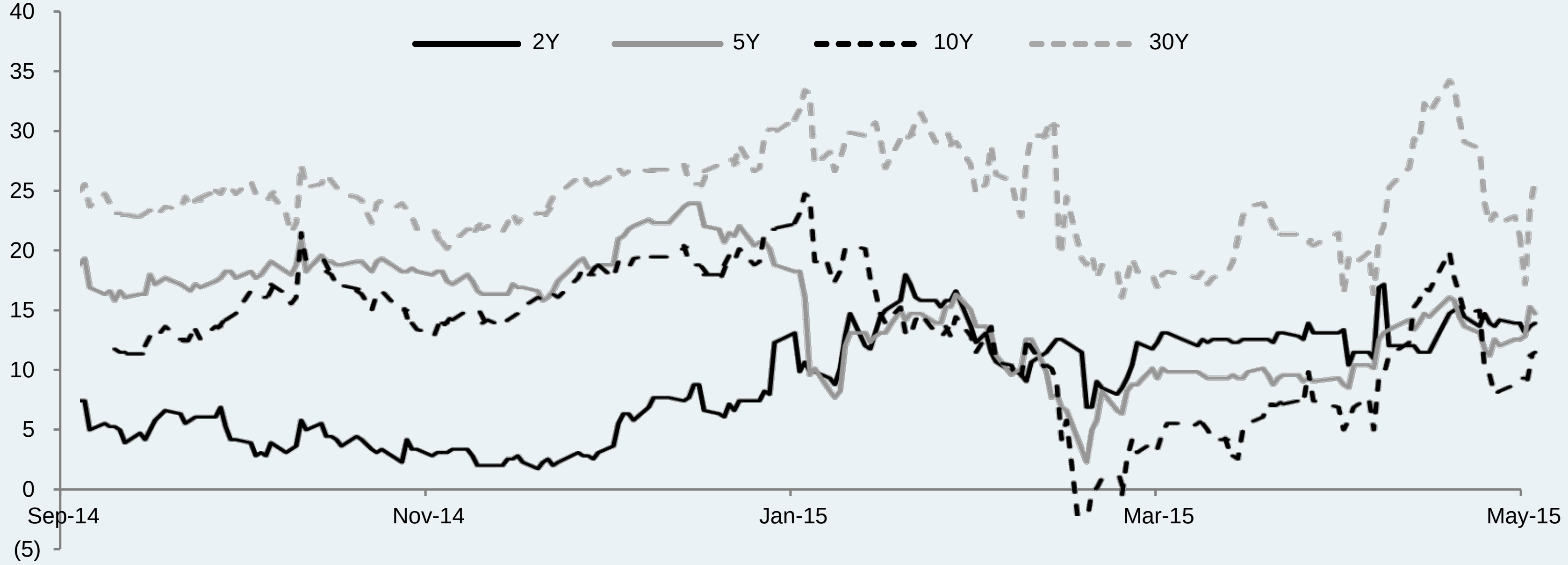
QE experience so far: Euro area govies (2)

- **Flexibility** in the execution of the programme is necessary, but the message is confusing regarding:
  - Market neutrality and average maturity of purchases across jurisdictions
  - Extent of frontloading to avoid large purchases in the summer months
  - ECB council stance over market volatility
- A special QE (zero net-issuance in the benchmark market, negative yields at the short end of the curve) distorted valuations massively leaving investors guess what the new bond **“fair value”** is
- **RV:** the number and size of market dislocations is broadly unchanged compared to the pre-QE period but uncertainty over QE rules of the game and wider bid-offer spreads has reduced players involved in RV trading
- Some disconnect between secondary market and primary market levels during some **syndicated deals and auctions** makes price discovery more difficult
- **OTC purchases vs. reverse auctions:** small purchases during the day are preferable to large reverse auctions given the recent experience of price swings around DMO auctions

QE experience so far: SSA

SSA curves have seen many dislocations since the QE announcement

Evolution of 3Y, 5Y, 10Y and 30Y EFSF vs. Germany



- At the moment the **SSA market** is distorted by ECB purchases in secondary market. Price discovery in the primary market is more difficult than pre-QE period.
- The announcement of QE created some misalignments on the SSA curves that have not been fully corrected
- We expect the market to adjust fairly smoothly to the end of the purchases

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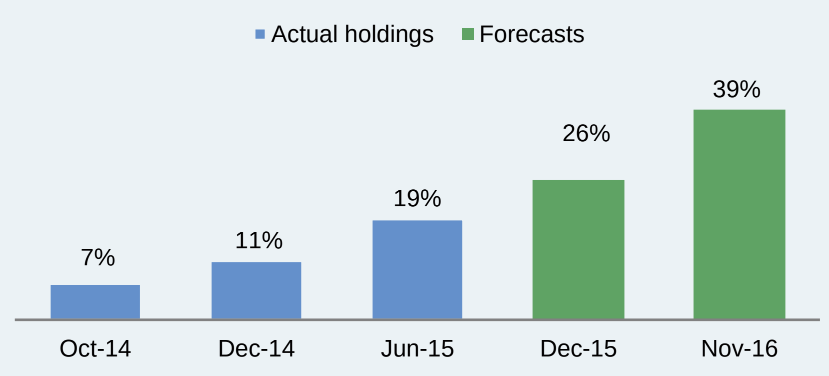
QE experience so far: Covered bonds and ABS

Covereds: ECB will become the dominant player

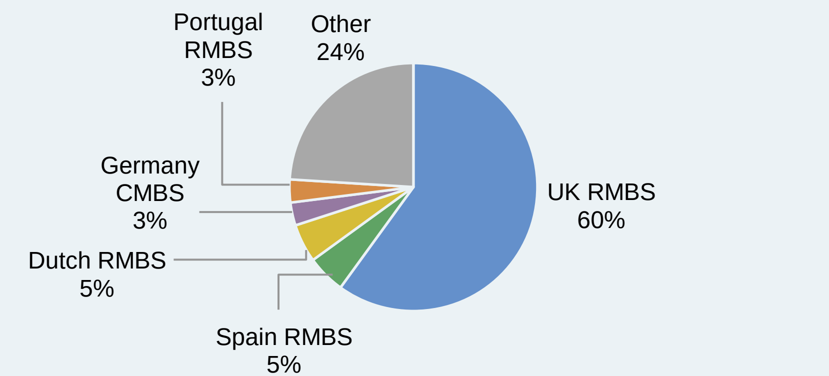
ECB CB holdings as a % of eligible assets; actual and J.P. Morgan estimate; %



Source: ECB & J.P. Morgan

ABS: most end-account activity in assets away from the ABSPP

Traded notionals in European ABS by largest sectors YTD, %



Source: J.P. Morgan Trading

- The **covered bond market** benefits from ECB purchases in both primary and secondary markets, making price discovery easier than in SSA
- However secondary market liquidity has deteriorated notably since Programme launch
- Loss of sponsorship from credit-type accounts and rates-type with pan-product mandates due to expensiveness. We expect these investors to return after the end of the programme as primary market will find a new equilibrium
- **ABS:** no sign of pick up in issuance despite the ECB effort, poor secondary market liquidity

How did the flows change into the beginning of ECB QE?

Euro area MFIs and especially Japanese investors were net sellers of Euro debt in April

New flows into Euro area government bonds; €bn

						Net foreign purchases		
	Net government issuance	ECB QE[1]	Net MFI purchases	Net inv. fund purchases[2]	Other domestics	Total	Net Japanese purchases[3]	Other
1H14	266	0	74	39	131	22	(20)	42
2H14	42	0	(3)	16	40	(10)	6	(16)
Jan-15	54	0	52	9	(26)	19	7	12
Feb-15	34	0	(1)	9	32	(6)	2	(8)
Mar-15	55	42	(11)	9	(5)	20	(1)	21
Apr-15	(28)	42	(2)	N/A	N/A	(17)	(16)	(1)
Mar-15	65	45	N/A	N/A	N/A	N/A	N/A	N/A

Source: ECB, J.P. Morgan
[1] Includes a small portion of agency purchases
[2] Quarterly data evenly split across months, in line with flow information
[3] Sum of Germany, France, Italy and Netherlands

- In April banks were net sellers for €2bn, contrary to usual €2bn+ purchases for the month
- Japanese investors were large sellers of Germany and France in the first week of April
- Large net issuance in March did not require any aggressive selling to the ECB, April will be more interesting give the large negative net issuance based on total Euro area government debt (central government bond issuance was close to zero in April)

ECB QE: impact on repo markets

- Richening of GC repo vs. OIS, caused by:
  - QE purchases (removal of collateral, increase of cash in the system)
  - TLTROs (increase of cash in the system)
- Compression of core and peripheral GC repo rates, caused by:
  - Some Eurosystem securities lending facilities favour lower quality vs. core collateral swap
  - Market segmentations: peripheral collateral is more concentrated with domestic players who are not keep to lend the bonds out
- Wider bid-offer spreads on repos, caused by:
  - Uncertainty over GC – OIS spread and scarcity driving repo specialness
- Investor base rotation, caused by:
  - Traditional players hoarding collateral
  - Richer levels bring new players willing to give collateral out
- Securities lending facilities are necessary to keep spreads in check even if no one plans to make regular use of them
- Market expectation that the securities lending facilities will be kept open even after QE ends

Conclusions

Issue	When? Which asset class?	Impact
Purchases of bonds w ith low outstanding	During and after QE; govies	■ Wider bid-offer spreads, trader reluctance to end up short despite securities lending facilities
Clarity on purchases across maturities, frontloading, stance over market volatility	During QE; govies	■ More market players, better market liquidity if rules of the game are clearer
Where is fair value for 10Y Bunds?	During and after QE; govies	■ Volatile markets under QE, also uncertainty over long lasting impact of QE on term premia
Bond RV trading	During and after QE; govies	■ QE is not having an impact on market dislocations, but wider bid-offer spreads on repo trades are a deterrent to RV trading
Tapering	During QE; govies	■ The US experience show s that any hint of tapering might cause significant volatility, communication has to be handled carefully
Market depth	During and after QE; all	■ QE reduces market depth but regulation is a much more important factor
Price discovery around primary issuance	During QE; govies, SSA	■ Market distortion due to ECB presence in secondary markets only; adjustment expected after QE
Change in investor base	During QE; all	■ Value sensitive investors abandon expensive asset classes but are expected to return as soon as valuations normalise
Regulatory impact	**During and after QE; all**	■ **Cumulative impact of new capital ratios, MiFID and CSDR to reduce balance sheet and market maker ability to provide liquidity**

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