

## Previous Weeks

[https://docs.google.com/document/d/1IIXXmyTsx1WhpRN3dtJ5VJCsv6pxKP5xmoHYd21xx\\_8/edit?usp=sharing](https://docs.google.com/document/d/1IIXXmyTsx1WhpRN3dtJ5VJCsv6pxKP5xmoHYd21xx_8/edit?usp=sharing)[https://docs.google.com/document/d/1fsWIIEm5UGljMcNEsN4Lg\\_0DkRRxFVKp7UN3cpXtQh0/edit?usp=sharing](https://docs.google.com/document/d/1fsWIIEm5UGljMcNEsN4Lg_0DkRRxFVKp7UN3cpXtQh0/edit?usp=sharing)

(I should note that despite the option to download as PDF, recently I've noticed that it will leave up to 30-40 pages blank in the downloaded copy, from say a 120 pg document, normally the last roughly 1/4 of the document, rather than pages missing throughout. I mention this so no one assumes I simply added dozens of blank pages to the end for no reason....)

<https://www.imf.org/en/Publications/WP/Issues/2019/05/17/Pledged-Collateral-Market-s-Role-in-Transmission-to-Short-Term-Market-Rates-46847>

#### Box 1. Global Banks Footprint in Financial Plumbing—A Primer

The financial system that includes banks, hedge funds, pension funds, insurers, sovereign wealth funds (SWFs), etc. be represented by entities A to Z. Only a small number (say XYZ) have the capabilities to regularly move financial collateral across borders on a large scale. XYZ also happen to be the large 10–15 banks. Major dealers active in the collateral industry include Goldman Sachs, Morgan Stanley, JPMorgan, Bank of America/Merrill, and Citibank in the U.S. In Europe and elsewhere, important collateral dealers are Deutsche Bank, UBS, Barclays, Credit Suisse, Société Générale, BNP Paribas, HSBC, Royal Bank of Scotland (with a declining share), and Nomura. Recently Canadian banks have also entered this market.

The remaining financial entities, from A to Z, that demand and supply collateral need to connect with each other via XYZ. Entry into this market is not prohibited but is extremely expensive and difficult, as it requires having a global footprint and global clients (and the acumen and sophistication to move and price liquid securities very quickly—in seconds sometimes). Note that the triparty collateral agreements restrict the collateral flows only within the triparty structure, as in the U.S., and is thus not a part of this Box.

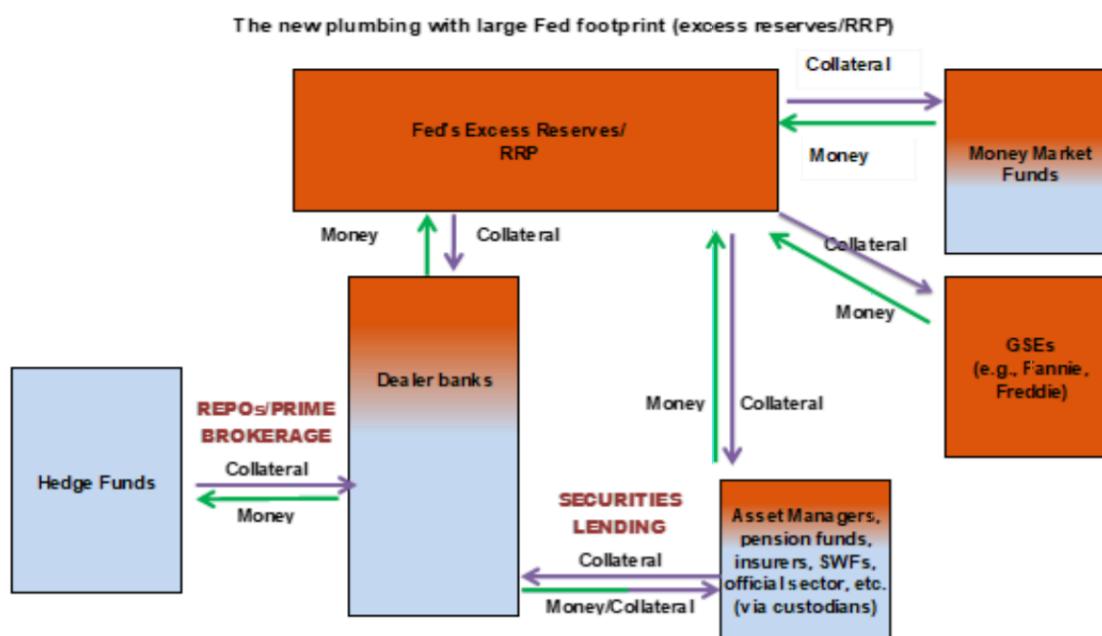
For example, a Chilean pension fund may want Indonesian bonds for six months, and W (for example, a hedge fund, or a securities lender in Hong Kong) may be holding these bonds and is willing to rent out to A for six months for a small fee. But W does not know there is demand from A. Only via XYZ can A connect to W. Since XYZ sits in the middle of the web, they have the ability to optimize in ways that give them an advantage. The Indonesian bonds may come into their possession because XYZ loaned W money, or because XYZ have a derivative with W, or through a security lending agreement.

Such securities that need to move cross-borders under a “repo,” or “security lending,” or related transaction need to be legally perfected (and herein legal perfection entails rules such as title transfer and rehypothecation). Similarly, for over-the-counter (OTC) derivative margins, there is an International Swaps and Derivatives Association Master Agreement. For prime-brokerage/HF collateral, there is a similar master agreement that resonates easily between XYZ. Thus, it is not easy for all real economy collateral (e.g., immovable assets, such as buildings) to be able to move across borders. This market for bilateral pledged collateral is the only true market that prices at mark-to-market all HQLA securities (bonds and equities).

Changes in the demand and supply of collateral have been shaped in the post-Lehman era by regulation and central bank asset purchases as follows.

- (a) As regulatory ‘tweaks’ (such as leverage ratio) are implemented, they will soften the balance sheet constraints for XYZ for collateral reuse. Hence, the effective supply of collateral will increase.
- (b) Similarly, central banks could provide balance sheet “space” to augment the balance sheets of XYZ; for example, the Fed’s reverse repo program since September 2013; or European Central Bank’s expanded its collateral framework during the eurozone crisis, or their security-lending program since January 2017.

Figure 2. Market Plumbing



Notes: Blue area is market plumbing; rest is the public-sector balance sheet.

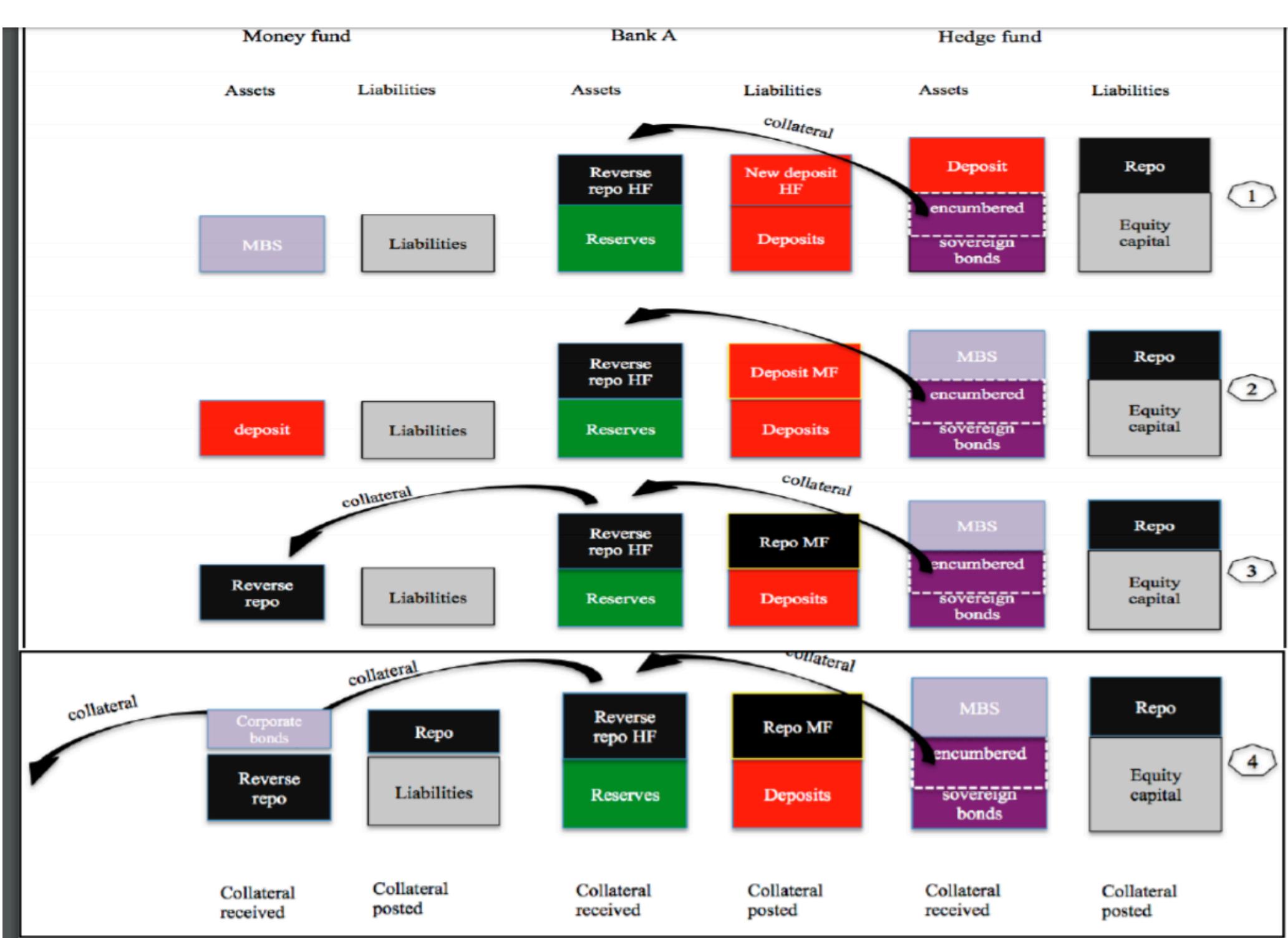
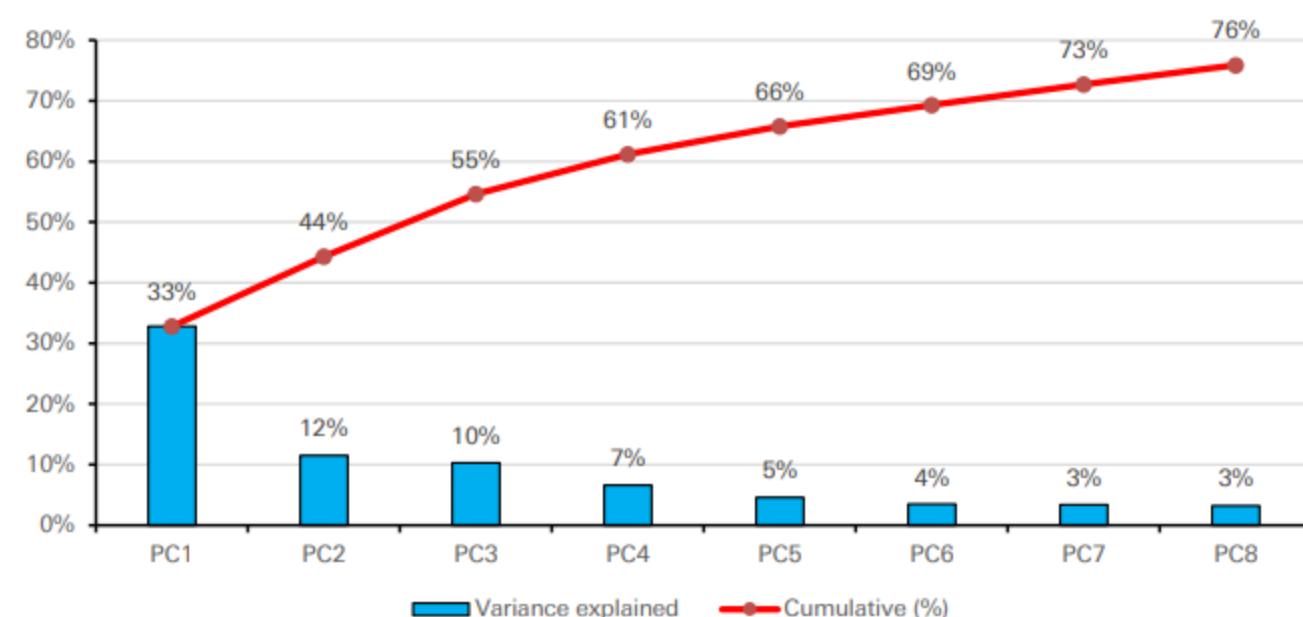
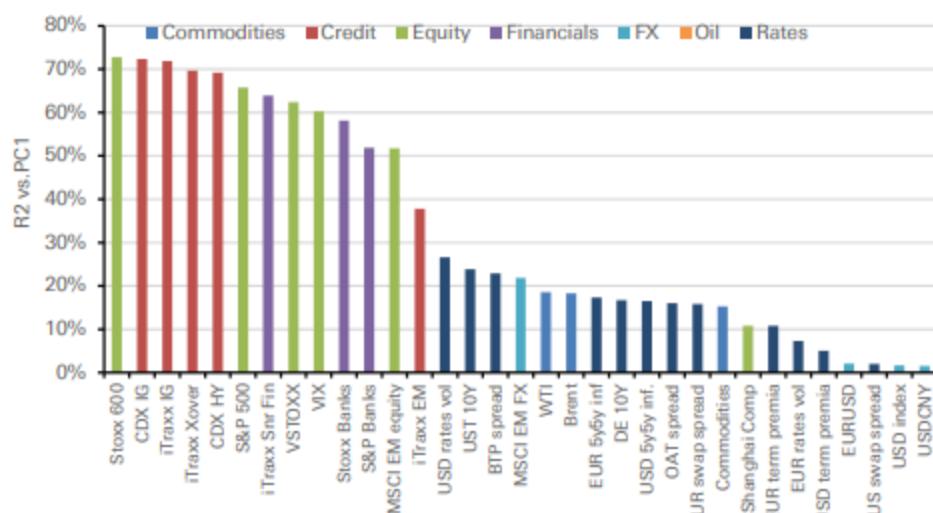


Figure 4: First 8 PCs explained 80% of cross asset variance



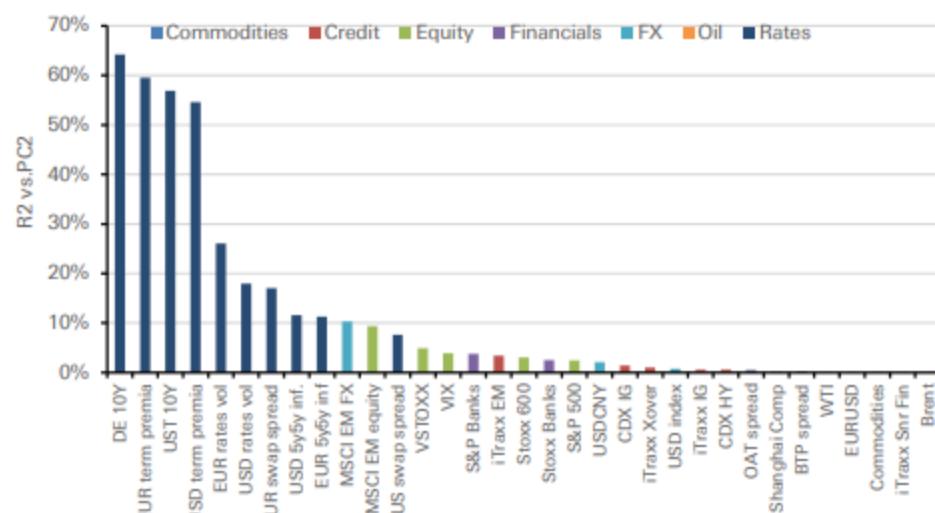
Source : Deutsche Bank, Bloomberg Finance LP

Figure 5: PC1 is broader global risk sentiment



*Source : Deutsche Bank, Bloomberg Finance LP*

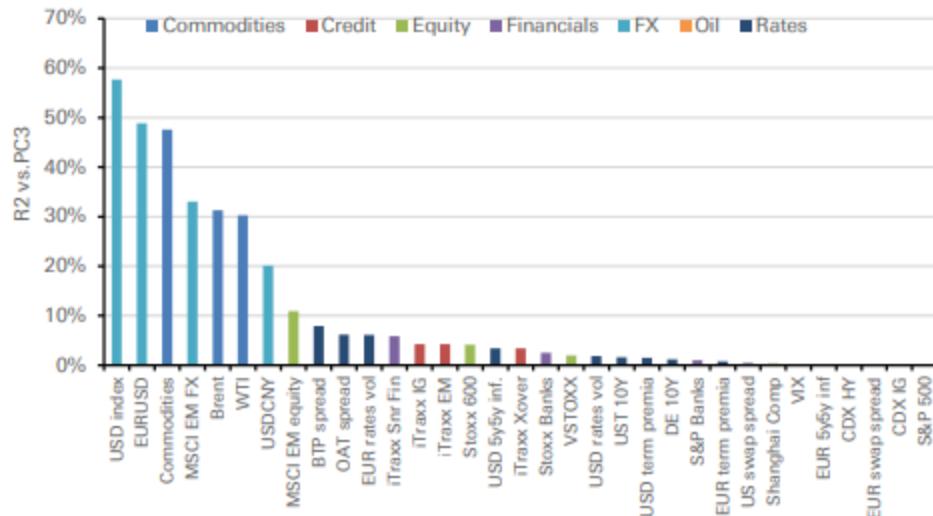
Figure 6: PC2 is a global rates specific factor



*Source : Deutsche Bank, Bloomberg Finance LP*

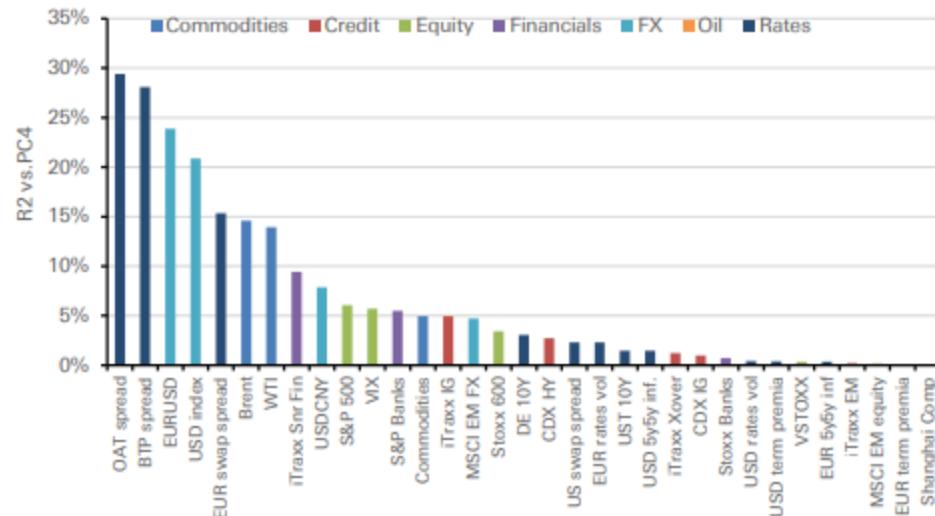
PC3 appears to be a proxy for USD strength and related variables, with strong linkages to USD performance metrics and commodities factors (also driven by USD moves). PC4 represents risk appetite for EZ sovereign risk, loading heavily on OAT and BTP spreads and EUR strength.

Figure 7: PC3 is a proxy for USD strength



*Source : Deutsche Bank, Bloomberg Finance LP*

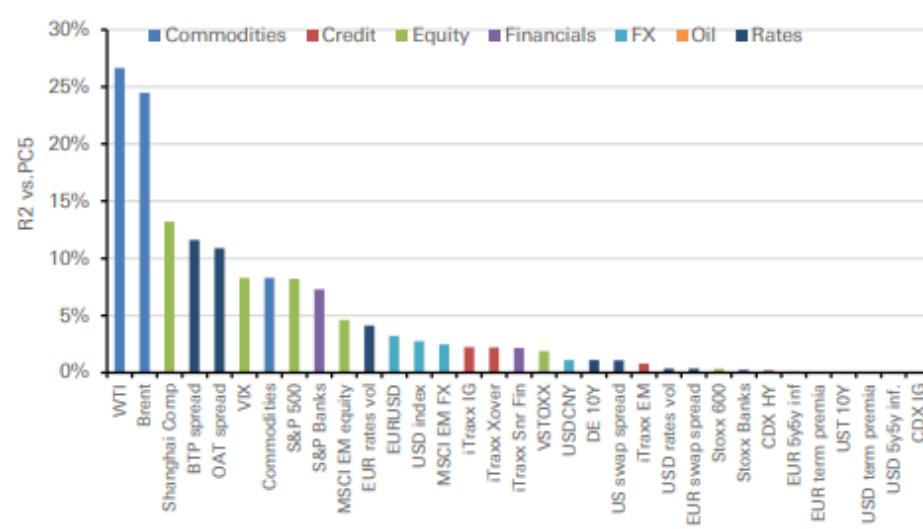
Figure 8: PC4 is EZ sovereign risk sentiment



*Source : Deutsche Bank, Bloomberg Finance LP*

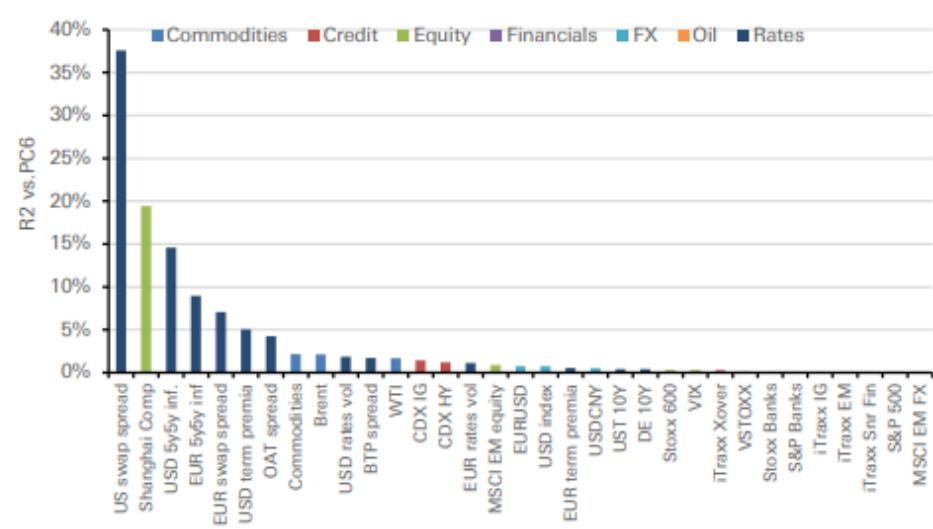


Figure 9: PC5 is driven by oil



Source : Deutsche Bank, Bloomberg Finance LP

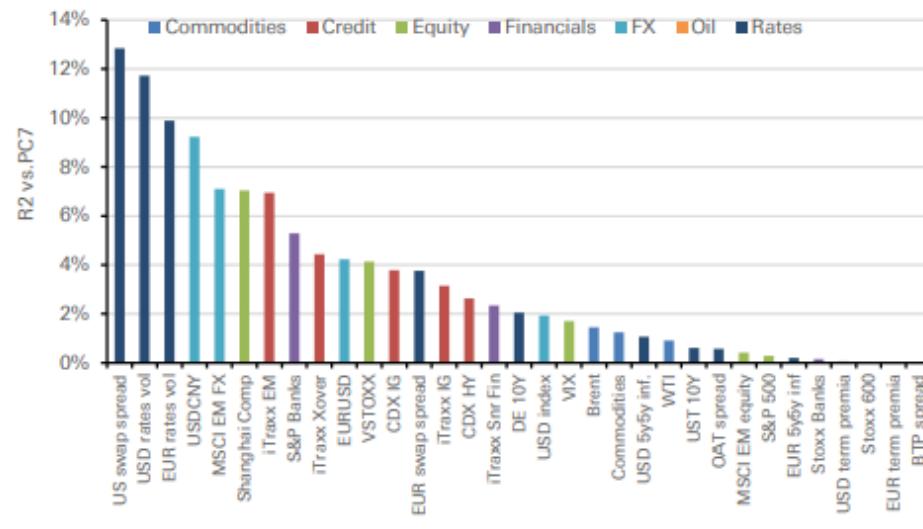
Figure 10: PC6 is largely a technical factor for US swap spreads



Source : Deutsche Bank, Bloomberg Finance LP

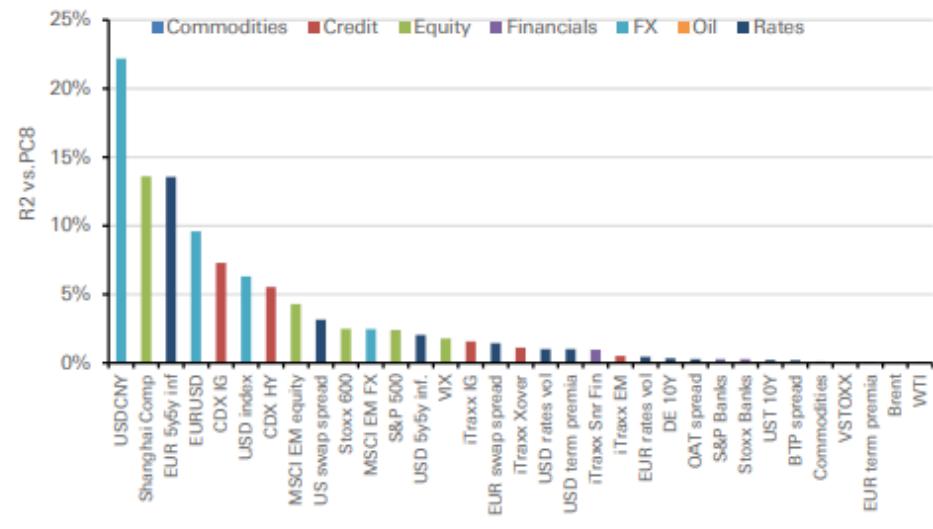
PC7 is harder to identify, but largely appears to be a rates volatility factor given close links with both USD and EUR rates volatility. Finally, PC8 appears to be China specific factor, with strong linkages to CNY and Chinese equity performance.

Figure 11: PC7 is close to rates volatility factor



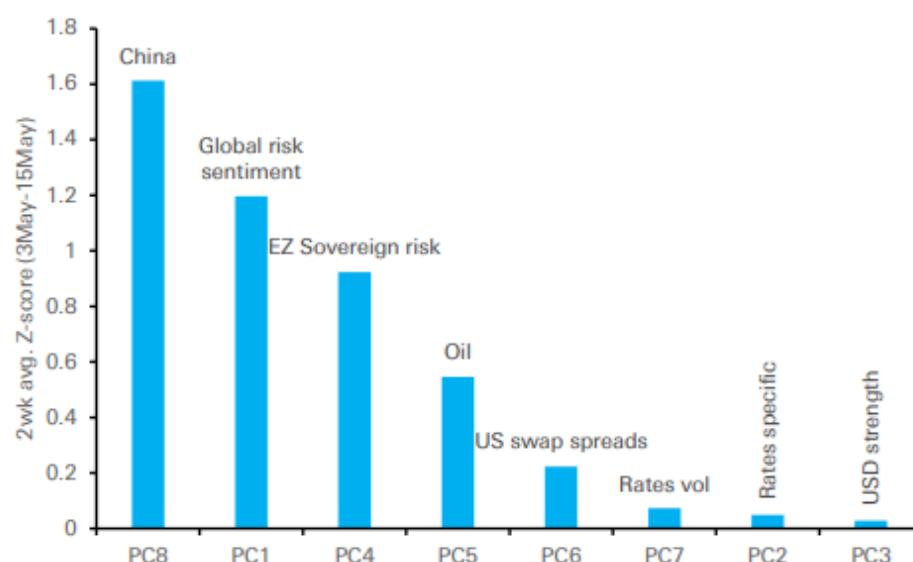
Source : Deutsche Bank, Bloomberg Finance LP

Figure 12: PC8 is largely a China specific factor



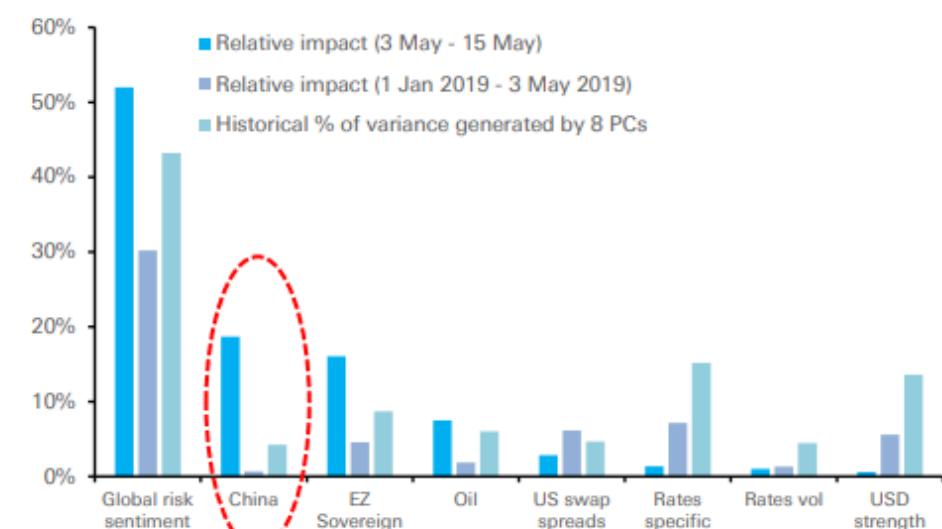
Source : Deutsche Bank, Bloomberg Finance LP

Figure 13: China factor has driven recent move



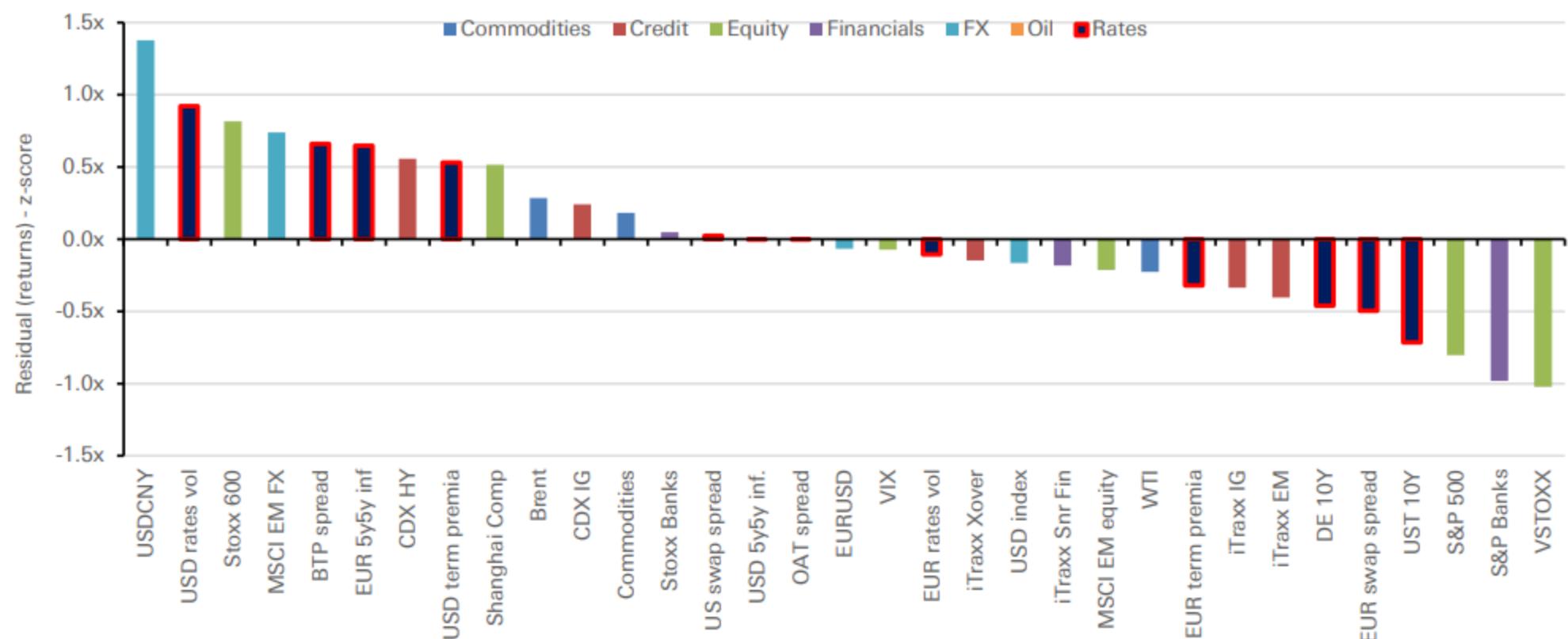
Source : Deutsche Bank, Bloomberg Finance LP

Figure 14: Contribution to recent move is outsized relative to history



Source : Deutsche Bank, Bloomberg Finance LP

Figure 15: Cross asset residuals relative to the first 8 PCs



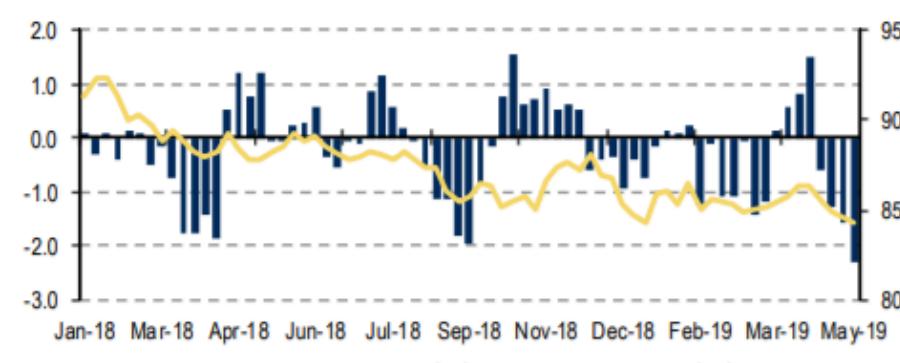
Source : Deutsche Bank, Bloomberg Finance LP

Note that rates/credit assets have performance measured on yield (bp) terms while other assets are in returns terms. So a positive (negative) residual would indicate cheapening (richening) of the asset.

## AUD and NZD oversold

Hedge funds were selling AUD in the weeks before the elections (Chart 3). Although some of this may have been in response to the escalation of trade tensions, investors may buy AUD following the [election result](#). NZD is also subject to trade war risks, but [the market is already short](#), hedge funds stopped selling last week, while real money has been buying in the last 2 weeks (Chart 4).

Chart 3: Hedge fund proprietary 4-week AUD flows (z-score)



Source: BofA Merrill Lynch Global Research.

Chart 4: Proprietary weekly NZD indexed flows

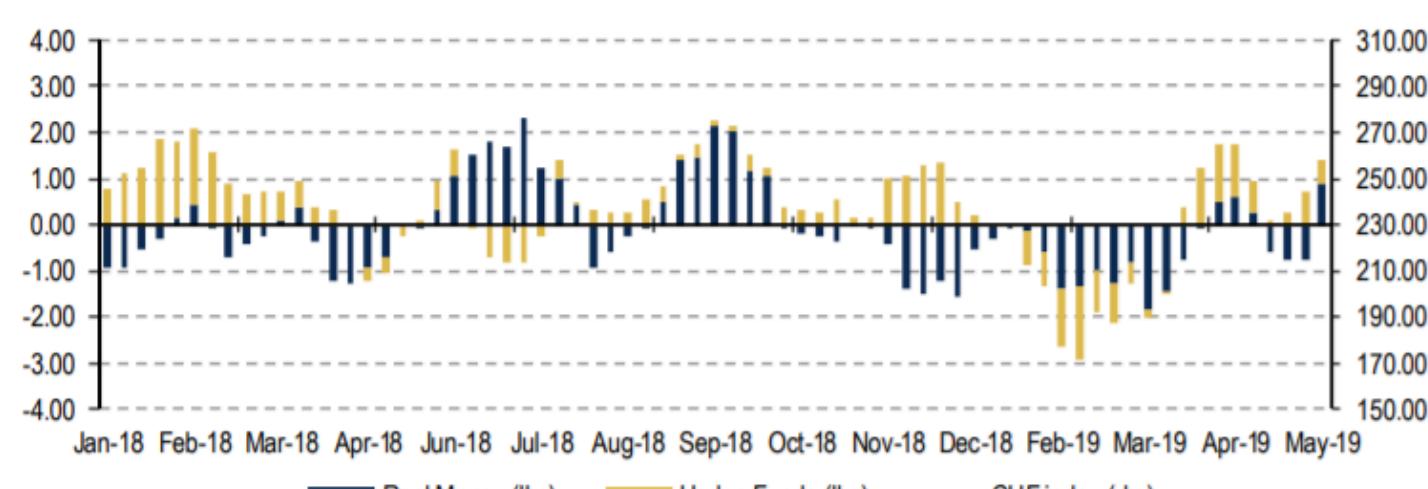


Source: BofA Merrill Lynch Global Research.

## Risk off supports CHF

Risk off and weak EZ data are supporting CHF. Our flows show both hedge funds and real money buying CHF in recent weeks (Chart 5).

Chart 5: Proprietary 4-week CHF flows (z-score)



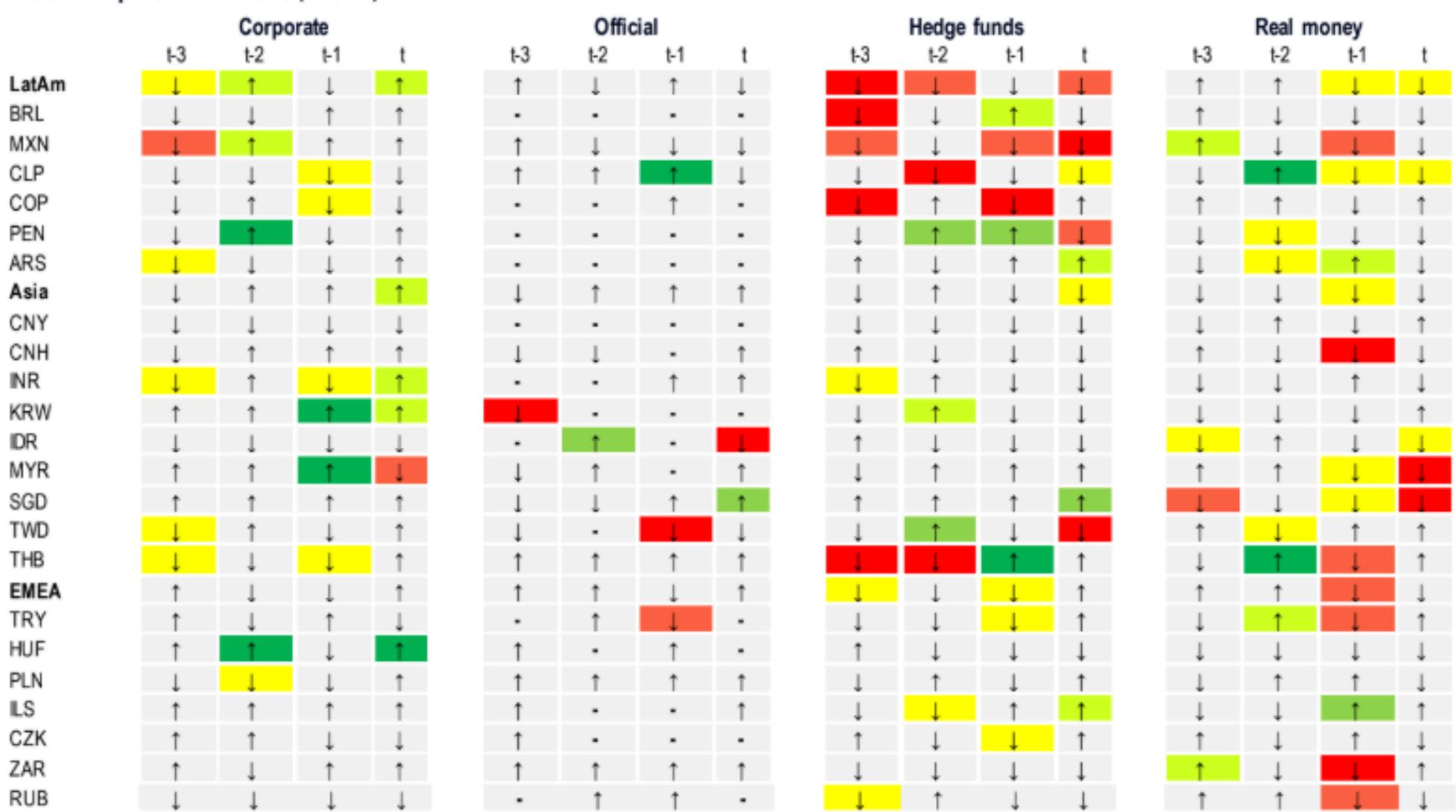
Source: BofA Merrill Lynch Global Research.

## Snapshot of flows

Table 1: Snapshot of G10 Flows (Z-score)

	Corporate				Official				Hedge funds				Real money			
	t-3	t-2	t-1	t	t-3	t-2	t-1	t	t-3	t-2	t-1	t	t-3	t-2	t-1	t
G10																
USD	↑	↑	↑	↓	↓	↓	↑	↓	↑	↑	↓	↑	↓	↓	↑	↓
EUR	↓	↓	↓	↓	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
JPY	↓	↓	↓	↑	↑	↑	↓	↑	↓	↑	↑	↑	↑	↑	↑	↑
GBP	↓	↓	↓	↓	↓	↑	↑	↓	↓	↑	↑	↓	↑	↑	↑	↓
CAD	↑	↑	↓	↓	↑	↑	↓	↑	↓	↓	↑	↓	↑	↑	↑	↑
AUD	↑	↓	↓	↑	↑	↓	↓	↓	↓	↓	↓	↓	↑	↑	↑	↑
NZD	↓	↑	↓	↓	↑	↓	↓	↑	↓	↓	↓	↓	↑	↓	↑	↑
CHF	↓	↑	↑	↑	↓	↓	↑	↑	↑	↑	↑	↓	↓	↑	↑	↑
NOK	↓	↓	↑	↓	↑	↓	↓	↓	↓	↓	↓	↑	↑	↓	↑	↑
SEK	↑	↓	↑	↓	↓	↓	↓	↑	↓	↑	↓	↑	↓	↓	↓	↑
EM																
Asia	↓	↑	↑	↑	↓	↑	↑	↑	↓	↑	↓	↓	↓	↓	↓	↓
EMEA	↑	↓	↓	↑	↑	↑	↓	↑	↓	↓	↓	↑	↑	↓	↓	↓
LatAm	↓	↑	↓	↑	↑	↓	↑	↓	↓	↓	↓	↓	↑	↓	↓	↓

**Table 2: Snapshot of EM Flows (Z-score)**



KEY:



Note: The heatmaps measure the strength of each flow compared to its own history. The z-score is calculated as the weekly flow minus the 2-year average flow, divided by the 2-year standard deviation of flows. A positive (negative) number does not necessarily suggest buying (selling), as it is expressed relative to the 2-year average flow and depends on whether the latter is a positive or a negative number. In this context, the arrows indicate whether our flow, and not the z-score, is positive or negative, suggesting buying or selling.

Source: BofA Merrill Lynch Global Research



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## Snapshot of flows; z-scores

**Table 3: Snapshot of G10 Flows (Z-score)**

	Total				Corporate				Official				Hedge funds				Real money			
	t-3	t-2	t-1	t	t-3	t-2	t-1	t	t-3	t-2	t-1	t	t-3	t-2	t-1	t	t-3	t-2	t-1	t
<b>G10</b>																				
USD	1.65	-0.99	0.68	-0.15	1.00	-0.03	0.69	-0.64	0.35	-1.89	0.48	0.18	2.10	0.02	-1.03	1.34	-0.42	-0.16	0.47	-0.41
EUR	-0.15	1.30	-0.13	0.48	-0.76	-0.14	-0.71	0.54	0.05	3.86	-0.04	-0.11	0.46	0.30	1.68	0.38	0.29	0.64	-0.15	0.01
JPY	0.81	-0.87	1.24	0.76	-1.42	-0.88	-0.37	0.24	4.00	-0.09	-1.32	-0.25	-0.04	-0.82	1.50	0.59	0.77	-0.26	1.02	0.53
GBP	-0.52	0.26	0.17	-0.64	-0.15	-0.28	-0.17	-0.17	-1.07	0.47	0.74	-1.41	-2.19	1.44	1.24	-0.79	0.03	0.94	0.33	-0.86
CAD	0.10	1.83	-0.79	-0.78	0.55	1.10	-1.02	-0.58	-0.47	2.98	-0.50	-0.31	-0.28	-0.23	0.24	-0.61	0.24	-0.26	-0.14	-0.22
AUD	-0.51	0.41	-0.43	-0.07	0.33	-0.06	-0.57	0.59	-0.15	-0.55	-0.15	-0.20	-1.77	-0.37	-0.91	-1.42	0.22	0.69	0.38	0.35
NZD	-0.89	-0.71	-0.07	0.58	-1.23	0.56	-0.37	0.07	-0.02	0.00	0.00	0.00	-0.10	-0.93	-1.18	-0.05	-0.69	-0.25	0.71	0.63
CHF	-0.56	-0.42	0.84	1.58	-0.47	-0.05	0.07	-0.01	0.10	0.10	0.09	2.47	0.09	0.26	1.23	-0.50	-0.41	-1.02	0.40	3.21
NOK	0.04	-0.73	-1.05	1.16	-0.13	-0.12	0.37	-0.47	-0.10	-0.10	-0.09	-0.10	-0.39	-0.18	-1.08	-0.01	0.48	-0.63	-0.52	1.67
SEK	-1.69	-0.45	-1.18	2.55	0.13	0.02	0.20	-0.59	0.09	0.07	-0.57	0.09	-1.07	0.17	-0.21	-0.14	-1.47	-0.67	-1.31	3.57
G10-xUSD	-0.46	1.22	0.16	0.48	-0.75	-0.27	-0.84	0.17	0.50	4.00	-0.49	-0.49	-1.01	0.01	1.99	-0.28	0.60	0.63	0.48	0.85
<b>EM</b>																				
Asia	-1.67	-0.13	-1.02	-0.23	-0.97	0.66	0.09	1.37	-0.78	-0.33	-0.34	0.04	-0.89	0.43	-0.45	-1.49	-0.60	-0.70	-1.20	-0.21
EMEA	-0.23	-0.18	-1.85	0.04	0.30	0.13	-0.18	0.48	0.00	0.05	-0.07	0.01	-1.03	-0.65	-1.01	0.20	0.16	0.08	-1.78	-0.31
LatAm	-1.43	-0.22	-0.88	-1.11	-1.30	1.36	0.23	1.14	-0.02	-0.02	0.08	-0.03	-3.15	-1.55	-0.25	-1.89	0.42	-0.24	-1.07	-1.04

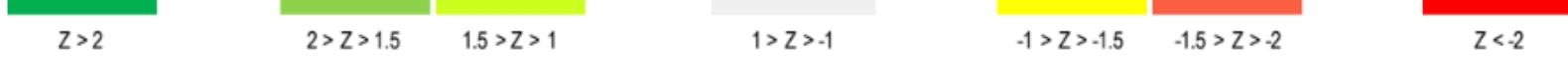
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Source: BofA Merrill Lynch Global Research

**Table 4: Snapshot of EM Flows (Z-score)**

	Total				Corporate				Official				Hedge funds				Real money			
	t-3	t-2	t-1	t	t-3	t-2	t-1	t	t-3	t-2	t-1	t	t-3	t-2	t-1	t	t-3	t-2	t-1	t
LatAm	-1.43	-0.22	-0.88	-1.11	-1.30	1.36	0.23	1.14	-0.02	-0.02	0.08	-0.03	-3.15	-1.55	-0.25	-1.89	0.42	-0.24	-1.07	-1.04
BRL	-0.57	-0.48	0.52	-0.47	-0.30	0.15	0.38	0.99	-	-	-	-	-2.08	-0.83	1.45	-0.94	0.34	-0.31	-0.20	-0.71
MXN	-0.67	-0.14	-1.64	-1.13	-1.85	1.34	0.76	0.80	-0.02	-0.02	-0.03	-0.03	-1.59	-0.93	-1.85	-2.39	1.06	-0.41	-1.55	-0.62
CLP	-1.13	0.83	-1.85	-1.53	-0.69	0.80	-1.04	-0.38	-0.03	-0.03	2.08	-0.05	-0.56	-2.35	-0.67	-1.14	-0.73	2.29	-1.47	-1.02
COP	-1.74	0.45	-2.69	0.13	-0.07	0.80	-1.45	-0.53	-	-	0.26	-	-4.00	0.18	-3.57	0.62	0.08	0.03	-0.91	0.20
PEN	-0.26	1.30	0.14	-0.39	-0.41	3.67	0.11	0.76	-	-	-	-	0.09	1.96	1.58	-1.83	-0.16	-1.15	-0.56	-0.13
ARS	-1.15	-1.31	1.43	0.62	-1.12	0.19	0.38	0.45	-	-	-	-	0.08	-0.52	0.65	1.38	-0.99	-1.47	1.18	-0.55
Asia	-1.67	-0.13	-1.02	-0.23	-0.97	0.66	0.09	1.37	-0.78	-0.33	-0.34	0.04	-0.89	0.43	-0.45	-1.49	-0.60	-0.70	-1.20	-0.21
CNY	0.24	0.11	-0.38	-0.10	0.46	0.19	-0.05	-0.07	-	-	-	-	-0.19	-0.19	-0.18	-0.17	-0.34	0.00	-0.80	0.03
CNH	-0.28	-0.62	-0.89	-0.45	-0.35	0.26	0.21	0.56	-	-	-0.36	-0.36	0.11	-0.57	-0.66	-0.38	0.36	-0.74	-2.26	-0.62
INR	-1.36	-0.22	-0.23	0.33	-1.44	0.23	-1.10	1.35	-	-	0.66	0.02	-1.14	0.28	-0.18	-0.72	0.00	-0.74	0.73	-0.22
KRW	-0.92	1.02	0.10	0.97	0.21	0.86	2.22	1.17	-4.00	-	-	-	-0.81	1.15	-0.20	0.03	-0.10	0.14	-0.63	0.71
IDR	-0.98	-0.08	-0.69	-1.10	-0.30	0.38	0.10	0.26	-	1.74	-	-2.03	0.36	-0.70	-0.71	-0.53	-1.30	0.06	-0.43	-1.07
MYR	0.83	-0.23	1.49	-2.93	0.81	-0.47	2.74	-1.68	0.14	0.16	-	0.16	-0.03	-0.04	0.13	0.04	0.51	0.12	-1.25	-4.00
SGD	-1.07	-0.35	-0.64	0.98	0.78	0.31	-0.21	-0.14	-0.80	-0.18	-0.16	1.61	0.10	0.26	0.30	1.58	-1.59	-0.95	-1.18	-2.27
TWD	-0.91	0.38	-0.96	-2.11	-1.13	0.28	-0.67	0.57	-0.07	-	-3.06	-0.03	-0.03	1.78	-0.69	-4.00	-0.37	-1.11	-0.27	0.42
THB	-2.19	-0.79	0.98	0.74	-1.21	-0.68	-1.05	-0.09	0.26	0.25	0.26	0.30	-2.56	-2.85	4.00	0.59	-0.50	2.04	-1.76	0.82
EMEA	-0.23	-0.18	-1.85	0.04	0.30	0.13	-0.18	0.48	0.00	0.05	-0.07	0.01	-1.03	-0.65	-1.01	0.20	0.16	0.08	-1.78	-0.31
TRY	-0.02	0.74	-1.33	0.43	0.24	-0.04	0.13	-0.10	-	0.37	-1.62	-	-0.11	-0.02	-1.05	0.32	-0.24	1.33	-1.59	0.63
HUF	-0.64	-0.03	0.05	0.56	0.39	3.01	0.04	2.40	0.01	-	0.05	-	0.00	-0.14	-0.29	-0.18	-0.82	-0.64	0.22	0.16
PLN	-0.21	0.08	-0.28	-0.16	-0.13	-1.24	-0.85	0.85	-0.11	-0.11	-0.09	0.01	-0.17	0.03	-0.55	0.59	-0.07	0.61	0.35	-0.86
ILS	-0.46	-0.54	1.18	1.13	-0.23	0.95	-0.13	0.66	0.27	-	-	0.29	-0.16	-1.29	0.54	1.11	-0.51	-0.77	1.59	0.38
CZK	0.57	0.14	-0.62	-0.41	0.22	0.73	-0.89	-0.80	-0.09	-	-	-	0.33	-0.36	-1.08	0.16	0.46	0.07	0.22	-0.23
ZAR	0.41	-0.66	-1.69	0.29	0.46	-0.55	0.69	0.58	0.04	0.04	0.02	0.00	-0.99	-0.71	-0.25	-0.14	1.18	-0.24	-2.70	0.30
RUB	-0.41	-0.32	-1.49	-0.88	0.02	-0.25	0.07	-0.65	-	0.05	0.70	-	-1.21	0.01	-0.32	-0.51	0.11	-0.28	-1.52	-0.52

**KEY:**



Note: The z-score is calculated as the weekly flow minus the 2-year average flow, divided by the 2-year standard deviation of flows. A positive (negative) number does not necessarily suggest buying (selling), as it is expressed relative to the 2-year average flow and depends on whether the latter is a positive or a negative number. Weeks with no flow are marked with '-'.

Source: BofA Merrill Lynch Global Research

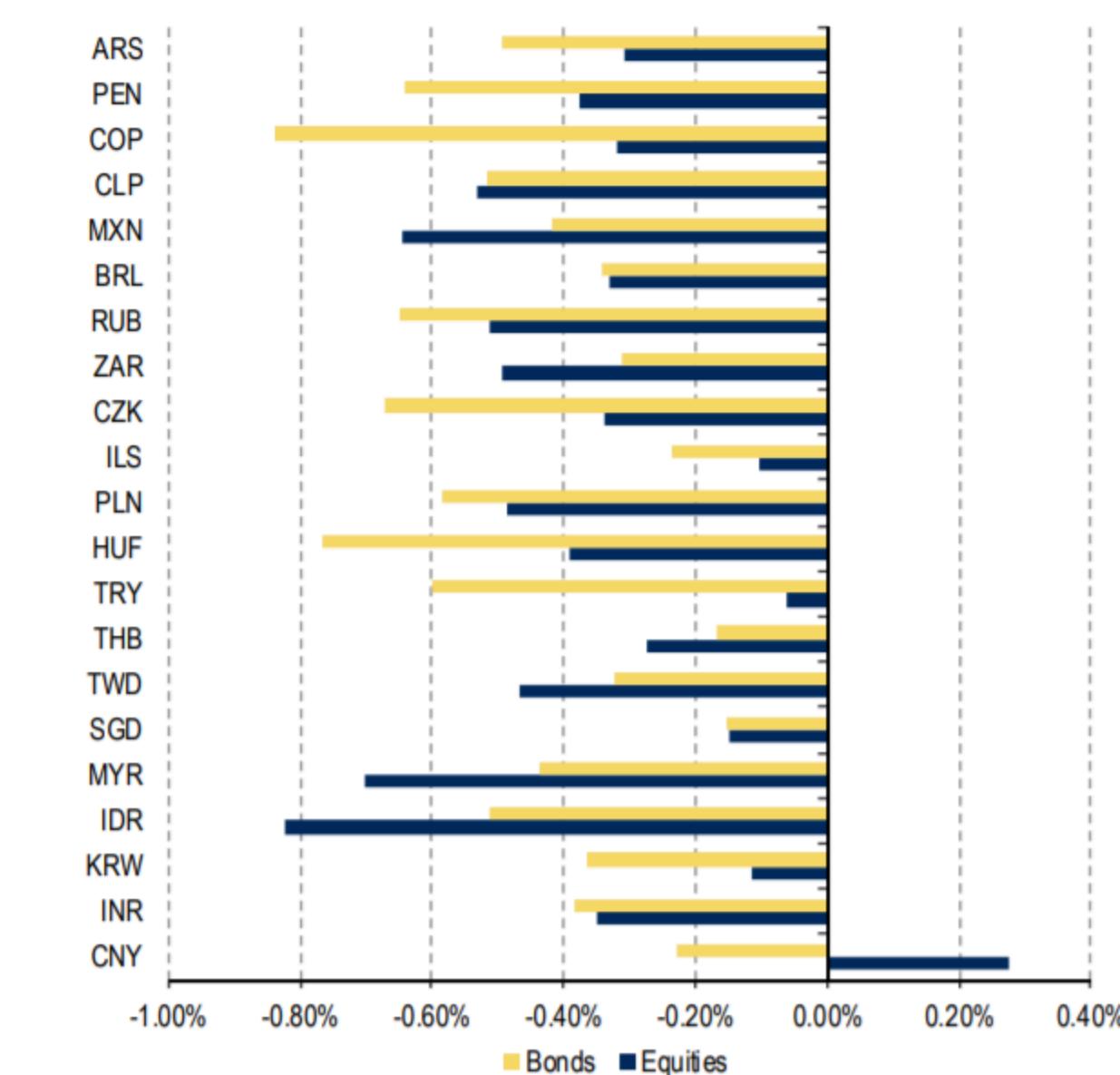
4 Liquid Cross Border Flows | 20 May 2019

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## Trade tensions triggers EM sell-off

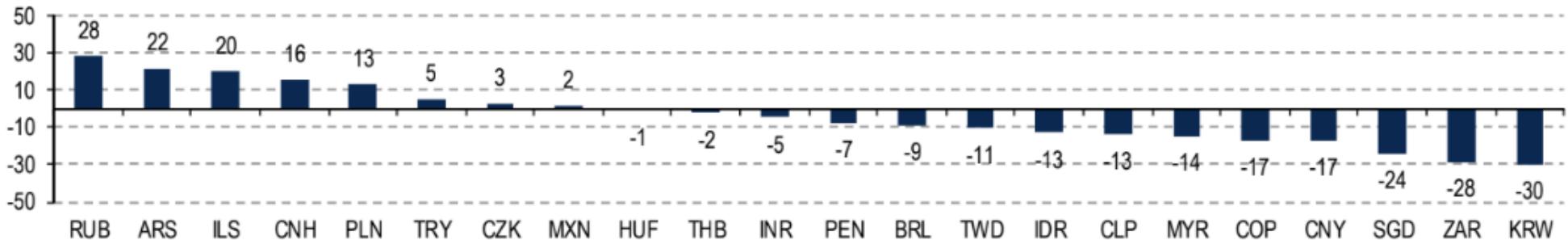
Following the escalation of the trade tensions between the US and China, we are seeing strong outflows from EM across the board (Table 2). The EPFR data show selling in both bonds and equities in every single EM last week (Chart 1).

**Chart 1: 1-week flows %AUM**



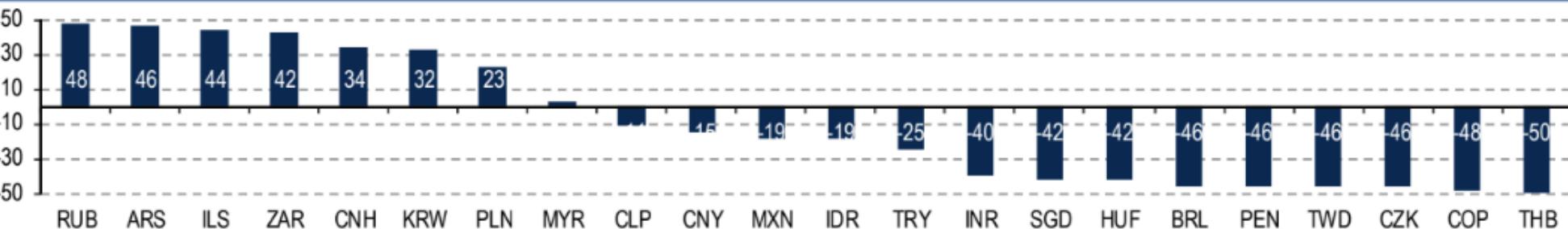
# Positioning Scorecard EM

Chart 9: EM aggregate positioning



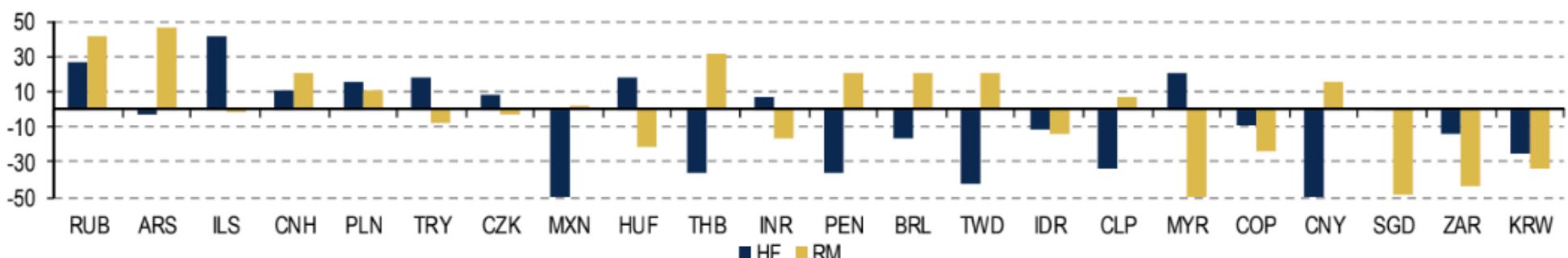
Source: BofA Merrill Lynch Global Research, Bloomberg; Positioning is measured relative to January 2012, using an expanding window of data. See Appendix for details.

Chart 10: Latest positioning relative to the past year (1Y percentile, scaled +50 to -50)



Source: BofA Merrill Lynch Global Research, Bloomberg

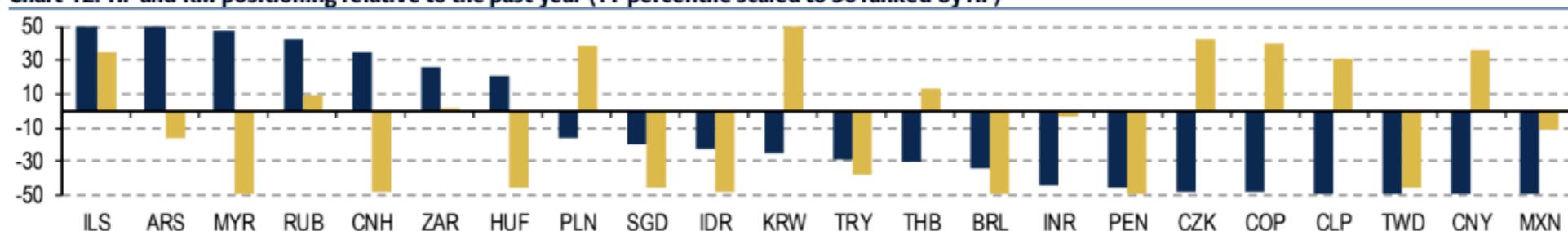
Chart 11: Latest HF and RM positioning ranked by aggregate positioning



Source: BofA Merrill Lynch Global Research

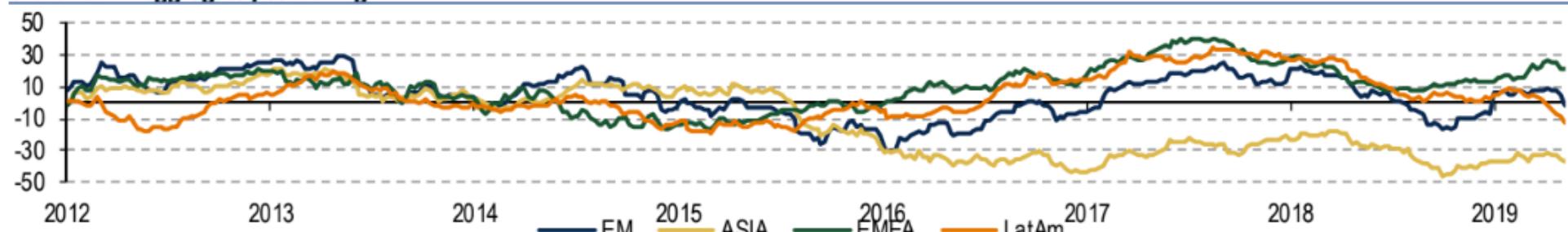
Note: HF and RM are ranked by latest aggregate positioning

Chart 12: HF and RM positioning relative to the past year (1Y percentile scaled to 50 ranked by HF)



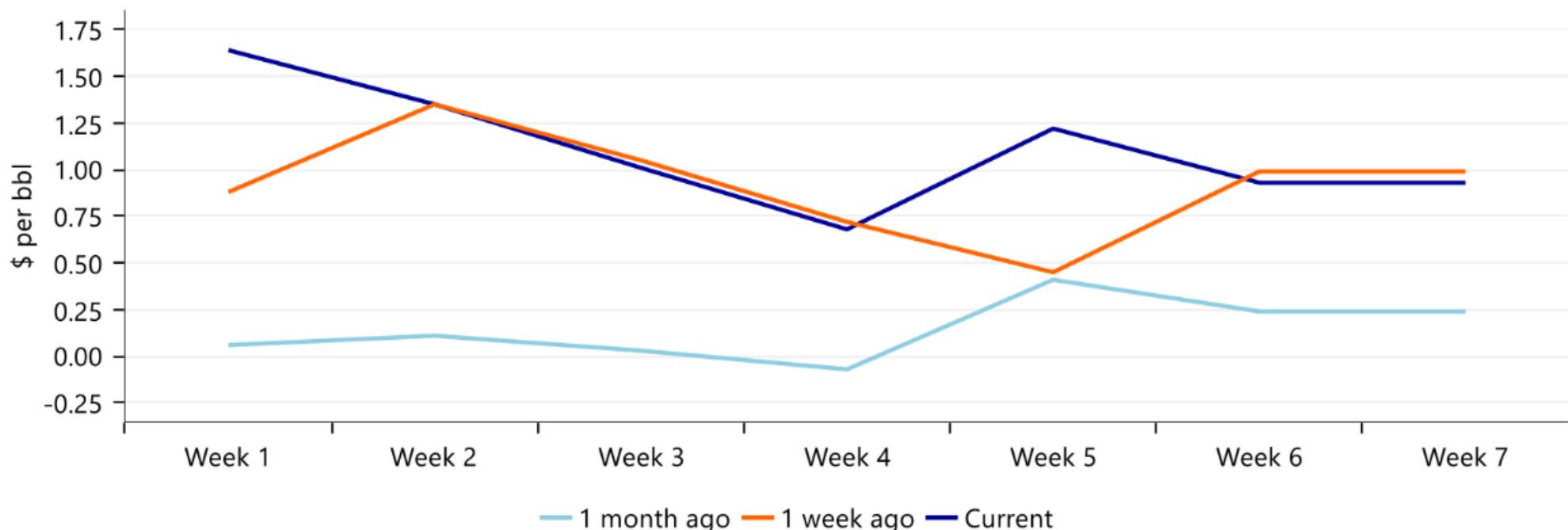
Source: BofA Merrill Lynch Global Research

Chart 13: EM aggregate positioning



Source: BofA Merrill Lynch Global Research, Bloomberg

**Figure 3: Short-term swap market for Dated Brent trades \$1.60 over July Brent futures...**



Source: Bloomberg, Rabobank

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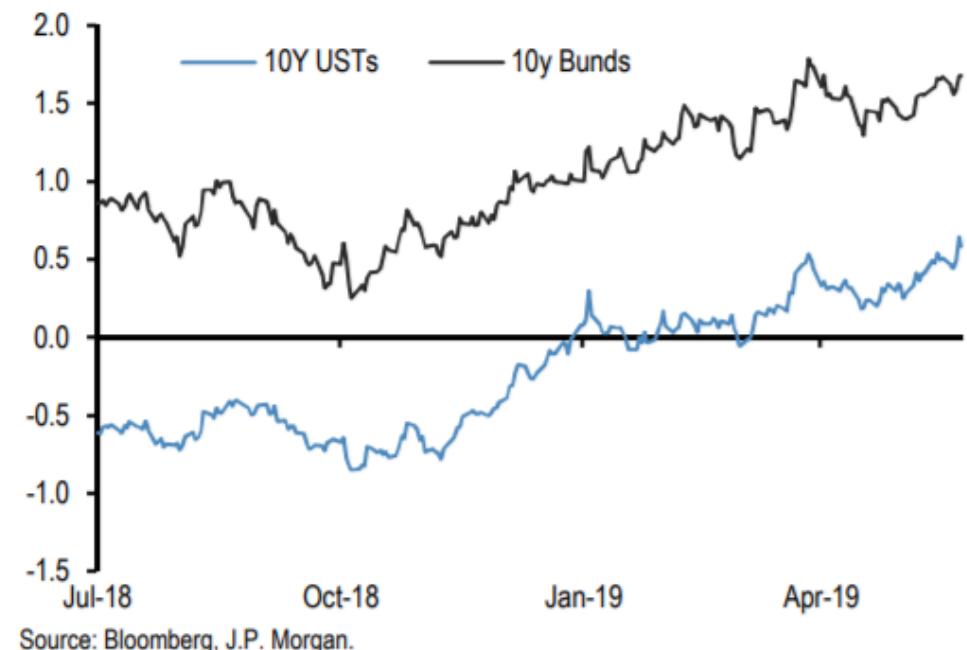
Global Markets Strategy  
Flows & Liquidity  
24 May 2019

J.P.Morgan

- An important difference is that bond yields are falling this year rather than rising. During the first three quarters of last year, before the risky market correction erupted in Q4 2018, the yield on the Global Agg Bond index had risen by 52bp (Figure 1). It was instead down by 22bp in the first four months of this year before risky markets started correcting in May. The difference is even more striking if one focuses on US bond yields. The yield on the US Agg Bond index was up by 76bp during the first three quarters of last year and was down 30bp in the first four months of this year.
- What explains this difference in bond market performance this year vs. last year? In our opinion both retail and institutional flows played a role. Retail investors stopped buying bond funds after the February 2018 equity market correction helping to push yields up during Q2 and Q3 of last year (Figure 2). But retail investors started becoming strong buyers of bond funds from the beginning of 2019, most likely in response to strong equity market gains that mechanically increased their equity weights and in turn made them underweight in bonds. And this retail flow helped to push bond yields significantly lower this year. At the same time momentum traders such as CTAs have been likely exacerbating this bond momentum as shown by the decline of bond futures momentum signals during the summer of 2018 and their steady reversal since Q4 of last year (Figure 3).

**Figure 3: Long term momentum signals for 10y UST and Bund futures**

z-score of the momentum signal in our Trend Following Strategy framework shown in Tables A5 and A6 in the Appendix.



Source: Bloomberg, J.P. Morgan.

- In addition, the strong bond fund flows this year are boosting credit and US HY in particular. The biggest US HY ETFs saw a collapse in the borrow fee this year in contrast to a persistently high borrow fee during most of last year (Figure 4). This is another important difference to last year, which in our opinion makes US HY credit look more vulnerable currently relative to last year.

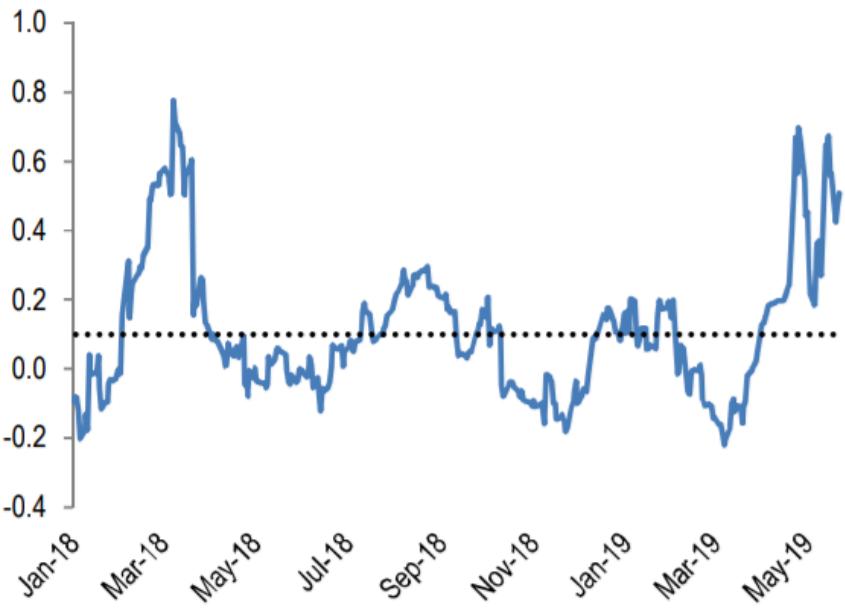
**Figure 4: Borrow fees of the HYG IIS ETFs**

## Despite position reduction from active EM local bond funds, EM remain vulnerable in equity and external debt space

- The last few weeks have seen a significant re-intensification in the US-China trade conflict, which had been on the back burner for much of the first four months of the year. Combined with the fact that EM funds have seen strong inflows year-to-date, this has focused attention on vulnerabilities in EM. In order to look at where vulnerabilities remain, we revisit our positioning metrics for EM fund managers.
- Turning first to EM-dedicated hedge funds, we look at the 21-day beta of daily EM hedge fund returns to the JP Morgan EM currency index. EM currency exposure represents an important component of both EM equity and EM bond exposures and thus is the single best metric to assess EM hedge fund betas. This beta, shown in Figure 9, suggests that EM hedge funds exhibited below average and even negative betas in March before moving above average at the start of April. Since then they have exhibited well-above average betas to EM currency returns, suggesting elevated longs.

**Figure 9: FX betas of EM hedge funds**

Rolling 21-day rolling beta. The EM hedge fund beta is based on univariate regression of daily returns of HFRX EM index to returns on the JPM EM currency index.

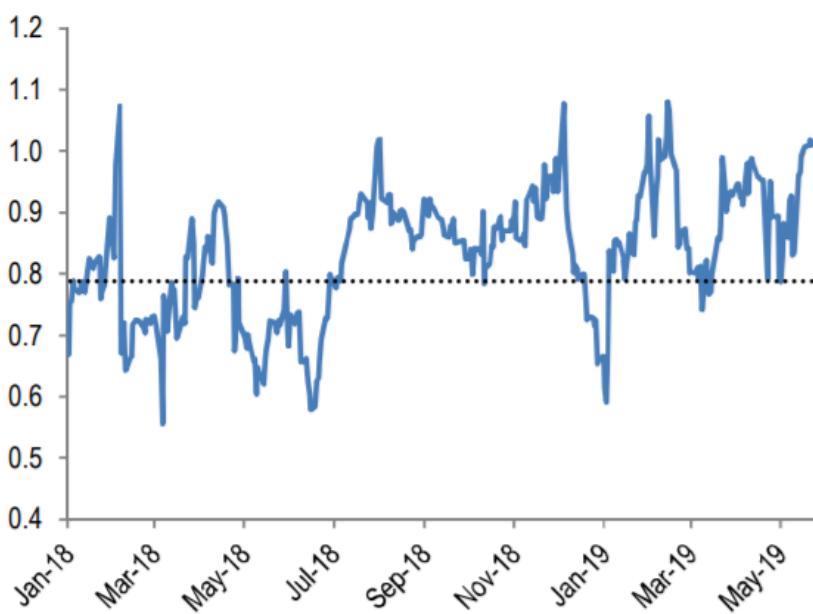


Source: Bloomberg, J.P. Morgan.

- What about EM equity managers? To infer their positioning, we look at the 21-day rolling betas of the 20 largest active EM funds to EM equity returns shown in Figure 10. This suggests that active EM equity funds have exhibited above average betas for much of the year, and if anything an increase in the beta since the start of May to just over 1.0 compared to an average since the start of 2016 of around 0.8. Similar to EM-dedicated hedge funds, active EM equity funds thus appear to have done little de-risking during the 9% decline in EM equities since the beginning of May.

**Figure 10: Equity betas of EM equity mutual funds domiciled in US**

Rolling 21-day rolling beta. The EM equity mutual fund beta is based on univariate regression of 20 biggest EM equity mutual funds daily returns to returns on the MSCI EM index.



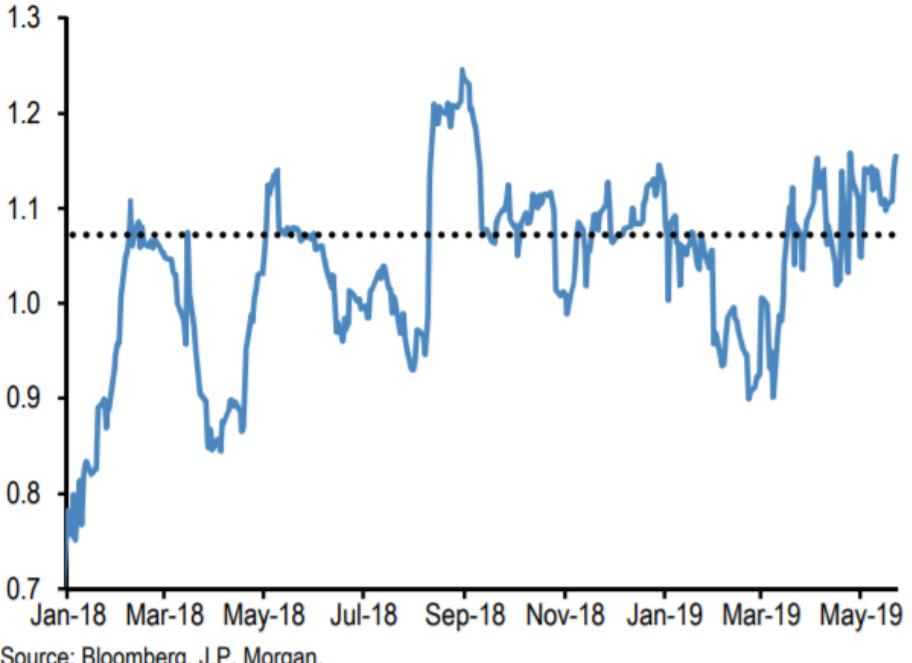
Source: Bloomberg, J.P. Morgan.

- What about EM fixed income investors? Here we look at the 21-day rolling betas of the returns of the 20 largest active EM hard and local currency bonds to their

respective benchmark indices. In addition, given the impaired liquidity in Turkish local bonds in recent months we also calculate a 21-day rolling beta of local bonds to GBI-EM returns excluding Turkey since the start of 2019 as a cross-check. Figure 11 and Figure 12 show the active EM hard and local currency bond betas respectively. The figures suggest that active EM hard currency bond funds have remained OW, while local bond investors have reduced betas sharply since end-April though there has been a modest rise over the past week or so.

**Figure 11: Bond betas of EM hard currency bond mutual funds domiciled in US**

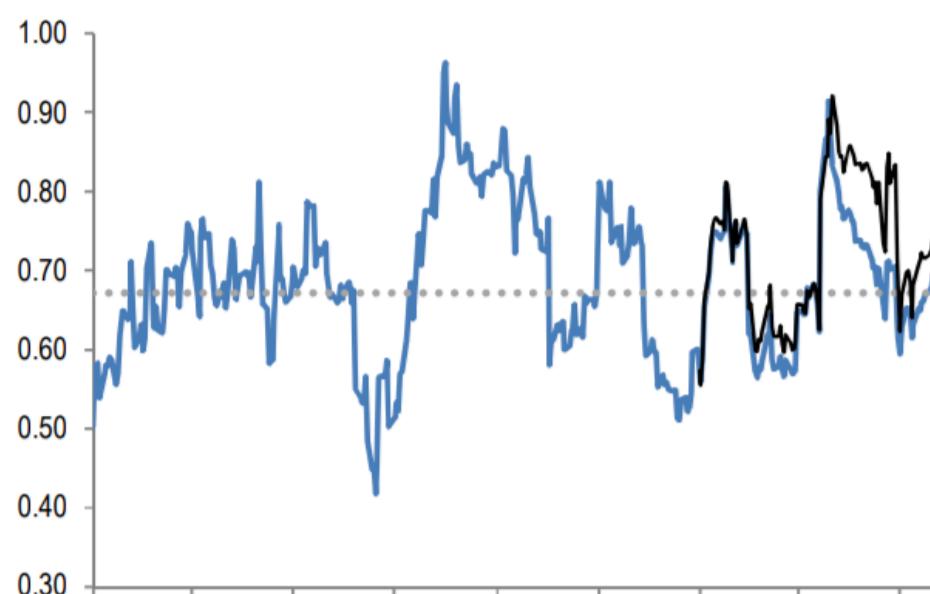
Rolling 21-day rolling beta. The EM hard currency bond mutual fund beta is based on univariate regression of 20 biggest EM Hard currency bond mutual funds daily returns to returns on the JPM EMBI global diversified index.



Source: Bloomberg, J.P. Morgan.

**Figure 12: Bond betas of EM local currency bond mutual funds domiciled in US**

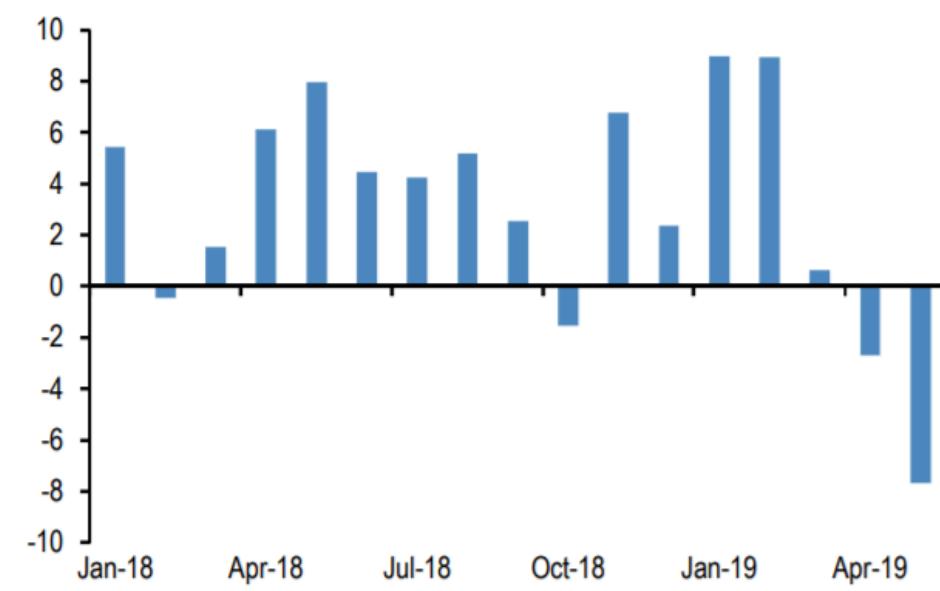
Rolling 21-day rolling beta. The EM local currency bond mutual fund beta is based on univariate regression of 20 biggest EM local currency bond mutual funds daily returns to returns on the JPM GBI-EM global diversified index. The black line shows the beta to daily returns on the JPM GBI-EM global diversified index excluding Turkey since the start of 2019.



net flows from foreign investors to Chinese onshore equities have turned from strong inflows to outflows.

**Figure 13: Monthly net inflows into Chinese onshore equities**

In \$bn. Latest observation for May covers net flows to May 24th.



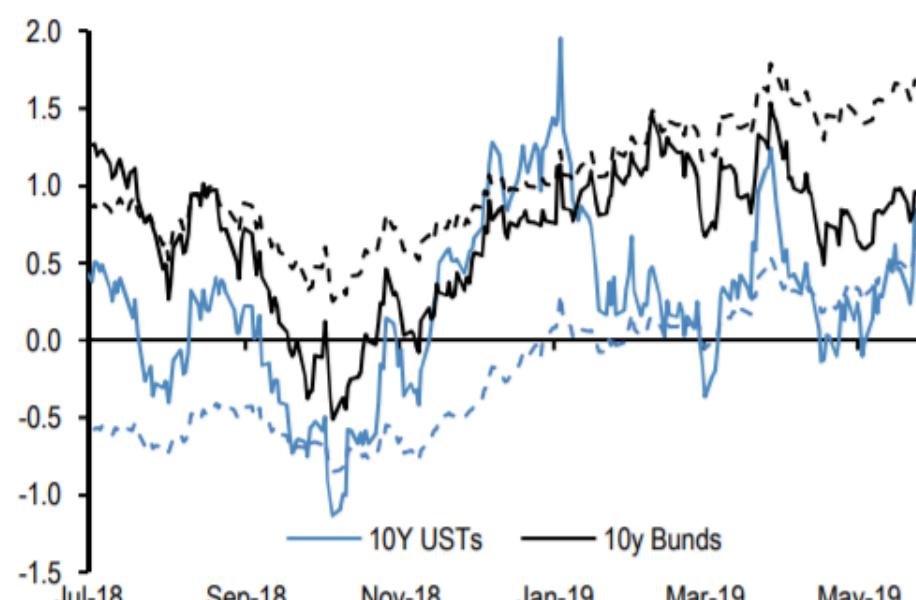
Source: HKEx, J.P. Morgan.

Source: Bloomberg, J.P. Morgan.

- Our much broader [EM Client Survey](#), which captures EM fixed income and currency positioning among investors ranging from hedge funds and benchmarked EM investors to crossover players, suggested some retrenchment in EM exposures during May from their April levels. Indeed, the most significant reduction came in EM FX exposure. This could be consistent with active EM local bond funds in Figure 12 above reducing their beta via currency positions.
- In all, our position indicators above suggest that active EM equity and hard currency bond funds as well as EM-dedicated hedge funds remain overweight EM, representing a vulnerability in the face of rising risks of a more prolonged trade conflict. By contrast, active EM local bond funds appear to have reduced risk overall, even if their betas have drifted higher over the past week.
- Finally, we noted two weeks ago ([F&L](#), May 10) that net foreign outflows from Chinese onshore equities had shown some signs of acceleration as the trade tensions re-surfaced. Indeed, when we look at the net Northbound equity flows on the Shanghai – Hong Kong and Shenzhen – Hong Kong Connect programs, which are available daily, this net outflow in May to-date has now increased to around \$7.8bn, compared to \$2.7bn of outflows in April (Figure 13). Year-to-date, this still leaves net inflows from foreign investors into Chinese equities in positive territory at around \$8bn, but this represents an annualized pace of less than a half of 2018's total inflows of \$44bn and an annualized pace in excess of \$70bn in 1Q19. So while active EM equity funds do not appear to have reduced risk meaningfully,
- In bonds, the rally in DM bond markets in recent weeks has seen our momentum signals shift back to bullish territory. This includes both 10y benchmark bonds in all G4 markets as well as the front-end on both the US and German curves. But with the exception of the longer-term signal for 10y Bunds (Figure 15), the z-scores are not yet approaching extreme territory which would signal a heightened risk of mean reversion signals being triggered.

**Figure 15: Momentum signals 10y USTs and 10y Bunds**

z-score of the momentum signal in our Trend Following Strategy framework shown in Tables A5 and A6 in the Appendix. Solid lines are for the shorter-term and dotted lines for longer-term momentum.



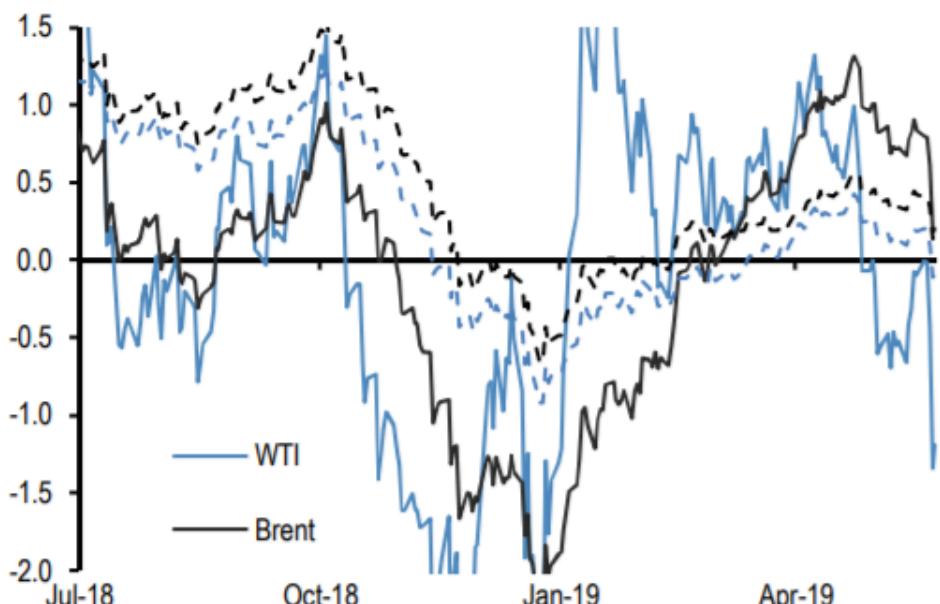
Source: Bloomberg, J.P. Morgan.

## Short-term momentum signals for US equities neutral-to-short; CTAs likely exacerbated this week's sharp fall in WTI

- With the worsening in the US-China trade conflict in recent weeks, and the sharp risk-off moves that have followed, we update on our framework of trend-following signals (Tables A5 and A6 in the Appendix) to infer how momentum-based investors such as CTAs have been shifting their positions.
- In equities we had previously noted that CTAs had likely been turning more bearish on non-US equities, with our positioning indicators suggesting they have turned short in Nikkei and MSCI EM, and cut longs in Eurostoxx. The declines in the S&P this week has again brought the shorter-term momentum signal into negative territory, following a previous brief move into negative territory on May 13<sup>th</sup>, while the shorter-term signal has now also turned neutral on the Nasdaq for the first time since late January (Figure 14). While CTAs are likely to want to avoid overreacting to moves in the short-term signal while the z-score is hovering around zero, the signal having turned short on the S&P and neutral on Nasdaq has likely seen some reduction in long exposure amid the weakening in momentum. That said, a more sustained move into negative territory is likely required before turning neutral.

**Figure 16: Momentum signals WTI and Brent crude**

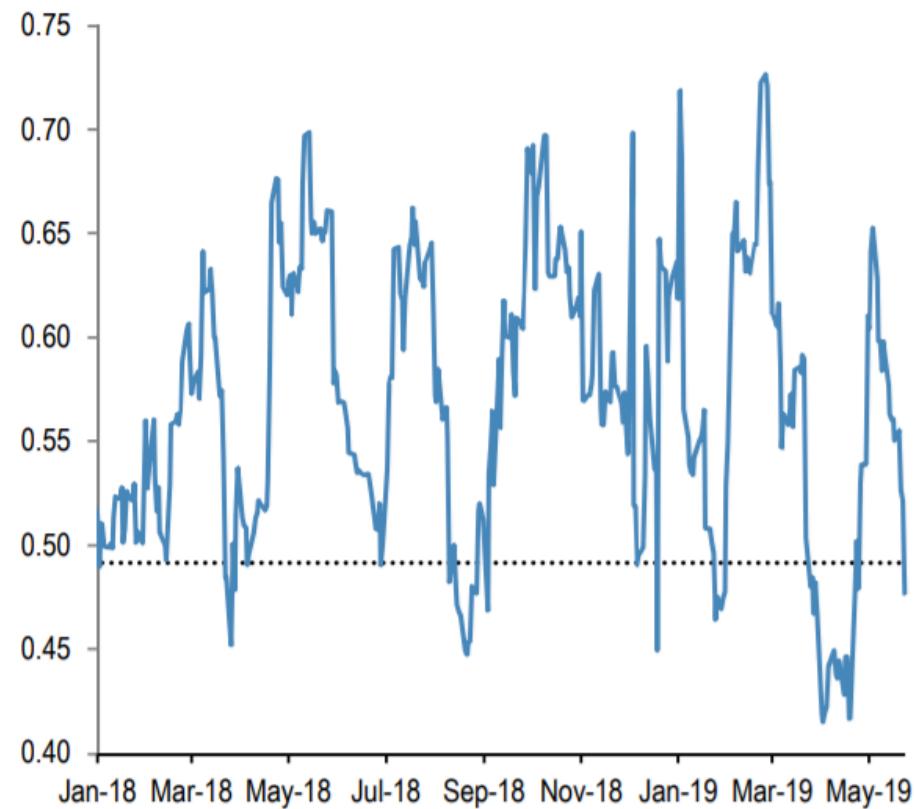
z-score of the momentum signal in our Trend Following Strategy framework shown in Tables A5 and A6 in the Appendix. Solid lines are for the shorter-term and dotted lines for longer-term momentum.



Source: Bloomberg, J.P. Morgan.

### Chart A19: 21 day rolling beta of 20 biggest active US bond mutual fund managers with respect to the US Agg bond index

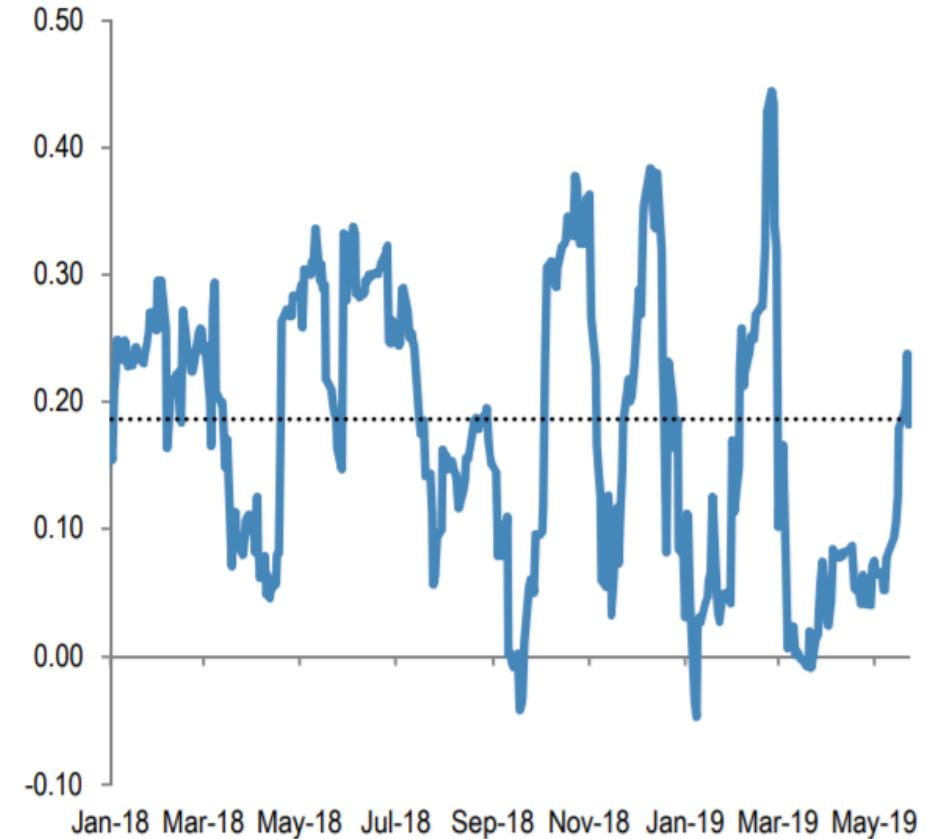
The dotted line shows the average beta since 2013.



Source: Bloomberg, J.P. Morgan

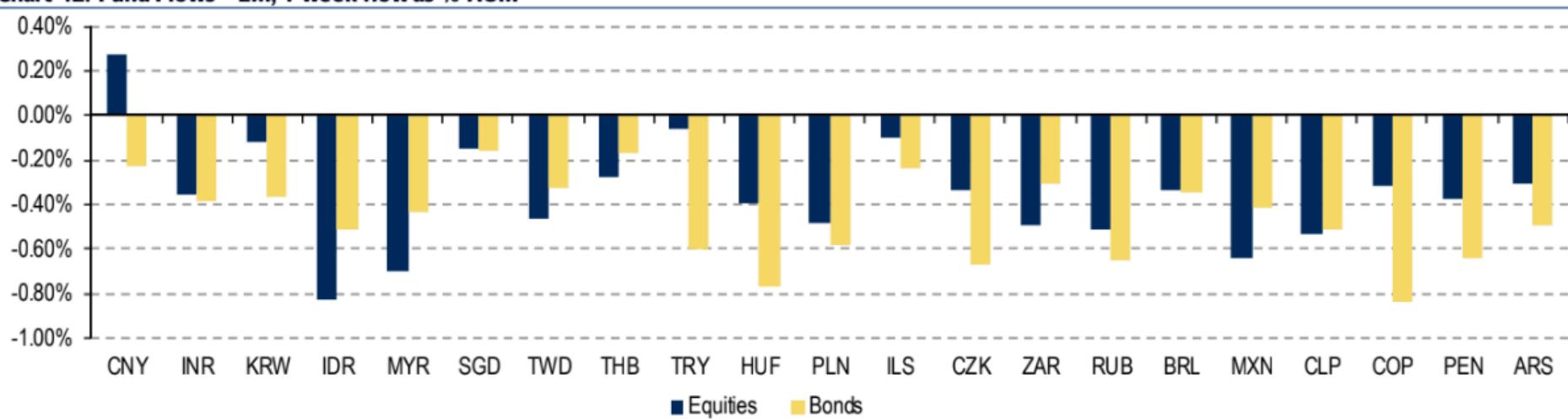
### Chart A20: 21 day rolling beta of 20 biggest active Euro bond mutual fund managers with respect to the Euro Agg bond index

The dotted line shows the average beta since 2013.

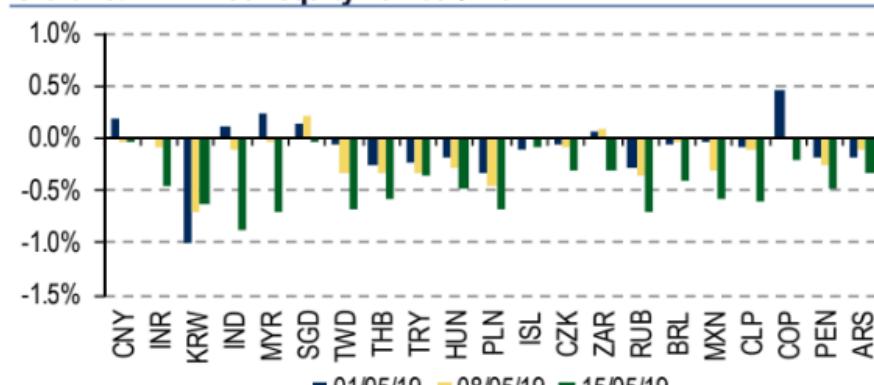


Source: Bloomberg, J.P. Morgan.

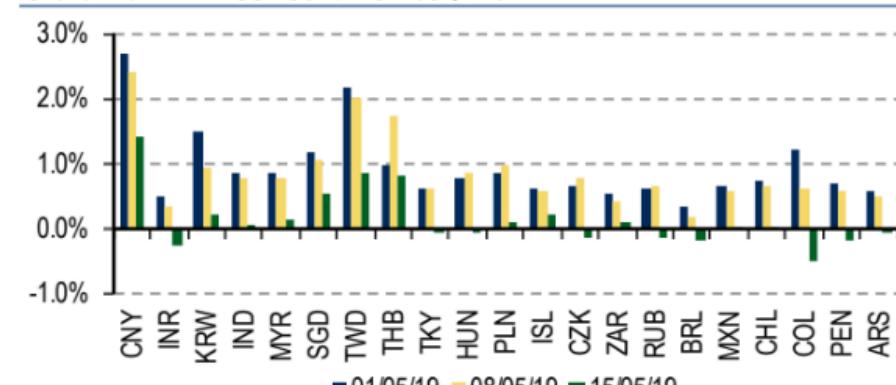
### Chart 42: Fund Flows – EM; 1 week flow as % AUM



### Chart 43: EM 4-week equity flow as %AUM



### Chart 44: EM 4-week bond flow as %AUM

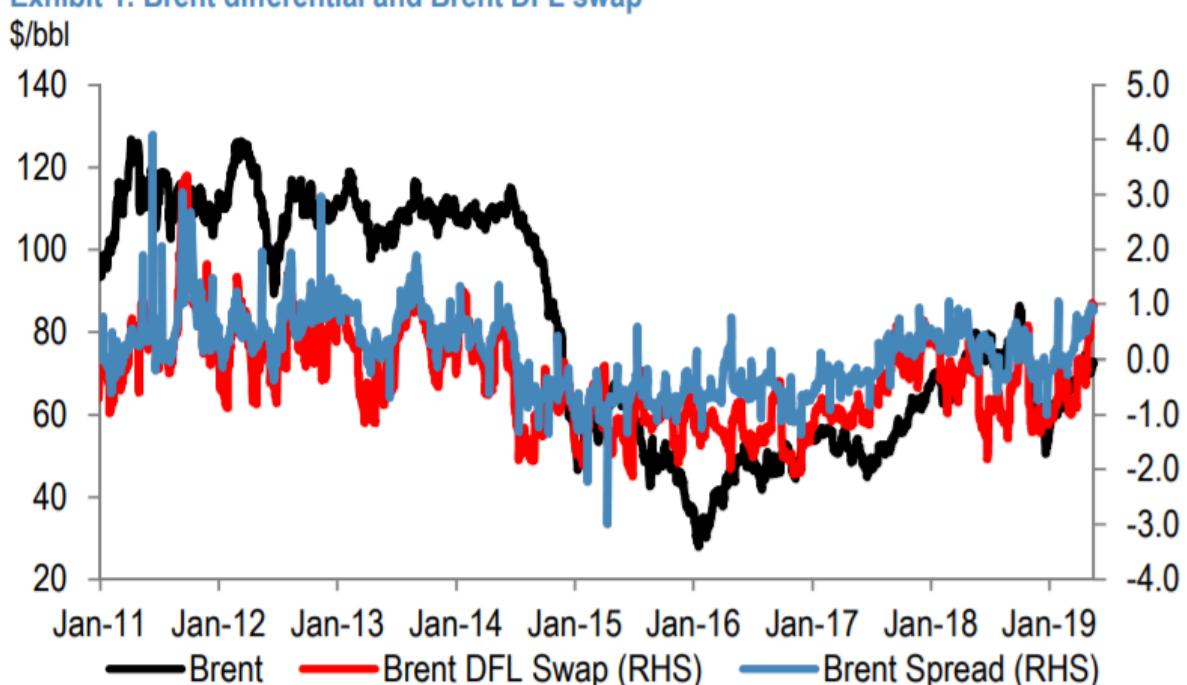


Source: BofA Merrill Lynch Global Research, EPFR Global

## Why is oil not above \$100/bbl despite increased geopolitical tensions?

**Despite being up 40% YTD, the performance of Brent flat price has lagged that of front month Brent spreads and Dated Brent to Frontline Futures (DFL) swaps.** There is a clear divergence of trend between them. A quick analysis of the historical data suggests that such a divergence has occurred since 2015-16 (after the 2014 oil price collapse). At current levels of front month Brent spreads or DFL swaps, flat price Brent traded well above \$100/bbl. Additionally, such strong time spreads and Brent DFL swaps usually occur slightly ahead of or at the same time as flat price. Time spreads can be far more reliable indicator of fundamentals compared to flat price. Whilst fundamentals are key, in this note we have looked at some of the other factors and their impact on flat price in the recent past.

**Exhibit 1: Brent differential and Brent DFL swap**

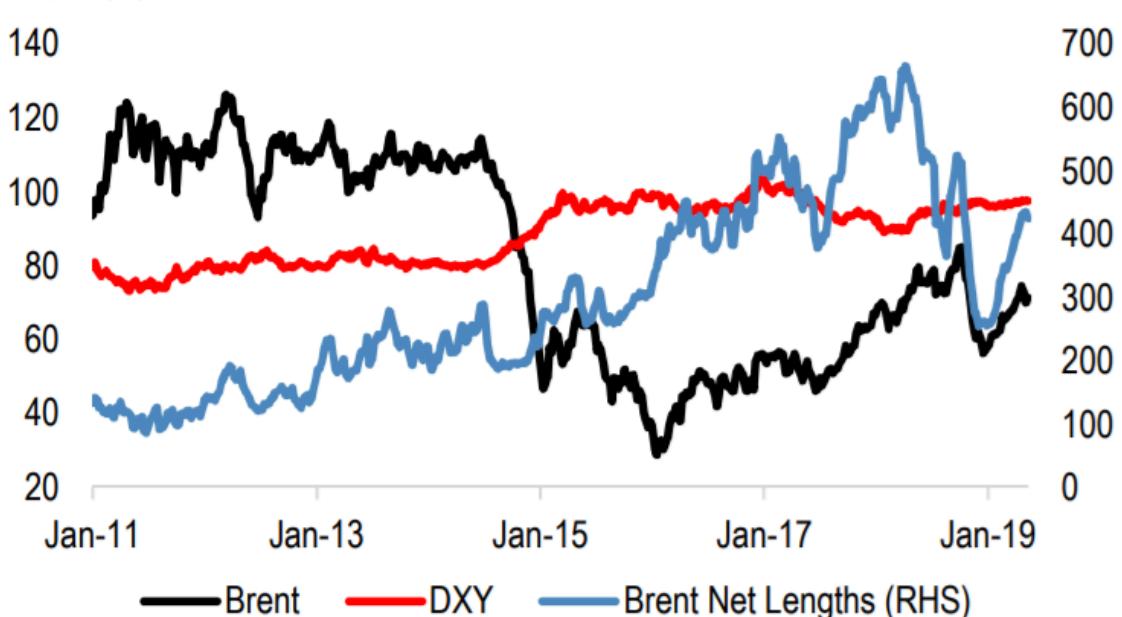


Source: J.P. Morgan Commodities Research

One of the factors that drives the front end of the curve is the investor community. **Brent net lengths were significantly lower, averaging 127k contracts between 2011 and 2015 vs 388k contracts between 2016 and 2019.** Despite such high proportion of smart money in oil since 2016, Brent flat price refused to rise towards the levels noted between 2011 and 2014.

**Exhibit 2: Brent spot, dollar and Brent net lengths**

LHS \$/bbl, #; RHS '000 contracts

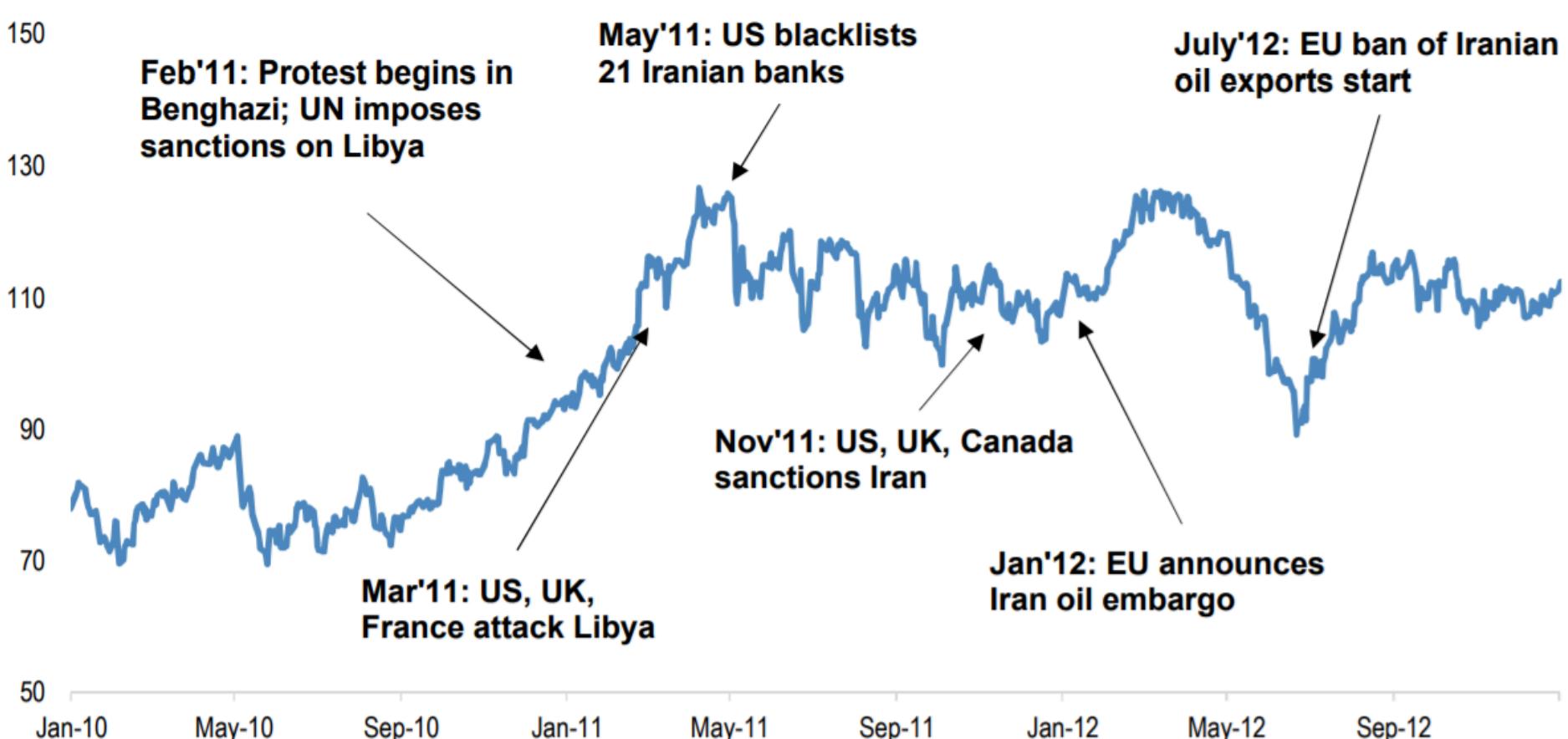


Source: J.P. Morgan Commodities Research

We even looked at the timeline of geopolitical crisis this decade. **We wrote in our report on geopolitics in oil (see [OPEC: A linchpin in global geo-politics](#), Deshpande et. al., Oct 19) that the impact of geopolitics related to oil seems to be subdued despite much higher geopolitical risks or supply disruptions in the past few years compared to that observed during the first half of the 2011-2019 timeframe.**

### Exhibit 3: Geopolitical events impacting Brent price (2011-2012)

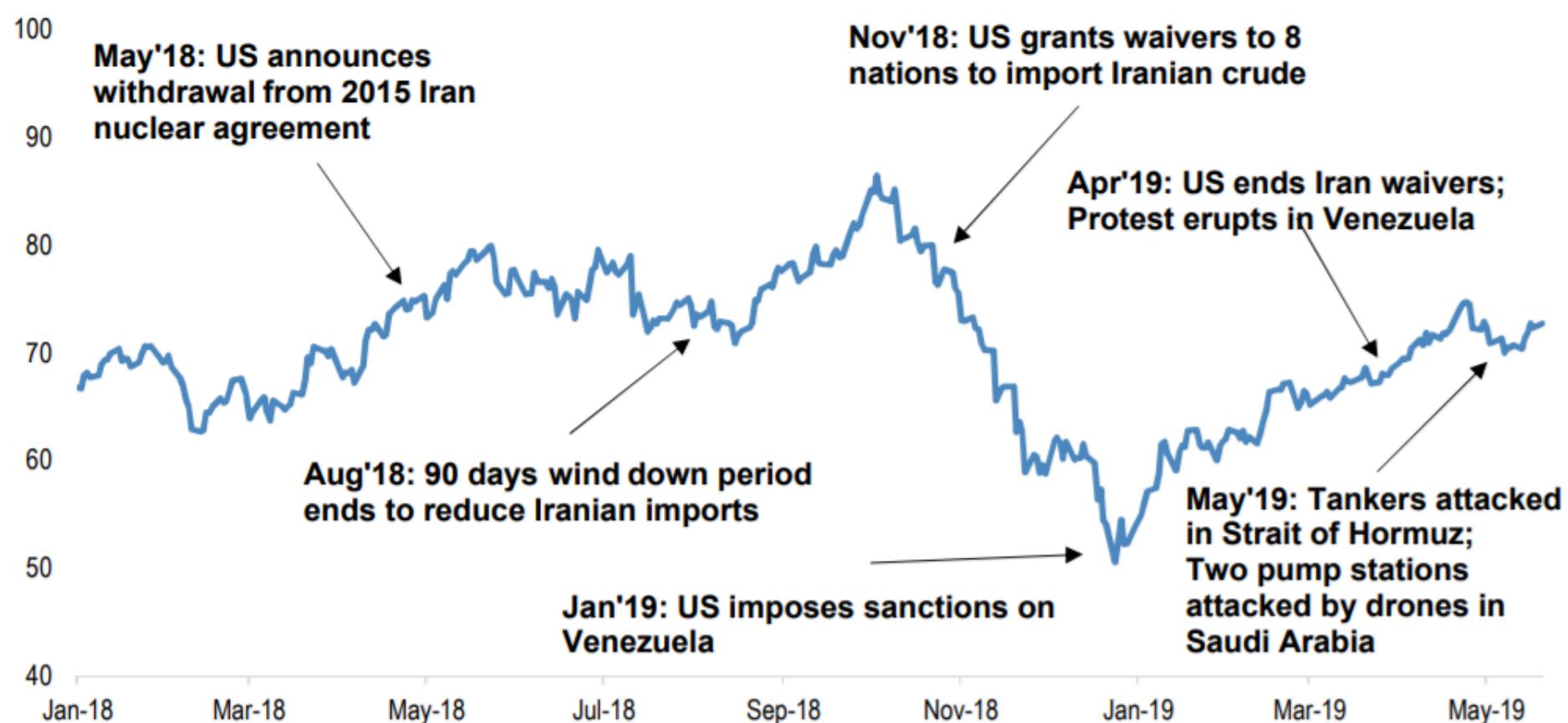
\$/bbl



Source: J.P. Morgan Commodities Research

### Exhibit 4: Geopolitical events impacting Brent price (2018-Present)

\$/bbl



Source: J.P. Morgan Commodities Research

The one thing that stands out is the dollar strength. US trade-weighted dollar or JPM Index was 15% higher in 2016-2019 vs 2011-2015 time range. Could US dollar be the flat price shock mitigator? Some would argue the causality between oil and dollar. Costa and Maddaleni in their published research in the Eurasian Journal of Economics and Finance concluded that a negative correlation can be justified under a financial framework with causality running from dollar to oil even though some papers have shown the presence of possible bi-directionality (see [Eurasian Journal of Economics and Finance; Istanbul Vol. 6, Iss. 1, \(2018\): 84-92](#), Costa & Maddaleni).

# Fund Flows (Foreign Domiciled Investors)

Chart 45: Fund Flows -G10; 1 week flow as % AUM

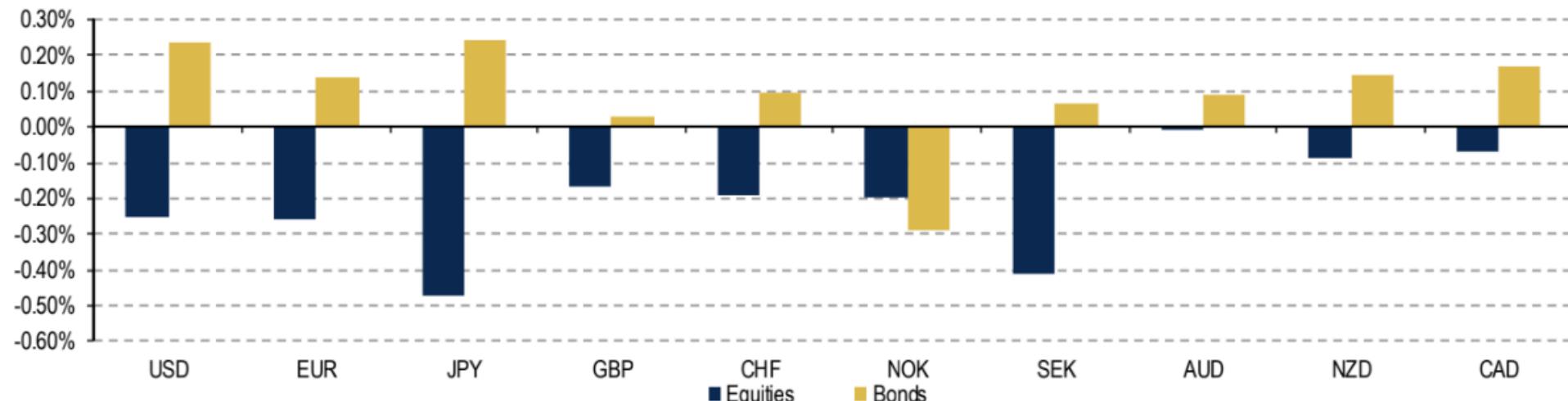


Chart 46: G10 4-week equity flow as %AUM

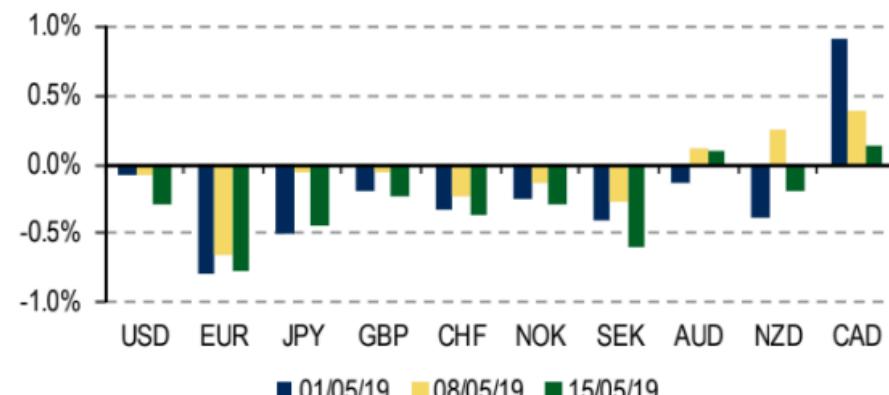


Chart 47: G10 4-week bond flow as %AUM

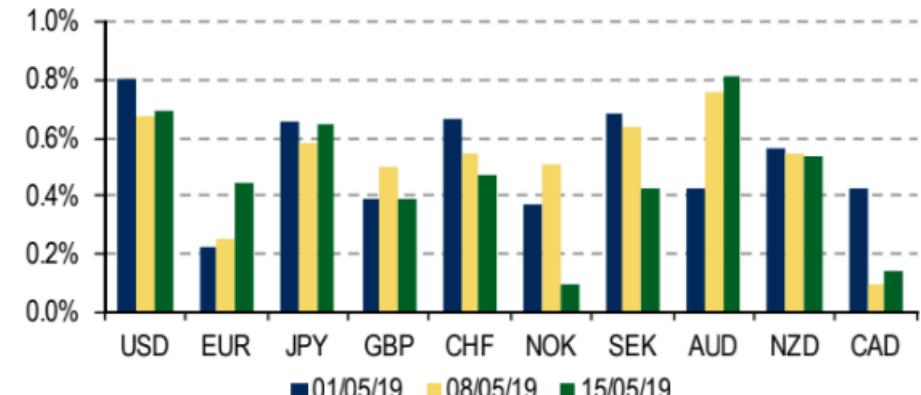


Table 2. Current FX derivatives (directional/non-RV) recommendations and P&L

Description	Entry date	Expiry date	Days to expiry	Entry level	Current level	P&L since entry**	Comments
Buy 2m 1.255 GBP/CHF put spot ref 1.2885, sell 0.9950 USD/CHF put spot ref 1.0099	17/05/19	18/07/19	55	-0.09%	-0.04%	0.05%	Hold
Buy a 2m 9.78-9.63 EUR/NOK put spread	09/05/19	11/07/19	48	0.49%	0.58%	0.09%	Hold
Buy a 3m EURUSD put, strike 1.10.	29/03/19	28/06/19	35	0.35%	0.11%	-0.24%	Hold
Buy 3m EURJPY put, strike 121.5; sell a 3m 110.00 USDJPY put (prev: 108.50).**	29/03/19	28/06/19	35	-0.24%	-0.58%	-0.34%	Hold; restrike USD/JPY put
Sell a 3m AUDNZD put, strike 1.045 (prev: 1.0350), buy a 3m NZDUSD put, strike 0.6650.*	29/03/19	28/06/19	35	-0.38%	1.83%	2.21%	Hold; restrike AUD/NZD put
Buy a -3m/+7m OT USD/CAD calendar call spread, strike 1.40.****	15/01/19	15/08/19	83	16.70%	13.70%	-3.00%	Short leg unwinded on March 29th; hold 7m call
Buy a 6-wk 76.75 AUD/JPY put (Spot ref: 78.65), sell a 6-wk 1110 USD/JPY put (Spot ref: 111.65).	26/04/19	07/06/19	14	0.25%	0.93%	0.68%	Take profit

\* High-conviction trades are starred. All other recommendations are moderate-conviction.

\* We changed the strike of the AUDNZD put from 1.035 to 1.045. The profit obtained is now reflected in the entry level.

\*\* We changed the strike of the USDJPY put from 108.50 to 110.00. The profit obtained is now reflected in the entry level.

\*\*\*\* The cost incurred to unwind the short leg 10bp is now included in the entry level.

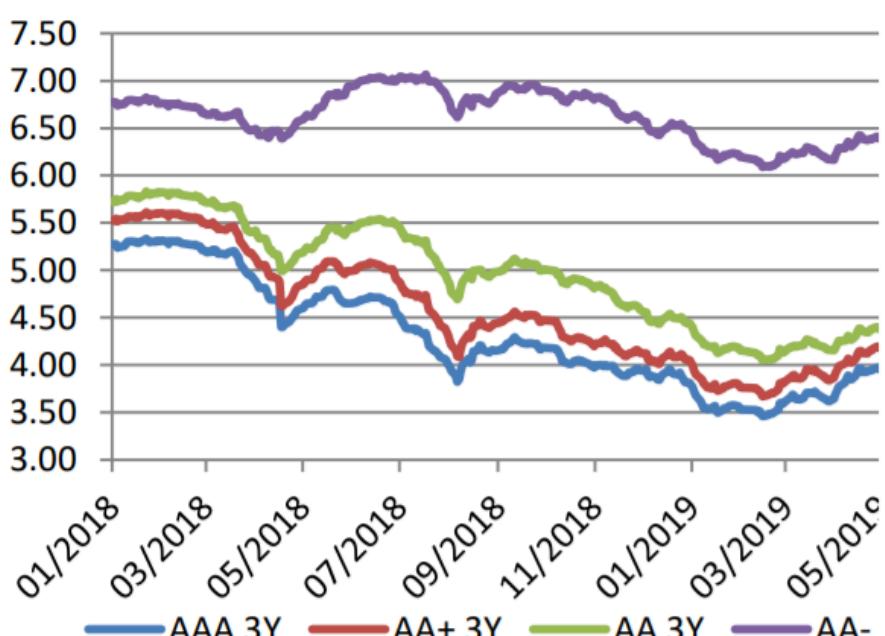
\*\*\*\*\* P&L in % of asset unless otherwise specified. Indicative pricing taken at 10.30PM BST. Source: J.P. Morgan

**Rationale**

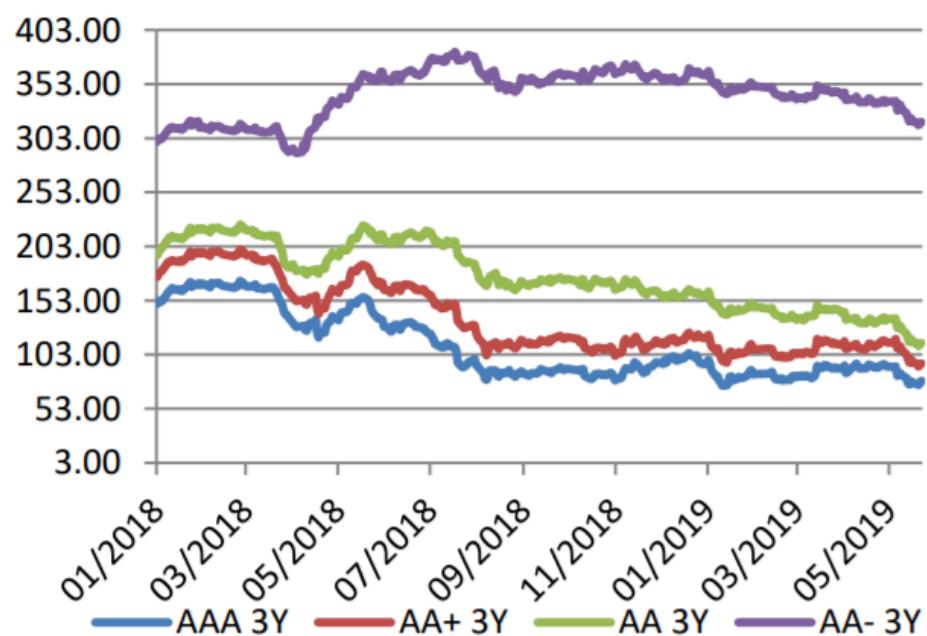
<b>GEM themes</b>	The dovish Fed will fuel another round of spread compression in EM despite positioning and valuations that are getting tight and EM growth that is far from impressive. However, it is quite evident at this point that most good news regarding the global backdrop is priced in, and positioning is running the risk of tilting toward the crowded side. Although drivers are certainly different, price and flow dynamics are reminiscent of 1Q18, which ended up in a major correction post-IMF meetings in April.
<b>Asia</b>	Green shoots seem to have emerged after a string of good data out of China. With the Fed being on hold, and increasing progress in US/China trade talks, there is carry to be earned. Investors should prepare for lower ranges in USD/Asia as the export cycle gradually recovers; we recommend buying USD/KRW put flies. Central banks should remain dovish, but not all will be pushed into cutting. Finally, the median Asia swap curve is at its flattest since the financial crisis. They will steepen only if the external backdrop improves; else they can continue to flatten.
<b>EEMEA</b>	After a strong rally in early 2019, positioning in EM has become a concern as seen in the recent sell-off. However, non-US data should improve with a lag, benefiting FX in the region in particular, although ongoing European/China weakness is a clear risk. We are concerned by developments related to Iran which could hurt both the region and EM more broadly through contagion. We thus balance risk-on trades with specific hedges such as payers in SAR and also buying Russia and South Africa CDS. In SA, we find ASW attractive. In CEE, we like steepeners in Hungary to position for higher inflation v.s. a dovish CB. In Ukraine we like the warrants which still offer substantial upside and the T-bills given high real rates. We like Bahrain on GCC inclusion flows and longer-dated Lebanon bonds, although Iran-related risks are a concern for both trades. We also like 1y NGNT-bills after the recent election result.
<b>LatAm</b>	Politics should stay in the driver's seat in 2019, which will likely keep policy uncertainty high and cause volatility throughout the region. Current accounts are approaching the end of the consolidation cycle, which reduces pressure on exchange rates. We are bullish Brazil since reform prospects have improved after the election, although we are cautious about execution risk. We like Jan21 receivers in Brazil, 2y-10y TII-E steepeners and USD/MXN call options in Mexico, and long BRL/MXN through long-dated forwards. We are cautious ARS. In EXD, we are OW Brazil, MW Argentina and UW Mexico.
<b>FX</b>	Asia: long 6M USD/HKD, short 6M TWD/KRW, buy USD/KRW put flies. LatAm: buy USD/MXN call options, long BRL/MXN through long-dated forwards.
<b>Rates</b>	Asia: Long 20y Indonesia, pay 1Y KRW NDIRS, Buy 10Y IGB vs pay 5Y swap, Rec 1y1y SGD v/s USD beta weighted, Receive 1Y CNH CCS EEMEA: Pay 1y SAR rates, buy SAGB 2040 asset-swap spread tightener, 2s 10s HUF steepener, long UAH 1y T-bills FX-unhedged, long 1y NGN T-bills FX-unhedged. LatAm: Jan21 receivers in Brazil, 2y-10y TII-E steepener in Mexico.
<b>Sovereign credit</b>	We are OW Brazil, Panama (we like it v/s. Peru), DomRep, Azerbaijan, Angola, Bahrain, Qatar, Saudi, Ukraine, and Indonesia; MW Argentina, Ecuador; UW Mexico (we buy 5y CDS), Venezuela, Romania, Poland, Israel, Abu Dhabi, Dubai, Kuwait, Philippines. We buy Ukraine GDP warrants, LEBAN '29s, and BHRAIN '29s. We buy Russia CDS as a cheap hedge. We also buy South Africa CDS as a hedge against market weakness. In Asia we like Indon 10y and 30y over Philip.

For a complete list of our open trade ideas and our trade ideas closed, please refer to [EM Alpha Trade Recommendations](#)

**Onshore RMB Bond Yield Trend**



**Onshore RMB Bond Credit Spread Trend**



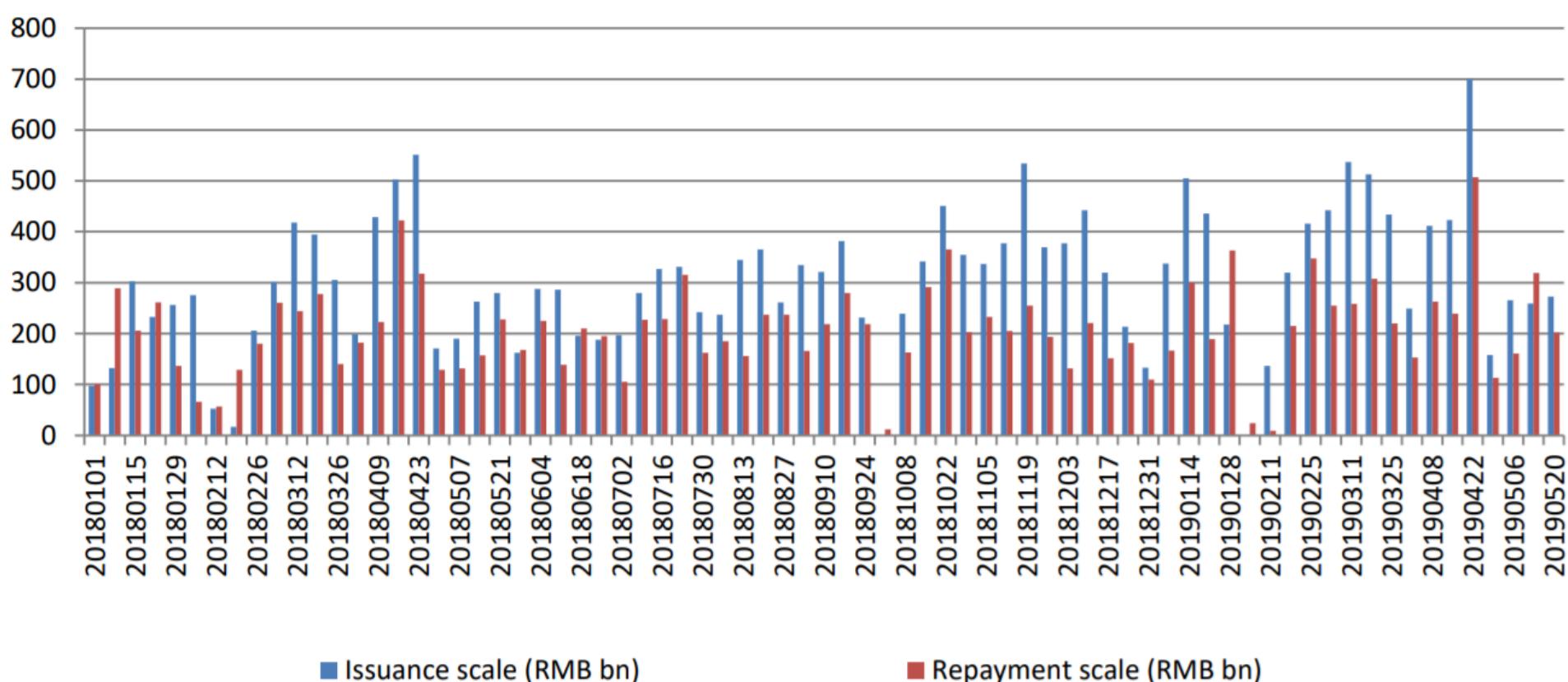


Fig. 3: Nomura's medium-term FX and rates view

Medium term View (3-6M horizon)		
Major	FX	
	EUR	Bullish EUR: economic data to bottom out; ECB rate cut very unlikely; political uncertainty stays low beyond Parliament election.
	JPY	Bearish JPY: economic data weakens further; policy stance stays dovish; waiting for clarity on US-China trade talks.
GBP	GBP	Bearish Gbp: economic data outperforms and BOE more hawkish than other central banks but negative politics dominates.
Asia	FX	Rates
Australia	Bearish AUD: forces appear mixed but trade tensions and imminent RBA rate cuts could dominate	Buy dips, OIS flattening: Pay June and July OIS against receiving August OIS.
China	Bearish RMB: negative US-China trade development; concern over net inflows.	Lower: Renewed China-US trade tension means growth expectation likely go lower and PBOC to support liquidity
Hong Kong	Neutral HKD: more sensitive to market demand for HKD after recent HKMA intervention; narrower US-HK rate differentiate.	Higher: LTD continue to rise, HIBOR vs LIBOR spread still wide, capital outflow risk during China risk-off
Korea	Bearish KRW: weak domestic growth exacerbated by US-China trade/tech tension ; auto-sector expose to Trump's protectionism.	Lower: Weaker macro outlook under trade tension means rates rally more even though near-term valuation looks fair.
Taiwan	Bearish TWD: US-China trade tensions; tech downcycle; simmering tensions with China; CBC USD buying intervention.	Neutral: CBC yet to signal easing bias, but weak growth outlook and lifer bond demand will keep rates from going higher
India	Bullish INR: positive outcome on Indian politics; stabilising oil and low US inflations theme.	Neutral/steeper; good environment for bonds; liquidity to improve; fiscal slippage largely expected
Indonesia	Bullish IDR: reduced political risk; attractive real yields and low US inflations theme to attract inflows; robust economy.	Lower: favorable supply outlook and potential for BI to ease; favor long end
Philippines	Bearish PHP: pro-growth stance of BSP governor; limited BSP concern over PHP weakness; risk to flow dynamics.	N.A.
Singapore	Bearish S\$NEER: exposed to global trade; rich valuation on the FX policy band; signs of MAS leaning against SGD strength.	Neutral/steeper: lower US + EM rates but MAS on hold is positive; risk is a deeper deterioration in growth
Thailand	Bearish THB: increased political risk; seasonal weakness in summer; weak external and domestic growth drivers.	Lower: weak local growth and BOT likely on hold

**Fig. 2: Asia FX and rates trades**

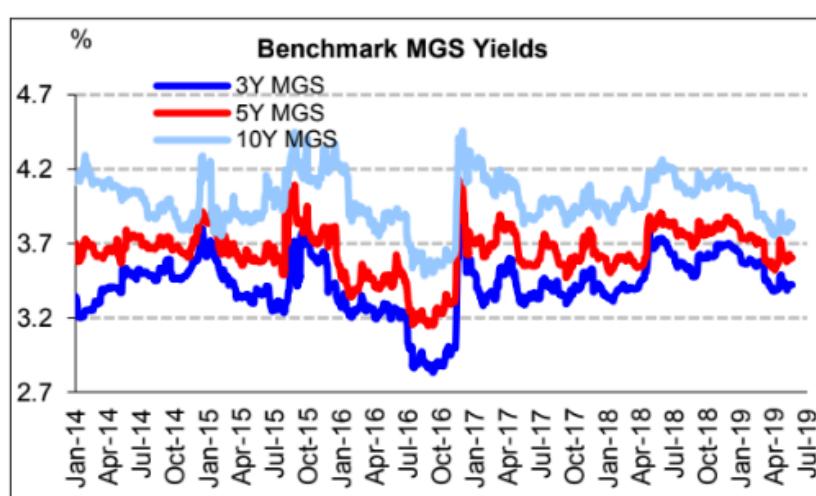
Curr	Instrument	Trade details	Position size vs max
<b>FX trades</b>			
HKD	Fwd	Long 3x12 fwd (13Jun19; 10Jul19; 15Aug19)	10
CNH	Fwd/Option	Long \$CNY(6Jun), \$CNH(spot); Long \$CNH put spread (6.68/6.6, 5Jun) ag. short EUR	8
PHP	Fwd	Long \$PHP (27May19)	6
INR	Fwd/Option	\$INR put sprd (68.4/67.1,31May)	3
THB	Fwd	Long \$THB (8May19)	3
<b>Rates - South/Southeast Asia</b>			
INR	NDOIS	Pay Jun-19 start 1s4s	5
SGD	IRS	Pay Jun-19 start 2s10s; rec Jun-19 2y	5
<b>Rates - North Asia</b>			
HKD	IRS	Pay 2y and 3y IRS (partly vs. 1y US)	8
KRW	NDIRS	1s4s and 3s10s steepener	6
CNY	NDIRS	Receive 5y repo NDIRS	5
CNH	CCS	6m vs 1y Flattener	4
TWD	NDIRS	Pay 5yr	3
HKD	IRS	6mfwd1s3s steepener	3

Note: The ratings indicate our conviction levels. Source: Nomura.

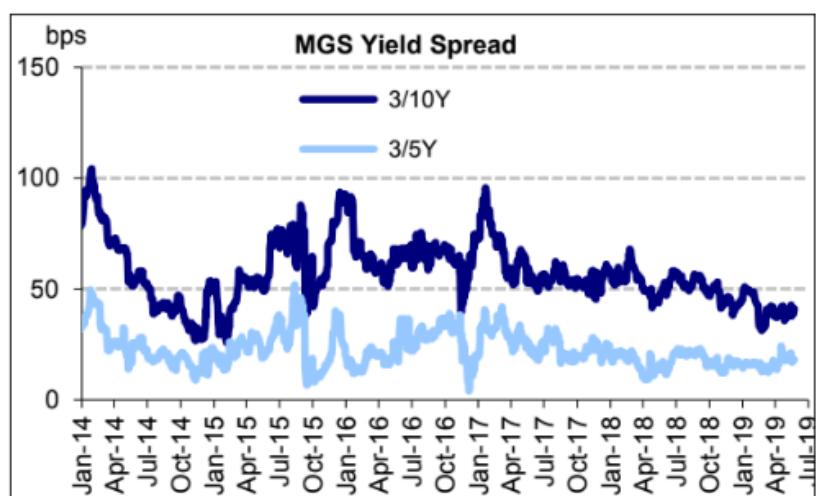
In **China**, we hold a receive 5y repo NDIRS, targeting a move to 2.85-2.90%. China rates have lagged the global rates rally of late as the People's Bank of China (PBoC) continues to maintain a broadly neutral liquidity stance. Other factors that may have constrained the China rates rally in the short-term include lingering concerns about food price inflation and that PBoC needs to maintain a positive rates spread vs. the US to reduce FX outflow risk. However, we believe the growth outlook is a bigger driver of rates in the medium term. On this, our China economics team expects a below-consensus May PMI of 49.6 next Friday (consensus 49.8). Thus, we hold a receive repo, as China is one of the few Asia markets that is not pricing in monetary easing.

In **Korea**, the Bank of Korea (BOK) meeting next Friday is a key focus. While the BOK is widely expected to stay on hold the market is increasingly expecting a potential dissent vote from the more dovish BOK member Cho next week, paving the way for a potential cut as early as Q3. The market is now fully pricing a 25bp rate cut by the end of the year. As market expectations have now moved in line with our base case (one cut by end of 2019), we believe in the near-term Korea rates have reached fair value. There is in fact risk of a 4-5bp selloff in rates should next week's meeting turn out a unanimous hold. Given more balanced risk-reward, we take profit on a receive 1y KRW IRS position (entry 1.785%, close 1.725% includes carry and roll, 1k DV01), but maintain some receive front-end exposure in the form of a 1s4s steepener (see *FX Portfolio Update - FX Portfolio Performance*, 23 May 2019).

**India's** bond markets reacted positively to the election result, holding onto gains from the week to a greater degree than FX and equities. Prospects for bond markets in India are more positive as we expect the government to maintain its fiscal deficit target (3.4% of GDP). While there is a risk of some slippage, this is broadly expected by the market, in our view, because of the low growth and inflation backdrop. Bonds should also benefit from improving banking system liquidity, while further support may come from further measures on liquidity including OMOs, steps to address NBFC liquidity and potentially a shift to a surplus liquidity stance (*Cogencis*, 13 May). The election outcome should have a limited impact on swap markets as expectations are for two Reserve Bank of India (RBI) cuts in the next year. The key focus for India currently is on the selection of the new cabinet (including the possibility of a new Finance Minister) in coming days and any potential policy announcements; however, the bulk of these announcements are likely to be made during the budget presentation in July. A disappointment in next week's Q1 GDP data (Consensus: 6.2%; Nomura: 5.8%) may strengthen the case for front-loaded cuts from the RBI and warrants watching.



- For the week under review, US Treasuries ended stronger with the curve bull-flattening amid safe-haven bids due to worries over the impact of US-China trade barriers and also weaker US Markit US manufacturing PMI data. Overall benchmark yields ended between 4-9bps lower. The 2Y benchmark, reflective of interest rate predictions closed 4bps lower at a 1-year low of 2.15% levels whereas the much-watched 10Y traded within a wider range of 2.32-2.43%; rallying 7bps lower at 2.32%. The US-China trade conflict and cracks in the global economy are herding investors to the safest parts of financial markets, pushing yields to multiyear lows and strengthening bets that the Fed will cut interest rates in 2019. Bond traders meanwhile are pricing in more than 30bps of Fed cuts by year-end, with options activity suggesting some hedging against a half-point easing as officials' next move.



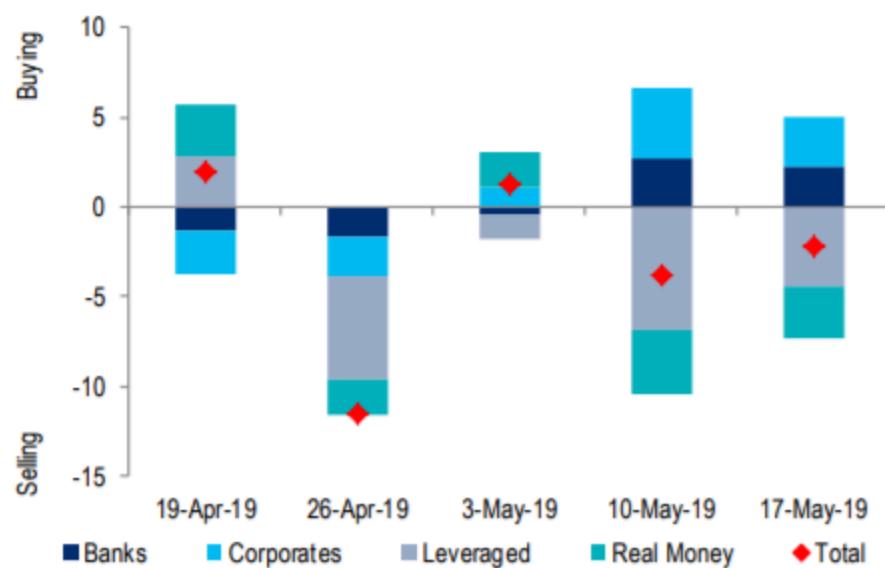
- Local govvies were range-bound with overall benchmark yields mixed between -2 to +2bps compared to prior week's levels as institutional investors generally turned net buyers on safe-haven bids due to the looming impact arising from US-China trade barriers. Interest was mainly centred in off-the-run 19's, 24-25's and also benchmark 10Y, 15Y bonds. Total weekly volume plunged from prior week's RM15.1b to RM6.3b due to the holiday-shortened week arising from Wesak and Nuzul Quran events with GII bond trades dropped to form 26% of overall trades. The 5Y MGS 4/23 closed almost unchanged at 3.59% whilst the 10Y benchmark MGS 8/29 (which traded within a narrow 3.80-3.82% band); ended 2bps higher at 3.83% despite Thursday's decent auction/tender which notched a BTC ratio of 1.84x and averaged 3.836%. Expect market to range sideways for the coming week.

- This line chart tracks the percentage yield of three-year, five-year, and seven-year Islamic Reference Rates (IRS) from January 2014 to July 2019. The 3Y IRS (blue line) starts at approximately 3.6%, dips to a low of about 3.4% in early 2016, and then trends upwards to around 3.8% by July 2019. The 5Y IRS (red line) starts at approximately 4.0%, dips to a low of about 3.6% in early 2016, and then trends upwards to around 3.8%. The 7Y IRS (light blue line) starts at approximately 4.2%, dips to a low of about 3.8% in early 2016, and then trends upwards to around 3.8% by July 2019.
- Corporate bonds/sukuk saw secondary market traction slip WOW largely due to the holiday-shortened week and lower staffing levels with interest mainly across the GG and AA part of the curve as yields drifted lower on decent demand. Total market volume retraced to RM1.69b versus prior week's RM2.96b. Govt-guaranteed bonds topped the weekly volume with PASB 6/22 closing 2bps lower at 3.55% whilst the longer-end LPPSA 10/38 edged 1bps lower at 4.42%. This was followed by PASB 2/21 bonds which closed a whopping 25bps lower at 3.45%. The prominent new issuance during the week involved RHB Islamic Bank Berhad's RM500m of AA3-rated 10NC5 bonds with coupon of 4.32%.

- This line chart tracks the percentage yield of two-year, five-year, ten-year, and twenty-year Savings Government Securities (SGS) from January 2014 to July 2019. The 2Y SGS (dark blue line) starts at approximately 0.5%, dips to a low of about 0.3% in early 2016, and then trends upwards to around 1.5% by July 2019. The 5Y SGS (red line) starts at approximately 1.5%, dips to a low of about 1.2% in early 2016, and then trends upwards to around 2.0%. The 10Y SGS (light blue line) starts at approximately 2.5%, dips to a low of about 2.2% in early 2016, and then trends upwards to around 2.5%. The 20Y SGS (medium blue line) starts at approximately 3.0%, dips to a low of about 2.8% in early 2016, and then trends upwards to around 3.0% by July 2019.
- The SGS (gouvies) curve shift slightly higher with benchmark yields a mere 2-3bps higher instead compared to prior week's close. The 2Y inched 2bps higher at 1.94% levels whilst the 5Y and 10Y however moved within a similar range of 4-5bps; closing 2-3bps higher at 1.97% and 2.15% respectively. Despite "pockets of strength" in the economy arising from the stronger-than-expected 1Q 2019 GDP of 3.8% QOQ, the manufacturing services is expected to see a slowdown due to the gloomy trade outlook on growth. Hence investors are leaning towards a possibility of an easier monetary policy by MAS this October. Meanwhile the nation's benchmark money-market rate climbed to its highest level 10 years implying a decline in inter-bank funds and bigger supply of savings bonds. Separately, MAS will sell S\$2.9b of reopened 2Y notes and S\$900m of 15Y debt on 29<sup>th</sup> May.

# Chinese Yuan Offshore (CNH)

Figure 21. Weekly avg indexed flows, latest 5 weeks



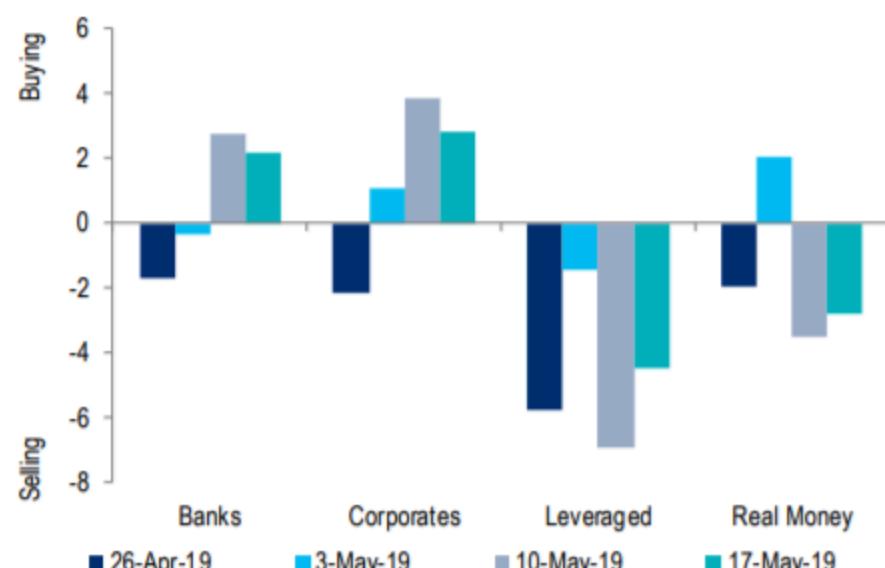
Source: Citi Velocity

Figure 22. Cumulative 1-year indexed flows



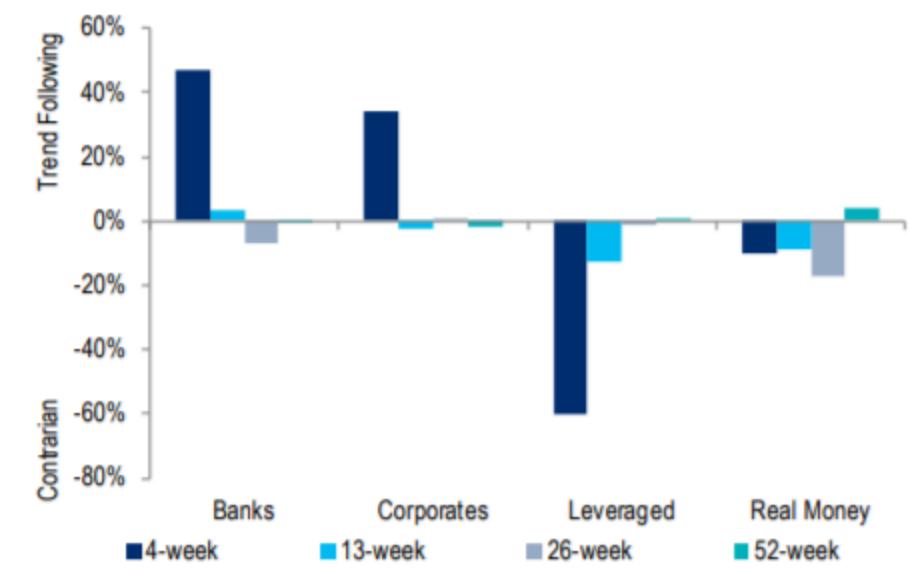
Source: Citi Velocity

Figure 23. Breakdown of avg weekly flows by client type



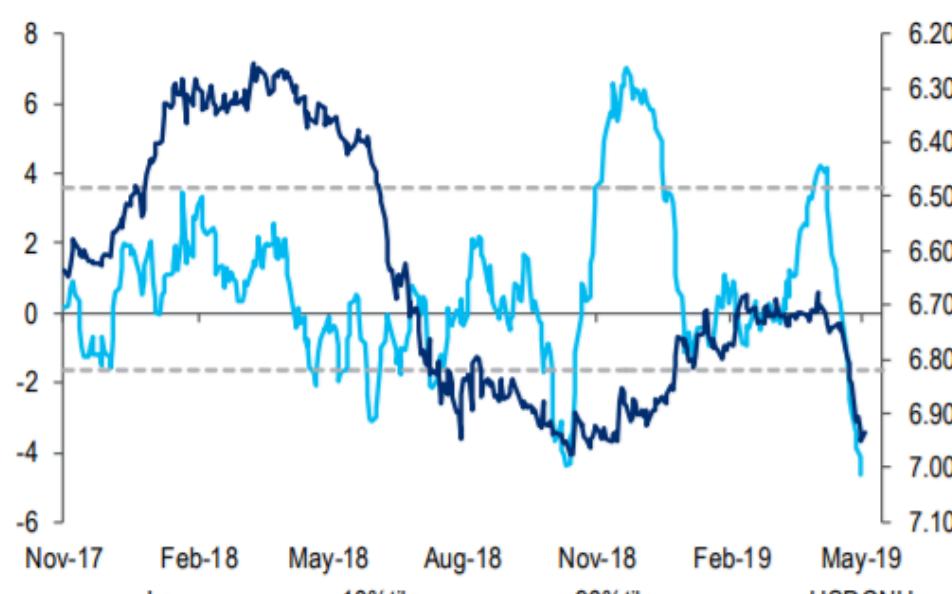
Source: Citi Velocity

Figure 24. Correlation of FX flow with currency return



Source: Citi Velocity

Figure 25. Hedge fund 4-week avg flows and USDCNH (inverted, RS)



Source: Citi Velocity, Bloomberg

Figure 26. Real money 4-week avg flows and USDCNH (inverted, RS)



Source: Citi Velocity, Bloomberg

# CNH, KRW, INR, SGD

Chart 123: BofAML Weekly indexed CNH flow

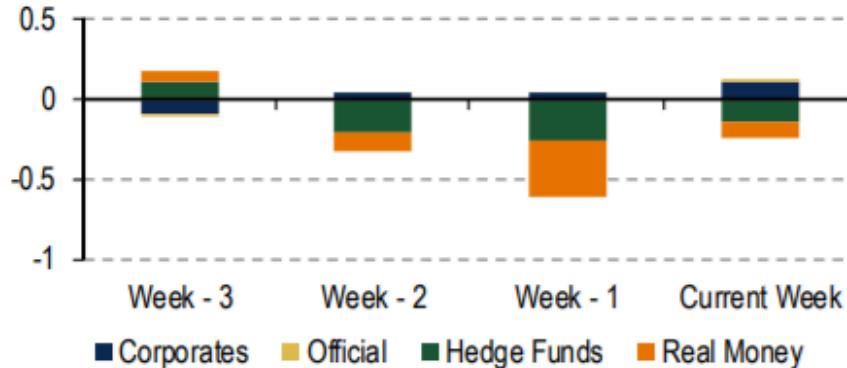
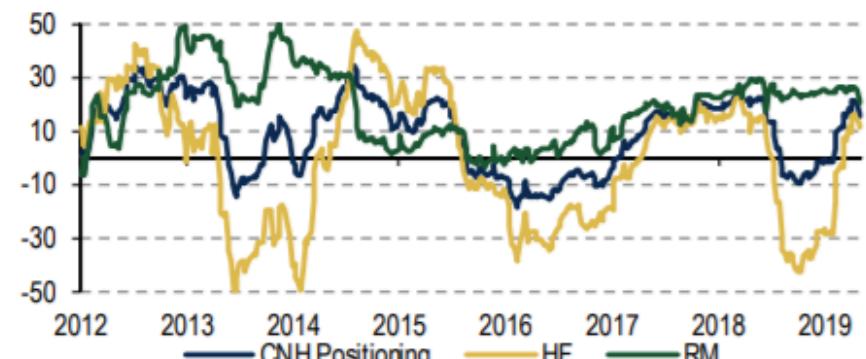


Chart 124: CNH Positioning



Source: BofA Merrill Lynch Global Research, Bloomberg

Chart 125: BofAML Weekly indexed KRW flow

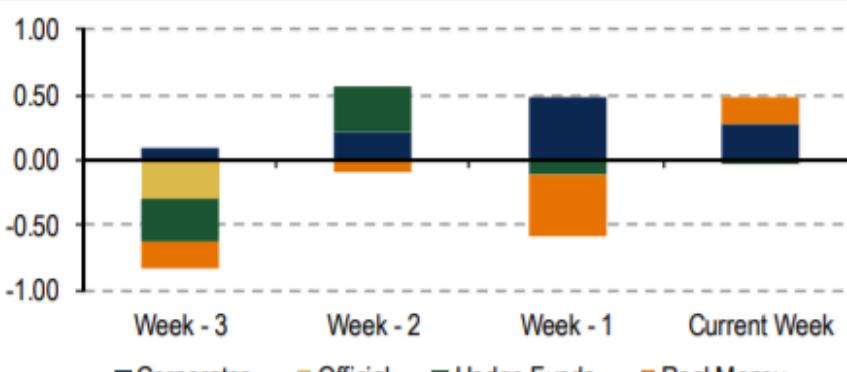


Chart 126: KRW Positioning



Source: BofA Merrill Lynch Global Research, Bloomberg

Chart 127: BofAML Weekly indexed INR flow

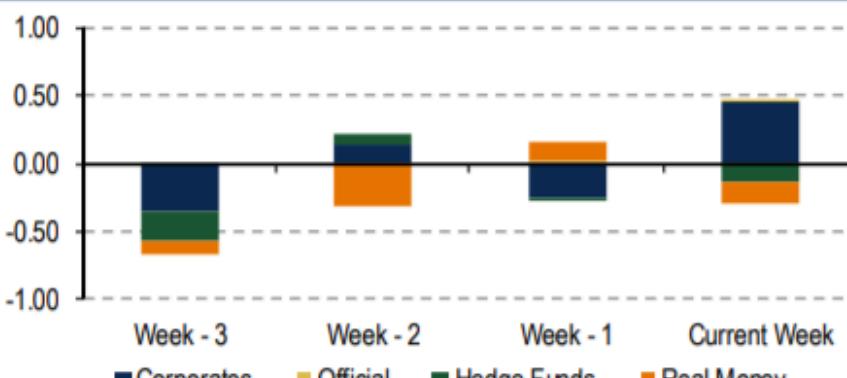
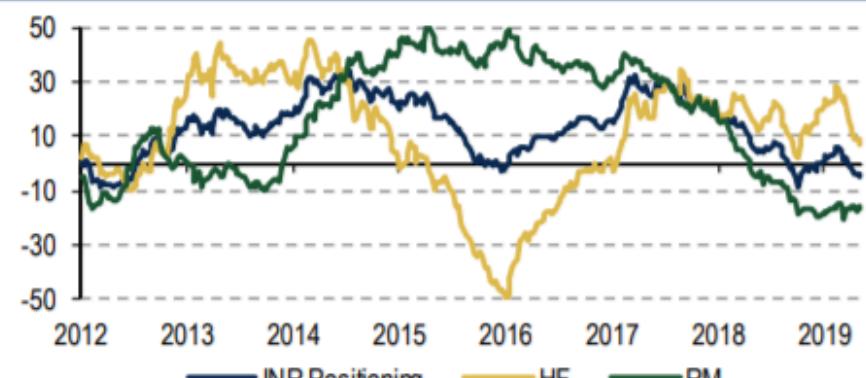


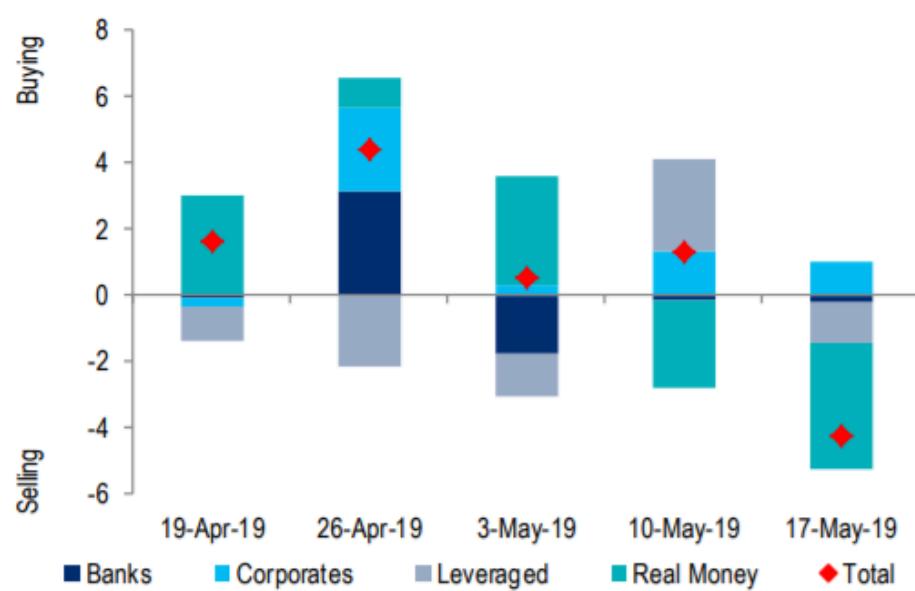
Chart 128: INR Positioning



Source: BofA Merrill Lynch Global Research, Bloomberg

# Indian Rupee (INR)

Figure 33. Weekly avg indexed flows, latest 5 weeks



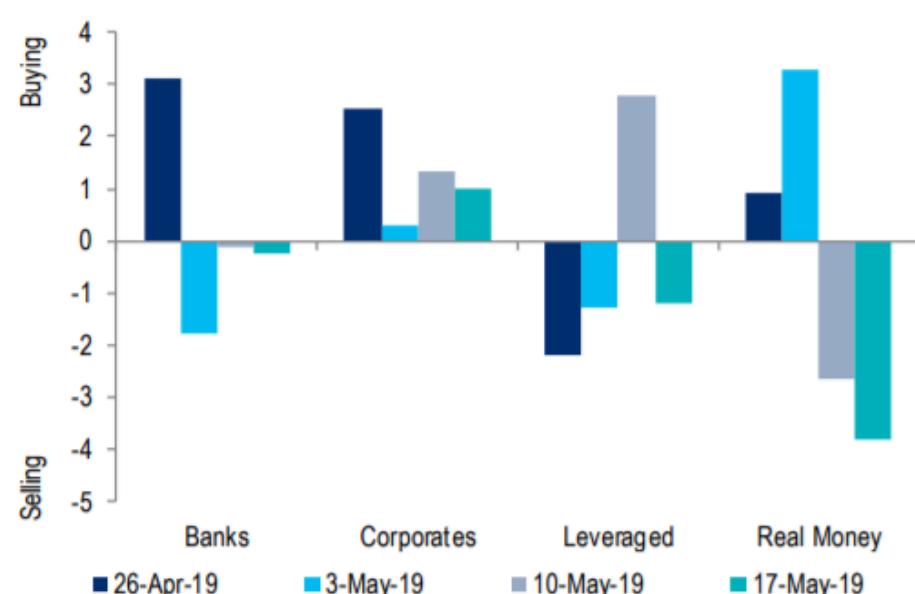
Source: Citi Velocity

Figure 34. Cumulative 1-year indexed flows



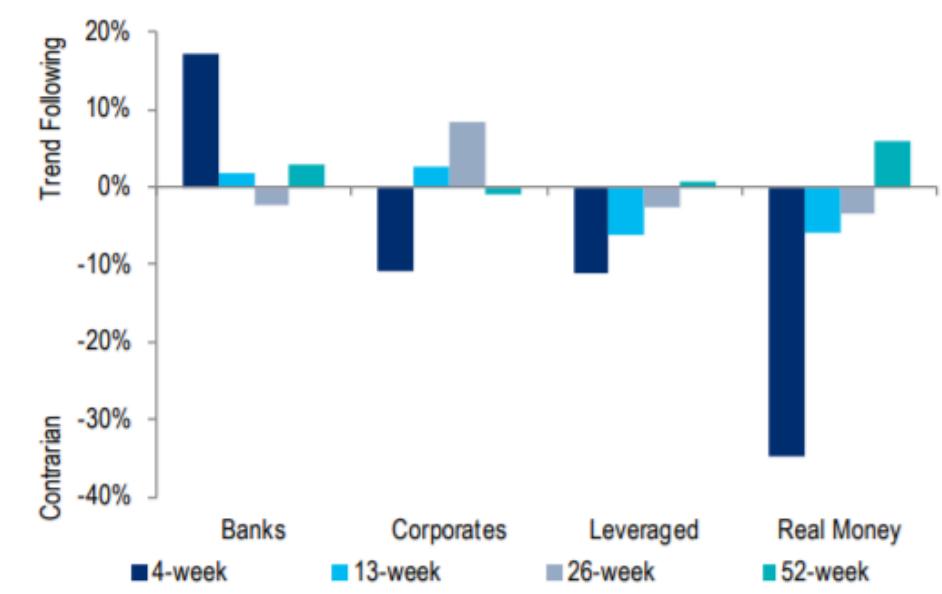
Source: Citi Velocity

Figure 35. Breakdown of avg weekly flows by client type



Source: Citi Velocity

Figure 36. Correlation of FX flow with currency return



Source: Citi Velocity

Figure 37. Hedge fund 4-week avg flows and USDINR (inverted, RS)



Source: Citi Velocity, Bloomberg

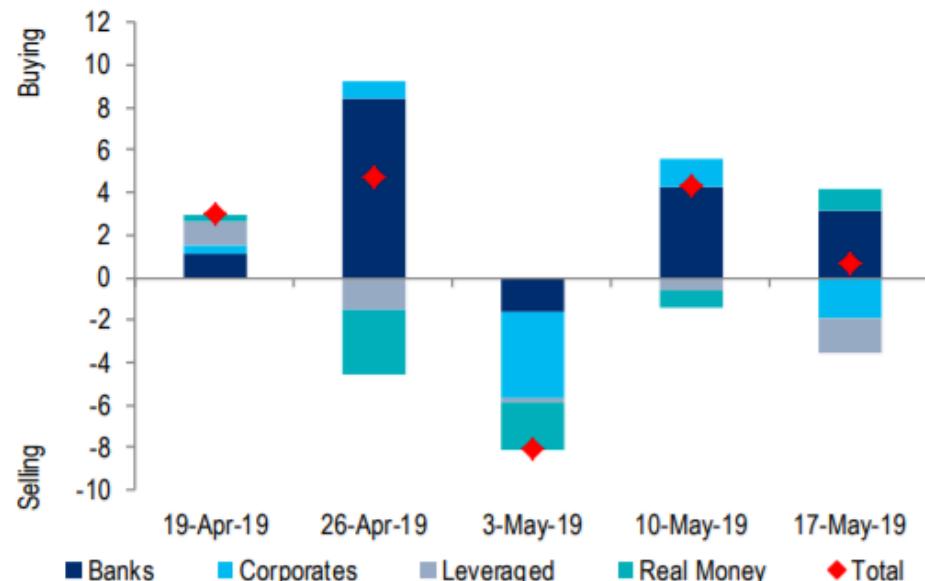
Figure 38. Real money 4-week avg flows and USDINR (inverted, RS)



Source: Citi Velocity, Bloomberg

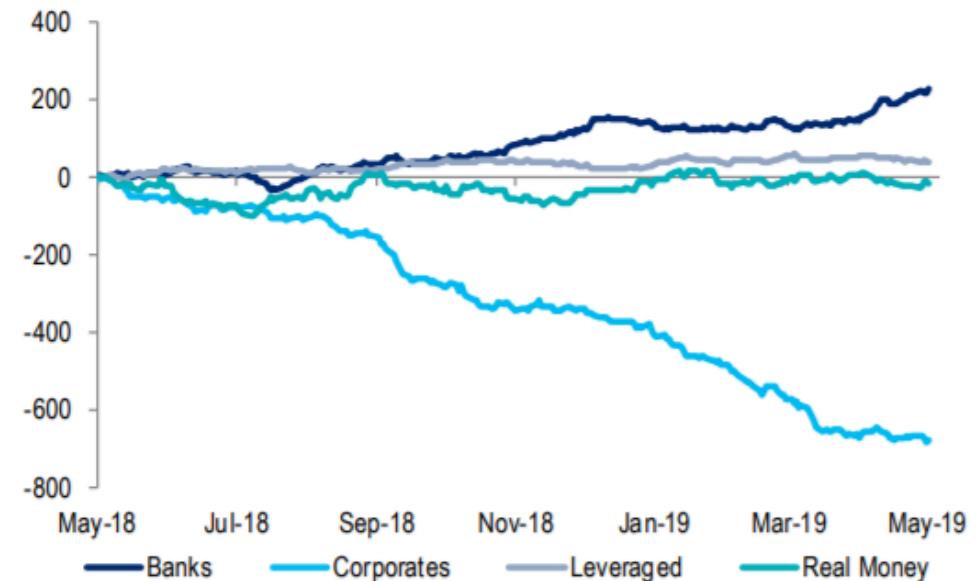
# Russian Ruble (RUB)

Figure 111. Weekly avg indexed flows, latest 5 weeks



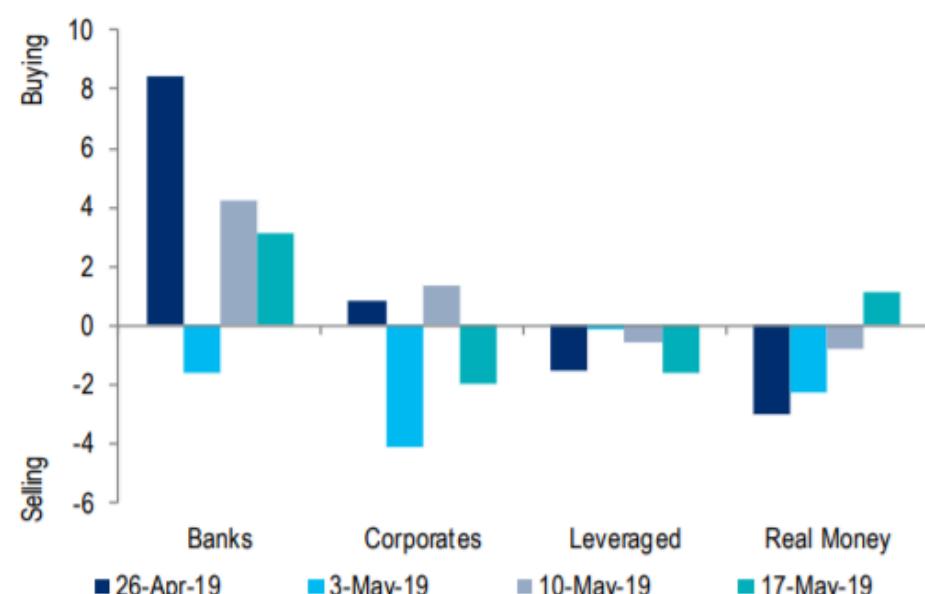
Source: Citi Velocity

Figure 112. Cumulative 1-year indexed flows



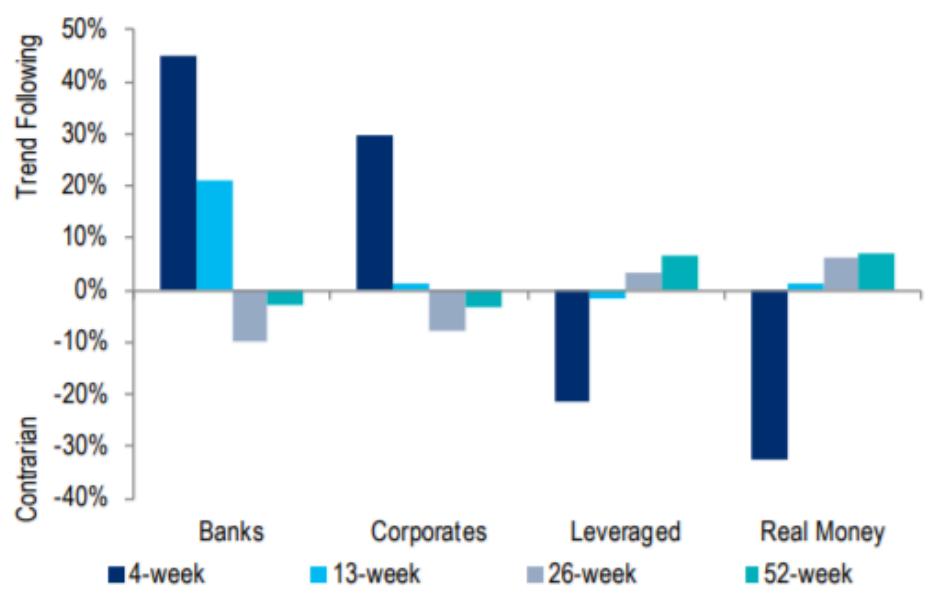
Source: Citi Velocity

Figure 113. Breakdown of avg weekly flows by client type



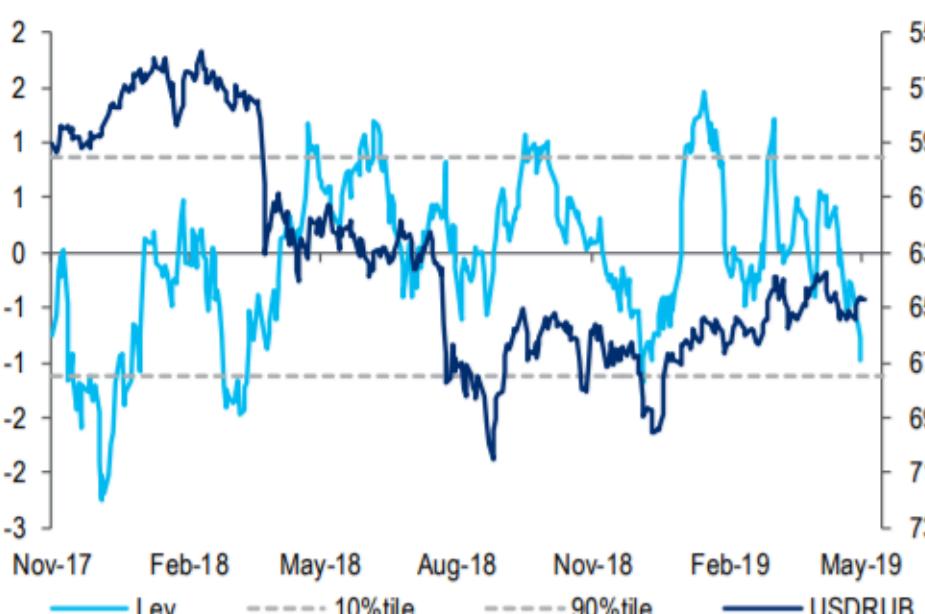
Source: Citi Velocity

Figure 114. Correlation of FX flow with currency return



Source: Citi Velocity

Figure 115. Hedge fund 4-week avg flows and USDRUB (inverted, RS)



Source: Citi Velocity, Bloomberg

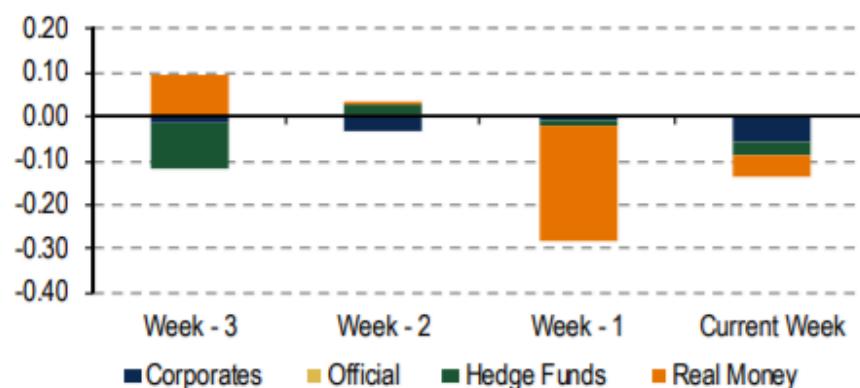
Figure 116. Real money 4-week avg flows and USDRUB (inverted, RS)



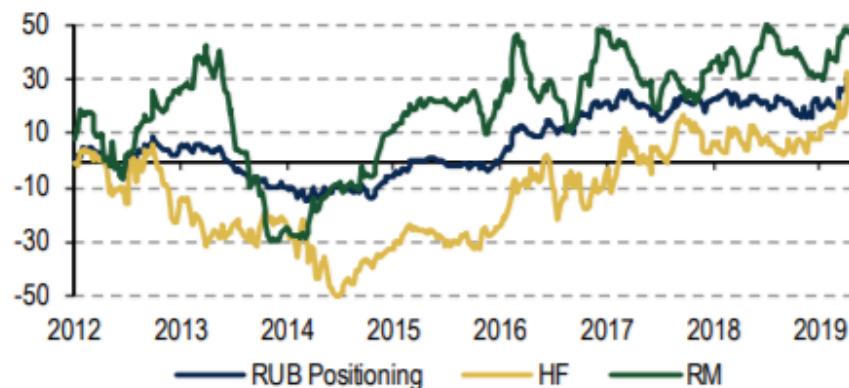
Source: Citi Velocity, Bloomberg

# RUB, TRY, ZAR, PLN

**Chart 139: BofAML Weekly indexed RUB flow**

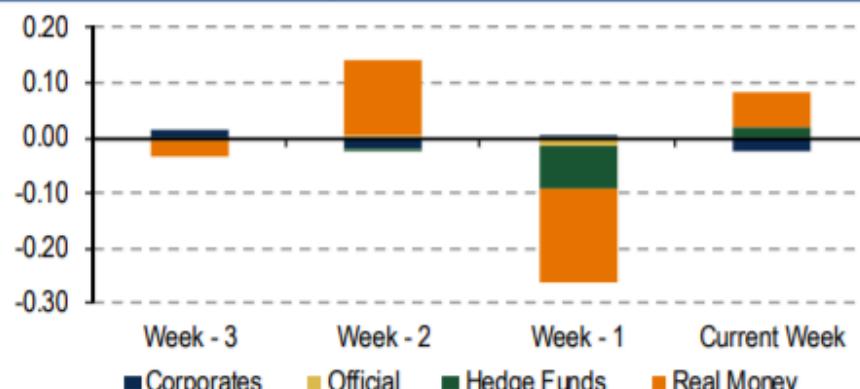


**Chart 140: RUB Positioning**

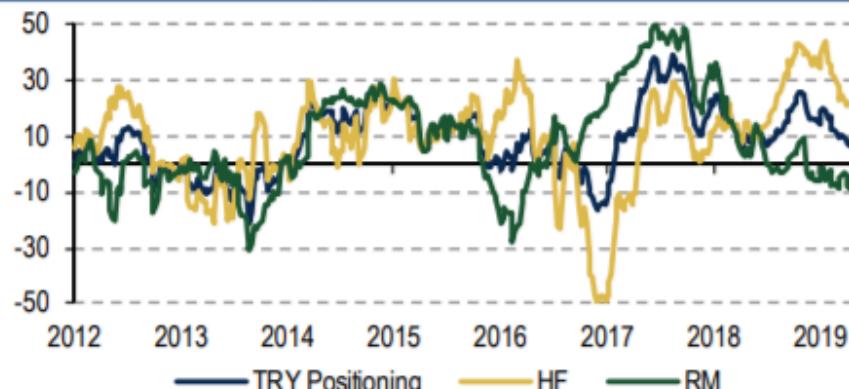


Source: BofA Merrill Lynch Global Research, Bloomberg

**Chart 141: BofAML Weekly indexed TRY flow**

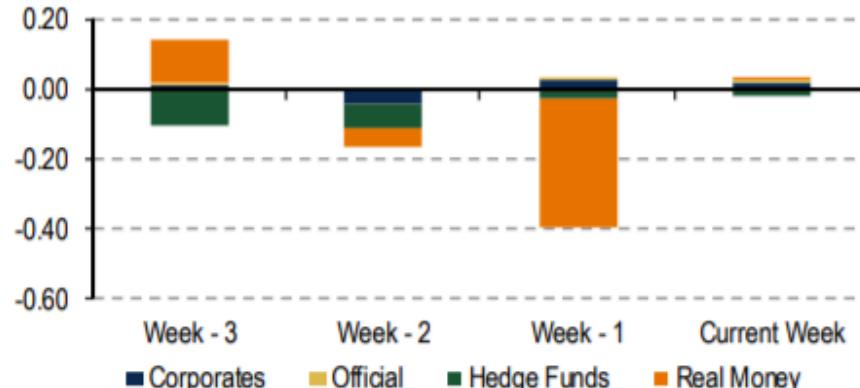


**Chart 142: TRY Positioning**

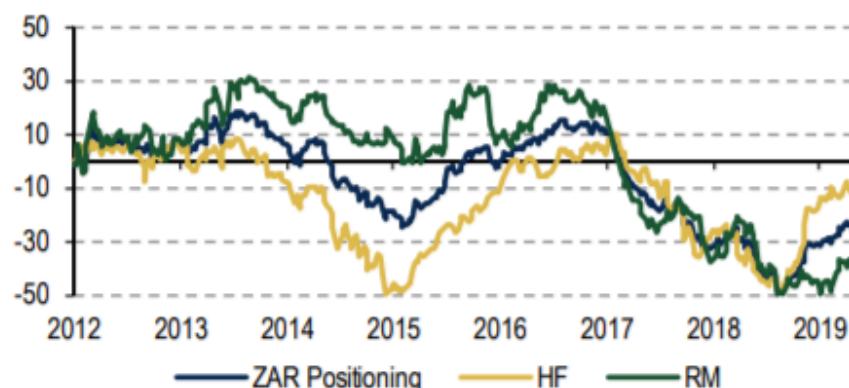


Source: BofA Merrill Lynch Global Research, Bloomberg

**Chart 143: BofAML Weekly indexed ZAR flow**

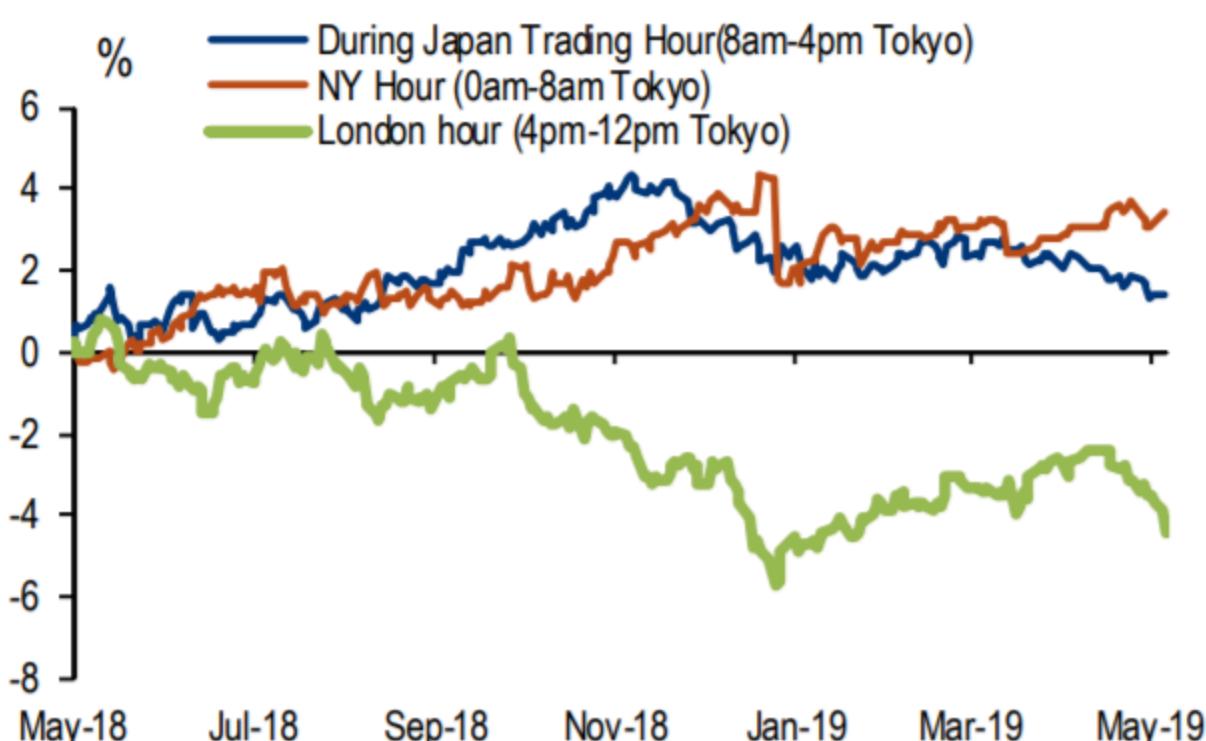


**Chart 144: ZAR Positioning**



Source: BofA Merrill Lynch Global Research, Bloomberg

**Chart 11: Cumulative USDJPY % change during 3 trading zone**

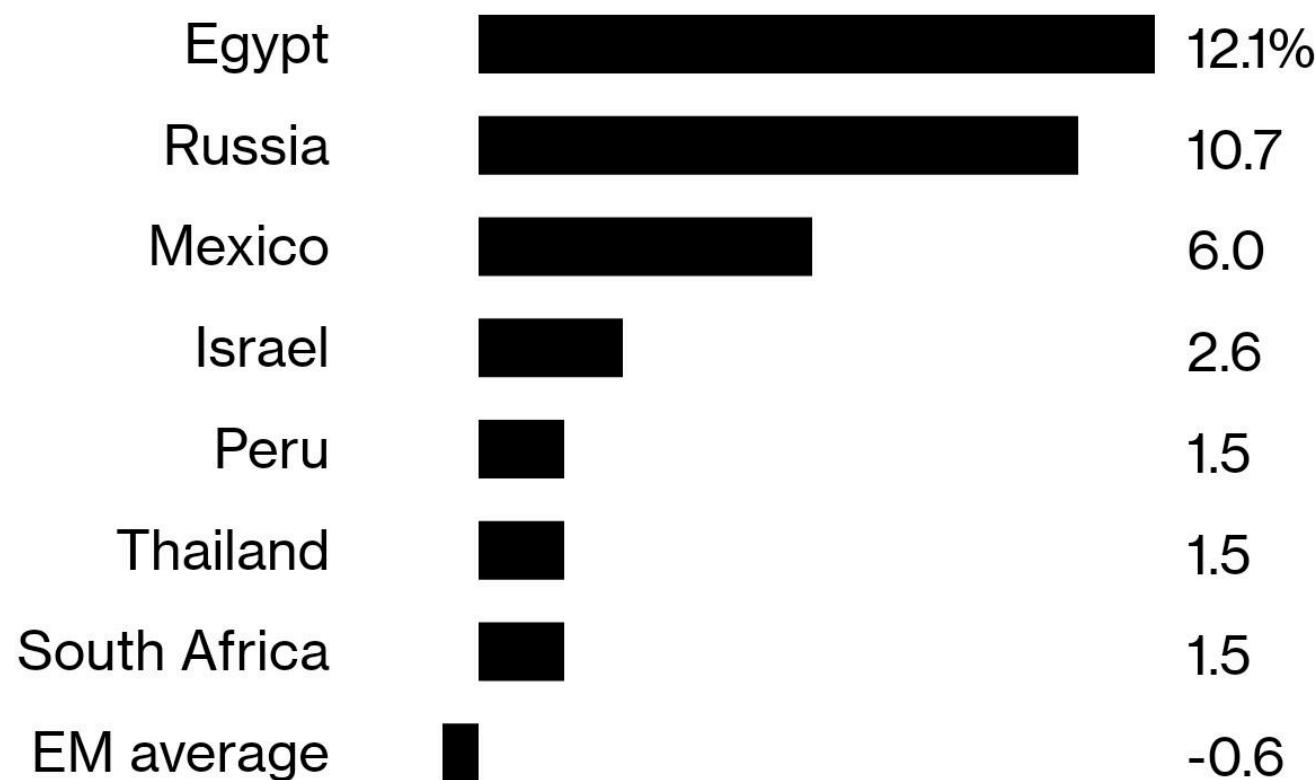


Source: BofA Merrill Lynch Global Research, Bloomberg

# On Top

The Egyptian pound's been a good bet for carry traders

■ World's best carry returns in 2019



Source: Bloomberg

Note: Return for going long in local currency against the dollar through May 22

## Currency Rally

Egypt's pound has staged one of the world's best performances in 2019



Source: Bloomberg

**Figure 1: Corrective rebound in EUR/USD sets the tone for USD/CEEs**



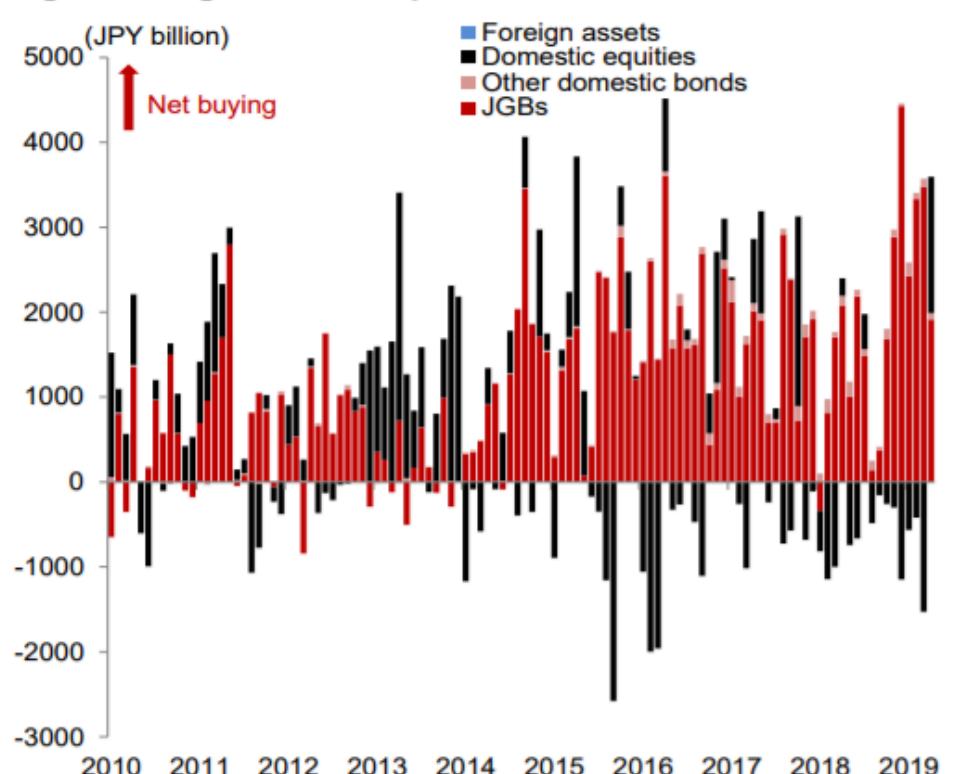
**Figure 2: Corrective s/t pullback in USD/PLN....**



**Figure 3: ....and in USD/HUF**

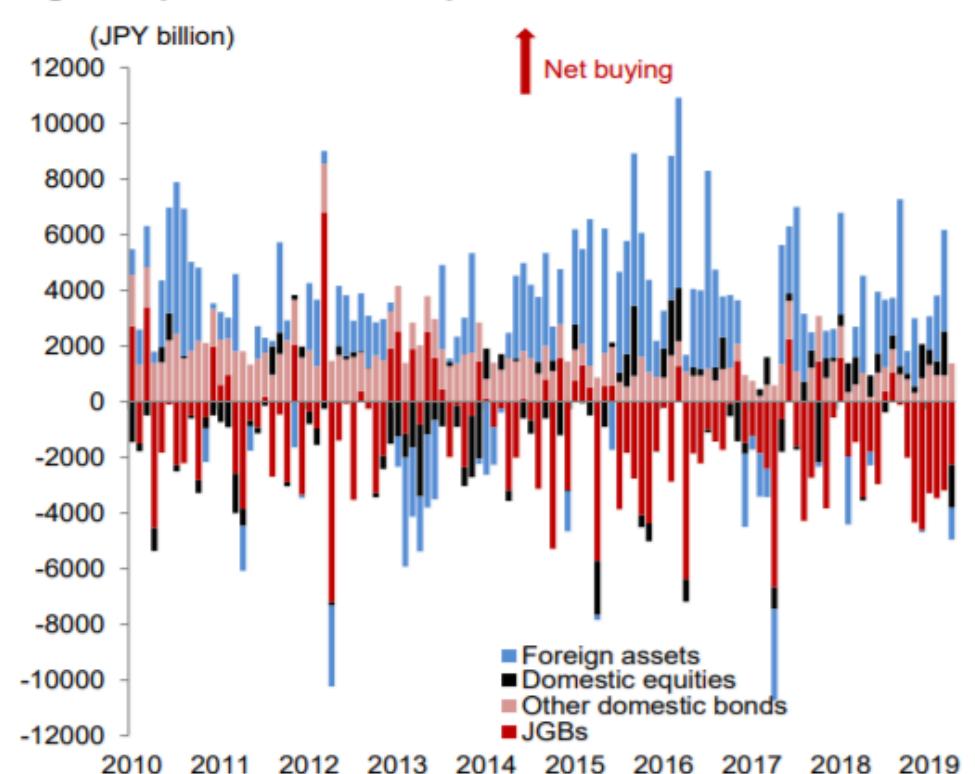


**Fig. 5: Foreign investors' portfolio investment**



Note: Investment in foreign assets is BOP based up to March and the April figure is based on MOF capital flow data. Source: Nomura, MOF, TSE, JSDA

**Fig. 6: Japanese investors' portfolio investment**



Note: Investment in foreign assets is BOP based up to March and the April figure is based on MOF capital flow data. Source: Nomura, MOF, TSE, JSDA

# EM CORPORATES & QUASI SOVEREIGNS: COMPARISON TO US CREDIT

FIGURE 30  
Spread ratio to US credit: A

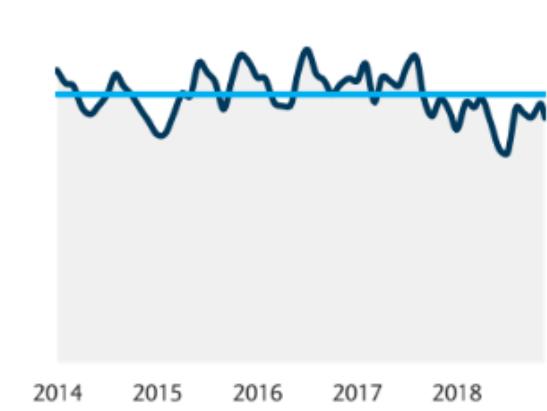


FIGURE 31  
Spread ratio to US credit: BBB

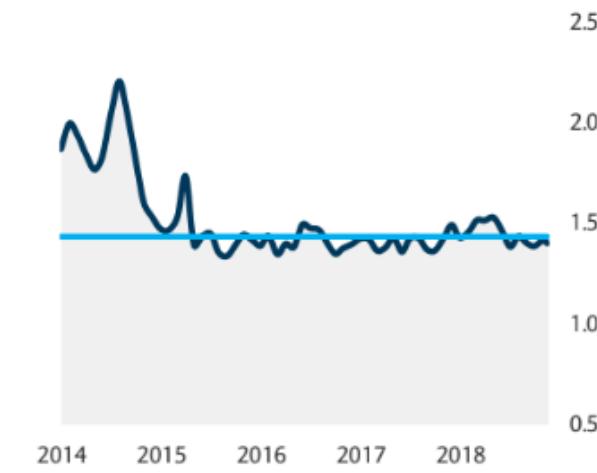


FIGURE 32  
Spread ratio to US credit: BB

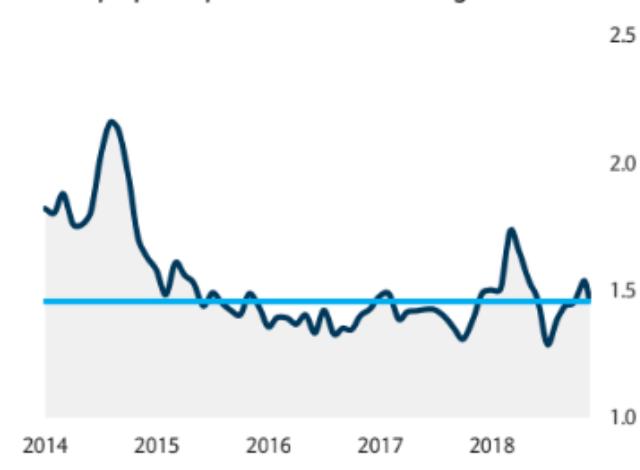


FIGURE 33  
EM corporate/quasi versus US differentials: ratings matched basis

	Composition			Spread	Equiv. US	bp discount	x discount	5Y Range
BRAZIL	BBB	BB	<B	283	250	33	1.1	0.96 - 2.8
CHILE	>A	BBB	B-B	187	160	27	1.2	1.13 - 1.55
CHINA	>A	BBB	B-B	212	139	74	1.5	1.18 - 2.23
COLOMBIA	BBB	BB	B	242	191	50	1.3	1.18 - 2.23
INDIA	BBB	BB	B	215	181	34	1.2	0.45 - 3.68
INDONESIA	BBB	BB	B	241	157	84	1.5	1.34 - 2.31
KAZAKHSTAN	BBB	BB	B	280	166	114	1.7	1.25 - 3.08
MEXICO	>A	BBB	B	315	156	159	2.0	1.24 - 2.05
PERU	BBB	BB	B	195	167	28	1.2	1.04 - 1.7
QATAR	>A	B	<	147	104	43	1.4	1.09 - 2.05
RUSSIA	BBB	BB	B	233	187	46	1.2	0.91 - 3.92
TURKEY	BB	<B	B	688	384	304	1.8	1.17 - 4.67
UNITED ARAB EMIRATES	>A	BBB	BB	166	115	51	1.4	0.96 - 1.55
GLOBAL EM CORPS	>A	BBB	BB	253	172	81	1.5	1.29 - 2.16

Note: We calculate the "equivalent US spread" by weighting the spread of US credit segments (from AAA to CCC) at each point in time (dynamically) to match each EM country's composition. Source: Barclays Research

FIGURE 34  
EM corp/quasi spread ratio v US: rating matched basis



## GLOBAL EM CREDIT: 10/30 CURVES

FIGURE 37  
10/30s curves for Global EM corporates and quasi sovereigns

	10Y SPREAD	30Y SPREAD	CURVE	1Y RANGE	1M	3M	6M	1Y
ALL CORPS*	174	262	78	55 - 100	5	14	25	0
AIA	87	124	37	-5 - 24	5	21	36	21
AMXLMM	69	147	79	29 - 71	16	25	13	27
CDEL	113	154	41	11 - 34	5	6	25	17
CENSUD	264	366	102	42 - 170	-10	19	49	13
CFELEC	207	285	78	42 - 82	2	18	33	13
CHGRID	115	114	-1	-10 - 15	-10	1	5	-6
CNOOC	107	132	25	10 - 27	-1	0	14	-5
ECOPET	184	295	111	70 - 25	5	26	40	-7
FUNOTR	226	362	136	106 - 151	8	18	27	-14
GGBRBZ	229	352	122	74 - 150	-5	9	27	-9
KORGAS	91	108	16	-10 - 15	8	9	18	23
KTZKZ	186	281	95	85 - 130	-4	-3	-3	-21
KZOKZ	174	279	106	85 - 124	4	18	8	
MEXCAT	224	317	94	69 - 148	12	25	57	-7
OCPMR	209	343	134	80 - 122	20	22	52	36
PEMEX	421	492	71	80 - 120	-4	31	10	
PETBRA	327	415	88	28 - 100	26	37	46	14
PETMK	100	114	14	7 - 38	6	-1	-12	0
PLBIJ	175	281	106	60 - 103	10	14	38	21
QTELQD	128	168	40	8 - 24	5	20	48	17
RILIN	143	177	34	15 - 44	7	-2	9	3
SCCO	143	237	94	61 - 123	6	-7	33	-14
SINOPE	120	126	7	1 - 28	-10	4	1	-19
TELVIS	180	244	63	54 - 118	15	3	-27	-50

Note: \*Top row is a median of the individual ticker values for the corresponding column.

Source: Barclays Research

FIGURE 38  
10/30s curves for Global EM sovereigns

	10Y SPREAD	30Y SPREAD	CURVE	1Y RANGE	1M	3M	6M	1Y
SOVS*	183	234	63	36 - 67	9	13	18	-9
ARGENT	1024	841	-183	-129 - 107	19	-90	-118	-265
BHRAIN	395	466	72	-16 - 68	11	10	24	47
BRAZIL	224	300	76	41 - 92	4	16	14	-1
CHILE	69	102	33	16 - 40	4	9	14	-5
COLOM	105	202	97	69 - 98	10	21	25	10
COSTAR	334	483	150	46 - 143	37	57	88	16
DOMREP	287	365	78	54 - 85	13	8	20	-3
EGYPT	486	574	89	60 - 113	16	15	17	
ELSAALV	469	497	28	-5 - 49	28	24	32	-11
INDON	142	168	26	11 - 45	8	6	8	-14
JAMAN	257	361	104	66 - 114	17	15	35	-7
MEX	148	214	66	51 - 86	5	7	4	-17
PARGUY	178	246	69	43 - 50	14	25	23	
KAZAKS	97	179	83	61 - 105	2	21	7	-14
PHILIP	63	83	20	-2 - 23	13	17	13	5
QATAR	92	153	61	36 - 72	14	9	23	-11
RUSSIA	187	221	33	13 - 57	6	20	19	-18
SOAF	279	335	57	36 - 66	7	12	21	17
TURKEY	523	487	-37	-72 - 56	-15	-40	-38	-62
URUGUA	134	165	31	21 - 62	5	4	8	-26
MALAYS	84	90	6	8 - 38	-4	-10	-9	-25

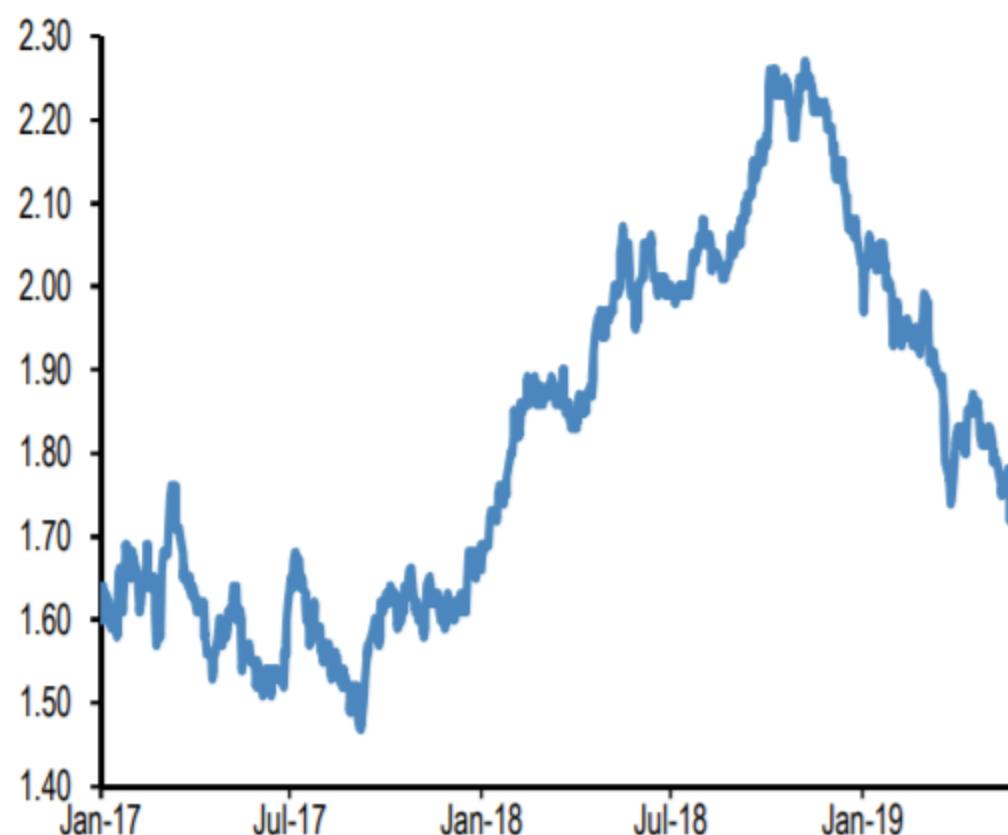
Note: \*Top row is a median of the individual ticker values for the corresponding column.

Source: Barclays Research

## Figure 1: Bloomberg Global Agg Bond Index

### Yield to Worst

In %



Source: Bloomberg.

## GLOBAL EM CREDIT: 5/10 CURVES

FIGURE 35

5/10s curves for Global EM corporates and quasi sovereigns

	5Y SPREAD	10Y SPREAD	CURVE	1Y RANGE	1M	3M	6M	1Y
ALL CORPS*	123	157	35	20   48	6	4	11	15
BIDU	108	155	47	30   75	5	0	-2	
CHGRID	90	112	22	30   50	6	-1	3	
CITLTD	123	159	35	35   65	5	2	-7	
CMPCCI	155	179	24	-2   30	3	8	23	18
CNOOC	104	123	19	30   48	12	2	14	
EMBRBZ	149	185	36	3   39	12	14	11	26
EXIMCH	83	102	19	1   27	1	-3	-4	2
HUAWEI	155	253	97	18   84	28	22	21	71
ISRELE	130	157	27	20   45	9	9	19	
KOROIL	77	95	17	4   20	6	0	5	14
KWIPKK	161	247	87	17   87	7	30	19	59
KZOKZ	136	174	38	15   50	1	-5	10	11
PAMPAR	740	755	14	-5   93	-36	-35	-6	-28
PEMEX	234	421	187	95   190	39	26	78	
PETBRA	213	327	114	100   115	4	44	41	23
QTELQD	89	128	39	5   45	14	12	28	16
SDBC	63	101	38	20   42	-1	-2	9	15
SDIC	96	125	30	20   37	2	4	1	8
SINOPE	99	121	22	-124   24	14	10		
SOPOWZ	87	112	25	18   44	6	-2	-15	-3

Note: \*Top row is a median of the individual ticker values for the corresponding column.

Source: Barclays Research

FIGURE 36

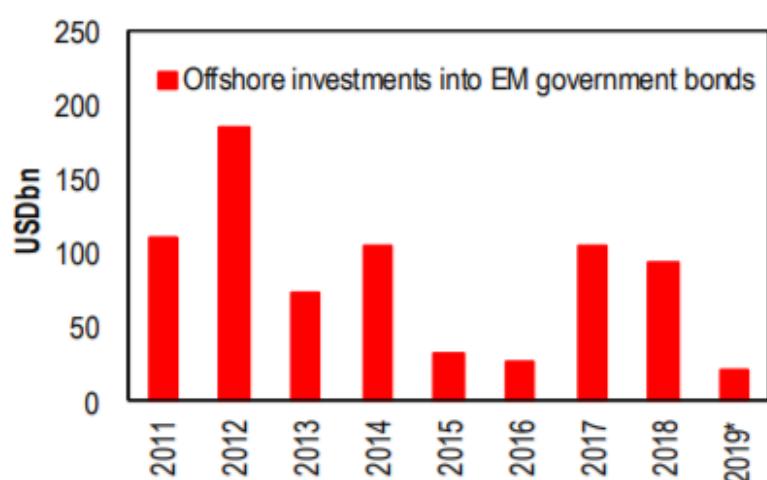
5/10s curves for Global EM sovereigns

	5Y SPREAD	10Y SPREAD	CURVE	1Y RANGE	1M	3M	6M	1Y
ALL SOVS*	143	232	50	7   62	6	16	17	9
QATAR	68	108	40	11   30	6	4	4	-12
DOMREP	230	287	56	29   57	26	16	9	10
TURKEY	524	523	0	-48   57	-13	-33	0	-49
RUSSIA	121	187	67	43   71	8	21	18	14
MALAYS	71	84	13	-1   11	6	8	10	7
CHILE	29	69	40	4   42	8	7	4	21
INDON	98	142	44	31   49	0	9	19	18
MEX	74	148	75	32   75	3	20	37	36
COLOM	122	134	13	-15   15	11	22	19	2
BRAZIL	108	224	116	61   136	13	22	26	9
LEBAN	889	829	-60	-119   69	-19	-67	-29	-70
PHILIP	65	63	-2	-31   27	-6	8	16	-28
BHRAIN	253	395	142	74   219	47	47	24	-31
UKRAIN	645	659	14	-22   67	-8	16	2	0
SRILAN	412	503	91	-1   104	15	33	89	36
SOAF	214	279	64	37   67	7	25	19	9
GUATEM	165	240	75	31   80	20	4	29	12
REPNAME	200	334	134	57   143	21	39	2	56
POLAND	50	53	3	-6   10	5	-2	1	7
ECUA	519	597	78	-16   72	0	41	87	71

Note: \*Top row is a median of the individual ticker values for the corresponding column.

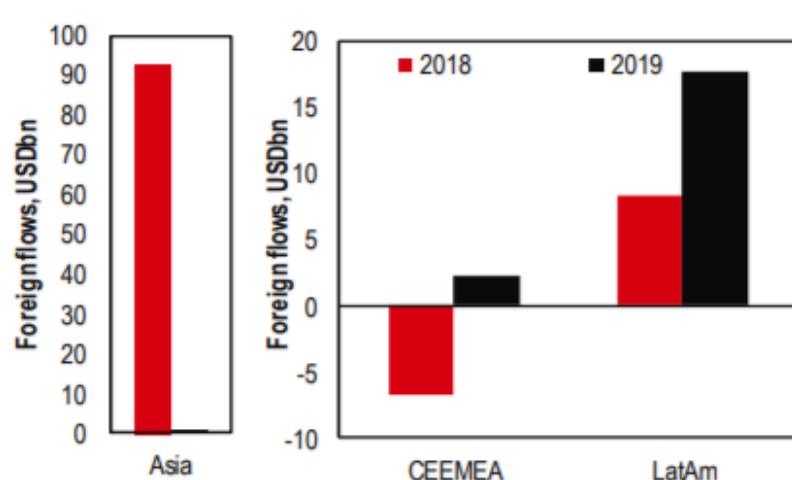
Source: Barclays Research

**Figure 1: Year-to-date foreign investments into EM sovereign debt**



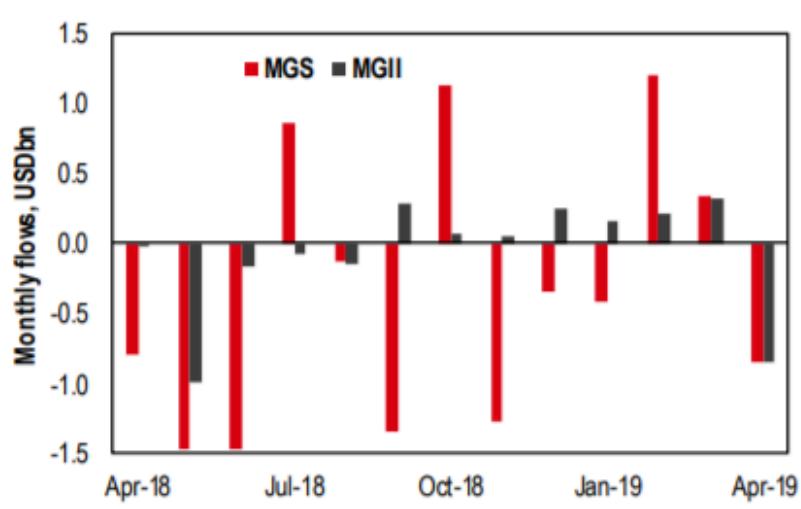
Source: Central banks, HSBC. Investments into the 18 emerging markets mentioned on page 3.  
Data as of May 2019.

**Figure 2: Overseas investments mainly noted in LatAm region so far in 2019**



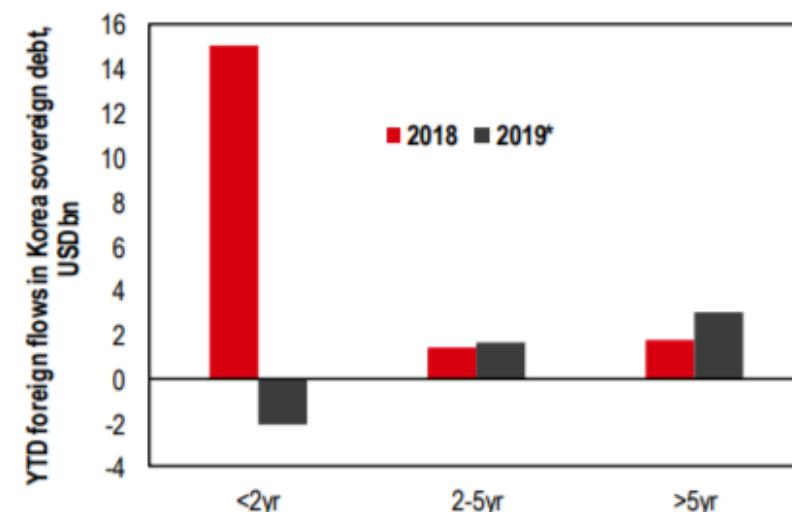
Source: Central bank websites, HSBC. Data as of May 2019.

**Figure 3: Overseas investors pared Malaysia sovereign debt in April**



Source: BNM, HSBC

**Figure 4: Foreign residents preferred long-dated Korea bonds so far in 2019**



Source: HSBC \*Data till 22 May 2019

Brent, \$/bl



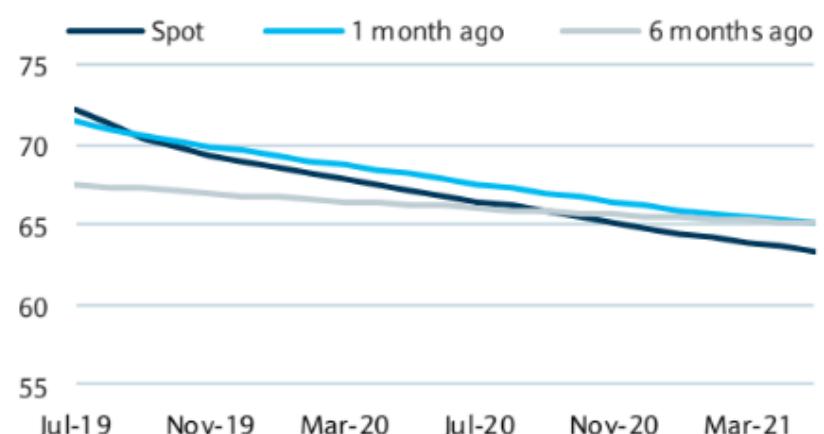
Source: Bloomberg, Barclays Research

Brent-WTI Spread, \$/bl



Source: Bloomberg, Barclays Research

Futures curve, \$/bl



Source: Datastream, Barclays Research

OPEC crude basket price, \$/bl



Source: Bloomberg, Barclays Research

## Brent-Urals Spread, \$/bl



Source: Bloomberg, Barclays Research

## WCS-WTI Spread, \$/bl



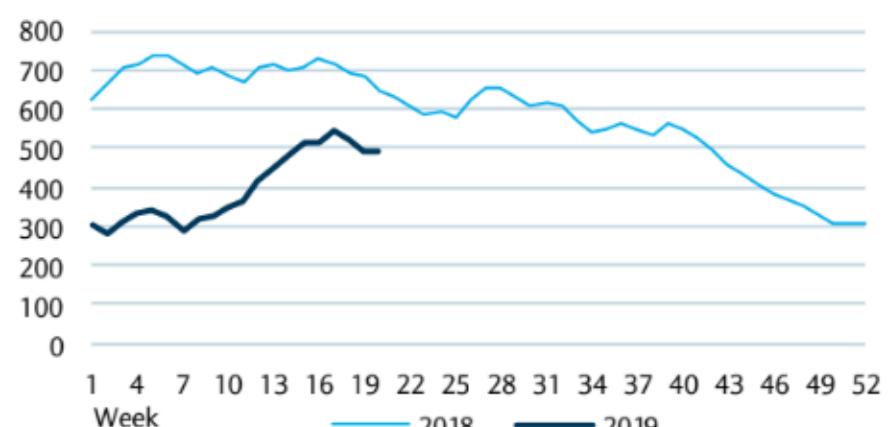
Source: Bloomberg, Barclays Research

## WTI- Maya Spread, \$/bl



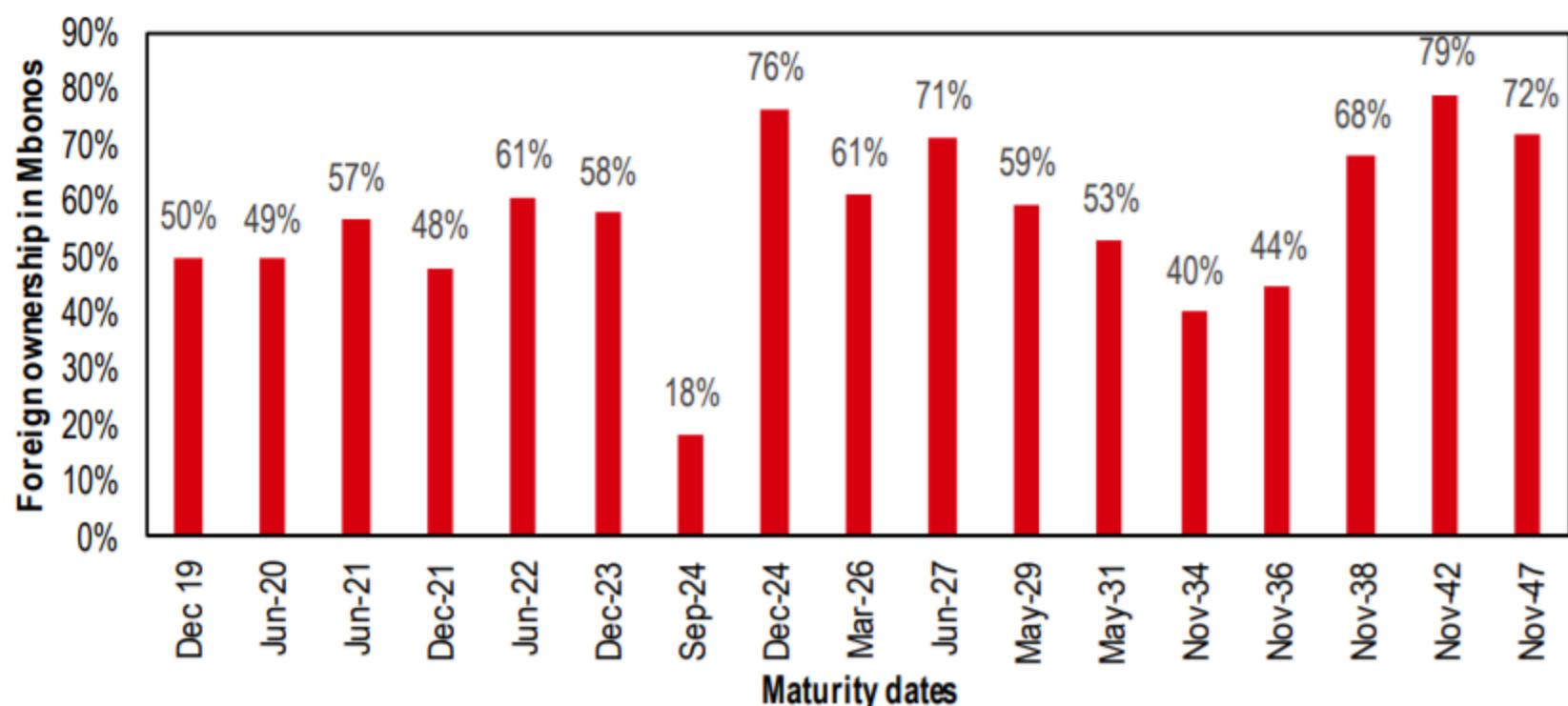
Source: Bloomberg, Barclays Research

## US Non-commercial Paper Positions, mb



Source: Commitments of Traders report- US CFTC, Barclays Research

## Chart of the week: Mbonos – overseas positioning



Source: Banxico, HSBC \*Data as of 9 May 2019

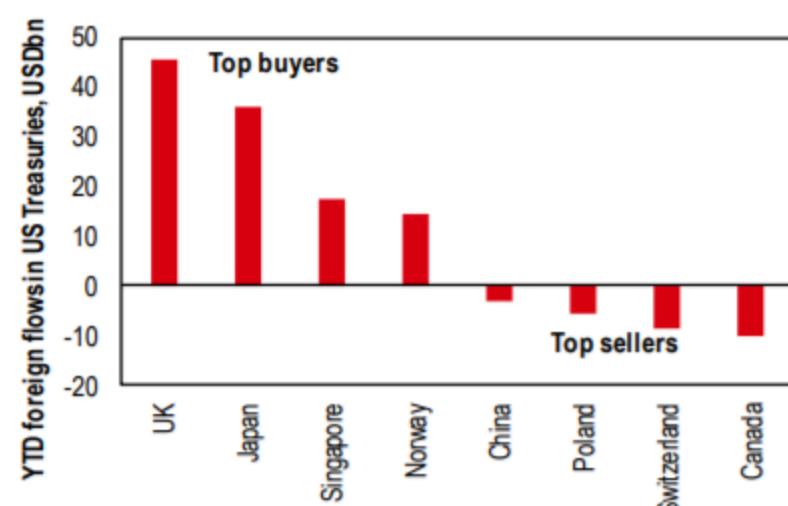
## Weekly trends in offshore bond holdings of EM local bonds

USDm	20-Feb	27-Feb	6-Mar	13-Mar	20-Mar	27-Mar	3-Apr	10-Apr	17-Apr	24-Apr	1-May	8-May	15-May	22-May
KRW	434	479	574	-1,651	1,717	512	-1,075	-434	764	961	457	1,451	739	1,357
INR*	-389	-551	-288	379	1,405	23	-589	-528	-275	-229	-357	-136	106	-192
IDR	-39	525	764	-475	1,020	566	224	139	-907	63	474	-59	-7	-671
LKR	-8	-19	4	6	20	9	-11	-11	-38	-19	-62	-2	NA	NA
THB*	45	-130	-59	14	68	-132	4	-270	-345	-103	-183	-263	429	439
HUF	-63	29	-71	54	1	248	-72	-114	-144	87	-13	-63	-180	280
ZAR*	-271	141	-353	20	131	-33	470	129	294	-86	-286	-321	-193	60
MXN	-1,203	-1,317	480	269	-701	181	-177	-220	-37	-575	-797	-300	-367	NA

Source: Bloomberg, HSBC. \*Data include government and corporate flows.  
NA – Flows data not released yet.

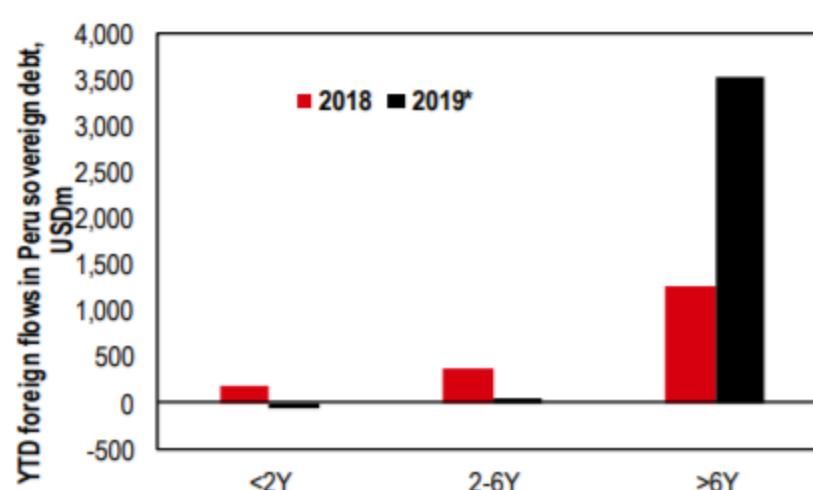
Color Coding  
-1,000 -750 -500 -250 0 250 500 750 1,000

**Figure 5: UK- and Japan-based investors bought USTs the most so far in 2019**



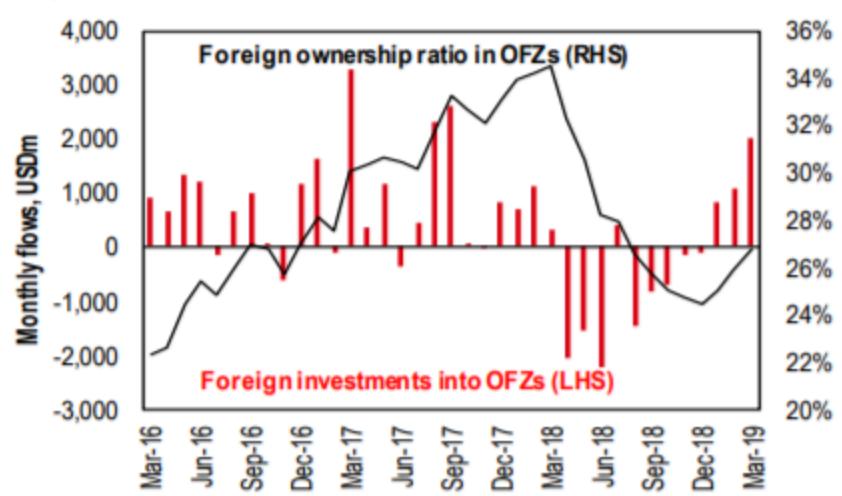
Source: TIC, HSBC \*Data till March 2019

**Figure 6: Offshore investors' preference persists for long-dated Peru government bonds**



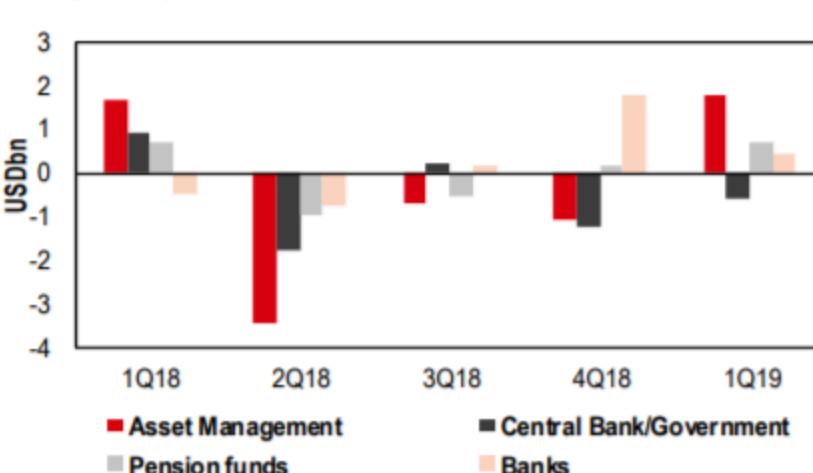
Source: MoF, HSBC \*Data till April 2019

**Figure 7: Foreign investors' holdings of OFZs surged in 1Q19**



Source: CBR, HSBC

**Figure 8: Distribution of foreign holdings of Malaysia government bonds**



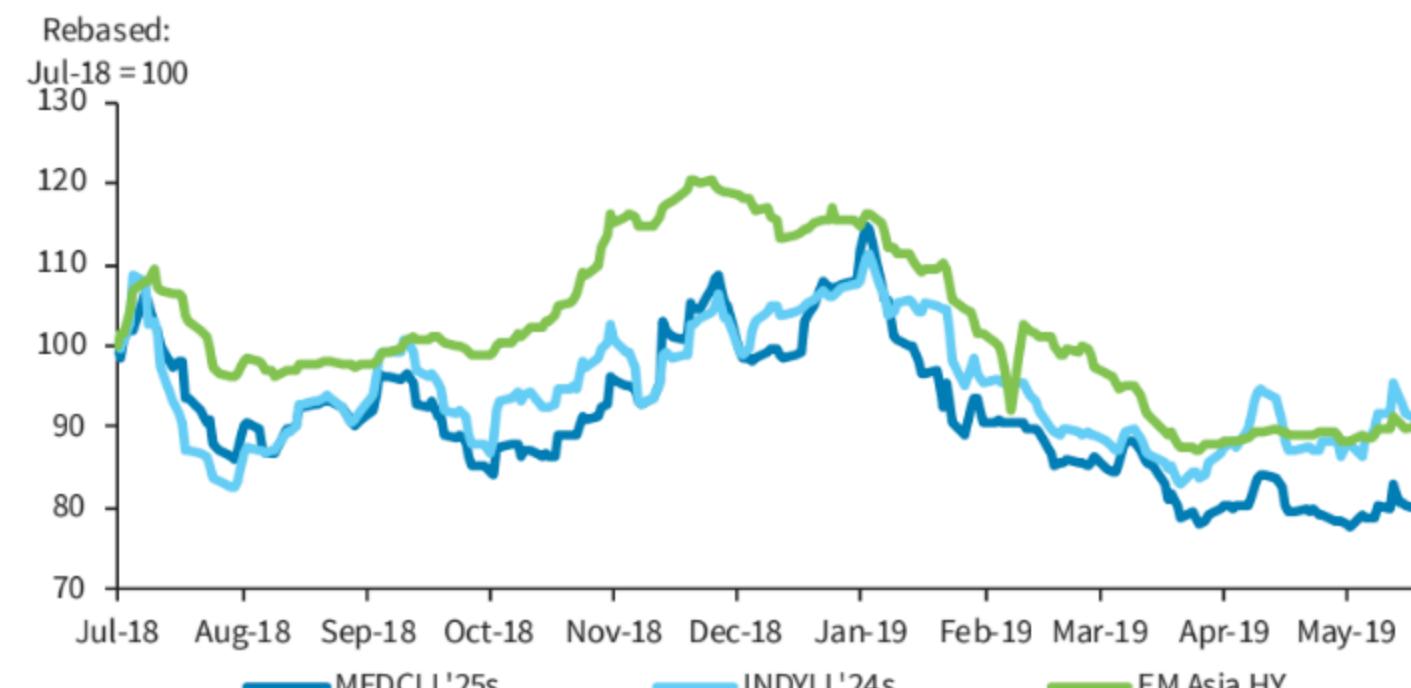
Source: BNM, HSBC

## Medco and Indika: Benchmark huggers

The Medco '25s and Indika '24s bond yields exhibit significant correlation to the EM Asia HY Corporate index (87% and 80%, respectively), especially compared with the Vedanta '24s (68%). Indeed, their bond yields are more correlated to the index than to their respective product benchmarks: Yields for Medco '25s are 47% inversely correlated to Brent crude while the Indika '24s yields show a 56% inverse correlation to the ICI4 coal benchmark.

### FIGURE 5

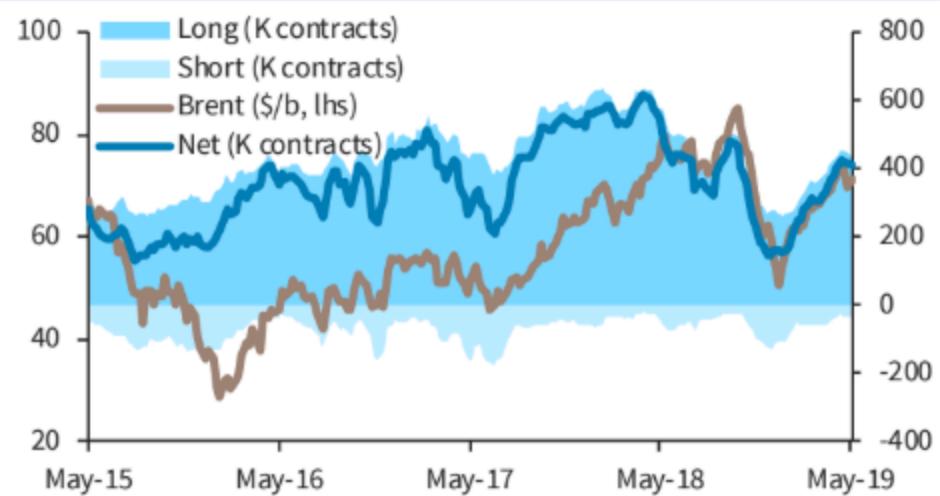
#### Medco and Indika's bond yields are highly correlated to benchmark



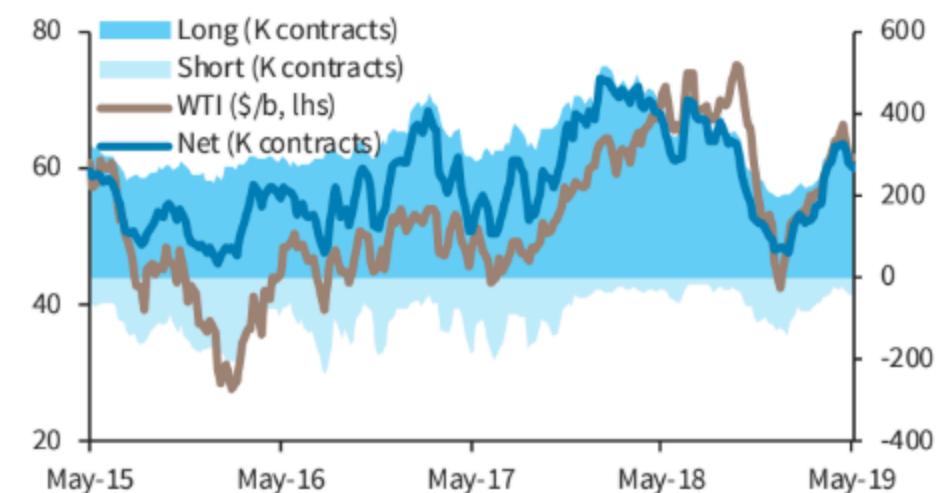
Source: Barclays Live

# Spec length not as stretched out at current levels

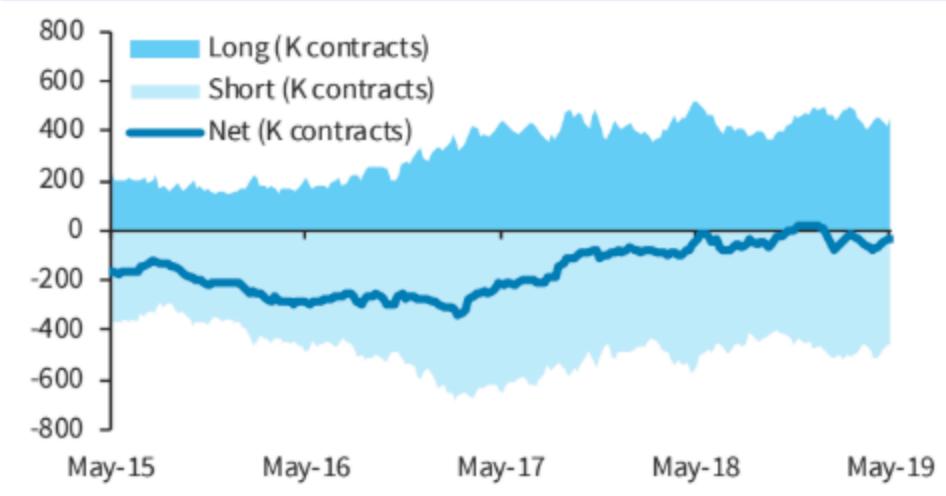
**Speculative positioning in Brent remains slightly above average...**



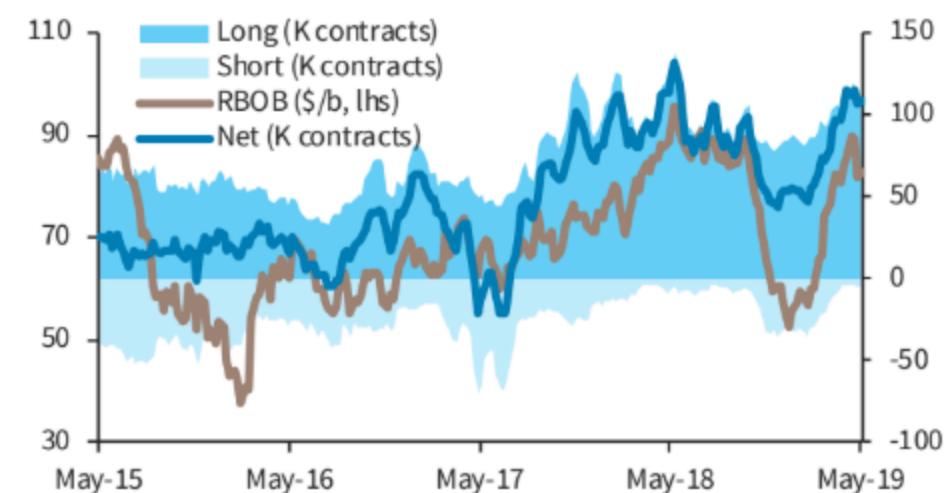
**...similar to WTI, but does not look particularly stretched**



**Producer/processor net positioning in WTI remains relatively neutral**



**However, RBOB positioning looks quite stretched at these levels**



Source for all charts: Bloomberg, CFTC, Barclays Research



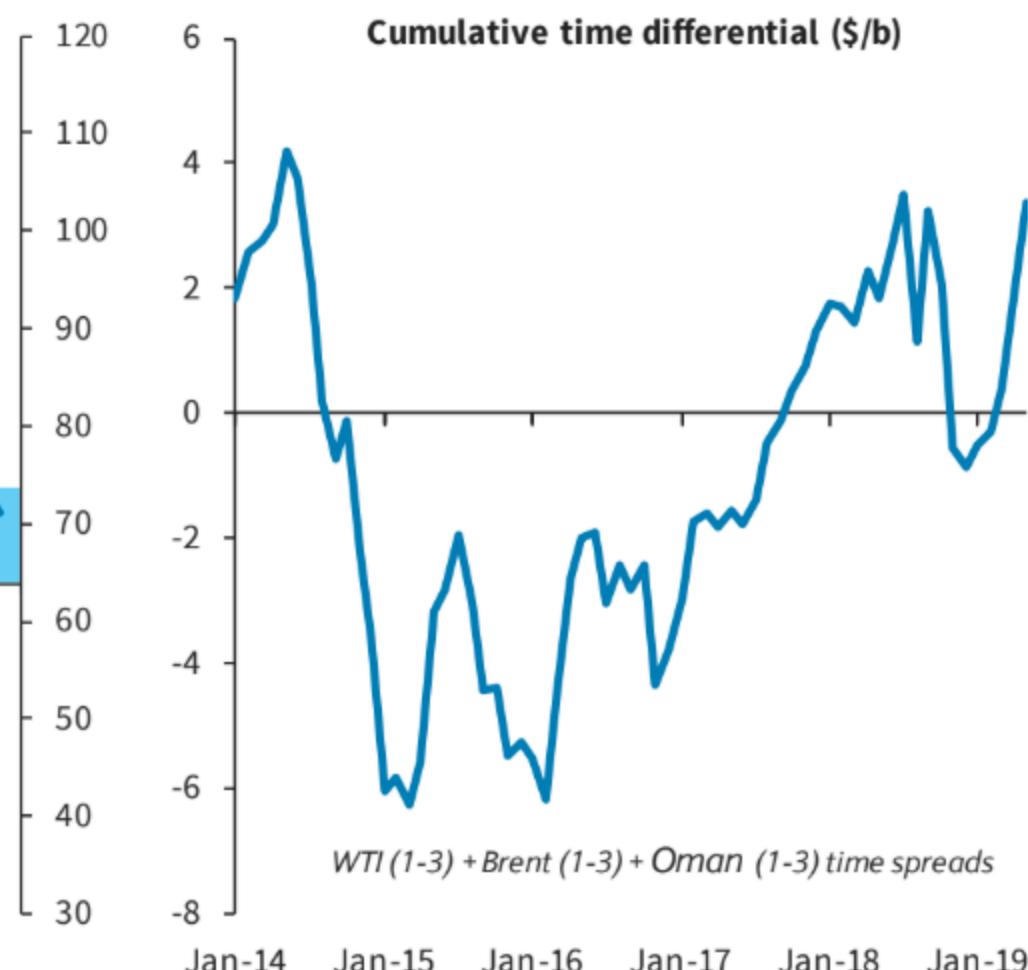
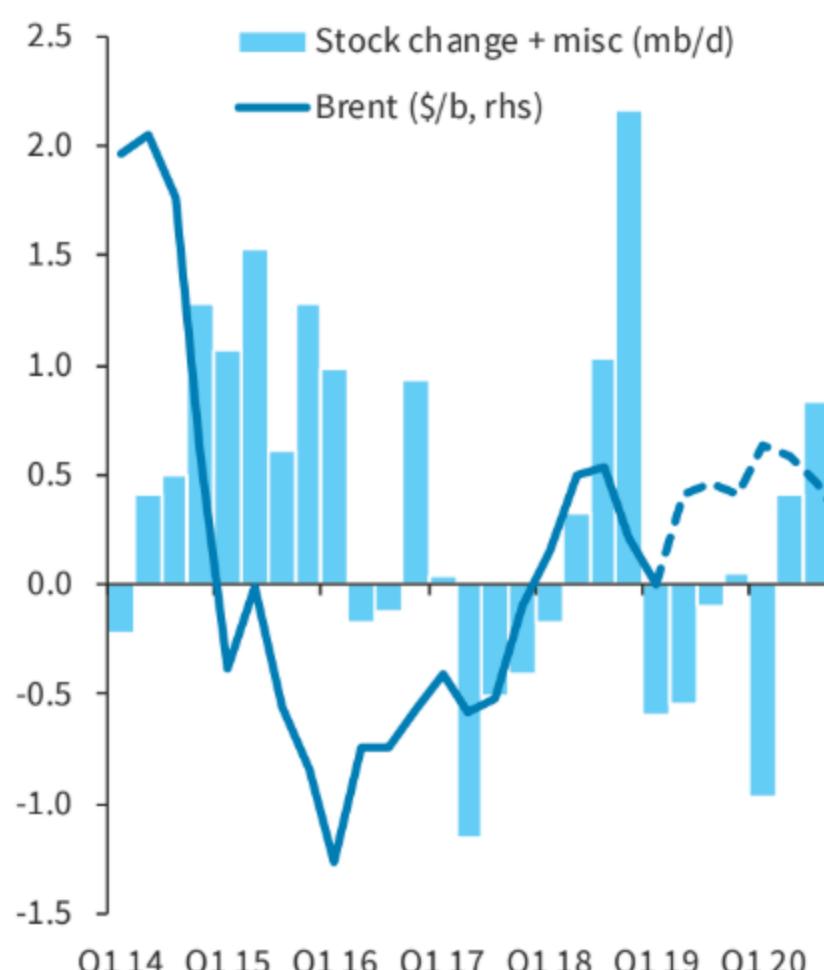
6

May 2019

**Our balances signal a tightening market for the rest of the year**

**We expect market balances to remain tight over the next few quarters**

**Steep backwardation in key benchmark prices bolsters our view**



Source: EIA, IEA, Bloomberg, Barclays Research



## Uridashi bond market

Fig. 21: Major currency share in Uridashi issuance

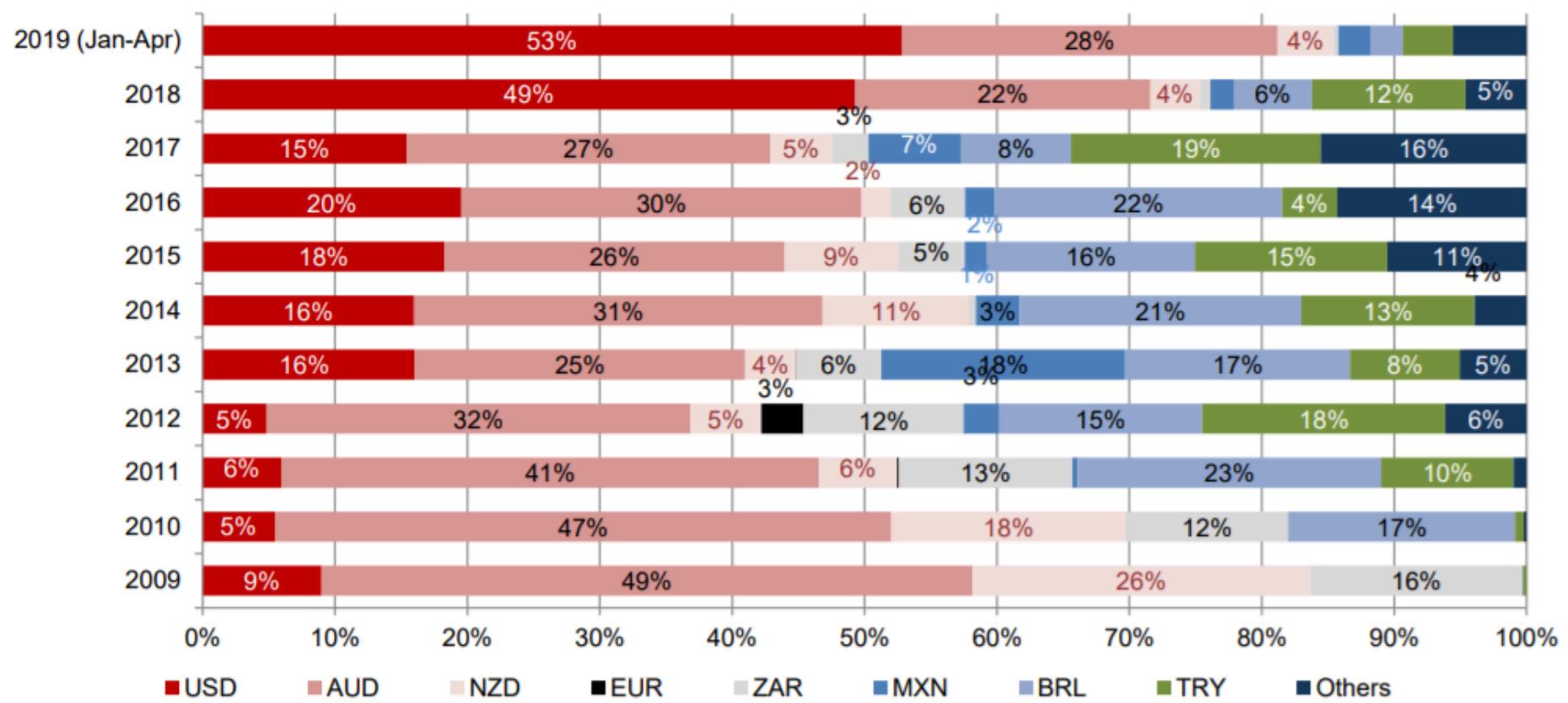
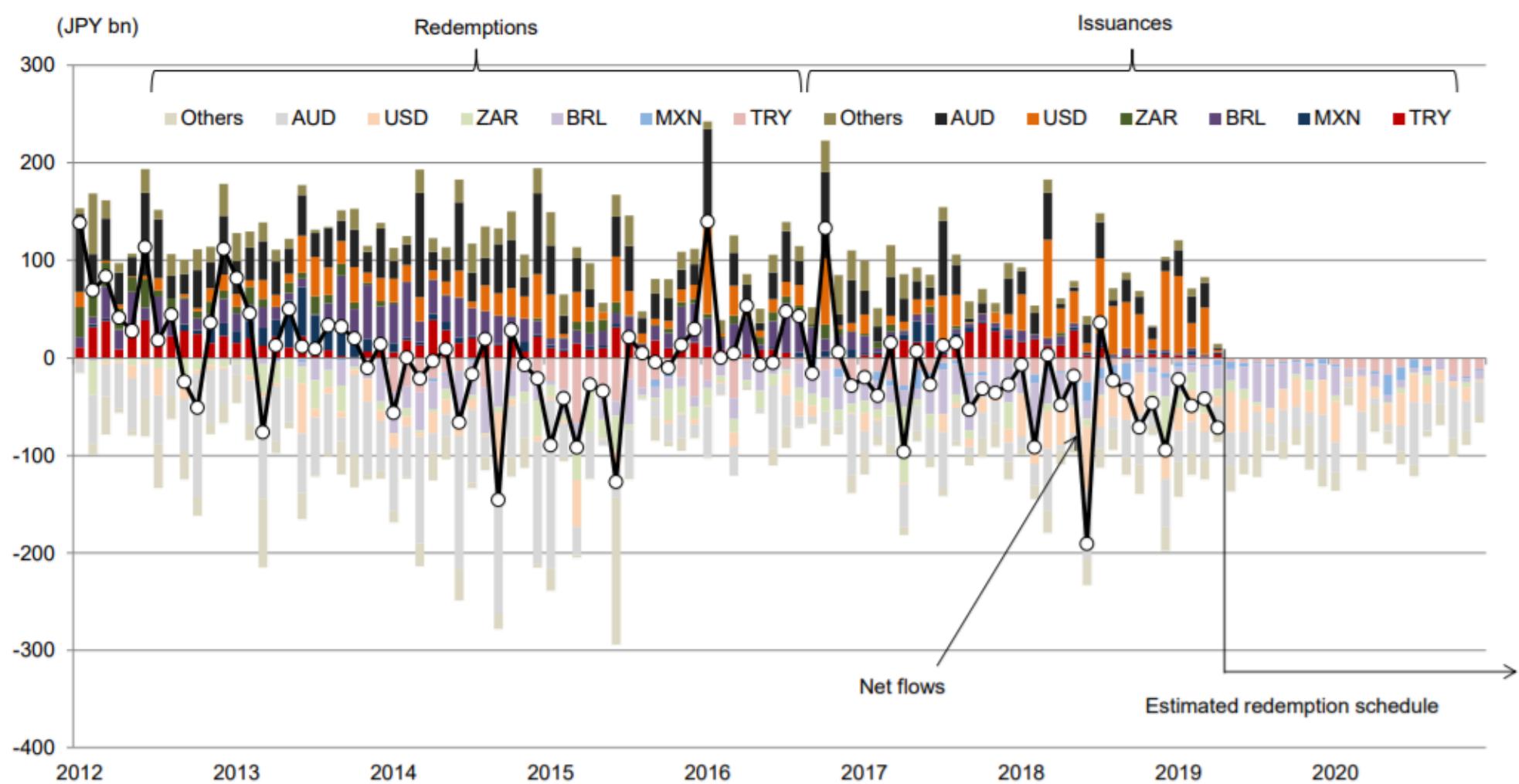
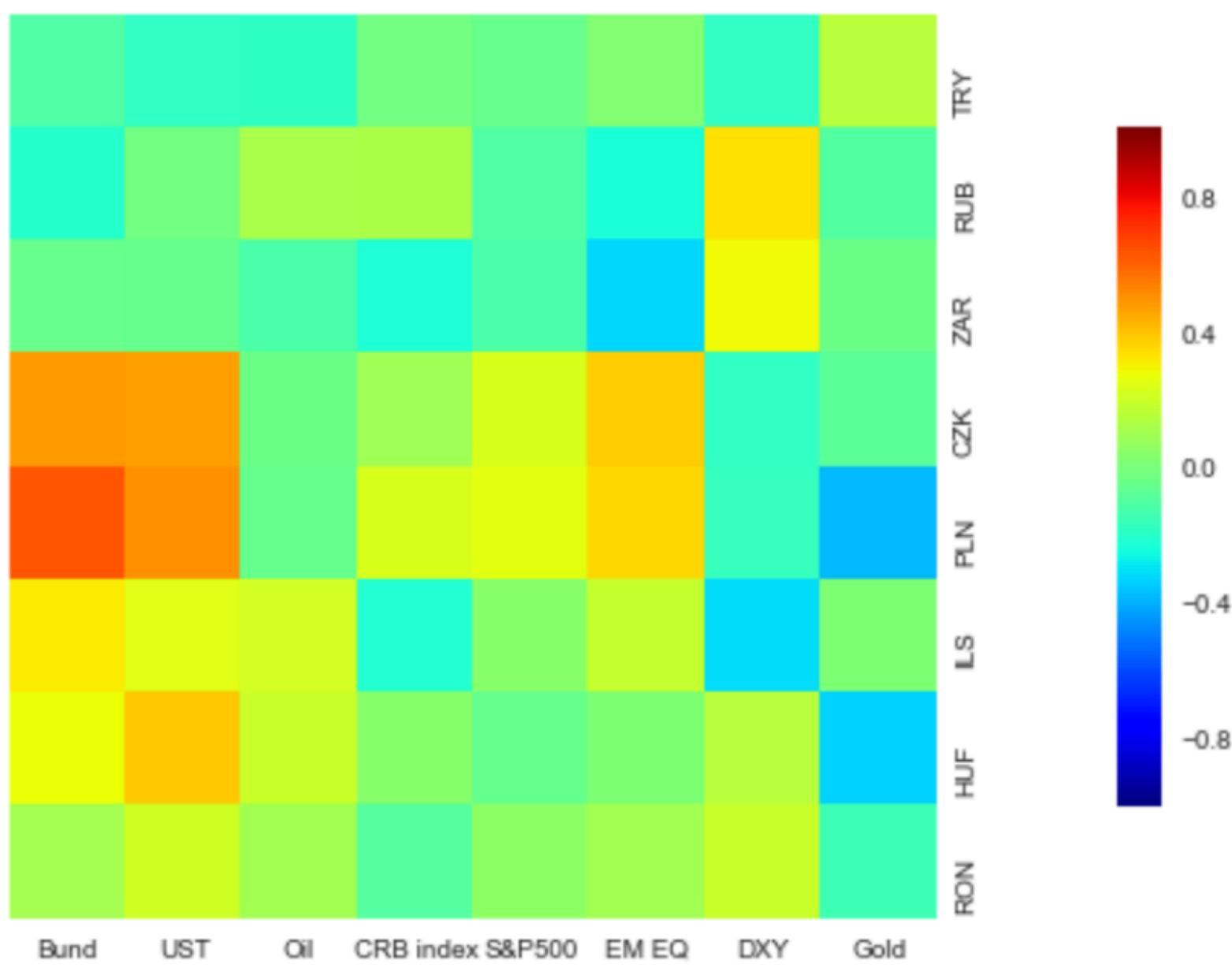


Fig. 22: Uridashi issues/redemption by currency



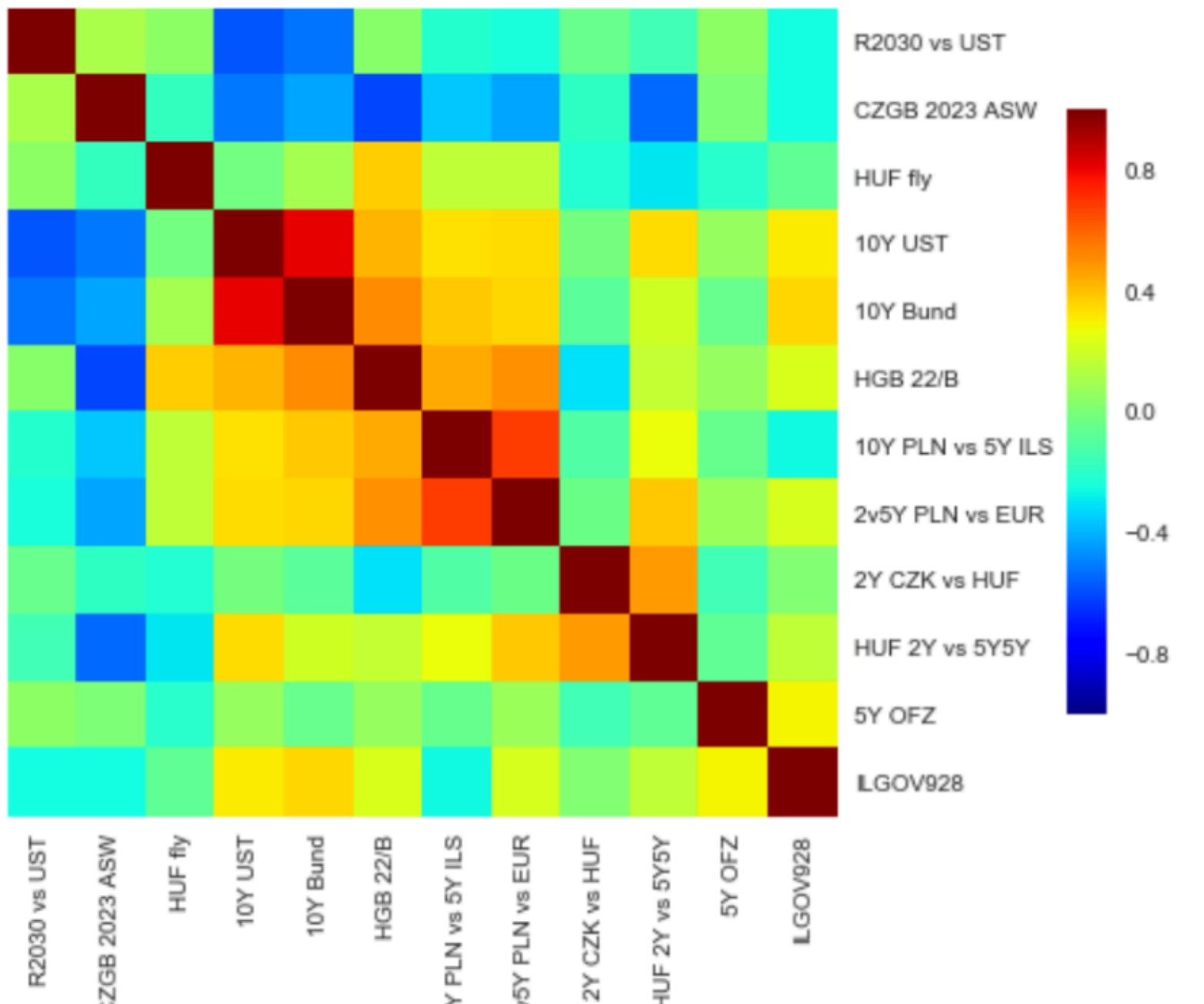
Source for all charts on this page: Bloomberg, Nomura.

## Correlation matrix of 10Y CEEMEA bonds vs external market variables



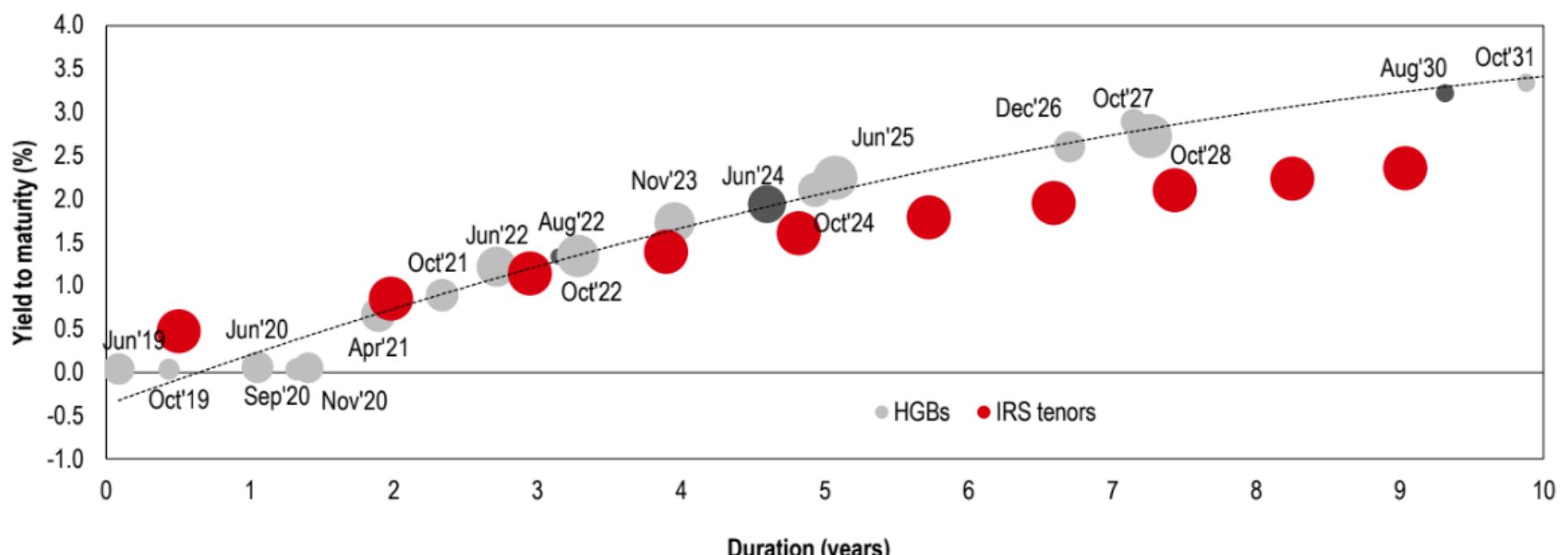
Source: HSBC, Bloomberg. Note: 6 month correlation taken on 5-day changes

## Correlation matrix of open trades and core rates



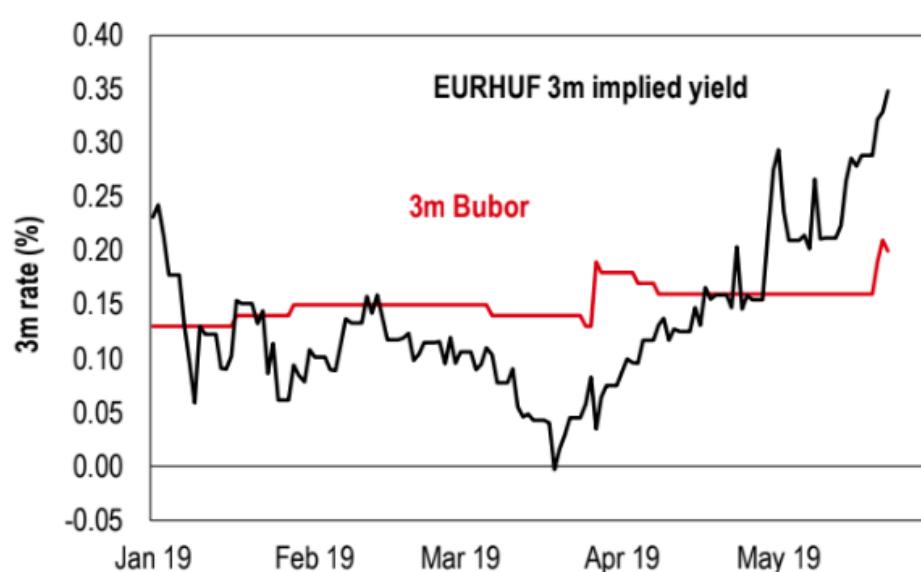
Source: HSBC, Bloomberg. Note: 6 month correlation taken on 5-day changes in rates/yields/spreads

## HGB curve



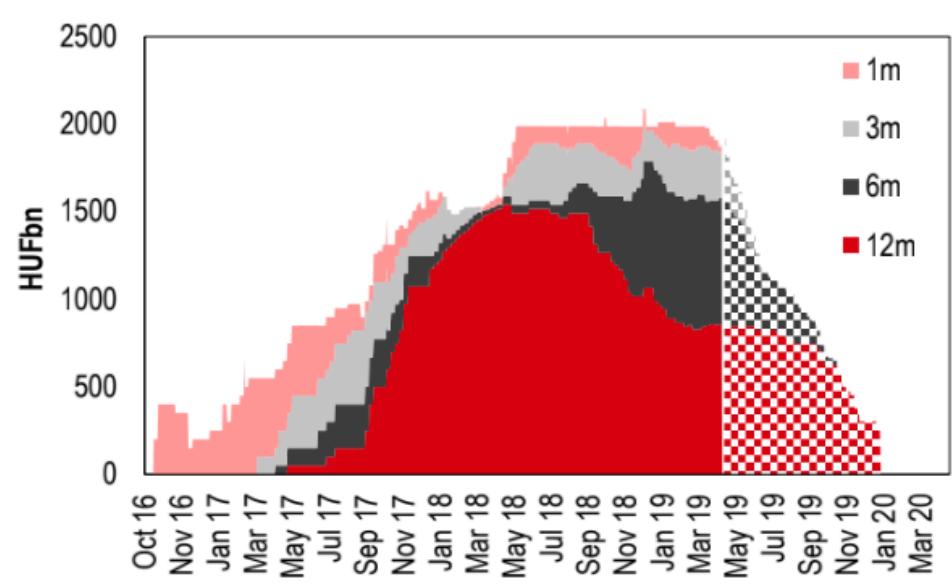
Source: HSBC, Bloomberg. Note: Bubble size represents outstanding amount of bond; dark grey shading indicates current benchmark issues

**Figure 9. FX implied yields on the rise**



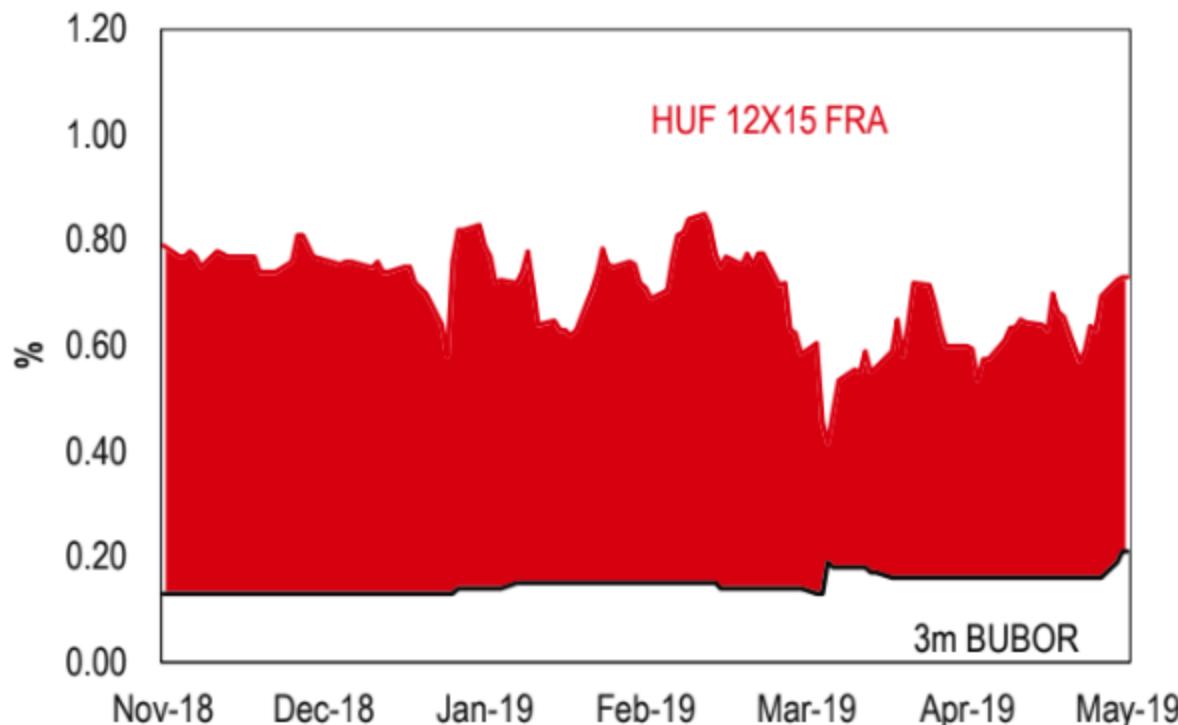
Source: HSBC, Bloomberg

**Figure 10. FX swap run-off potential remains large**



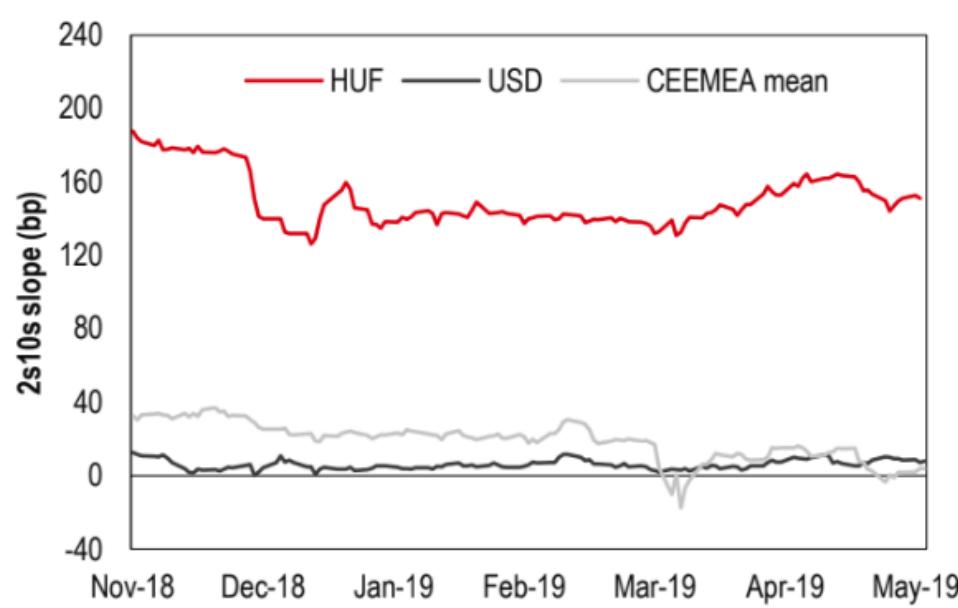
Source: HSBC calculations, NBH

## Hungary front-end pricing



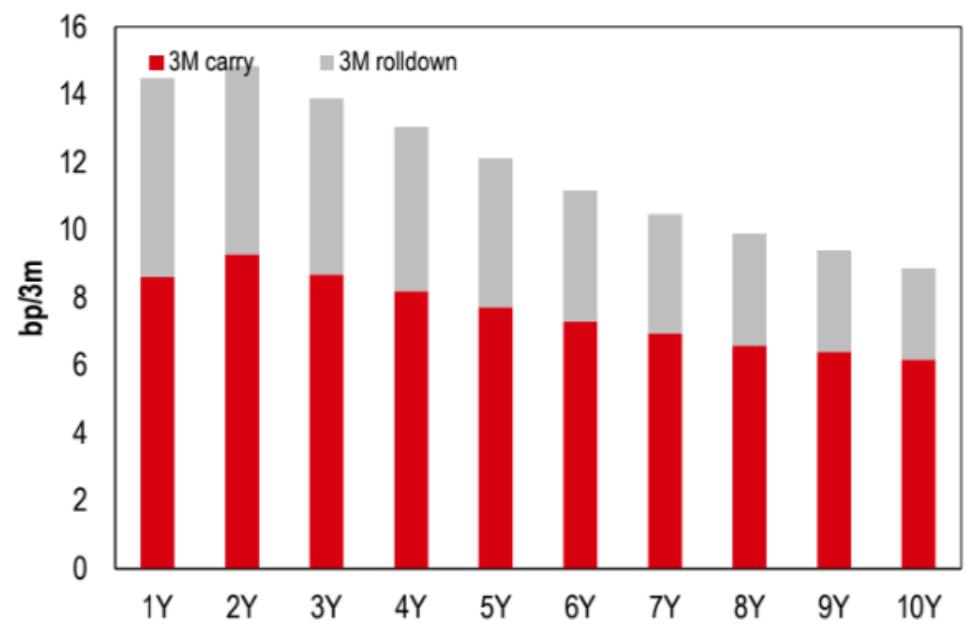
Source: HSBC, Bloomberg

## HUF IRS curve slope vs peers/US



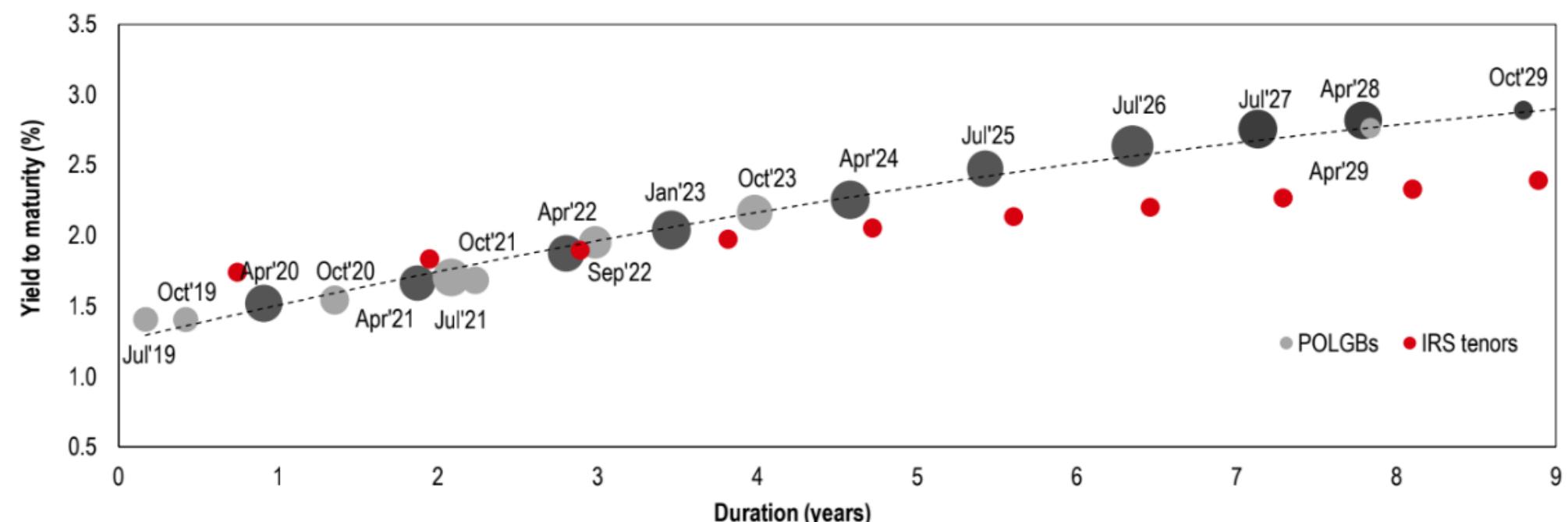
Source: HSBC, Bloomberg

## 3m carry and roll-down on the swap curve



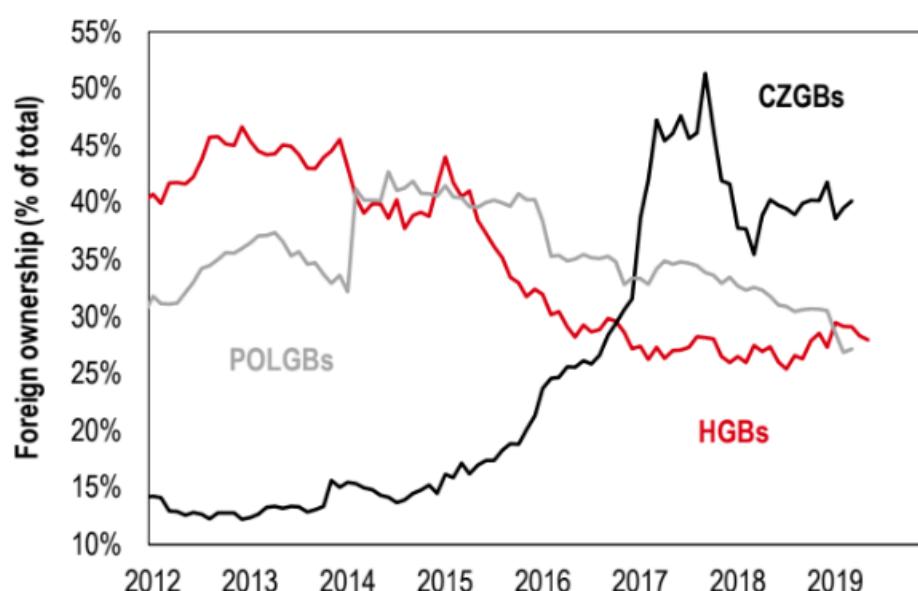
Source: HSBC, Bloomberg

## POLGB curve



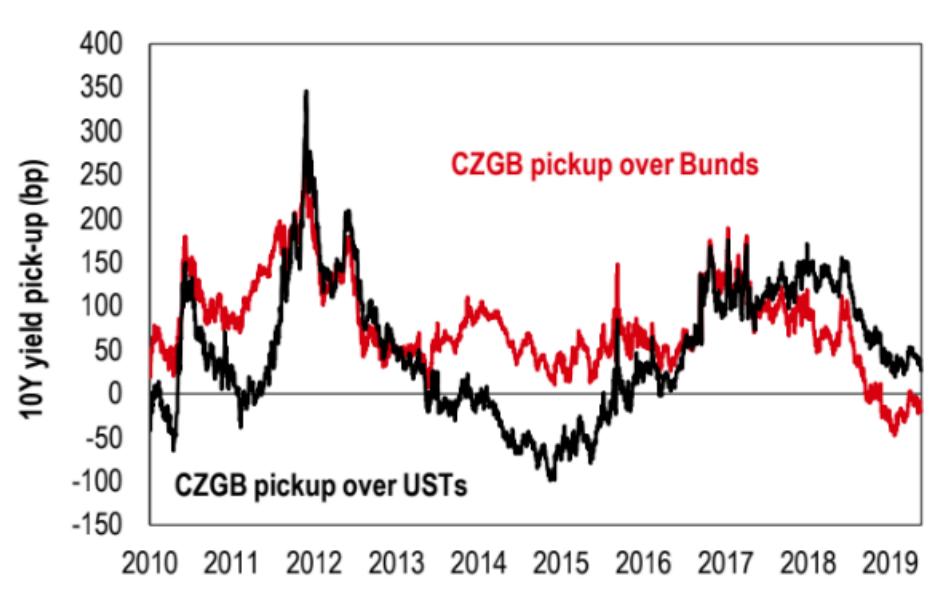
Source: HSBC, Bloomberg. Note: bubble size represents outstanding amount of bond; dark grey shading indicates current benchmark issues

Figure 15. Positioning remains heavy in CZGBs vs peers



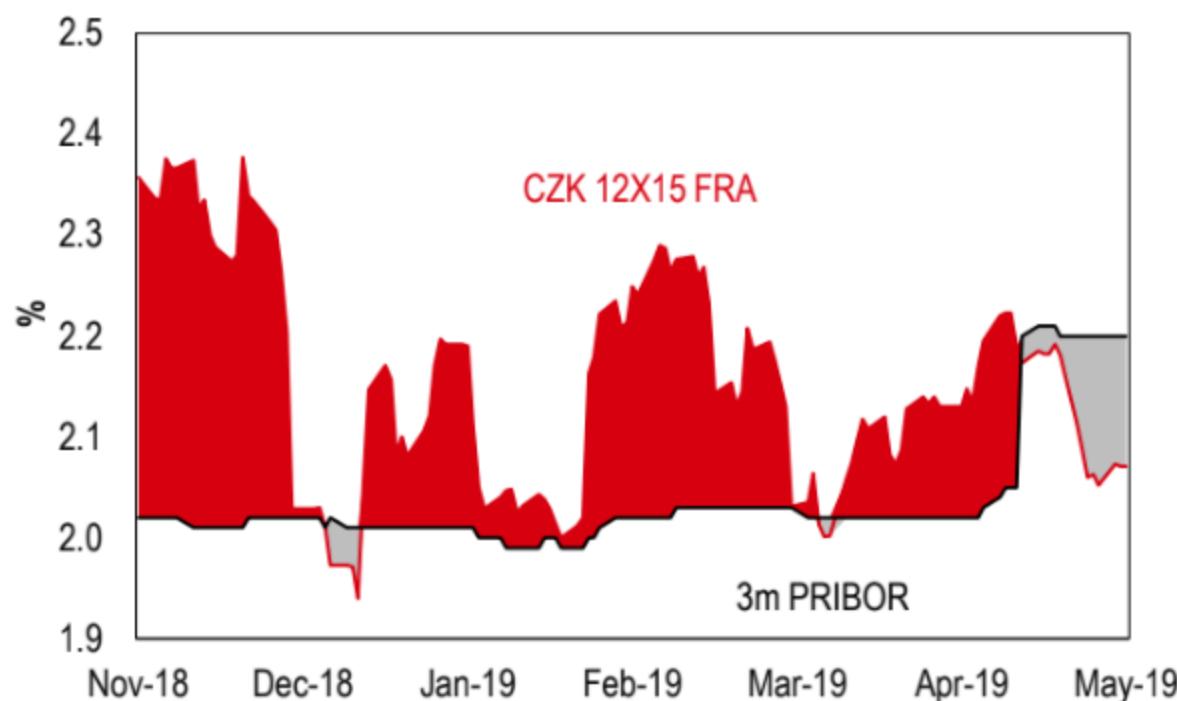
Source: HSBC, CNB

Figure 16. Long-end valuations look rich for EUR investors



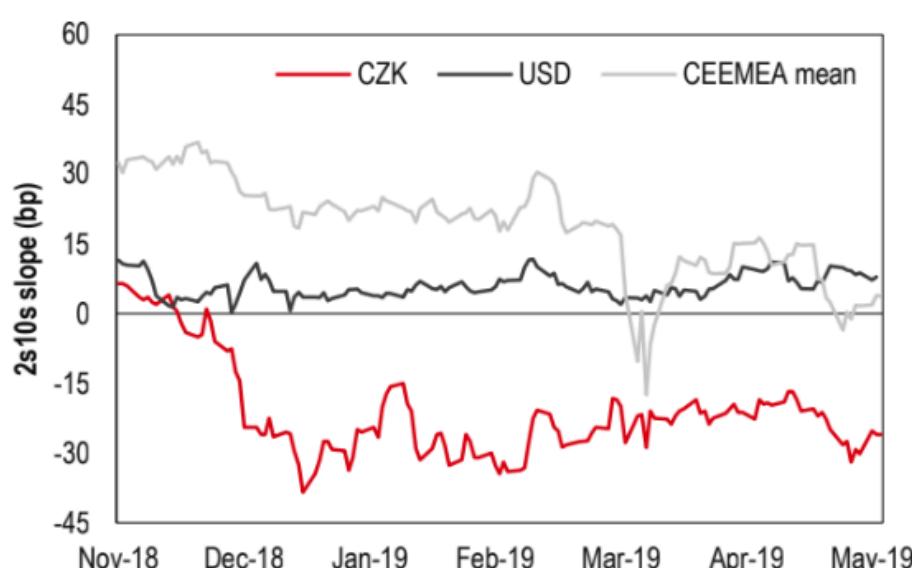
Source: HSBC, Bloomberg, CNB. Note: 1y FX hedge used

## Czech front-end pricing



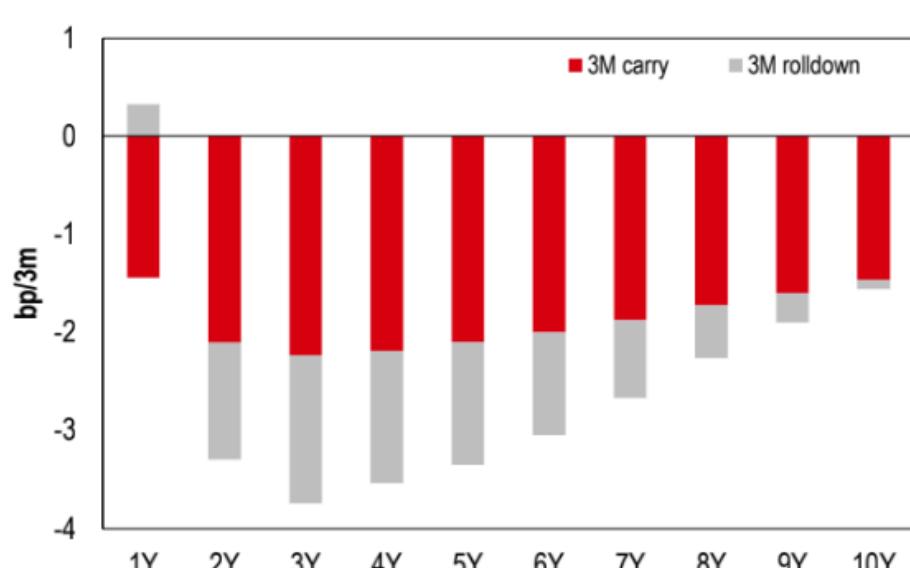
Source: HSBC, Bloomberg

## CZK IRS curve slope vs peers/US



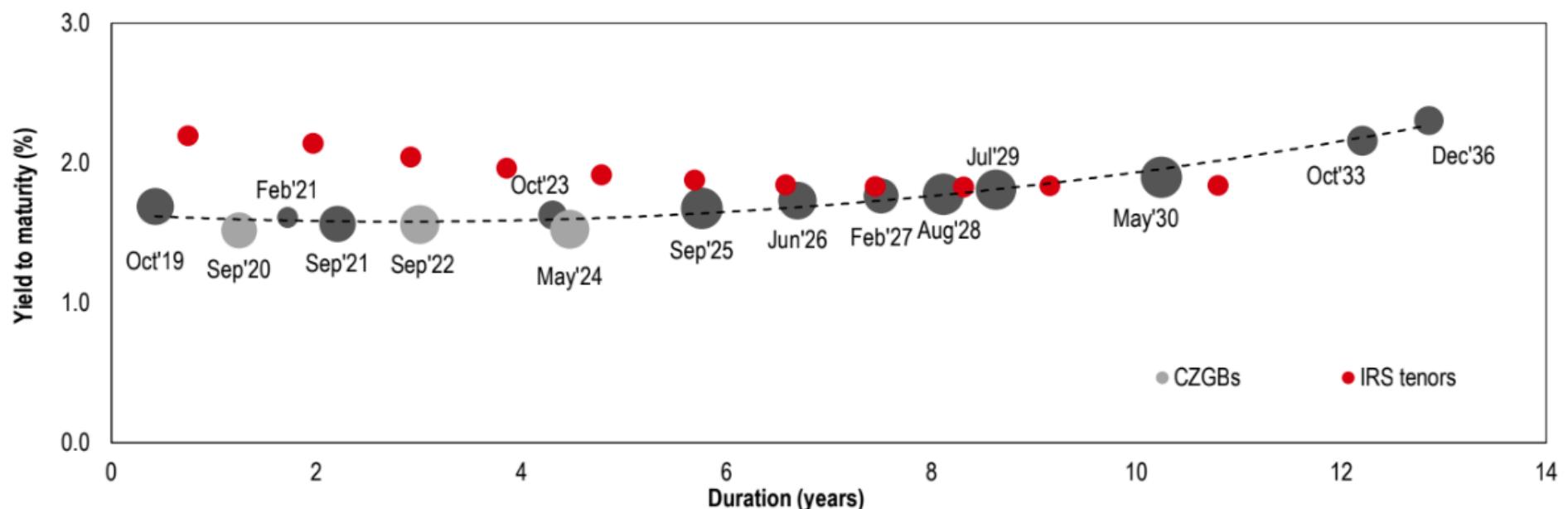
Source: HSBC, Bloomberg

## 3m carry and roll-down on the swap curve



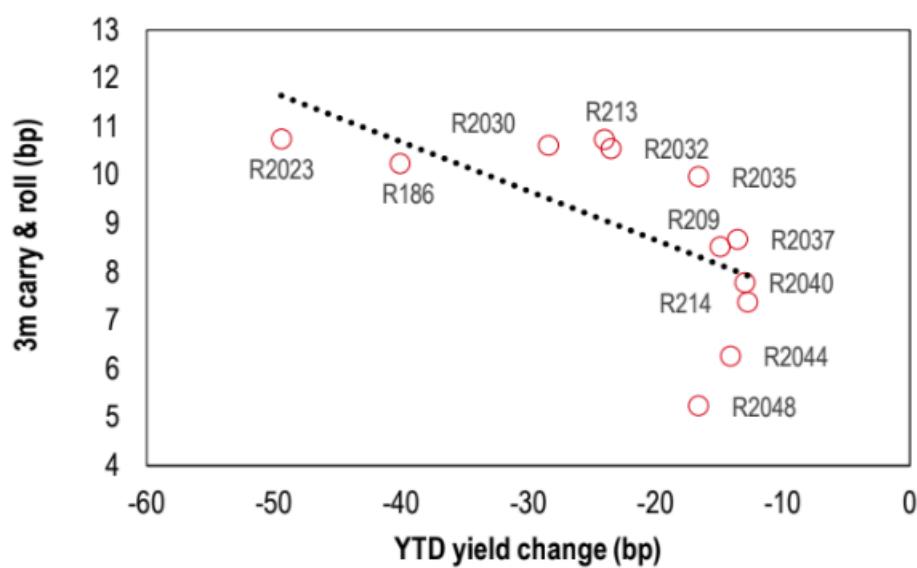
Source: HSBC, Bloomberg

## CZGB curve



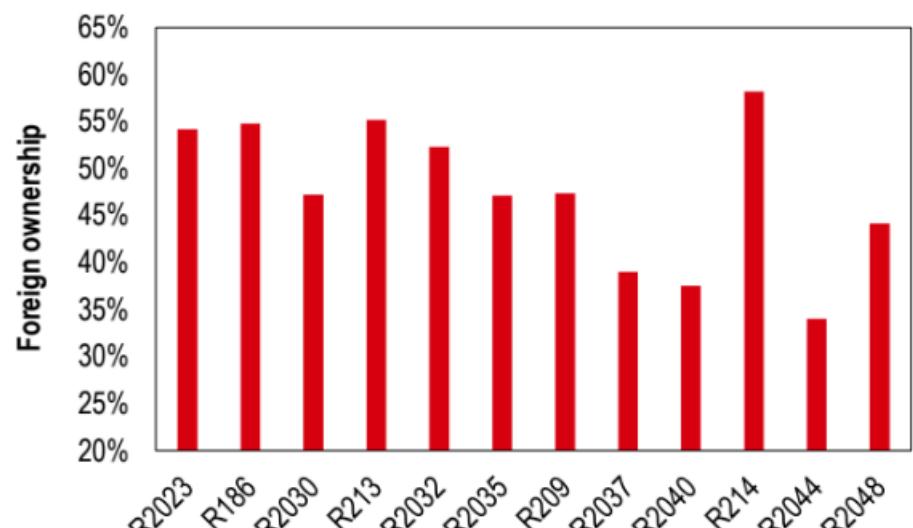
Source: HSBC, Bloomberg. Note: Bubble size represents outstanding amount of bond; dark grey shading indicates current benchmark issues

**Figure 17. YTD performance vs carry**



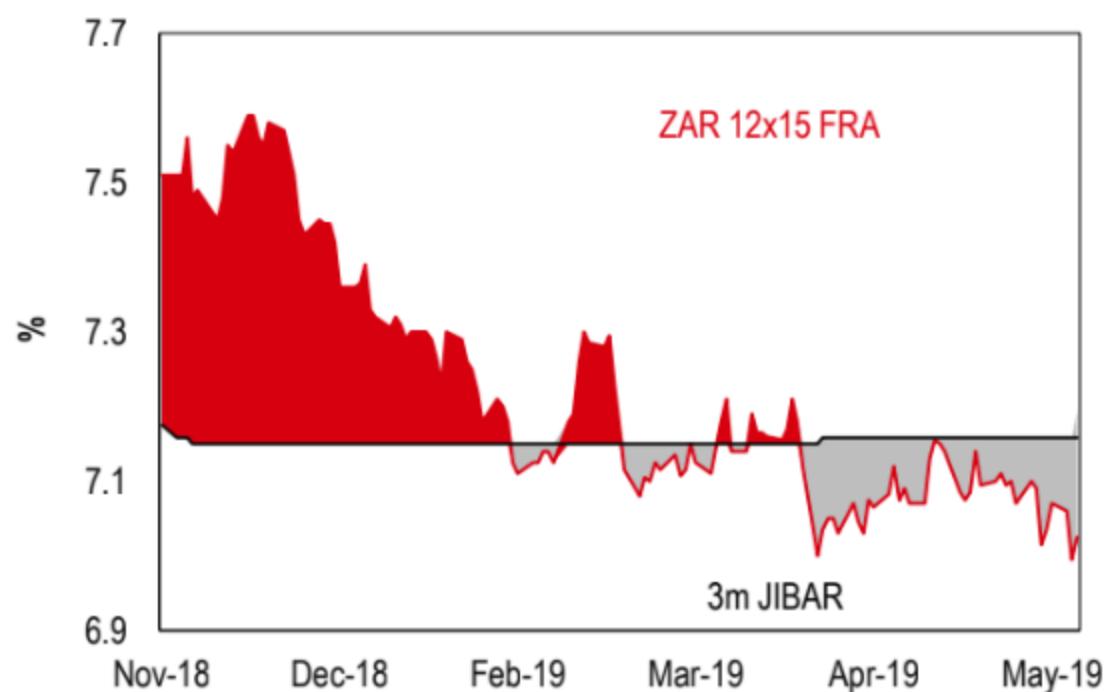
Source: HSBC, Bloomberg

**Figure 18. SAGB foreign ownership by bonds**



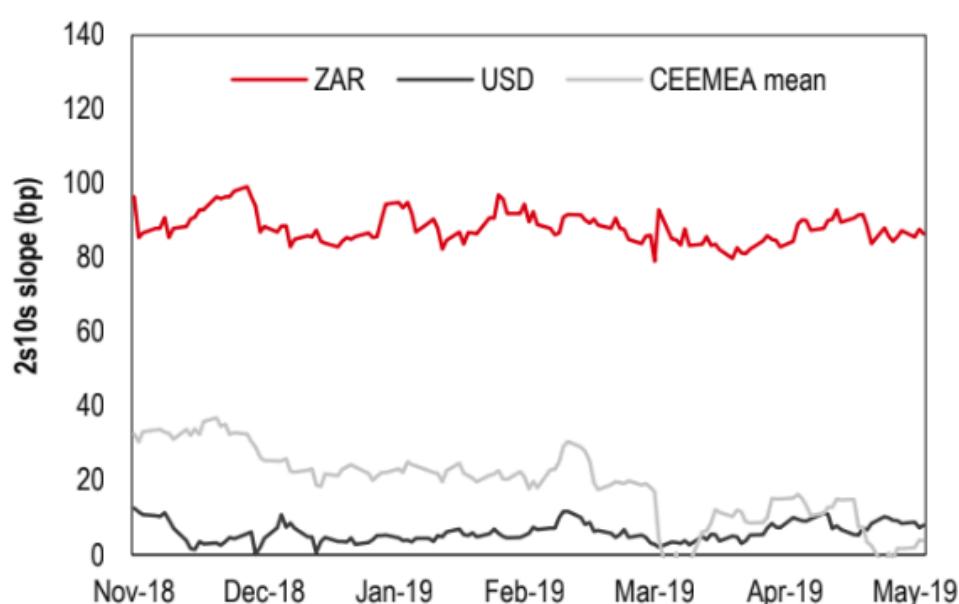
Source: HSBC, Bloomberg

## South Africa front-end pricing



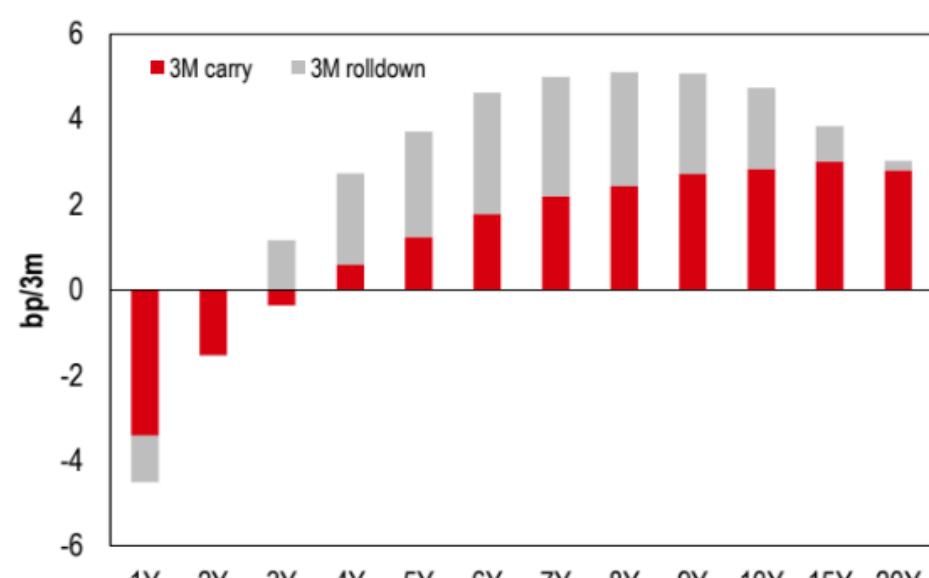
Source: HSBC, Bloomberg

## ZAR IRS curve slope versus peers/US



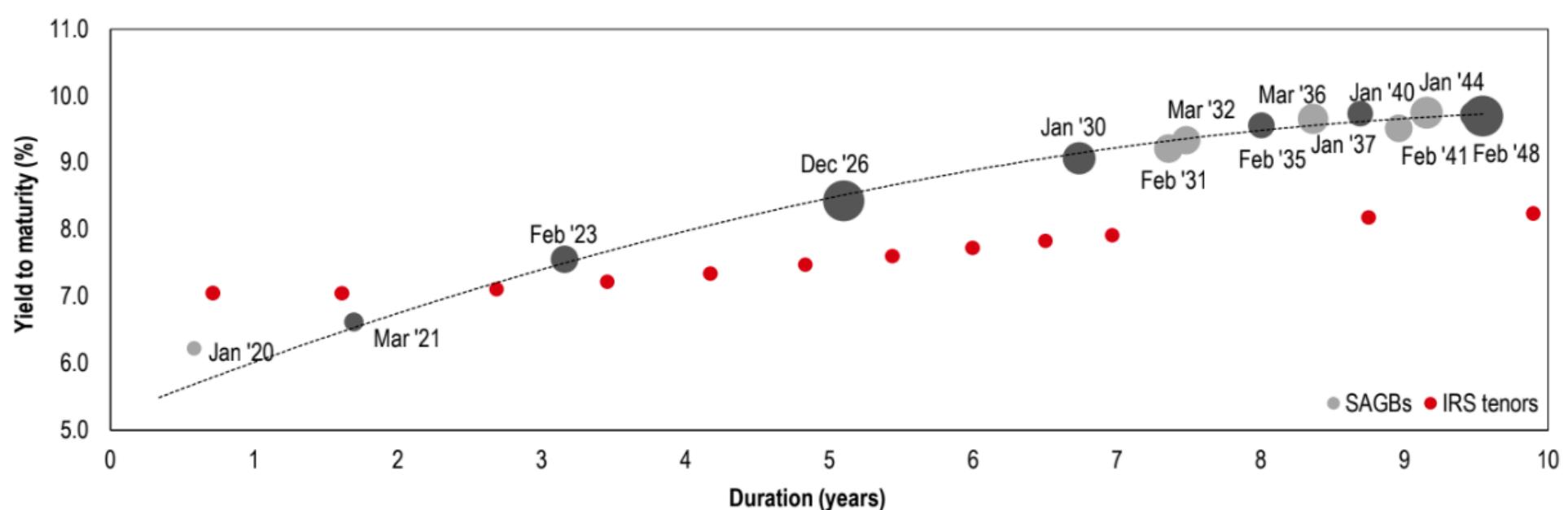
Source: HSBC, Bloomberg

## 3m carry and roll-down on the swap curve



Source: HSBC, Bloomberg

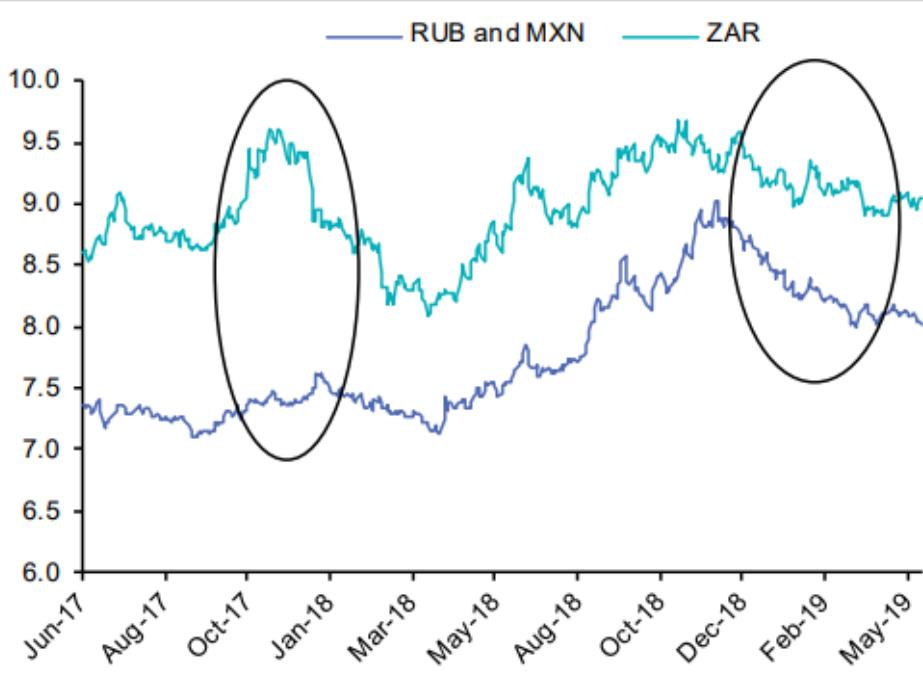
## SAGB curve



Source: HSBC, Bloomberg. Note: Bubble size represents outstanding amount of bond; dark grey shading indicates current benchmark issues

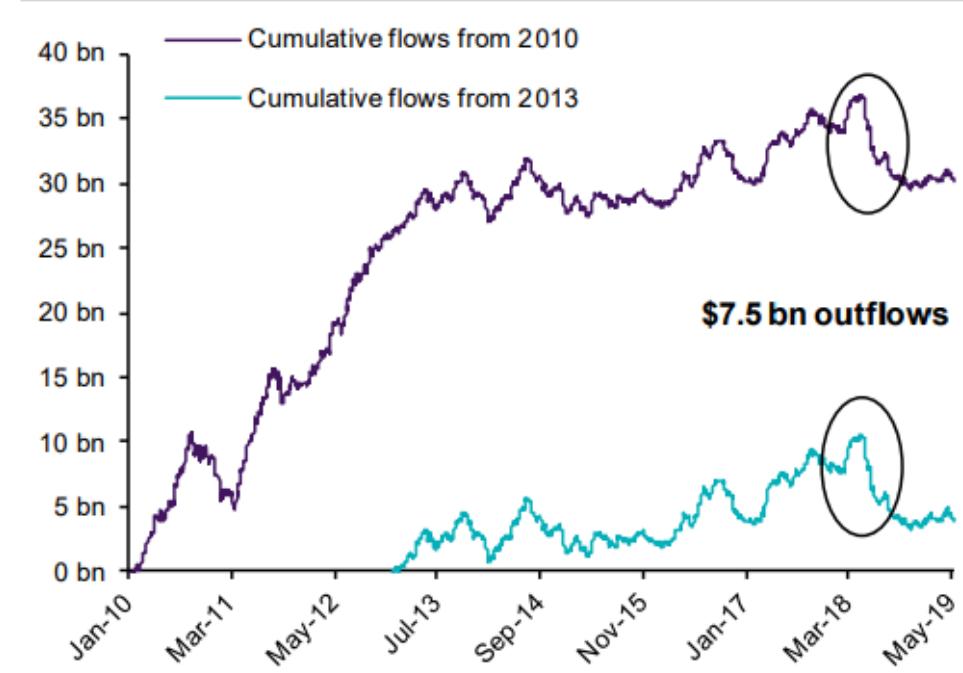
**Chart 1: SAGBs outperformed peers during 1Q18, underperformed 2H18 and 1Q19 (generic 10y yields, %)**

Source: Bloomberg, NatWest Markets



**Chart 2: Cumulative non-resident flows to the bond market since 2010 and 2013 (bn USD)**

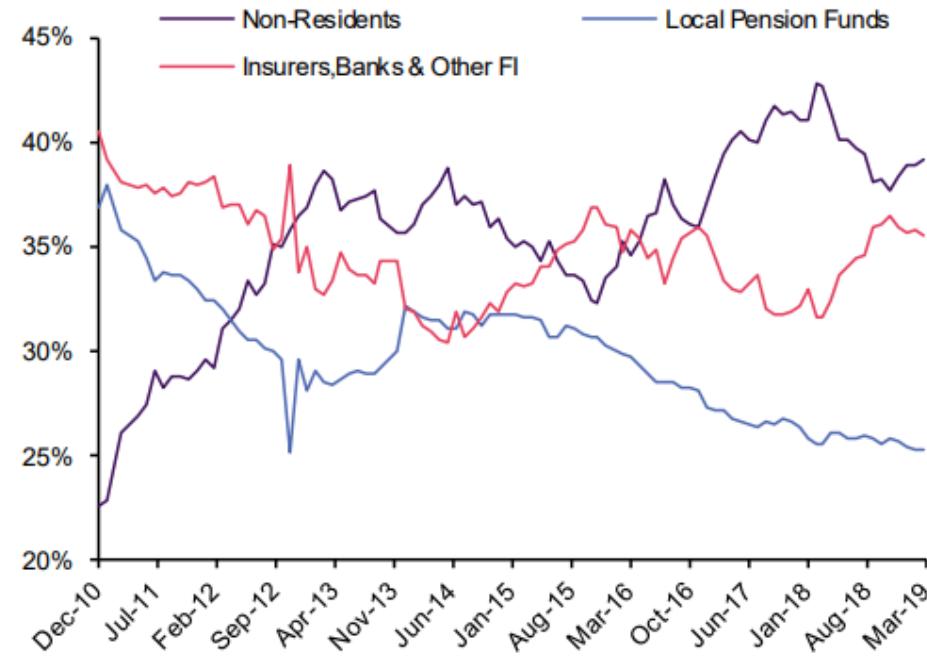
Source: Bloomberg, NatWest Markets



SAGBs had a big outperformance in 1Q2018 and underperformance in 1Q2019 (Chart 1). In this note, we look at 1/ bond market flow statistics by non-residents 2/ the stock statistics of bond market ownership and how that has been changing 3/ peer - carry – drawdown considerations vs history. **Our conclusion is that even though the stock of debt held by non-residents over the past 7-8 years has been high, the outflows in the second half of 2018 suggested the market may not be as bullish positioned on a 1-3 month horizon.** After all, those outflows were not followed with big inflows, even though the sentiment for global and EM fixed income has gotten more dovish since December. The next few months should provide an opportunity to test this hypothesis. On a more medium-term horizon, however, if the debt dynamics further deteriorate, the existing stock of non-resident positioning could weigh on performance with increased sensitivity around ratings / flows, etc.

### Chart 3: Non-resident ownership of SAGBs at 39%, while local pension ownership is down to 25%

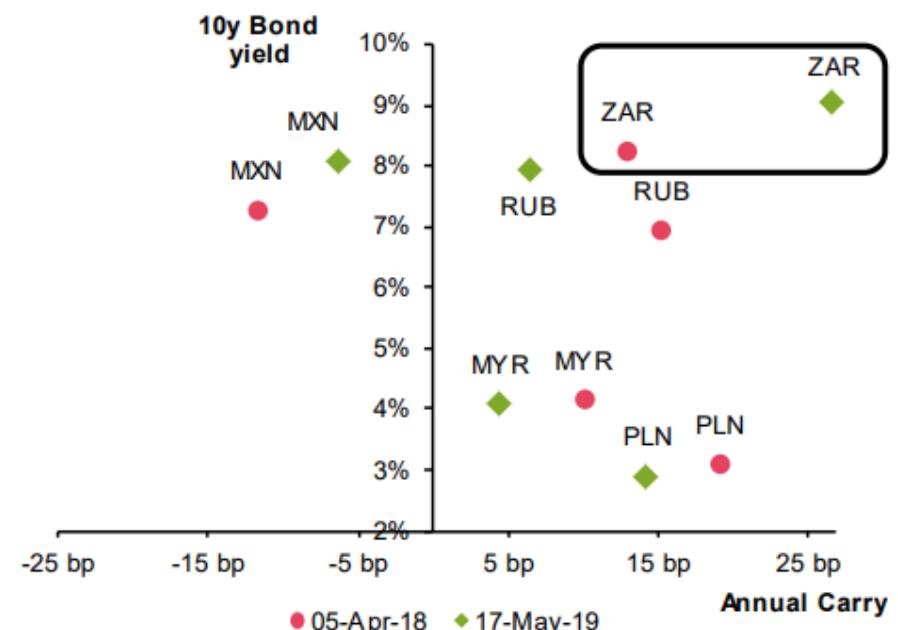
Source: National Treasury, NatWest Markets



### Chart 4: Annual Rate Carry of SAGBs vs some other EMs: Now vs April 2018

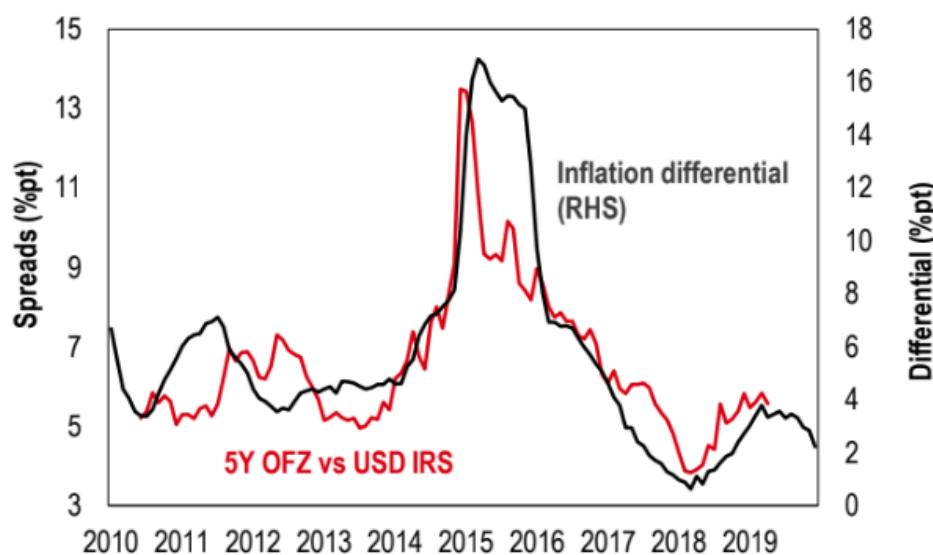
Per annum carry on 10y bonds compared to implied yields on FX forwards

Source: Bloomberg, NatWest Markets



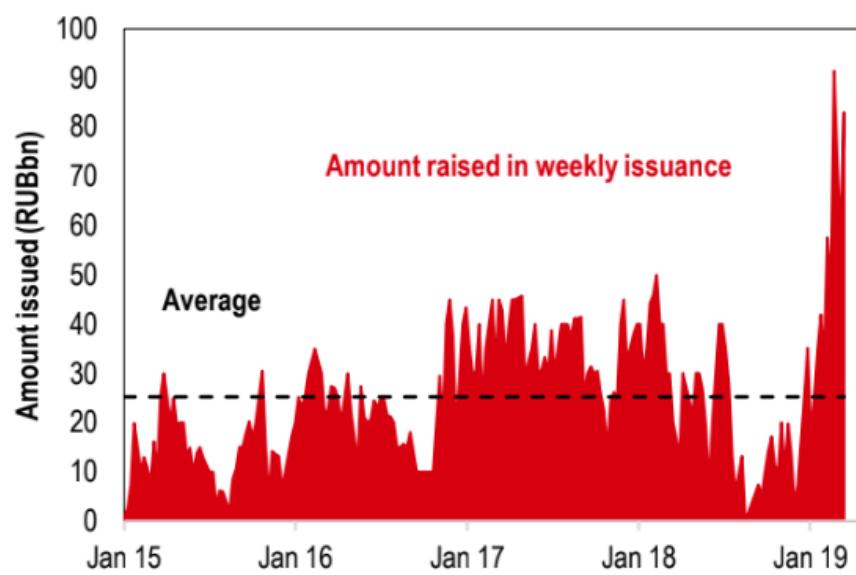
**3. Carry / relative yield level vs peers matter as well:** Another factor we believe should be considered is SAGB's carry. SAGB's rate carry has not been much higher than peers throughout 2013-2016. During 2018 SAGB rate carry was in line with some other EMs, however, it has recently outperformed as other EMs have been easing (Chart 4). We have shown in Table 2 in our previous note *South Africa: A Rates market needing growth* (see [here](#)) that for SAGBs the rate volatility has been relatively very benign over the last 12-months – unlike the USDZAR volatility vs other EM peers. For the past three years, the 10y part of the SAGB curve has stayed in the 8.5-9.5% range. Therefore, an FX-hedged positive rate carry of 26 bp per annum could matter when the volatility is not high. The steepness into 20y and 30y sectors (higher carry) should also support the positioning, given the break evens of FX-hedged rate positions' improve over time.

Figure 19. Inflation set to push OFZs lower



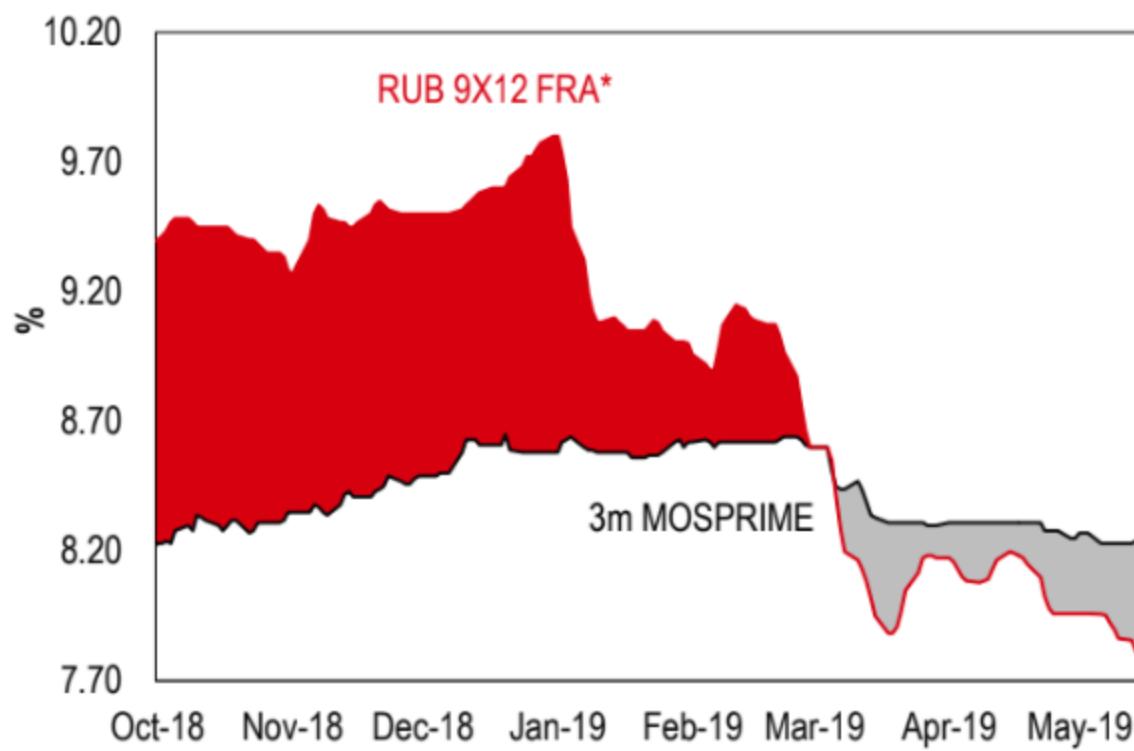
Source: HSBC, Finance Ministry

Figure 20 OFZ issuance well ahead of the 2019 plan



Source: HSBC, FinMin

## Russia front-end pricing



Source: HSBC, Bloomberg \*5d mavg used to smooth price fluctuations caused by poor liquidity

## Russia - Money-Market and Cross-Currency Swap curve

Contracts	Level	change since			z-score (1Y)	Carry/Roll over 3m			Carry/Roll Protection Ratio
		1d	7d	1m		B/E	Vol	Ratio	
3m FX Implied Yield	7.76	-3	5	-12	1.31	-	-	-	-
6m FX Implied Yield	7.61	2	1	-10	1.02	-42.0	35.7	-	50%
<b>Forward Implied yield</b>									
3m3m FX Implied yield	7.34	-2	0	-21	0.46	-42.0	61	-	51%
6m3m FX Implied yield	7.03	4	-2	-3	-0.22	-31.1	88	-	46%
9m3m FX Implied yield	7.04	-4	-12	-3	-0.22	0.9	98	0.01	40%
12m3m FX Implied yield	7.06	0	-2	3	-0.05	2.5	77	0.03	33%
15m3m FX Implied yield	6.97	0	-2	8	-0.20	-9.4	84	-	42%
<b>Top 2 Money Market Switches - Flatteners</b>									
6m3m - 12m3m	3	-4	0	6	0.62	33.6	27	1.23	23%
3m3m - 12m3m	-28	2	-2	25	-1.03	44.5	37	1.21	29%
<b>Top 2 Money Market Switches - Steepeners</b>									
12m3m - 15m3m	-9	0	0	4	-1.22	11.9	8	1.43	25%
9m3m - 15m3m	-7	4	10	11	0.19	10.3	30	0.34	46%
<b>Cross-Currency Swap curve</b>									
<b>Benchmark Cross-Currency Swaps</b>									
1Y XCCY	7.50	-1	-4	-11	0.36	-26.7	62	-	0%
2Y XCCY	7.31	1	-2	1	0.05	-9.6	76	-	38%
5Y XCCY	6.99	2	-12	10	-0.19	2.4	53	0.05	31%
10Y XCCY	6.80	4	1	9	-0.44	4.0	29	0.14	32%
1y1Y XCCY	7.10	1	-3	10	-0.28	-7.0	91	-	42%
2y2Y XCCY	6.79	-3	14	18	-0.49	-4.8	51	-	44%
5y5Y XCCY	6.61	3	-19	14	-0.21	6.1	38	0.16	41%
<b>Benchmark Cross-Currency Swap Slope Trades</b>									
1Y - 2Y XCCY	-19	2	2	12	-1.18	17.1	17	1.02	46%
1Y - 5Y XCCY	-51	3	-8	21	-0.84	29.1	17	1.69	43%
2Y - 5Y XCCY	-32	1	-10	9	-0.40	12.0	25	0.49	49%
2Y - 10Y XCCY	-51	3	3	8	-0.26	13.5	56	0.24	52%
5Y - 10Y XCCY	-19	2	13	-1	-0.11	1.6	32	0.05	54%
<b>Cross-Currency Swap curve in detail</b>									
1Y XCCY	7.50	-1	-4	-11	0.36	-26.7	62	-	0%
3m1Y XCCY	7.31	-1	-4	-7	-0.02	-19.0	82	-	42%
6m1Y XCCY	7.21	0	-5	1	-0.18	-9.8	90	-	39%
1y1Y XCCY	7.10	1	-3	10	-0.28	-7.0	91	-	42%
2y1Y XCCY	6.92	3	-34	19	-0.32	-2.6	61	-	43%
3y1Y XCCY	6.64	-10	65	17	-0.53	8.8	56	0.16	37%
2Y XCCY	7.31	1	-2	1	0.05	-9.6	76	-	38%
3m2Y XCCY	7.18	0	-7	3	-0.17	-13.1	84	-	39%
1y2Y XCCY	7.01	2	-18	14	-0.30	-4.9	76	-	39%
3Y XCCY	7.18	0	1	6	-0.04	-0.1	71	-	31%
3m3Y XCCY	7.08	0	-9	8	-0.22	-10.3	75	-	38%
1y3Y XCCY	6.90	-2	8	15	-0.40	-5.6	63	-	41%
2y3Y XCCY	6.74	2	2	16	-0.60	-3.0	38	-	43%
4Y XCCY	7.09	3	-11	9	-0.10	2.1	62	0.03	31%
5Y XCCY	6.99	2	-12	10	-0.19	2.4	53	0.05	31%
6Y XCCY	6.93	3	1	10	-0.25	3.7	46	0.08	30%
7Y XCCY	6.88	3	3	11	-0.29	3.4	39	0.09	31%
10Y XCCY	6.80	4	1	9	-0.44	4.0	29	0.14	32%
<b>IRS contracts (vs Mosprime)</b>									
1W	7.86	-4	1	-14	0.76				
3m Fixing	8.23	0	-4	-8	0.29				
1x4 FRA	8.28	0	0	-3	0.15				
3x6 FRA	8.05	0	-7	-25	-0.57	-23.0	67	-	46%
6x9 FRA	7.97	0	-8	-23	-0.84	-8.0	101	-	43%
9x12 FRA	7.87	0	-9	-23	-0.98	-10.0	119	-	44%
1Y	8.23	-2	-9	-22	-0.65	-9.6	84	-	37%
2Y	8.23	-5	-10	-11	-0.76	-0.1	100	-	33%
3Y	8.31	-2	-7	-2	-0.72	2.1	97	0.02	33%
5Y	8.52	0	-3	7	-0.53	2.4	84	0.03	36%
10Y	8.89	-2	-3	27	0.08	3.7	64	0.06	38%
<b>Basis swaps (XCCY - IRS) in bps</b>									
1Y	-73	1	5	11	2.01	-17.1	43	-	60%
2Y	-92	6	8	12	1.74	-9.5	49	-	59%
3Y	-113	2	8	8	1.43	-2.2	49	-	57%
EV	-1e2	2	0	2	0.70	0.0	46	-	56%

Time series of contract with highest z-score (1 year)



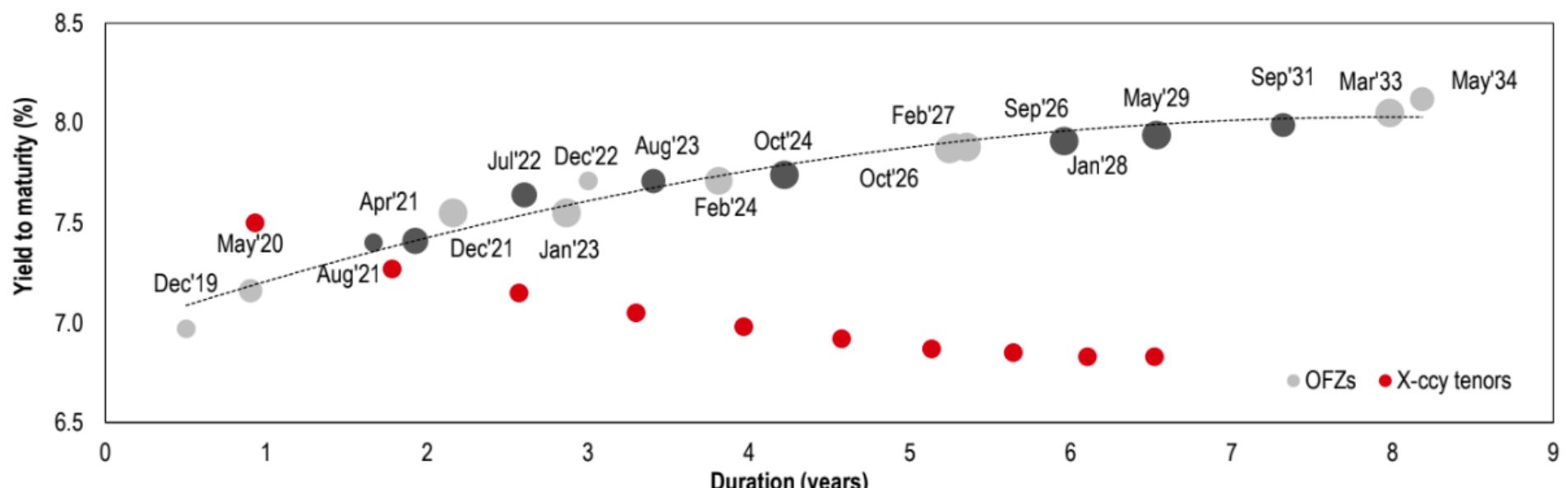
Note: slope trades in bps, outright trades in %

Time series of contract with lowest z-score (1 year)



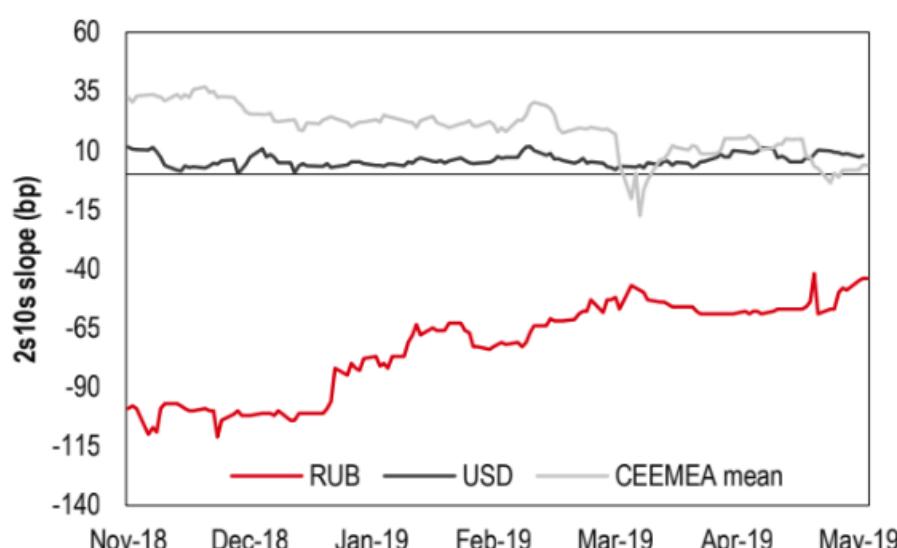
Note: slope trades in bps, outright trades in %

## OFZ curve



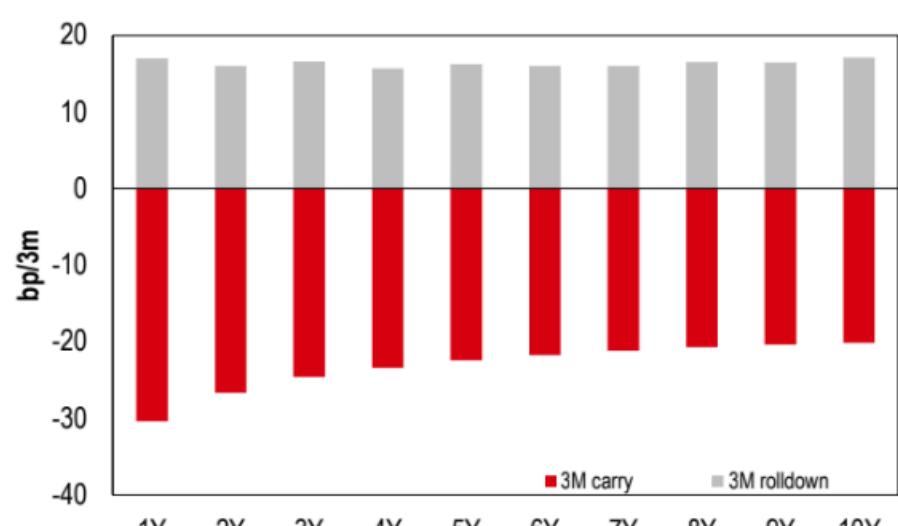
Source: HSBC, Bloomberg. Note: bubble size represents outstanding amount of bond; dark grey shading indicates current benchmark issues

## RUB X-ccy curve slope vs peers/US



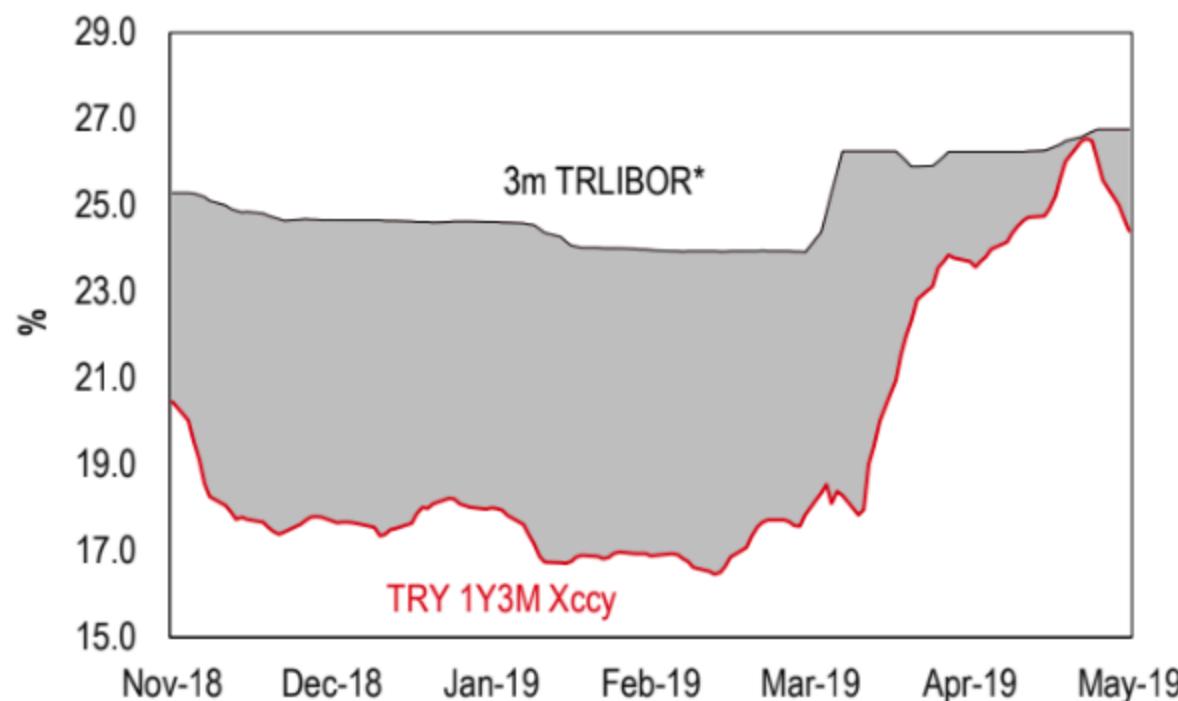
Source: HSBC, Bloomberg

## 3m carry and roll-down on the X-ccy curve



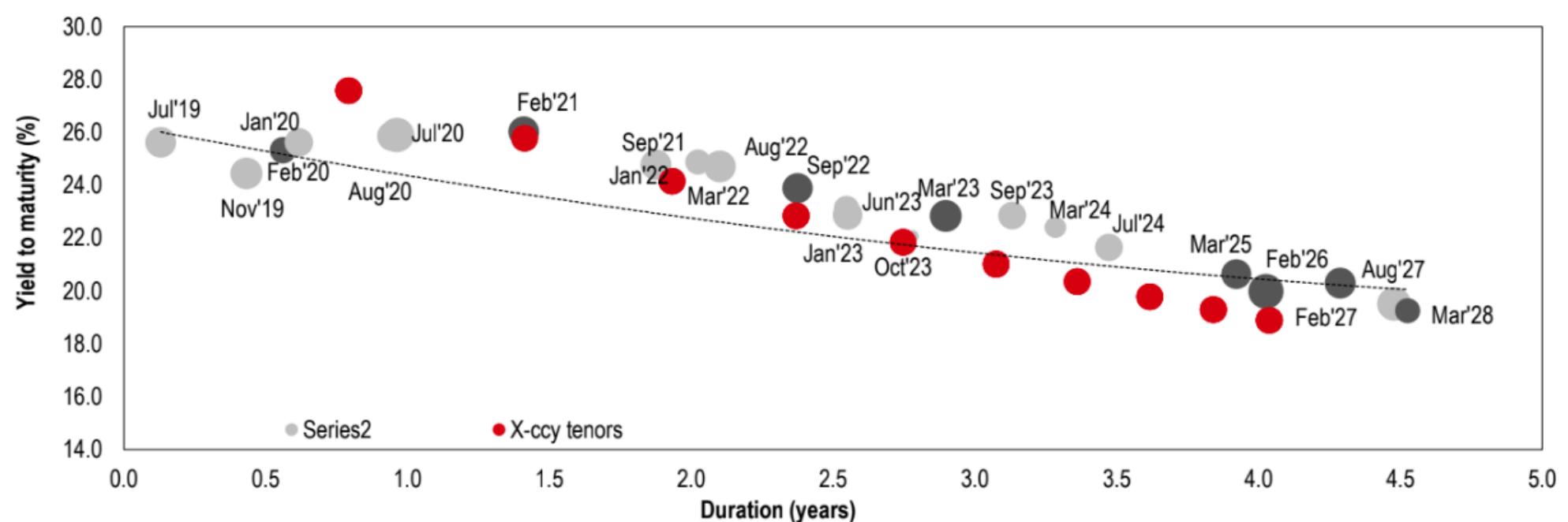
Source: HSBC, Bloomberg

## Turkey front-end pricing



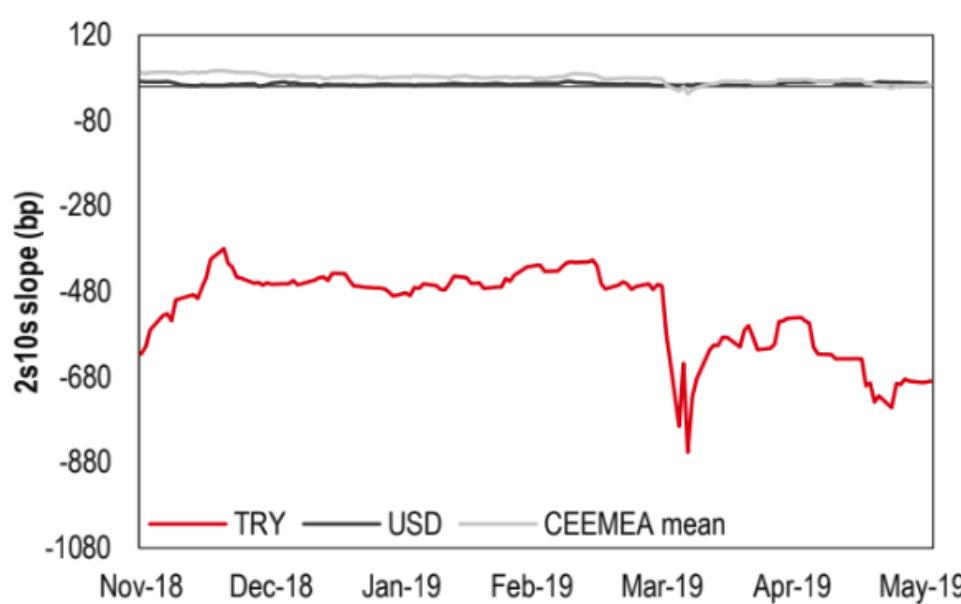
Source: HSBC, Bloomberg. Note: \*5d avg used to smooth price fluctuations caused by poor liquidity.

## TURKGB curve



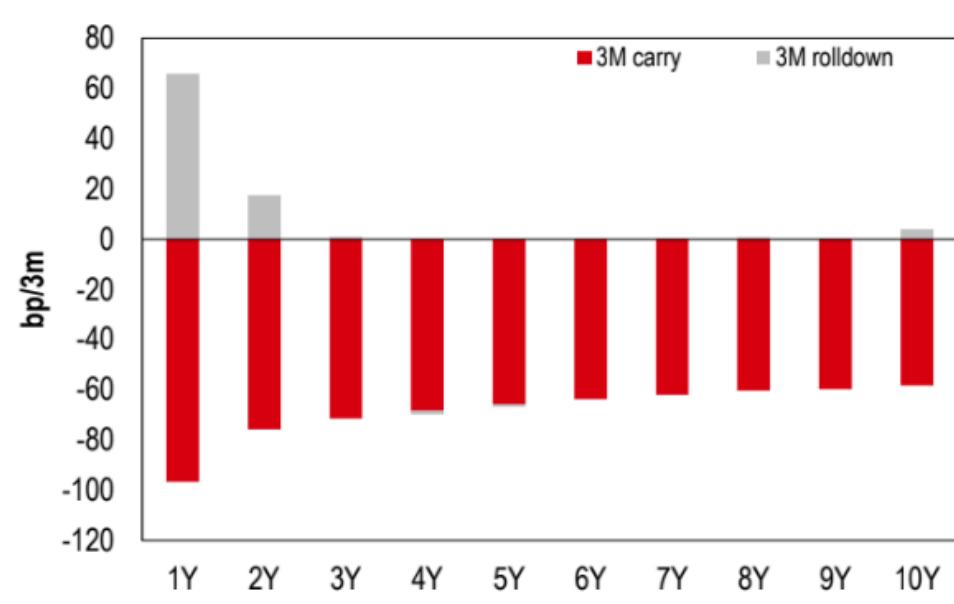
Source: HSBC, Bloomberg. Note: Bubble size represents outstanding amount of bond; dark grey shading indicates current benchmark issues.

## TRY X-ccy curve slope vs peers/US



Source: HSBC, Bloomberg

## 3m carry and roll-down on the X-ccy curve

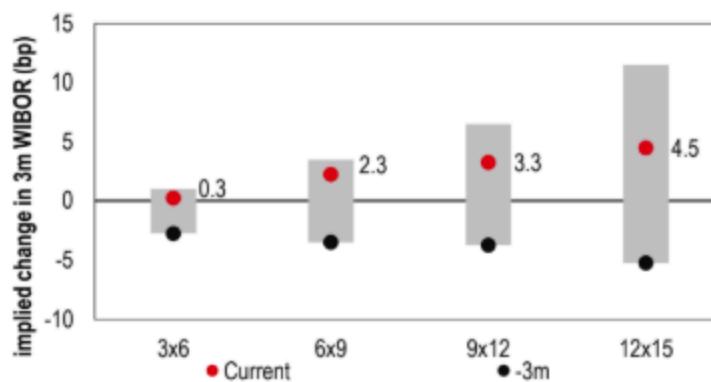


Source: HSBC, Bloomberg



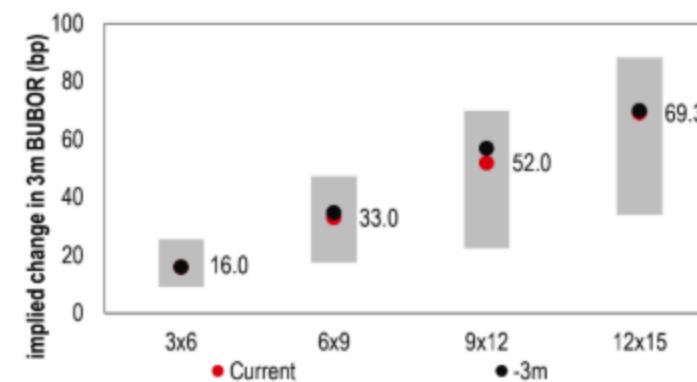
## Front-end pricing (contd)

**Figure A7. Poland FRA pricing in 3-month range**



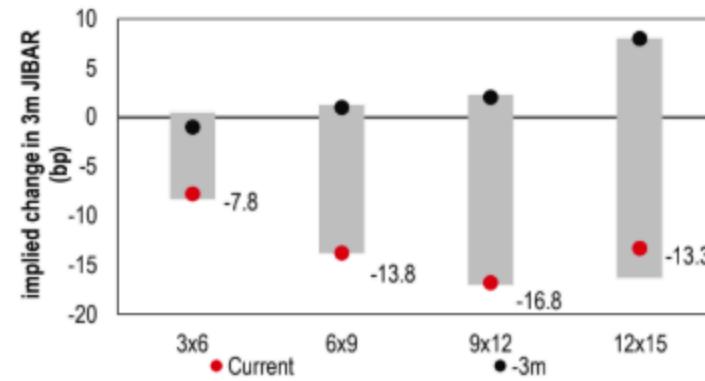
Source: HSBC, Bloomberg

**Figure A8. Hungary FRA pricing in 3-month range**



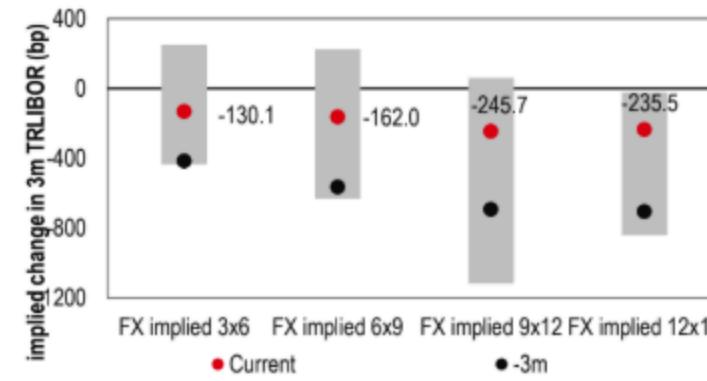
Source: HSBC, Bloomberg

**Figure A9. South Africa FRA pricing in 3-month range**



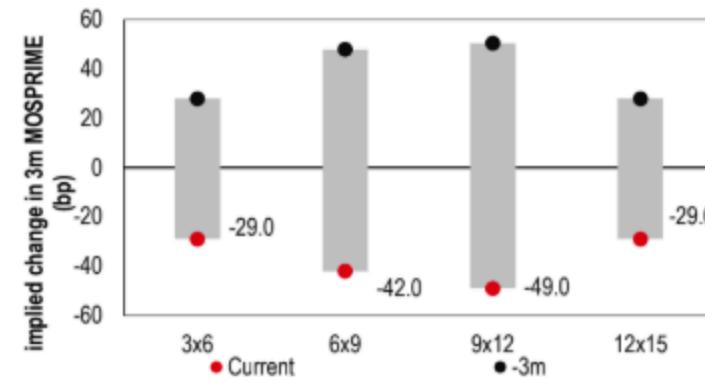
Source: HSBC, Bloomberg

**Figure A10. Turkey front-end pricing in 3-month range**



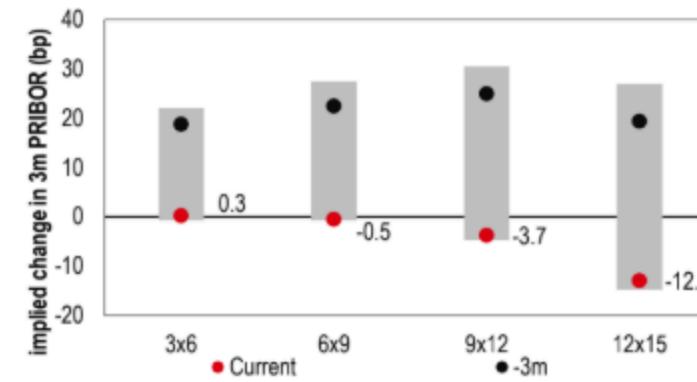
Source: HSBC, Bloomberg

**Figure A11. Russia FRA pricing in 3-month range**



Source: HSBC, Bloomberg

**Figure A12. Czech Republic FRA pricing in 3-month range**



Source: HSBC, Bloomberg

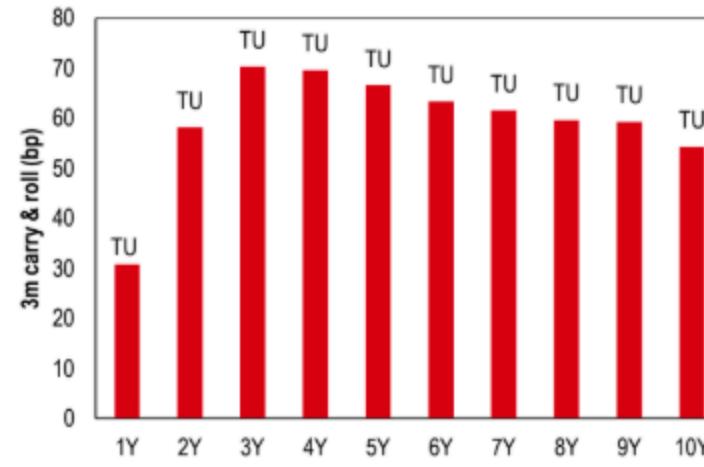
## Carry and roll-down (contd)

**Figure A25. Best carry and roll receiver by tenor**



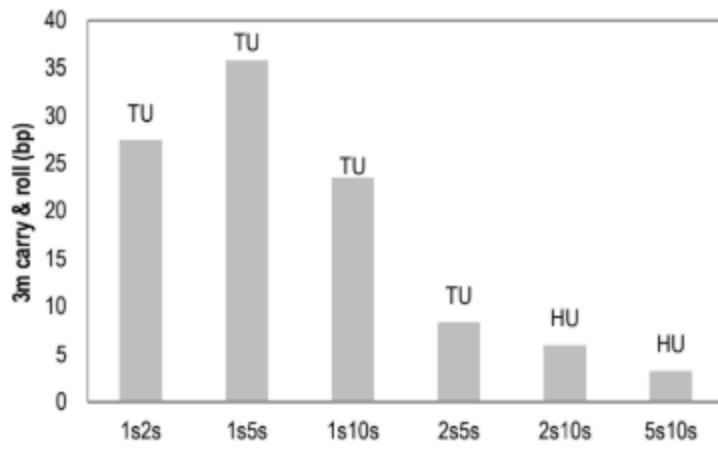
Source: HSBC, Bloomberg

**Figure A26. Best carry and roll payer by tenor**



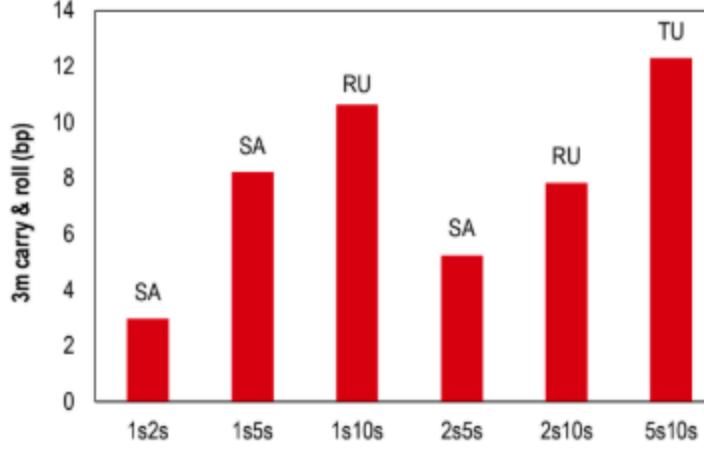
Source: HSBC, Bloomberg

**Figure A27. Best carry and roll steepener**



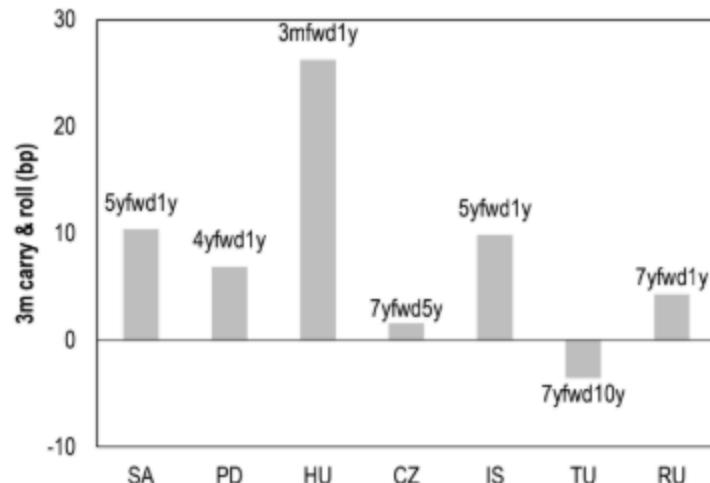
Source: HSBC, Bloomberg

**Figure A28. Best carry and roll flattener**



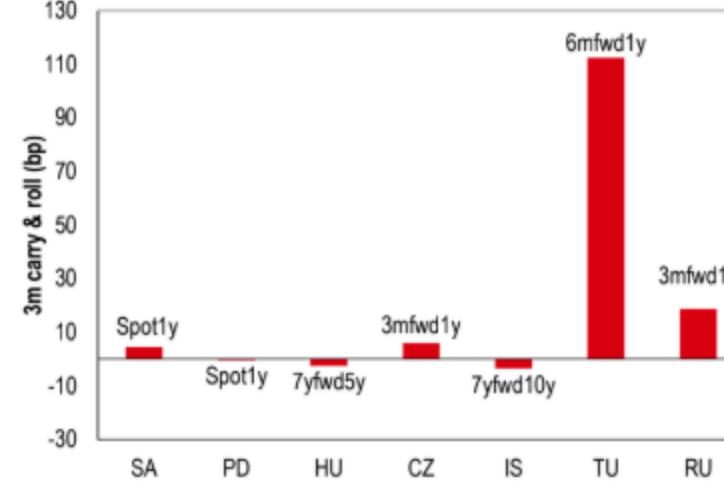
Source: HSBC, Bloomberg

**Figure A29. Best receiver by country**



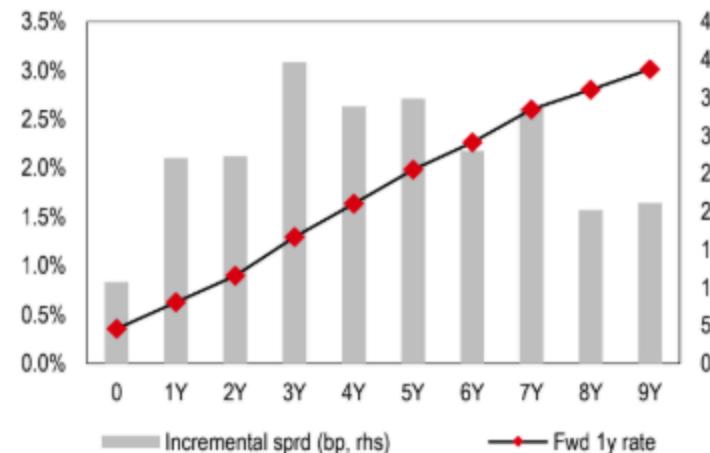
Source: HSBC, Bloomberg

**Figure A30. Best payer by country**



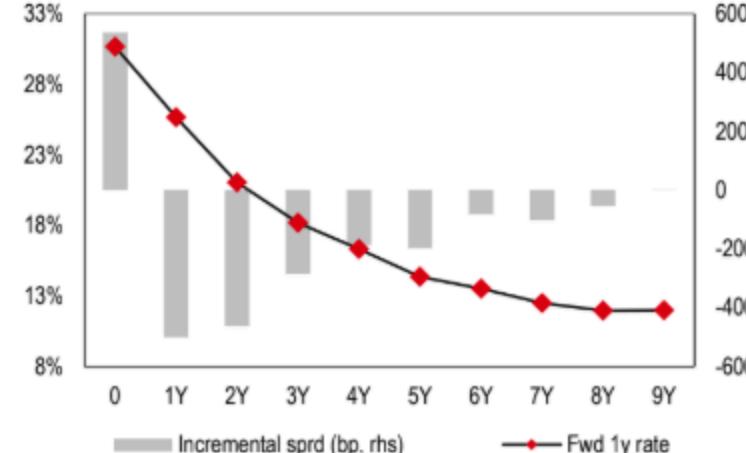
Source: HSBC, Bloomberg

**Figure A35. ILS curve decomposed**

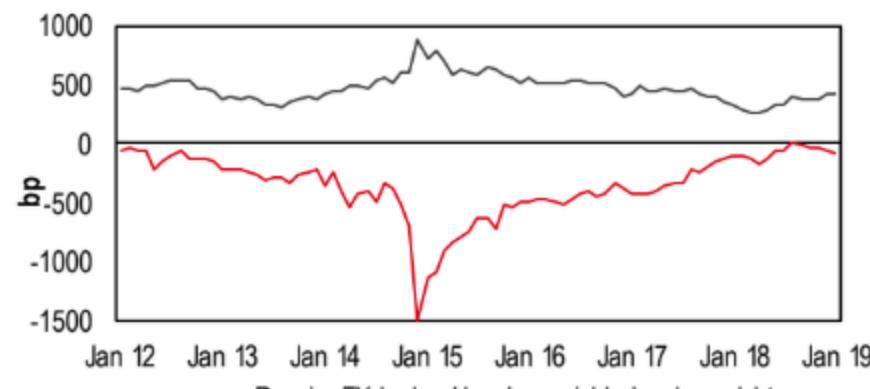


Source: HSBC, Bloomberg

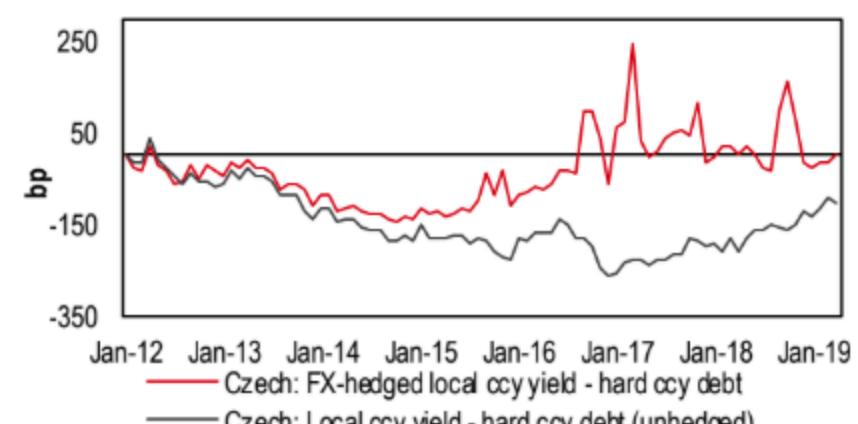
**Figure A36. TRY curve\* decomposed**



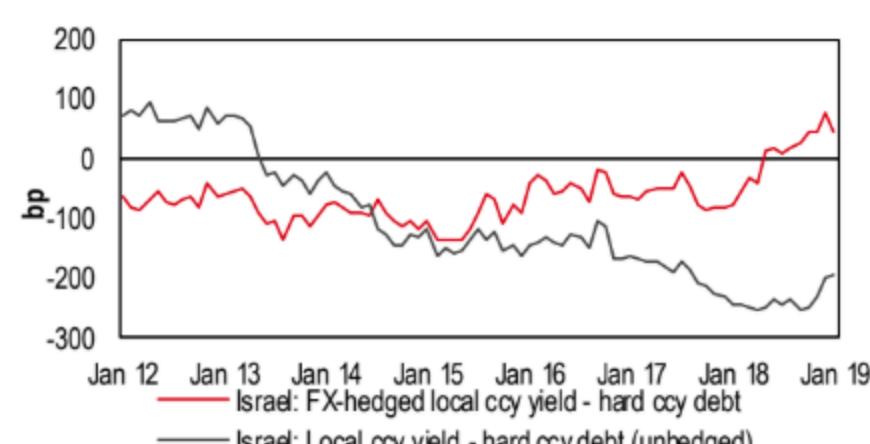
Source: HSBC, Bloomberg, \*X-ccy curve used

**Figure A41. Russia**

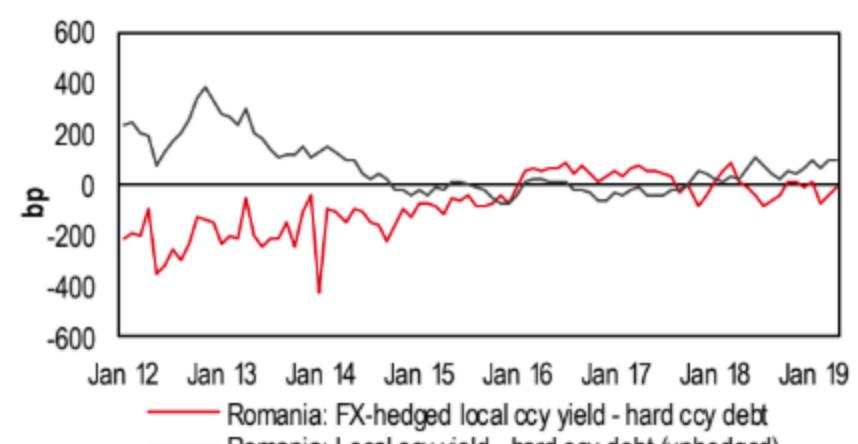
Source: HSBC, Bloomberg, \*(Lcl 5Y yield hedged into USD using 3m fwds) / (5Y CDS + 5Y UST)

**Figure A42. Czech Republic**

Source: HSBC, Bloomberg, \*(Lcl 5Y yield hedged into USD using 3m fwds) / (5Y CDS + 5Y UST)

**Figure A43. Israel**

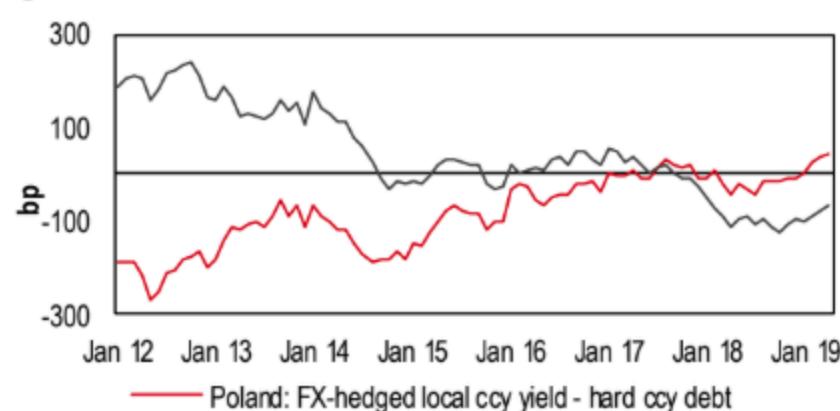
Source: HSBC, Bloomberg, \*(Lcl 5Y yield hedged into USD using 3m fwds) / (5Y CDS + 5Y UST)

**Figure A44. Romania**

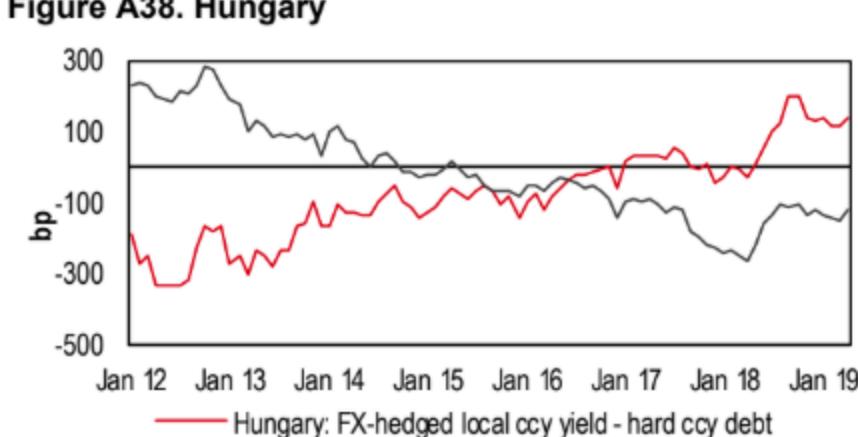
Source: HSBC, Bloomberg, \*(Lcl 5Y yield hedged into USD using 3m fwds) / (5Y CDS + 5Y UST)


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## Local currency vs hard currency debt

**Figure A37. Poland**

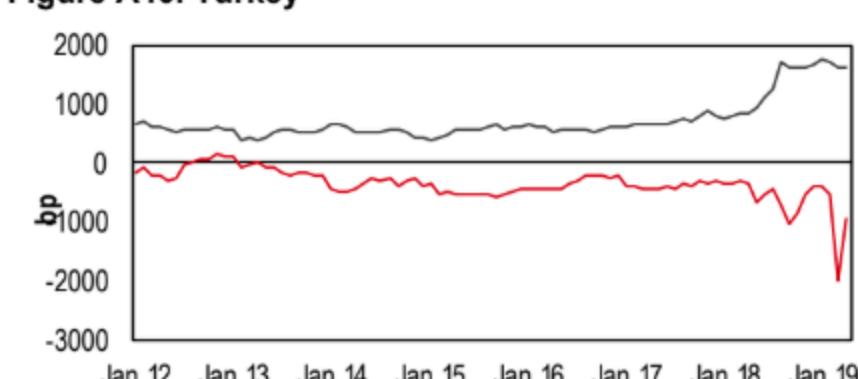
Source: HSBC, Bloomberg, \*(Lcl 5Y yield hedged into USD using 3m fwds) / (5Y CDS + 5Y UST)

**Figure A38. Hungary**

Source: HSBC, Bloomberg, \*(Lcl 5Y yield hedged into USD using 3m fwds) / (5Y CDS + 5Y UST)

**Figure A39. South Africa**

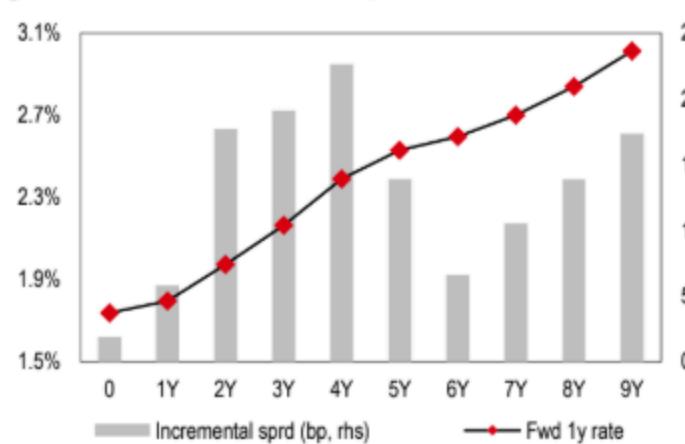
Source: HSBC, Bloomberg, \*(Lcl 5Y yield hedged into USD using 3m fwds) / (5Y CDS + 5Y UST)

**Figure A40. Turkey**

Source: HSBC, Bloomberg, \*(Lcl 5Y yield hedged into USD using 3m fwds) / (5Y CDS + 5Y UST)

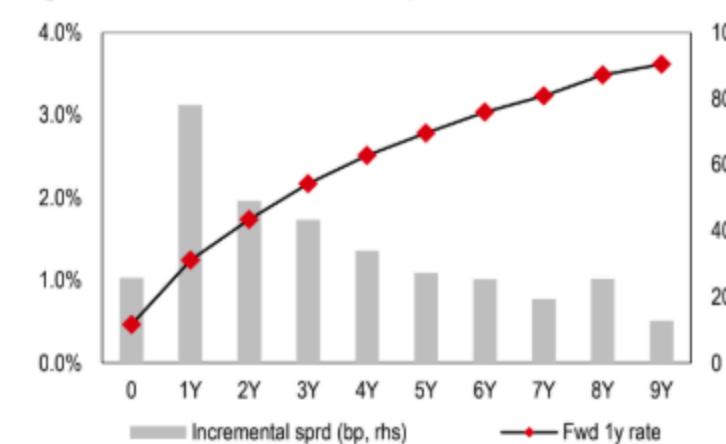
## Forward swap curves

**Figure A31. PLN curve decomposed**



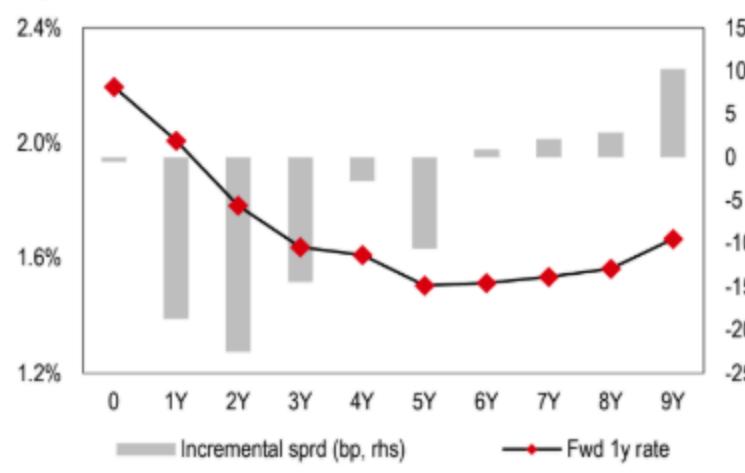
Source: HSBC, Bloomberg

**Figure A32. HUF curve decomposed**



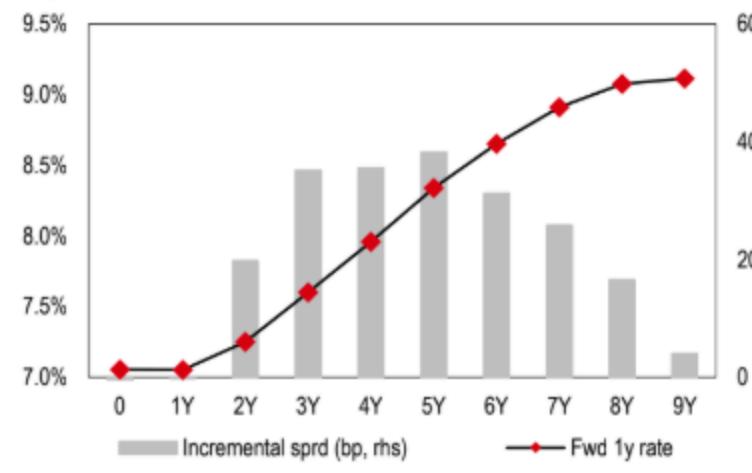
Source: HSBC, Bloomberg

**Figure A33. CZK curve decomposed**



Source: HSBC, Bloomberg

**Figure A34. ZAR curve decomposed**



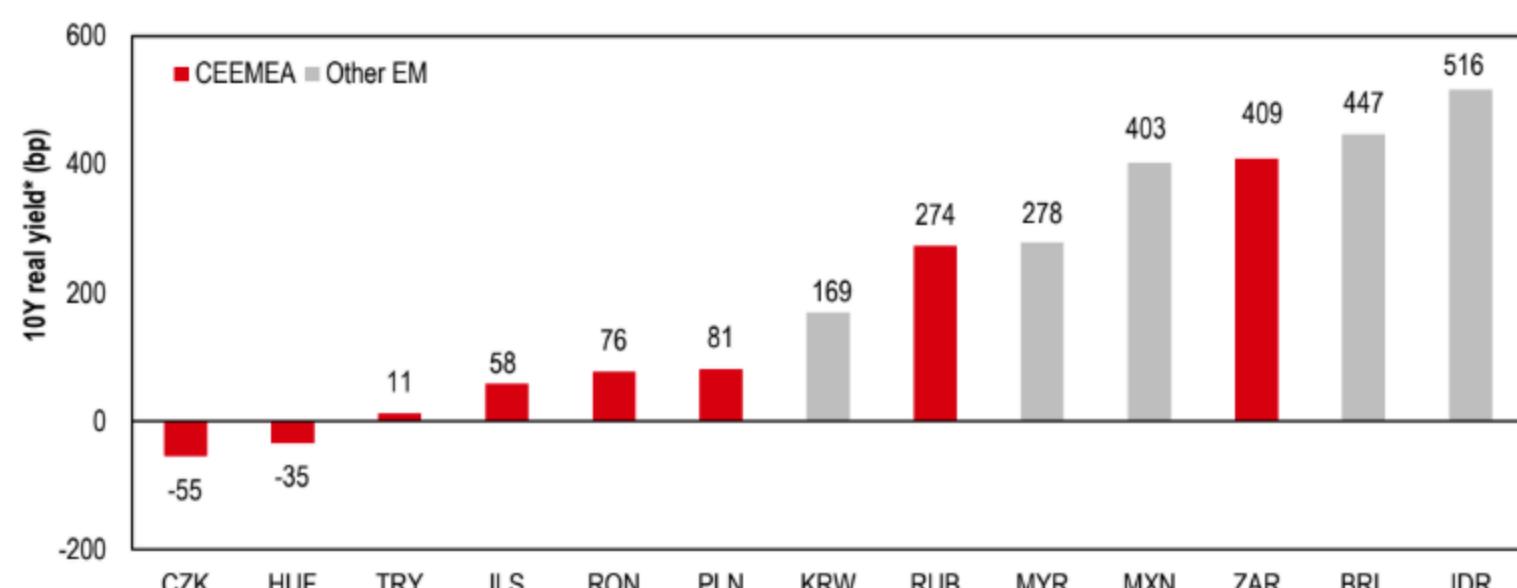
Source: HSBC, Bloomberg



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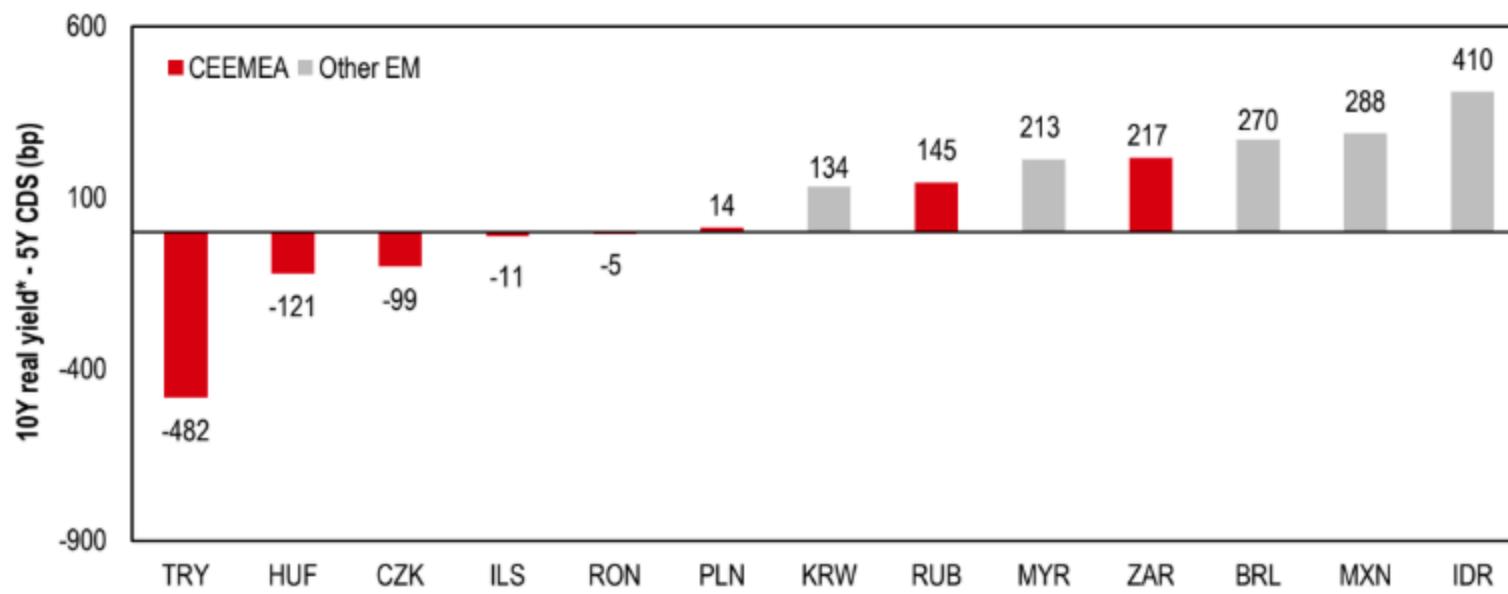
## CEEMEA in a global/EM context

**Figure A1. Local currency yields adjusted for inflation\***



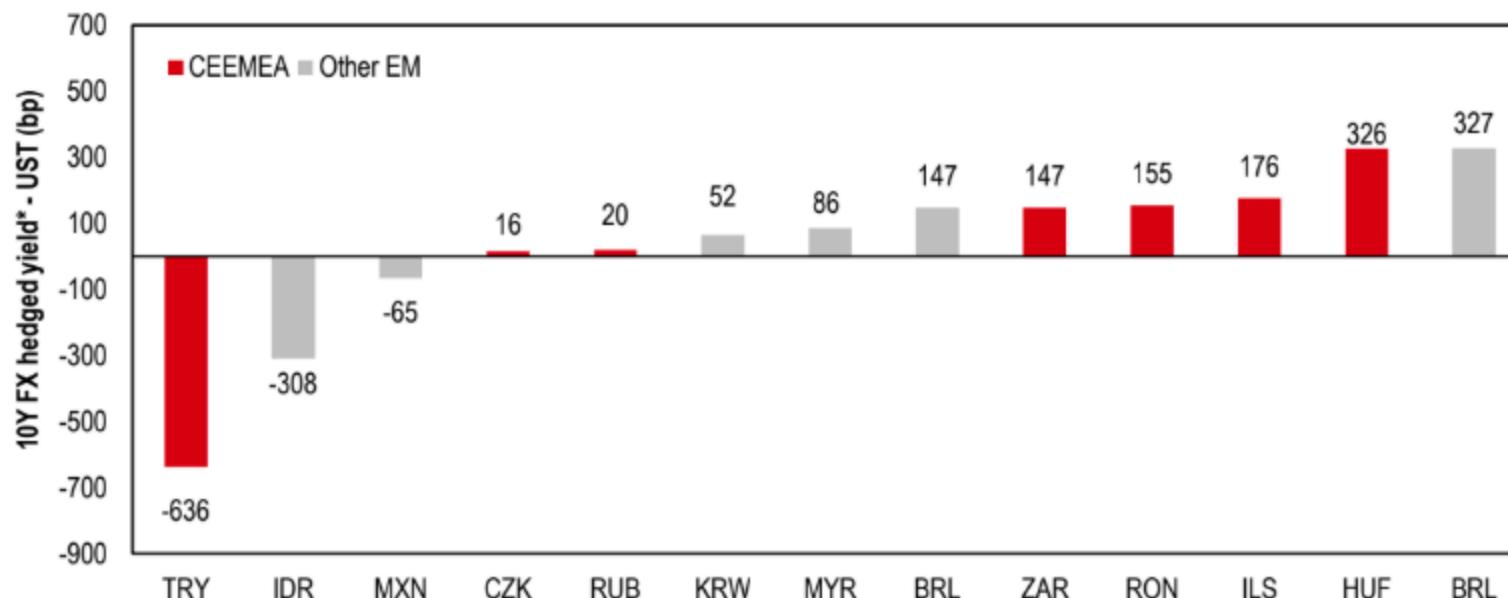
Note: \*Adjusted for the average of current (%yoy) and short-term trend (%saar) for headline CPI and core inflation (see Appendix). Source: HSBC, Bloomberg

**Figure A2. Local currency yields adjusted for inflation\* and stripped of CDS spreads**



Note: \*Adjusted for the average of current (%yoy) and short-term trend (%saar) for headline CPI and core inflation ([see Appendix](#)). Source: HSBC, Bloomberg

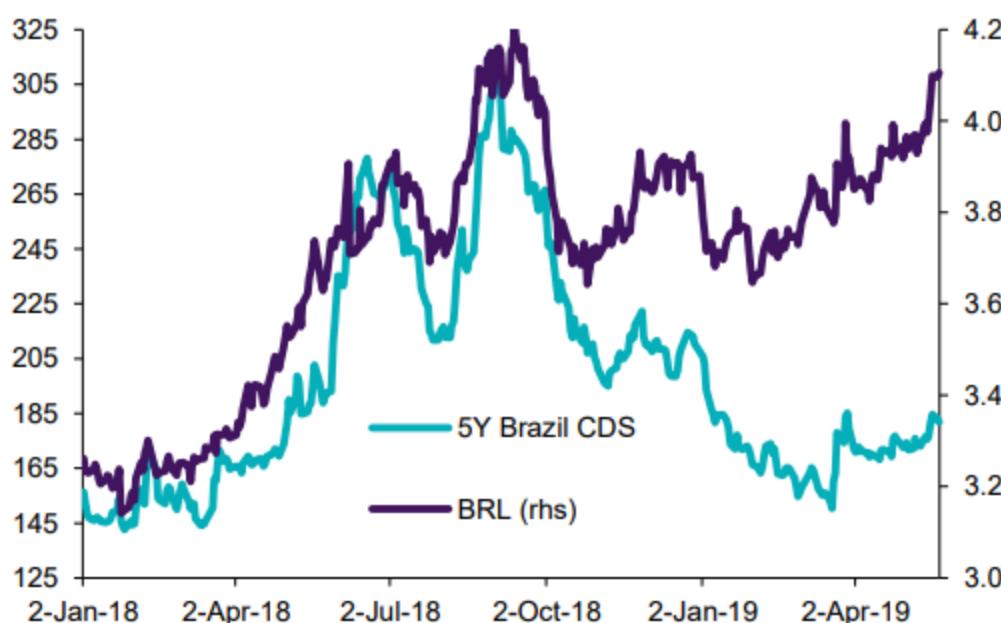
**Figure A3. Local currency FX-hedged yields over USTs**



Note: \*Hedged for USD using rolled 3m USDFX forwards. Source: HSBC, Bloomberg

### Chart 1: BRL has underperformed other Brazilian assets, EM peers and looks attractive at 4.10

Source: Haver Analytics, Bloomberg, NWM Strategy





CL1 Comdty (Generic 1st 'CL' Future) 1 Days Tick Copyright © 2019 Bloomberg Finance L.P. 23-May-2019 13:29:44



## Dolarizasyon

Yerlilerin döviz hesapları tekrar rekor seviyeye ulaştı

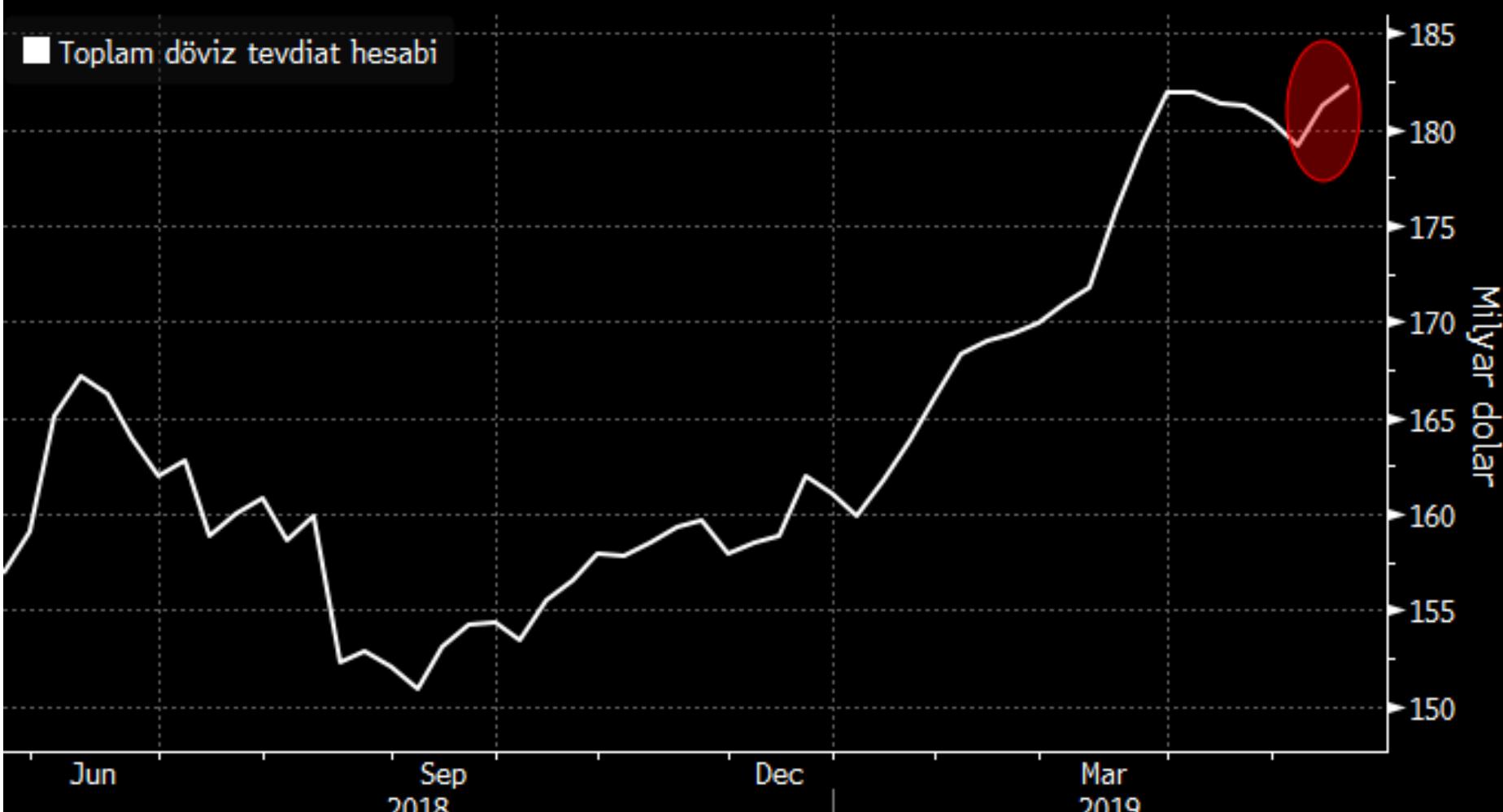
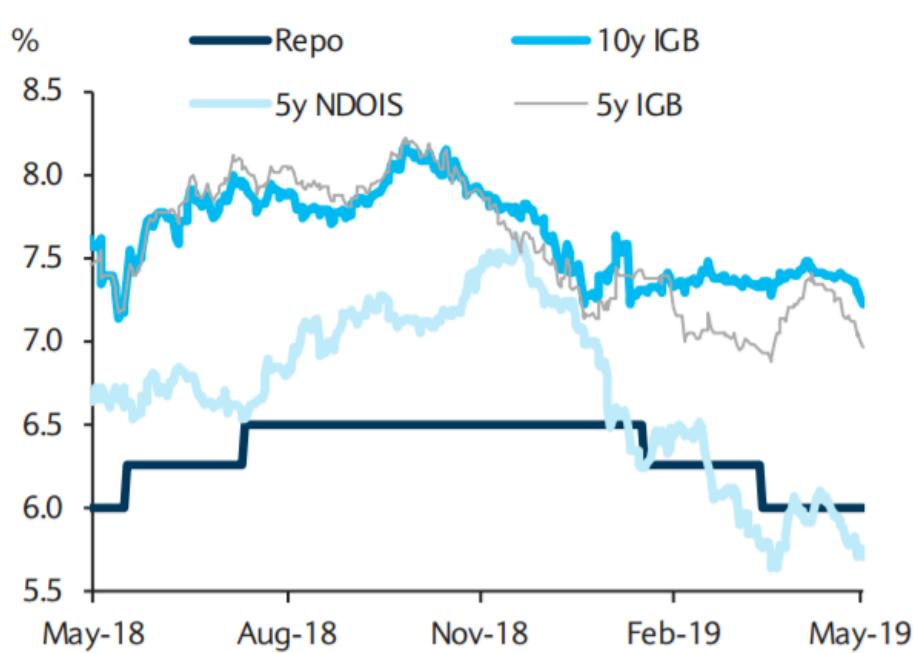




FIGURE 1

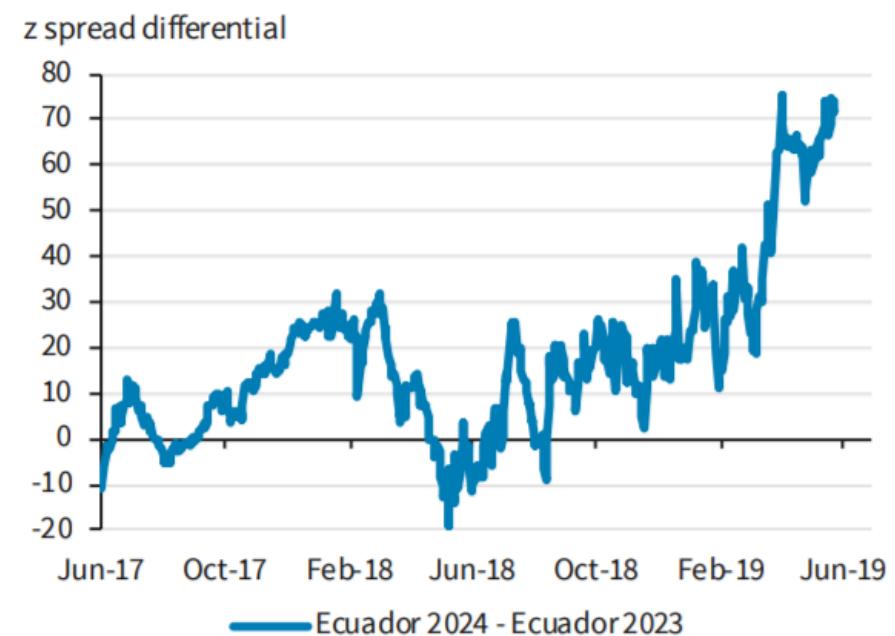
IGBs will likely lead the rally over the medium term



Source: Bloomberg, Barclays Research

FIGURE 2

Switch out of Ecuador 2023s into Ecuador 2024, as Ecuador 2024s moves into the short-dated funds radar screen



Source: Bloomberg, Barclays Research

23 May 2019

2

## EM Credit

Switch out of Ecuador 2023s into Ecuador 2024

We remain constructive in Ecuador (OW) and think that the expected cabinet reshuffle to be announced by President Moreno to be uneventful for markets. In addition, as the IMF mission concludes its visit to the country in the context of the first review, we think that it will show that the program remains on track — although some fine-tuning of the program is possible. Meanwhile, important progress has been made on formal political agreements with some factions of the opposition to pass reforms. Despite the lower cash price and marginal maturity extension, Ecuador 2024 trades 75bp wide to Ecuador 2023s. We think that such spread differential should compress as Ecuador 2024s gets in the radar of short-dated funds in the following months.

Sebastian Vargas

Buy Cote d'Ivoire 2032s

Cote d'Ivoire (OW) spreads have widened over the past few weeks, broadly in line with the market, but they remain wide to peers such as Senegal, especially at the short-end, in our view. Recent reports indicating potential new EUR eurobond supply as part of a liability management exercise ("Ivory Coast Seeks Banks to Sell Euro-denominated Bonds," *Bloomberg* 23 May 2019) may draw renewed investor attention to the curve. We recommend buying the amortizing Cote d'Ivoire 2032s as they remain cheap on the (USD) curve in spread terms and we think they may ultimately be included in any liability management given their higher coupon and more near-term principal amortizations under the step-up redemption schedule than the other short-dated bonds on the USD and EUR curves (USD 2024s and EUR 2025s).

Andreas Kolbe

## EM Rates and FX

Long IGB 7.32% 2024

Buy IGB 7.32% 2024 (entry: 6.97%, target: 6.5%, stop-loss: 7.2%) with FX risk unhedged. The re-election of the BJP-led coalition government was, in our view, the best outcome from a fiscal standpoint and its constructive INR implications should boost bond demand. We expect the rally to continue and look for 10y yields to test 7% levels with yields on the 3-5y segments falling to 6.5% levels by year-end (see *Modi wins a second term*, May 23, 2019).

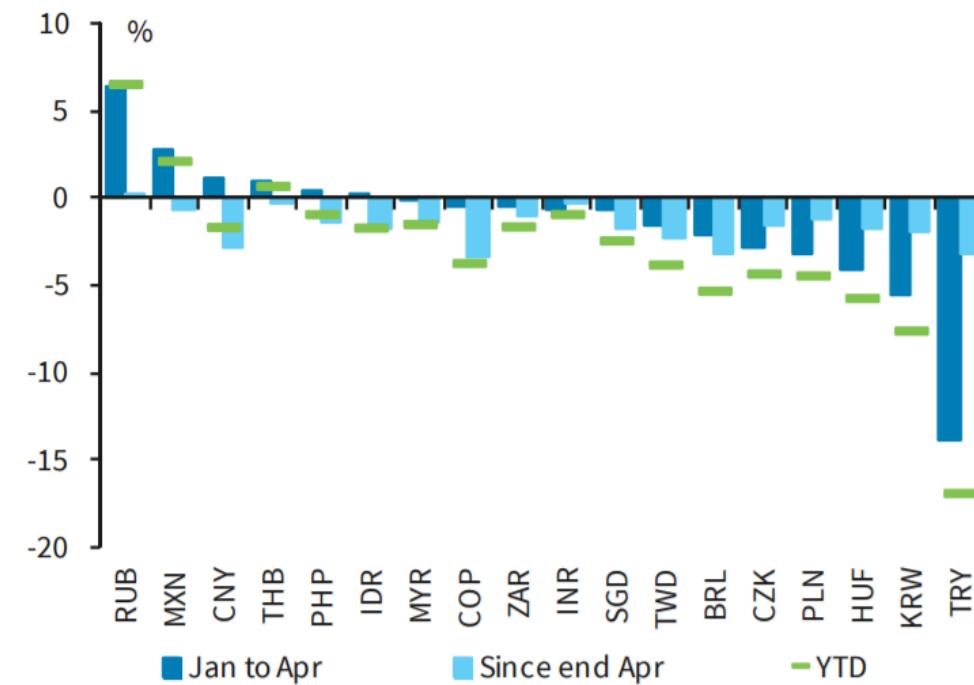
Ashish Agrawal

Long USDTWD 3m NDF

Buy USDTWD 3m NDF (target: 32.0, stop: 31.0). In an environment of unexpectedly soft global growth, driven in-part by US-China trade tensions, currencies of trade-dependent economies with large China exposure should underperform (see *FX & EM Macro Strategy: TWD vulnerable to trade war escalation*, 17 May 2019)

Kritika Kashyap

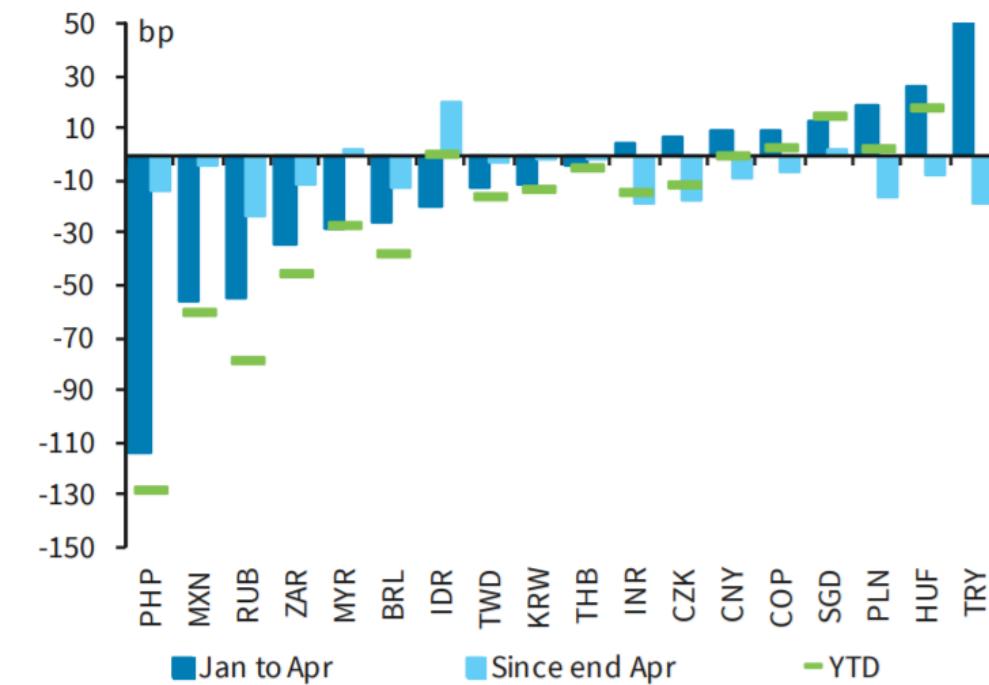
FIGURE 3

**EM FX total returns**

Source: Bloomberg, Barclays Research.

23 May 2019

FIGURE 4

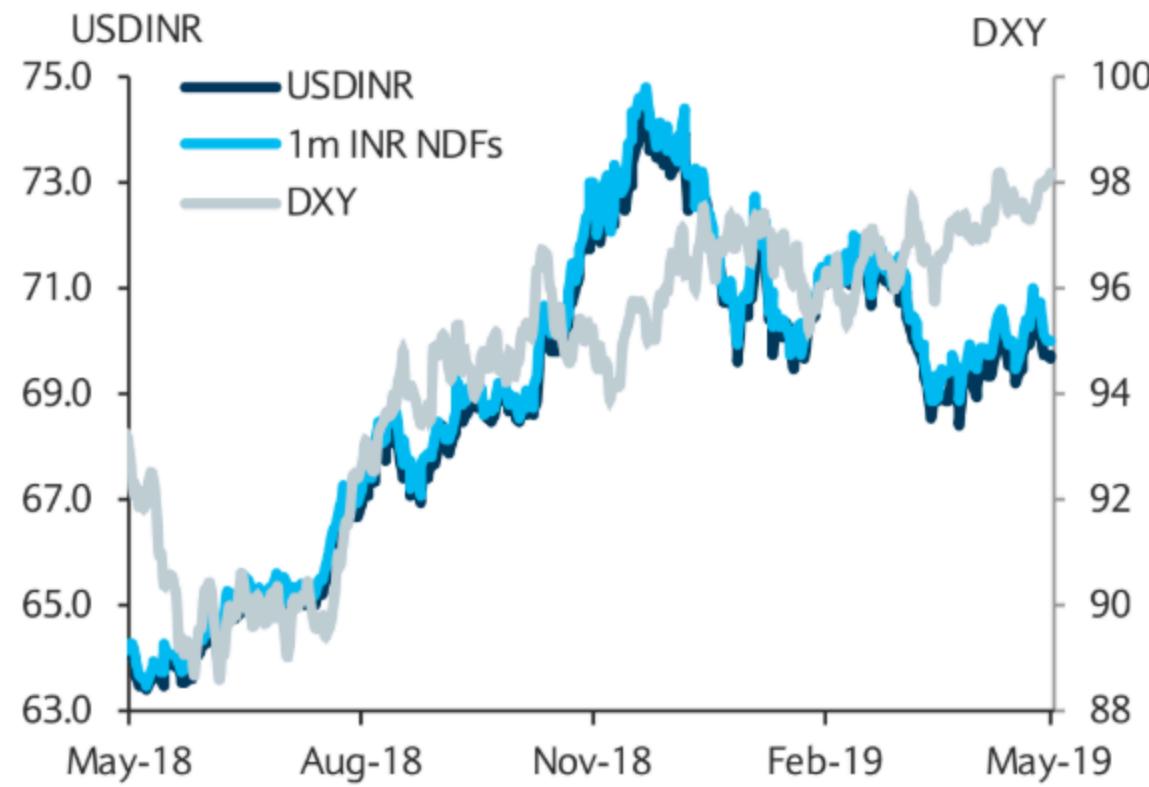
**EM 10y local government bond yield changes\***

\* Note: Turkey 10-year yields increased 324bp Jan to Apr and 306bp YTD.

Source: Bloomberg, Barclays Research.

5

FIGURE 13

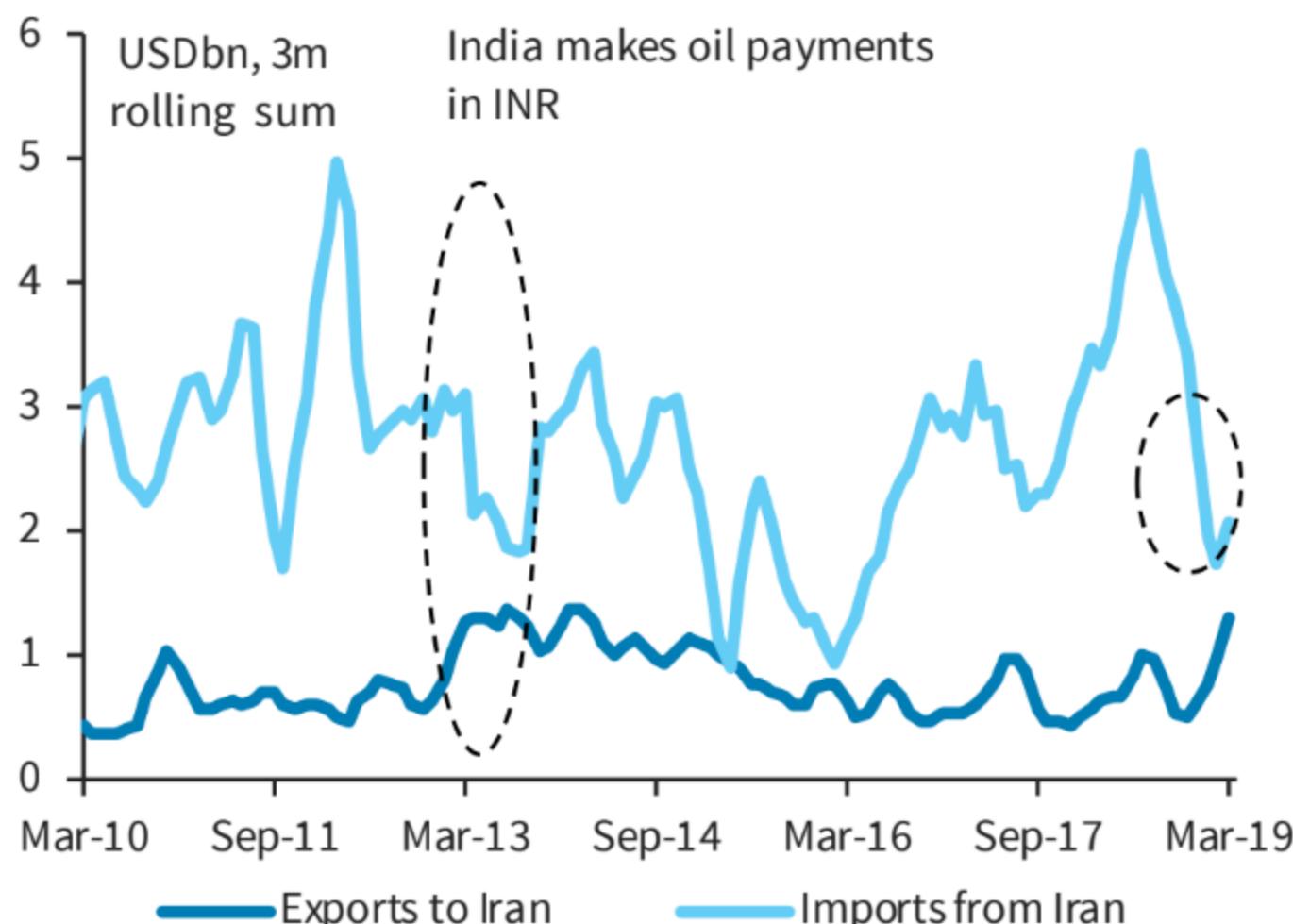
**The INR has been outperforming**

Source: Bloomberg, Barclays Research

23 May 2019

FIGURE 10

## India has been replacing Iranian supply of oil



Source: Haver Analytics, Barclays Research

GRAB

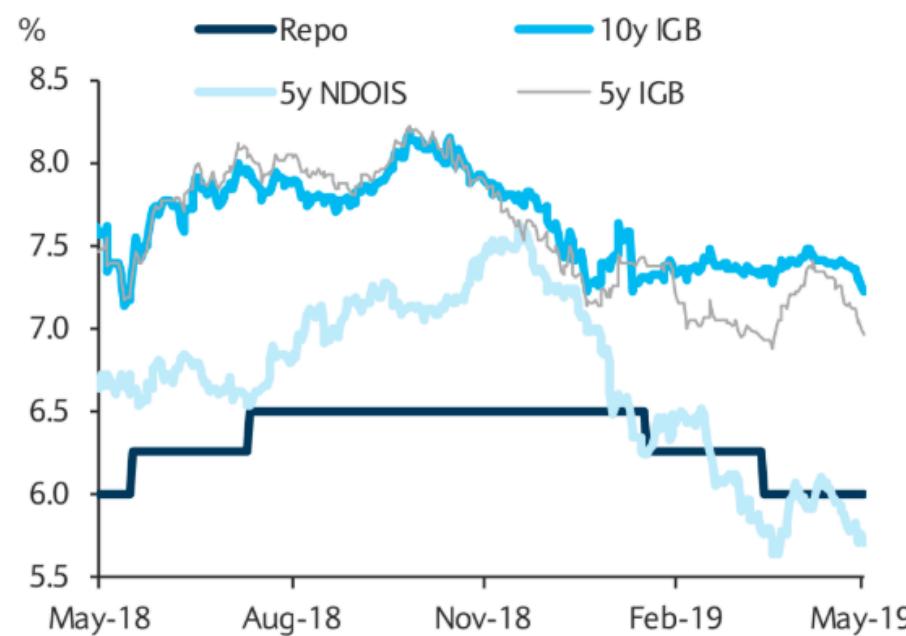


The election outcome provides tailwinds to an already supportive backdrop for bonds. Monetary policy settings will stay accommodative and the RBI is expected to lower the repo rate another 25bp at the next policy review on 6 June. The growth outlook remains subdued and most MPC members acknowledged a negative output gap. Headline inflation remains benign and is well within expected ranges while core inflation continues to moderate. Real rates are still high and relatively weak transmission of recent easing could also prompt the RBI to keep liquidity conditions from tightening, to ensure lower market and lending rates.

We had expected 10y yields to fall to 7.25% but now expect gains to extend to test 7% with shorter segments outperforming into year end. 5s10s spreads are likely to widen to 50bp from 25bp currently. A supportive policy backdrop and improving demand-supply technicals should bias yields lower. Investor positioning is relatively light, with RBI OMO purchases having absorbed the bulk of net supply from Q4 2018. The OIS curve is already pricing in the easing we expect, with offshore OIS trading very rich to onshore levels. We expect the OIS curve to steepen and expect swaps to underperform bonds.

We have been long IGB 7.17% 2028 (see *EM Trade Summary* 27 March 2019) and now recommend removing the FX hedge and increasing exposure by going long IGB 7.32% 2024 (entry: 6.97%, target: 6.5%, stop-loss: 7.2%) with FX risk unhedged. Risks to our view are from an earlier end to RBI's OMO purchases and deteriorating EM sentiment, which could delay foreign inflows and keep the INR under pressure.

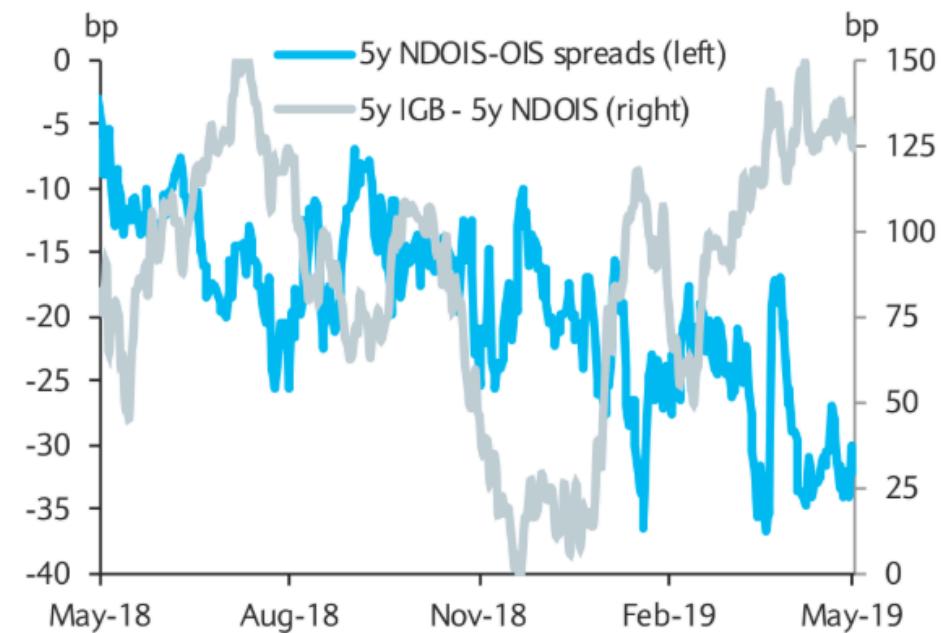
**FIGURE 15**  
**Bonds will likely lead the rally over the medium term**



Source: Bloomberg, Barclays Research

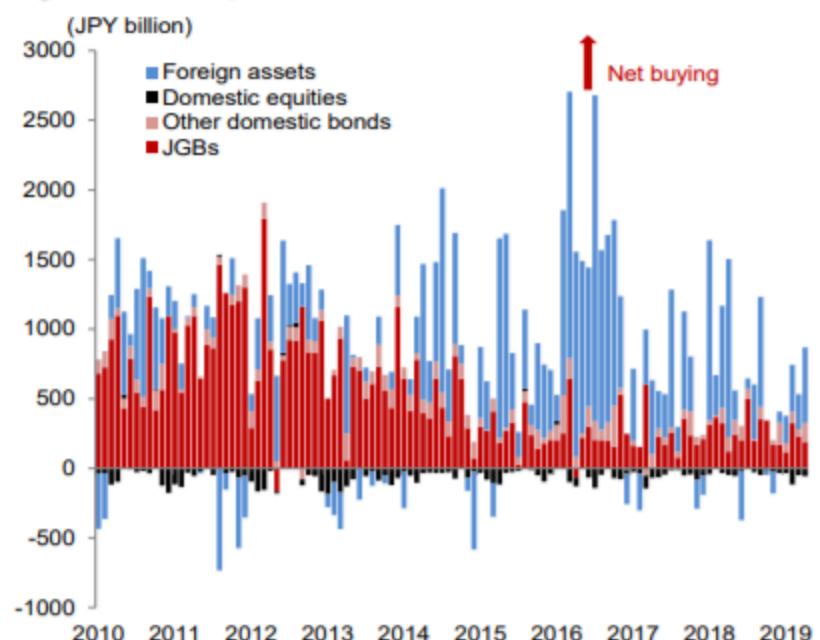
23 May 2019

**FIGURE 16**  
**Bonds are relatively cheap and 5y offshore swaps are rich**

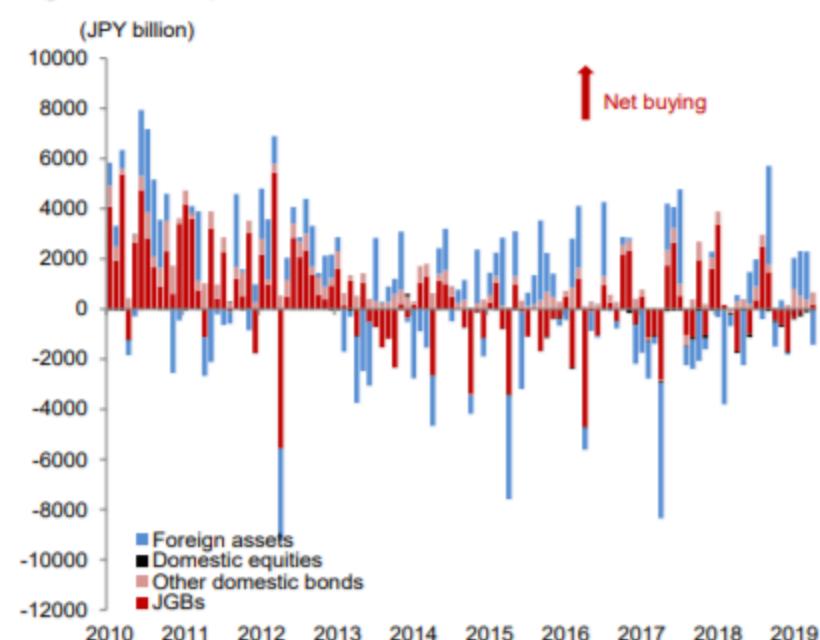


Source: Bloomberg, Barclays Research

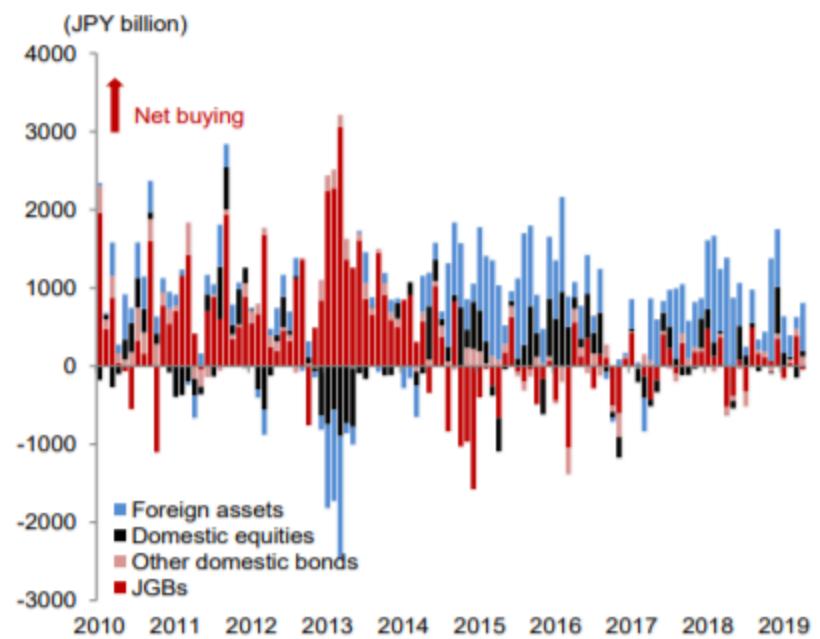
8

**Fig. 1: Insurers' portfolio investment**

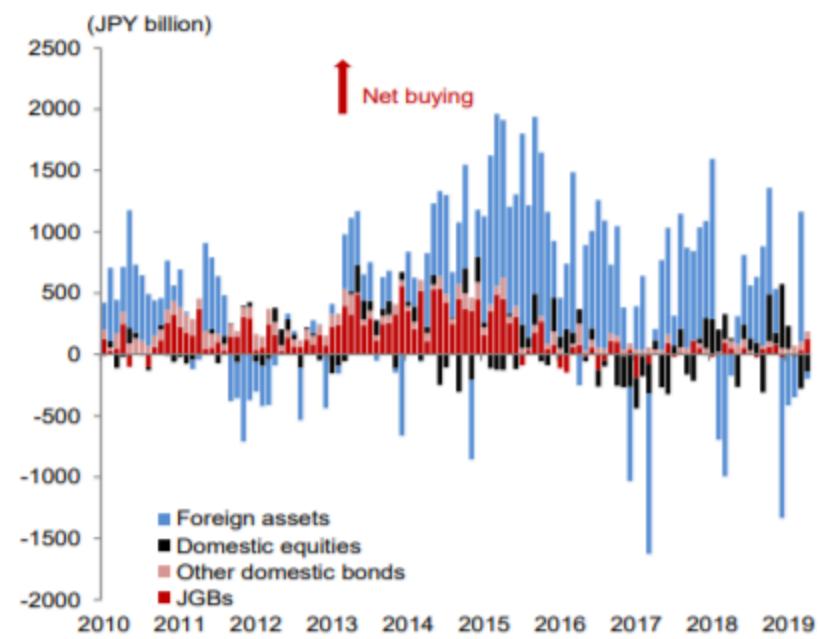
Note: Investment in foreign assets is BOP based up to March and the April figure is based on MOF capital flow data. Source: Nomura, MOF, TSE, JSDA

**Fig. 2: Banks' portfolio investment**

Note: Investment in foreign assets is BOP based up to March and the April figure is based on MOF capital flow data. For domestic bond investment, banks include mega banks, regional banks, and Shinkin banks. Source: Nomura, MOF, TSE, JSDA

**Fig. 3: Pension funds' portfolio investment**

Note: Investment in foreign assets is BOP based up to March and the April figure is based on MOF capital flow data. Source: Nomura, MOF, TSE, JSDA

**Fig. 4: Toshin companies' portfolio investment**

Note: Investment in foreign assets is BOP based up to March and the April figure is based on MOF capital flow data. Source: Nomura, MOF, TSE, JSDA

#### Exhibit 13: Cross-asset correlation matrix

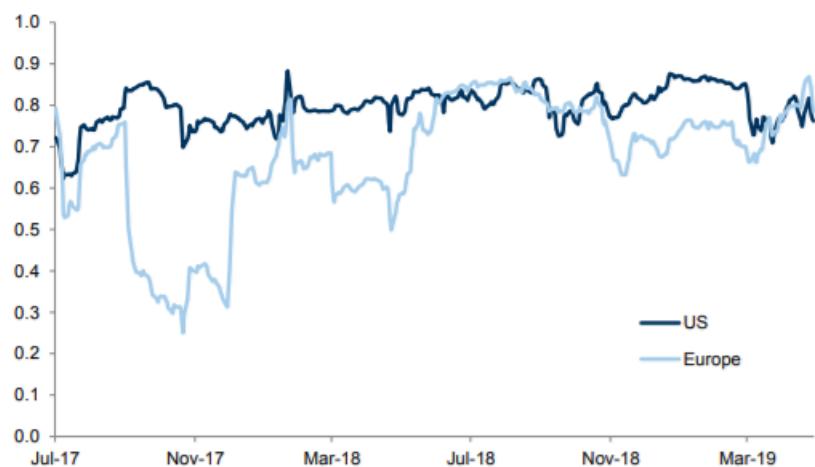
Upper half of matrix: current 1-year correlation (black shading = more/less than 0.50/-0.50); lower half of matrix: percentile since 2001 (dark grey shading indicates above 75th percentile, orange shading indicates below 25th percentile); correlations are calculated on weekly, local currency returns.

	S&P 500	STOXX 600	MXAPJ	TOPIX	MSCI EM	US 10 yr	Germany 10 yr	Japan 10 yr	UK 10 yr	EUR/USD	USD/JPY	AUD/USD	iBoxx US IG	iBoxx EUR IG	BAML US HY	BAML EUR HY	EM Credit (\$)	WTI Crude Oil	Copper	Gold	VIX
Current 1y correlation of weekly returns																					
S&P 500		0.77	0.60	0.73	0.56	-0.37	-0.30	-0.17	-0.31	0.03	0.49	0.45	-0.08	0.17	0.76	0.53	0.18	0.28	0.16	-0.27	-0.84
STOXX 600	0.26		0.65	0.79	0.62	-0.49	-0.38	-0.32	-0.39	-0.04	0.57	0.37	-0.09	0.25	0.67	0.67	0.22	0.33	0.18	-0.30	-0.81
MXAPJ	0.49	0.46		0.73	0.96	-0.22	-0.26	-0.25	-0.29	0.30	0.35	0.58	0.00	0.14	0.50	0.50	0.25	0.10	0.49	0.05	-0.58
TOPIX	0.94	0.94	0.83		0.67	-0.52	-0.42	-0.40	-0.40	0.07	0.62	0.36	-0.16	0.09	0.65	0.57	0.09	0.34	0.33	-0.27	-0.62
MSCI EM	0.26	0.30	0.63	0.79		-0.19	-0.30	-0.26	-0.30	0.38	0.30	0.65	0.03	0.10	0.48	0.46	0.36	0.14	0.51	0.17	-0.56
US 10 yr	0.43	0.30	0.46	0.09	0.56		0.81	0.60	0.78	0.01	-0.61	-0.08	0.67	0.23	-0.29	-0.47	0.19	-0.10	-0.14	0.46	0.36
Germany 10 yr	0.47	0.43	0.45	0.12	0.46	0.78		0.51	0.90	-0.33	-0.49	-0.15	0.59	0.40	-0.21	-0.40	0.09	-0.12	-0.20	0.20	0.30
Japan 10 yr	0.49	0.30	0.31	0.41	0.31	0.94	0.61		0.57	-0.08	-0.34	-0.10	0.40	0.16	-0.13	-0.36	0.15	-0.05	-0.11	0.30	0.08
UK 10 yr	0.50	0.39	0.34	0.23	0.38	0.51	0.78	0.82		-0.31	-0.46	-0.16	0.57	0.32	-0.20	-0.43	0.09	-0.13	-0.17	0.26	0.32
EUR/USD	0.37	0.52	0.44	0.67	0.53	0.22	0.12	0.17	0.11		-0.15	0.51	0.00	-0.26	0.02	0.09	0.33	0.17	0.30	0.40	-0.09
USD/JPY	0.82	0.88	0.83	0.68	0.81	0.25	0.25	0.34	0.42	0.85		0.06	-0.28	0.02	0.36	0.50	-0.14	0.18	0.11	-0.49	-0.50
AUD/USD	0.66	0.65	0.42	0.71	0.63	0.43	0.42	0.29	0.38	0.44	0.76		0.07	-0.09	0.39	0.20	0.45	0.14	0.41	0.10	-0.49
iBoxx US IG	0.58	0.58	0.47	0.46	0.55	0.20	0.27	0.48	0.26	0.14	0.59	0.39		0.56	0.16	0.07	0.44	0.15	-0.06	0.28	0.02
iBoxx EUR IG	0.83	0.80	0.48	0.56	0.47	0.08	0.10	0.18	0.12	0.11	0.88	0.05	0.19		0.28	0.50	0.22	0.04	-0.04	0.02	-0.14
BAML US HY	0.99	0.81	0.31	0.93	0.24	0.21	0.29	0.19	0.35	0.27	0.89	0.41	0.22	0.33		0.64	0.28	0.55	0.17	-0.15	-0.69
BAML EUR HY	0.72	0.91	0.30	0.75	0.27	0.00	0.08	0.08	0.03	0.42	0.98	0.14	0.26	0.68	0.12		0.18	0.30	0.14	-0.18	-0.51
EM Credit (\$)	0.21	0.27	0.08	0.24	0.09	0.51	0.46	0.52	0.47	0.64	0.37	0.54	0.49	0.22	0.07	0.06		0.17	0.08	0.22	-0.33
WTI Crude Oil	0.61	0.71	0.20	0.86	0.18	0.52	0.46	0.54	0.50	0.40	0.82	0.27	0.86	0.64	0.92	0.80	0.48		0.08	0.05	-0.21
Copper	0.18	0.22	0.60	0.68	0.61	0.57	0.51	0.55	0.52	0.54	0.66	0.51	0.48	0.51	0.29	0.27	0.28	0.25		0.30	-0.19
Gold	0.15	0.17	0.25	0.22	0.38	0.91	0.66	0.86	0.71	0.39	0.31	0.05	0.66	0.39	0.08	0.13	0.54	0.29	0.51		0.26
VIX	0.40	0.15	0.36	0.13	0.49	0.60	0.63	0.41	0.60	0.37	0.15	0.21	0.26	0.17	0.09	0.20	0.47	0.50	0.69	0.82	

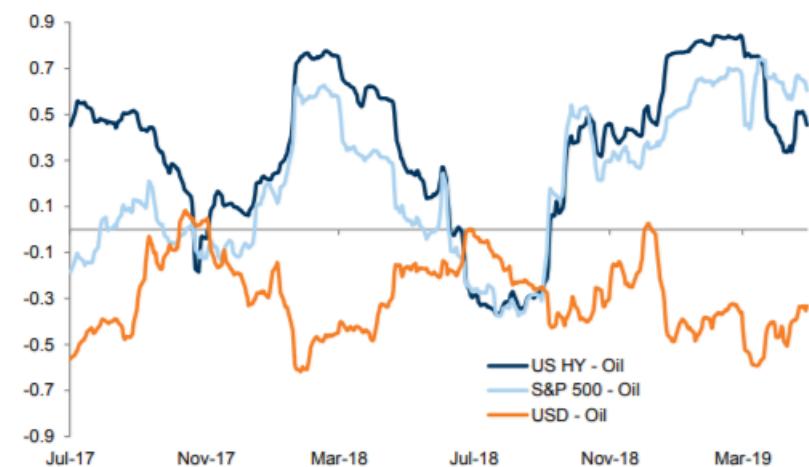
Source: Datastream, iBoxx, Goldman Sachs Global Investment Research

## Cross-asset: Correlations: Equity vol/CDS, commodity prices/credit & FX, equity/bond, equity/FX

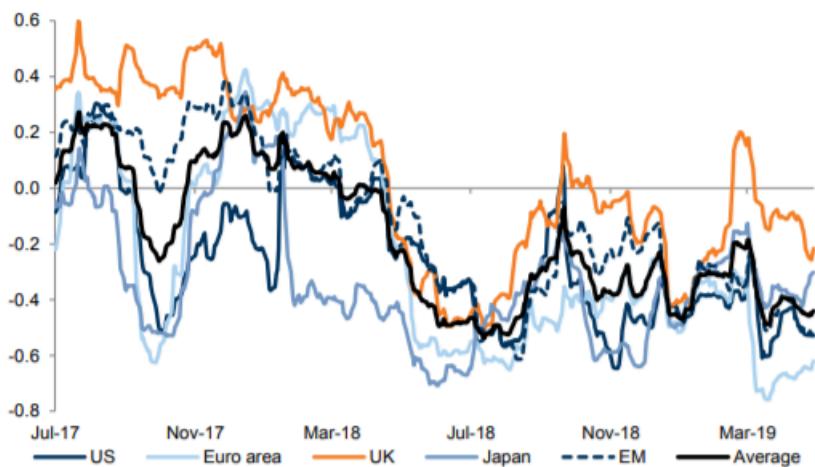
**Exhibit 28: 3m rolling equity vol/CDS correlation of weekly level changes**  
CDX HY for the US, iTraxx Xover for Europe; ATM implied vol for S&P 500 and Euro Stoxx 50



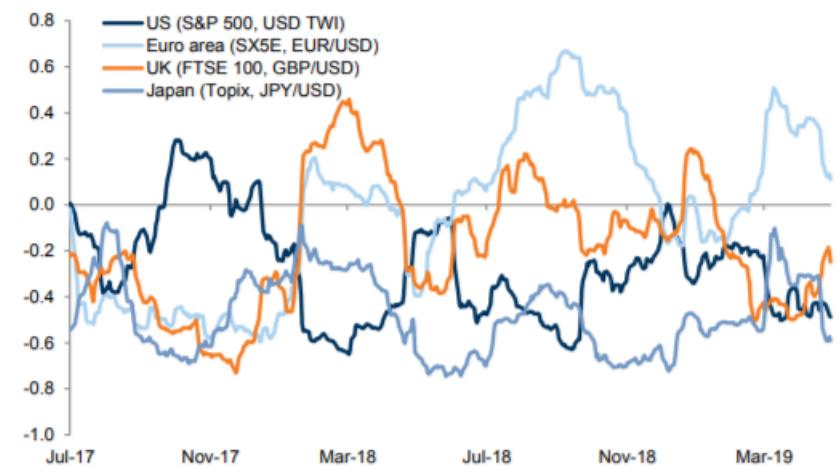
**Exhibit 29: 3m rolling commodity price correlations of weekly % changes with different assets**  
US HY returns, oil, copper and USD TWI spot return



**Exhibit 30: 3m rolling equity/bond correlation of weekly returns**



**Exhibit 31: 3m rolling equity/FX correlation of weekly returns**



## Cross-asset: Implied and realised vol, call and put skew

**Exhibit 32: Cross-asset volatility, current and historical percentiles, implied 3m and realised 1m**

	Equities						Rates				Credit			Commodities			Currencies		
	S&P 500	EURO STOXX 50	Nikkei 225	FTSE 100	MSCI EM	MSCI EAFE	USD 2-year	USD 10-year	EUR 2-year	EUR 10-year	CDX IG	CDX HY	iTraxx Europe	WTI	Gold	Copper	EUR/USD	JPY/USD	GBP/USD
<b>Implied (3-month ATM, %)</b>																			
Current:	14.0	13.7	16.8	11.2	18.7	12.4	3.8	3.7	1.1	2.3	46.2	34.4	49.7	27.0	8.5	17.4	5.2	6.5	7.6
Percentile:	42%	11%	19%	13%	32%	16%	73%	8%	21%	8%	37%	13%	30%	32%	0%	16%	1%	5%	26%
3M change:	-0.2	-0.3	1.3	-2.6	0.7	-0.1	0.9	0.3	0.2	0.1	5.1	0.8	3.8	-3.2	-0.8	-0.1	-1.3	-0.2	-4.2
Average:	16.1	20.1	20.5	15.9	22.3	18.3	3.4	5.4	2.6	4.1	52.0	47.9	58.8	31.6	16.3	24.7	9.6	10.0	9.4
95th:	25.9	29.8	27.7	24.7	34.3	29.5	6.5	8.0	5.6	6.6	74.7	71.0	85.8	48.0	24.3	41.5	14.3	13.9	13.9
5th:	10.0	12.7	14.2	10.4	15.2	10.4	1.5	3.5	0.9	2.2	38.7	30.8	40.3	17.1	9.7	15.5	6.0	6.6	5.8
<b>Realised (%)</b>																			
1-month:	13.4	14.6	12.2	10.5	12.3	8.0	3.2	3.1	0.5	2.2	44.1	32.9	43.8	21.5	7.8	17.6	4.1	3.9	6.7
Percentile:	57%	33%	13%	27%	39%	13%	67%	12%	15%	15%	77%	53%	59%	25%	4%	34%	3%	2%	26%
Average:	14.0	18.8	20.1	14.4	14.9	14.1	2.9	4.9	1.8	3.4	37.3	33.5	43.7	30.6	15.2	21.8	8.7	9.0	8.6

Source: Goldman Sachs, Goldman Sachs Global Investment Research

**Exhibit 33: 10y percentile for cross-asset average volatility**

Using 16 assets across equity, government bonds, credit, commodities and FX



**Exhibit 34: Putwing and Callwing normalised skew 5y percentile**

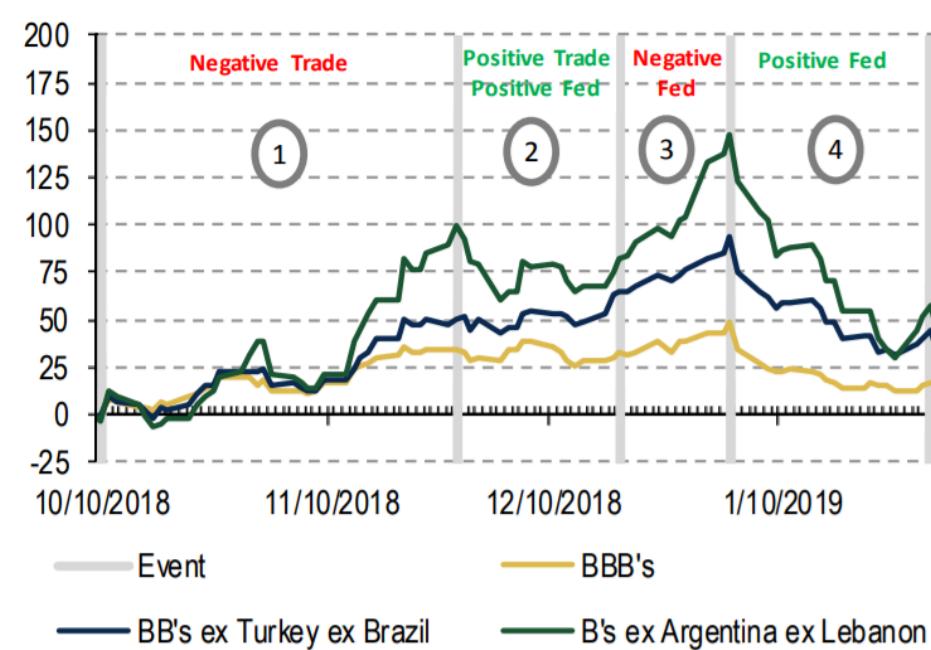
Normalised skew = (impl. vol 25 delta put/call minus implied vol 50 delta call)/50 delta call



## Quantifying the impact of the trade war waiting game on EM credit

To quantify the possible impact of the current trade war waiting game on EM spreads, we look to the 10 October - 27 November 2018 time period as a template (Chart 1). During this time, trade war news mostly deteriorated, but there was little news from the

**Chart 1: Cumulative sovereign spread changes since 9 October, by rating**



Source: BofA Merrill Lynch Global Research, ICE Data Indices, Bloomberg.

**Table 1: Spread changes for labeled periods in Chart 1, by rating**

Time Period	Dates	BBB's	BB's ex Turkey ex Brazil	B's ex Argentina ex Lebanon
1	10/9/2018-11/27/18	35	50	99
2	11/27/18-12/18/18	-5	14	-24
3	12/18/18-1/3/19	19	30	72
4	1/3/19-1/29/19	-34	-53	-95

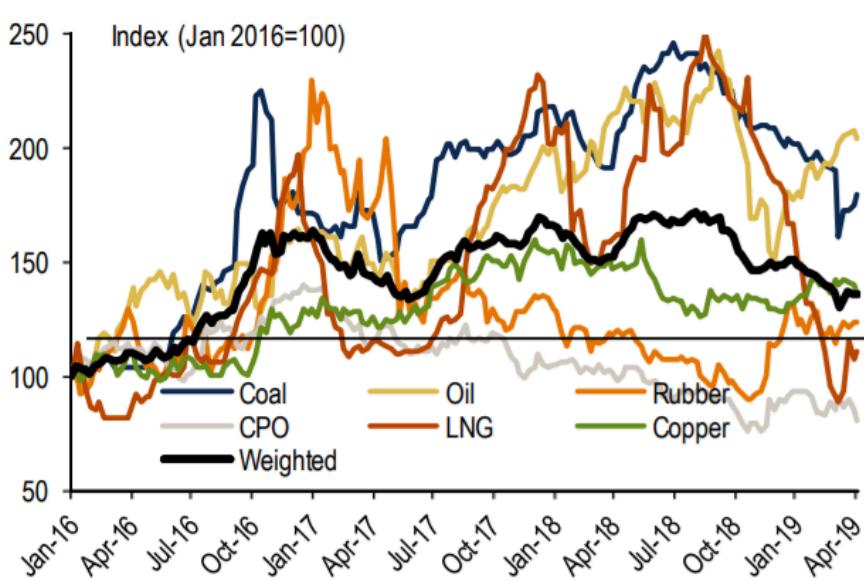
Source: BofA Merrill Lynch Global Research, ICE Data Indices, Bloomberg.

**Table 2: Notable trade war and Fed events**

Date	Impact on Risk	Event
10/10/2018	Negative - Trade	SPX -3.3%: Earnings impacted by China tariffs
11/28/2018	Positive - Fed	Powell: "just below" the range of neutral policy
12/1/2018	Positive - Trade	Buenos Aires G20 ends, trade war truce
12/19/2018	Negative - Fed	December FOMC - not dovish enough
1/4/2019	Positive - Fed	Powell: Fed "listening carefully" to markets
1/30/2019	Positive - Fed	January FOMC - dovish

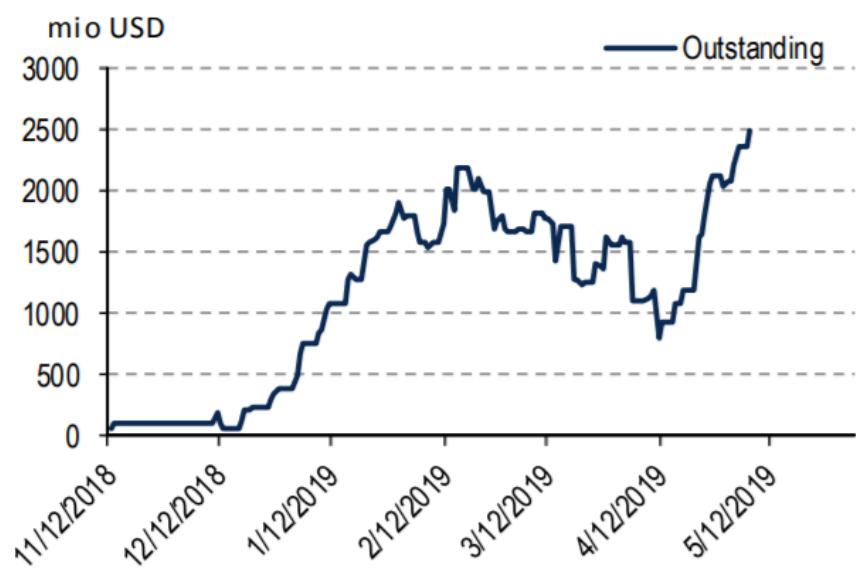
Source: BofA Merrill Lynch Global Research, ICE Data Indices, Bloomberg.

**Chart 2: Palm Oil, Coal and LNG have led the collapse in ToT**



Source: BofA Merrill Lynch Global Research, Bloomberg

**Chart 3: Outstanding DNDFs reaching new highs**

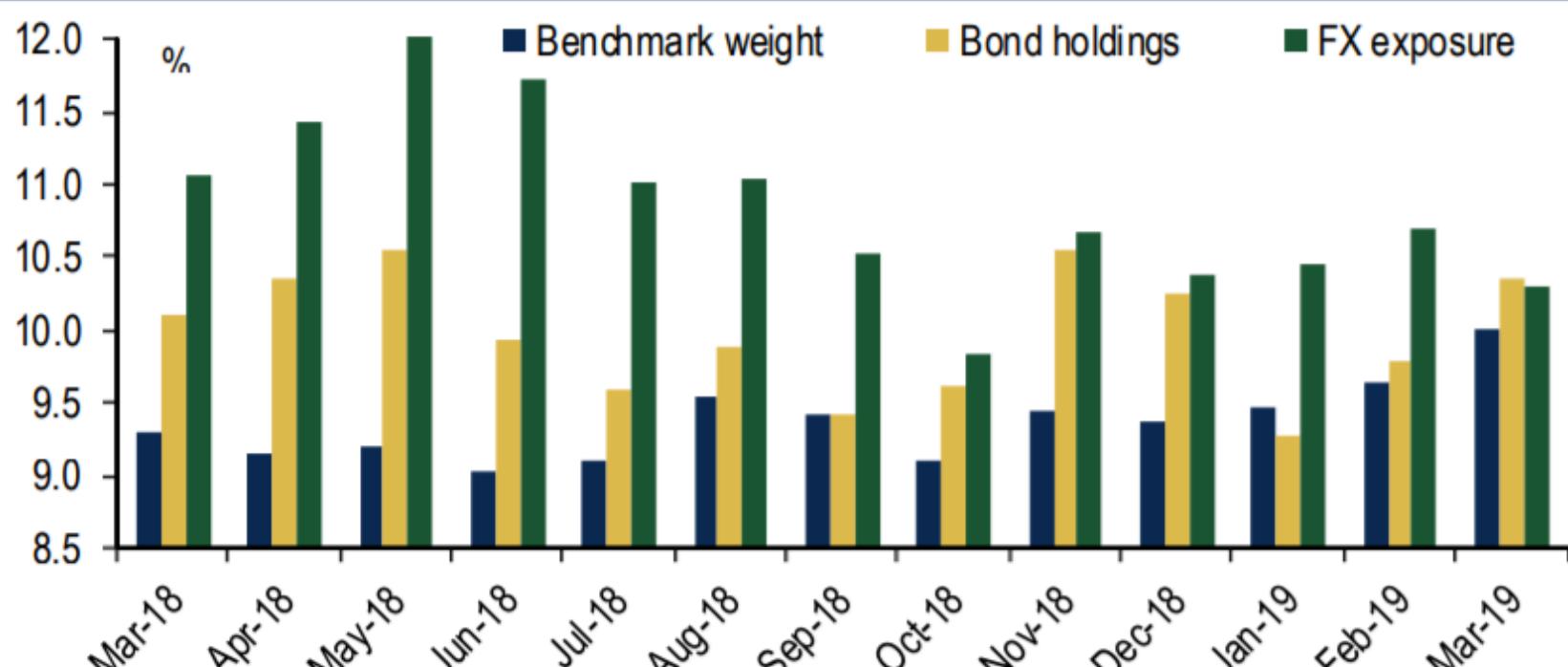


Source: BofA Merrill Lynch Global Research, Bloomberg

### BI to let go of spot

Given the collapse in terms of trade and the fact that IDR looks a bit too strong on a REER basis, we think BI will have little choice on the currency front and will allow Rupiah to weaken. BI will only "manage" the weakness. Chart 3 shows that outstanding DNDFs (through auctions) have sharply risen since the middle of April and has now reached a new all-time high of 3.1bn USD. The sharp rise in DNDF outstanding also constrains BI's hand in terms of their capability to consistently intervene.

**Chart 4: Offshore reduced their exposure to bonds from Aug to Oct**



Source: BofA Merrill Lynch Global Research, Fund factsheets

# Asia: Indonesia overweight allocations fall

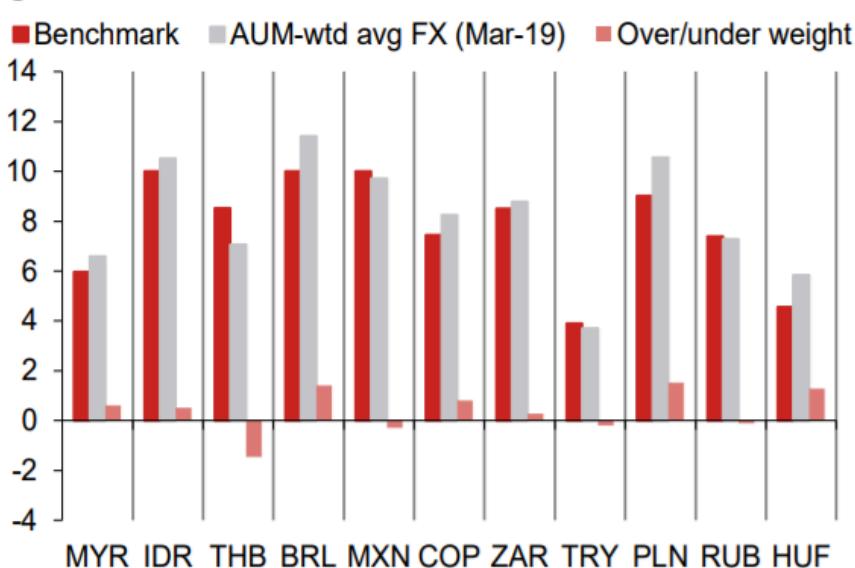
FX and geographic allocations (absolute and relative to benchmark) across Asia fell in April. On average, both absolute and relative allocations dropped (FX: -0.3pp, geographic: -0.2pp against benchmark). Allocations to MYR fell the most in Asia, by 0.5pp versus the benchmark, owing partly to a small (0.09pp) rise in Malaysia's weight in the benchmark index. RM allocations have become more underweight in Thailand, as the geographic allocation fell to 1.4 below benchmark. This could be attributed to sustained political uncertainty in the light of a potential fragmented parliament (see [Asia Insights - Thailand: Election results remain inconclusive](#), 29 March 2019).

April is the third consecutive month of falling average FX allocations to Asia; across the region, RM remained overweight in Indonesia and Malaysia (both FX and geographic) and underweight in Thailand. Allocations may have fallen further in May, partly owing to Sino-US trade tensions and broader risk aversion that may have weighed on sentiment in Asia.

Nomura | FX Insights

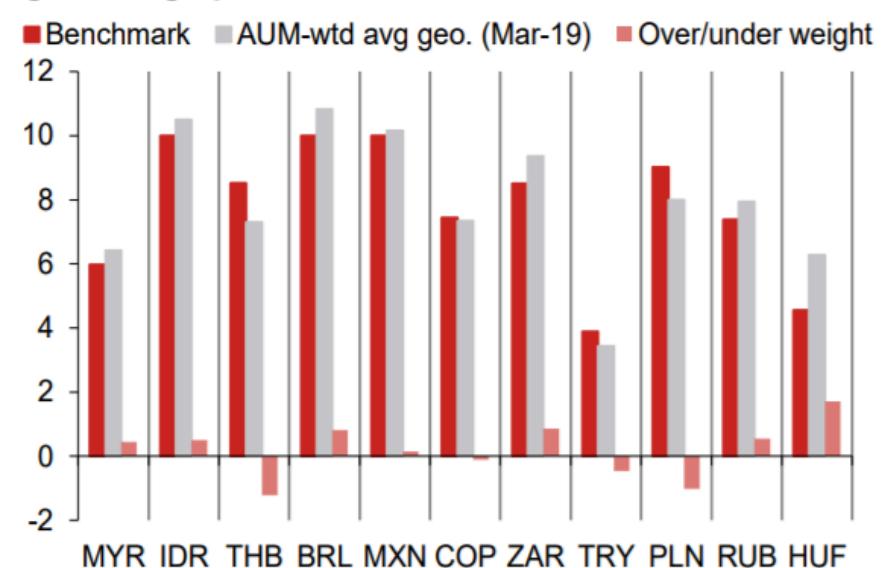
23 May 2019

Fig. 3: FX allocations – March



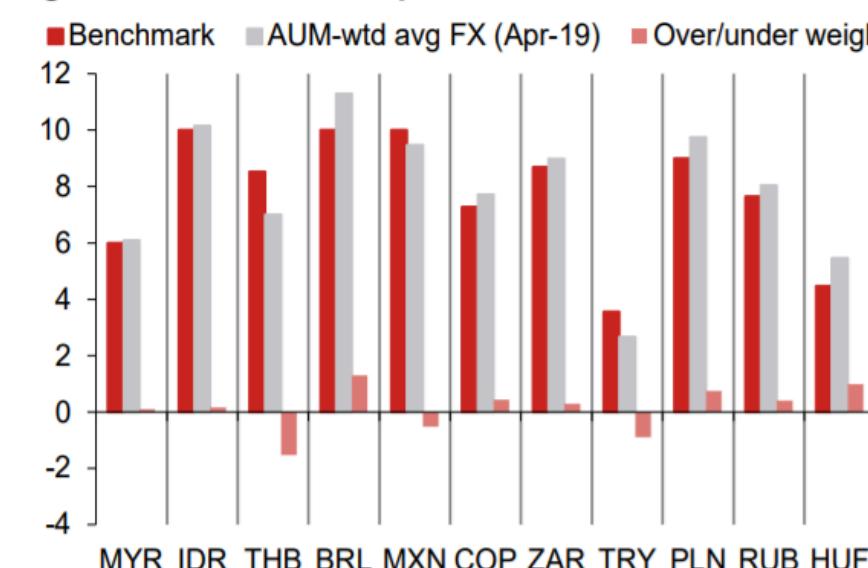
Source: Nomura.

Fig. 4: Geographical allocations – March



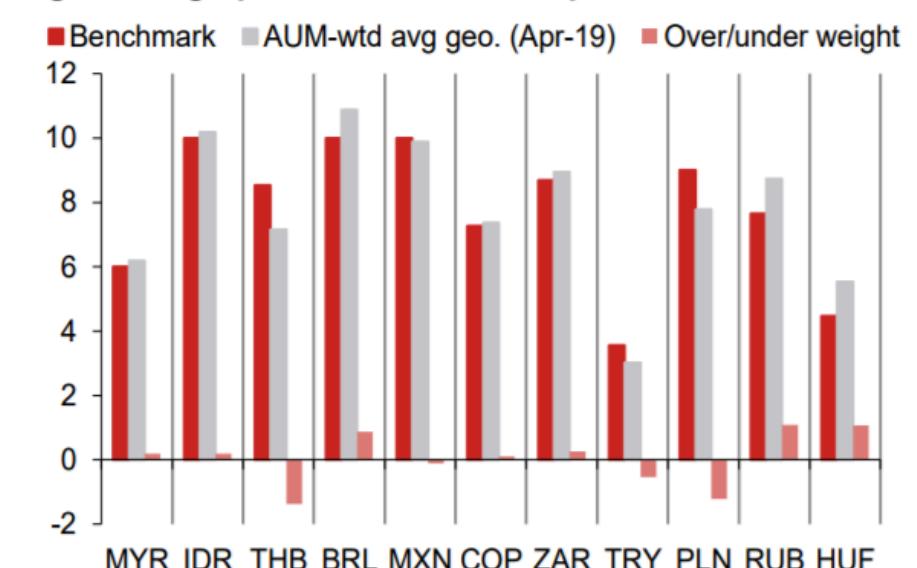
Source: Nomura.

Fig. 1: FX allocations – April



Source: Nomura.

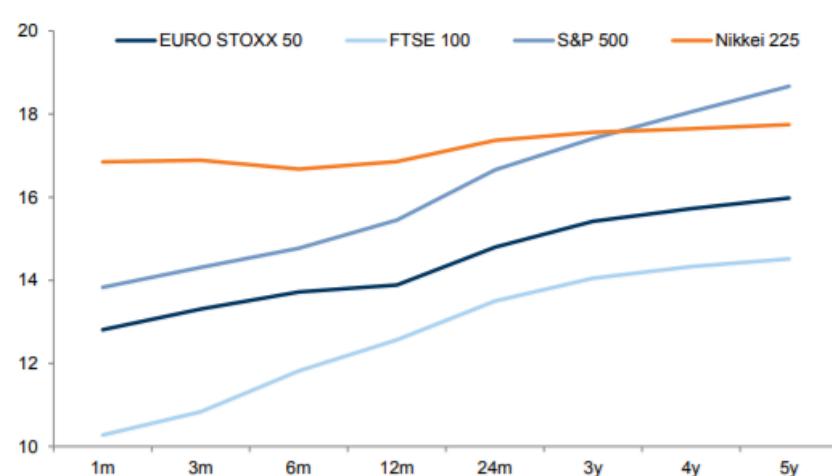
Fig. 2: Geographical allocations – April



Source: Nomura.

# Cross-asset: Volatility, skew, CDS with equity vol, rate vol

**Exhibit 39: ATM implied volatility term structure for equity indices**



Source: Goldman Sachs, Goldman Sachs Global Investment Research

**Exhibit 40: Normalised implied volatility skew across regions**  
3m 25 delta put vol minus 25 delta call vol scaled by ATM implied vol



Source: Goldman Sachs, Goldman Sachs Global Investment Research

**Exhibit 41: CDS and equity vol levels in the US**

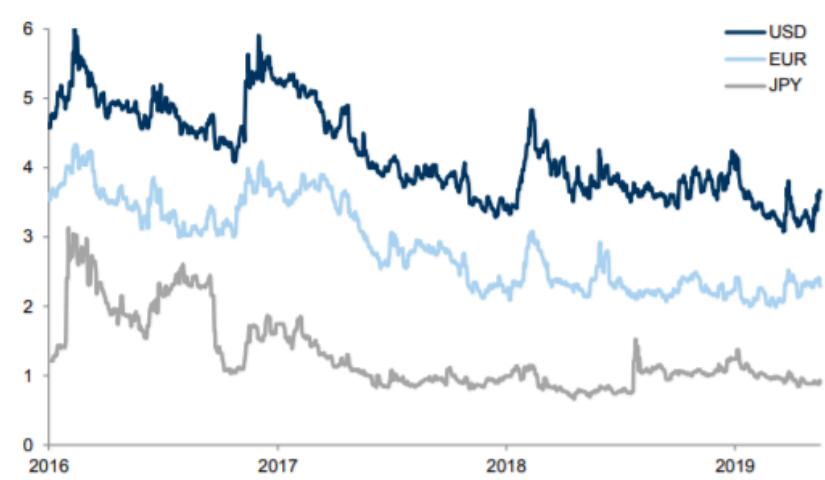
CDX HY, 3m ATM S&P 500 implied vol



Source: Goldman Sachs, Goldman Sachs Global Investment Research

**Exhibit 42: 3m ATM implied rate volatility across regions**

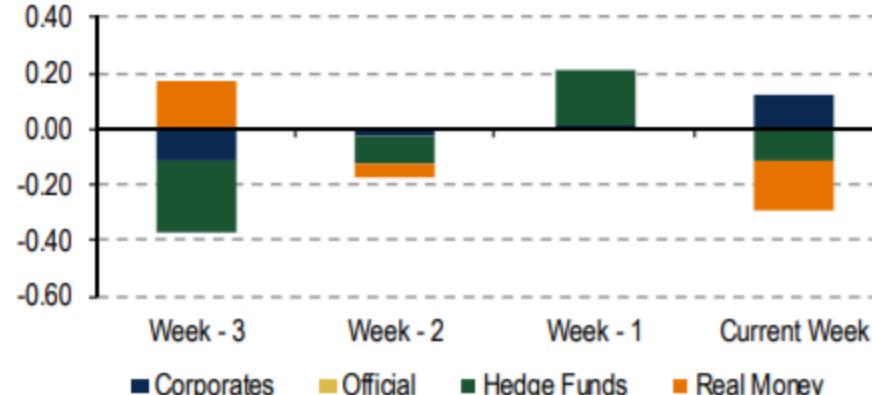
3-month implied volatility of 10-year rates (bp/day)



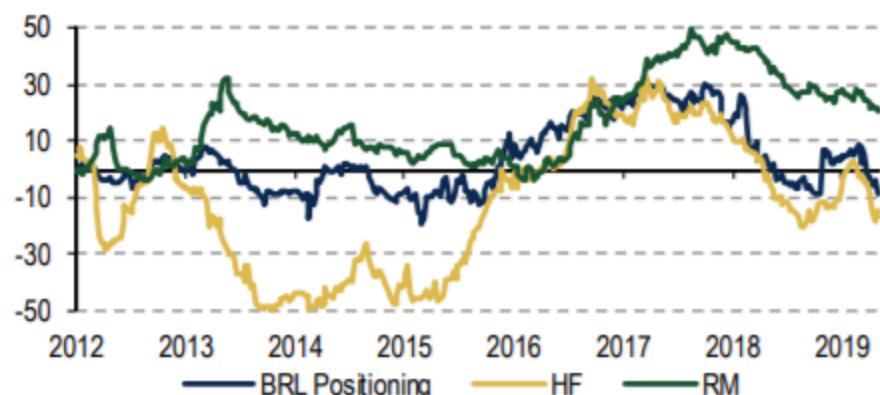
Source: Goldman Sachs, Goldman Sachs Global Investment Research

# BRL, MXN, ARS, CLP

**Chart 155: BofAML Weekly indexed BRL flow**

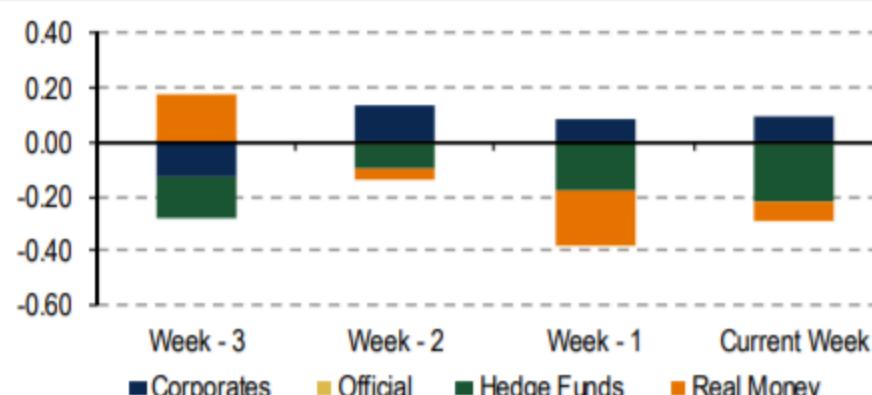


**Chart 156: BRL Positioning**

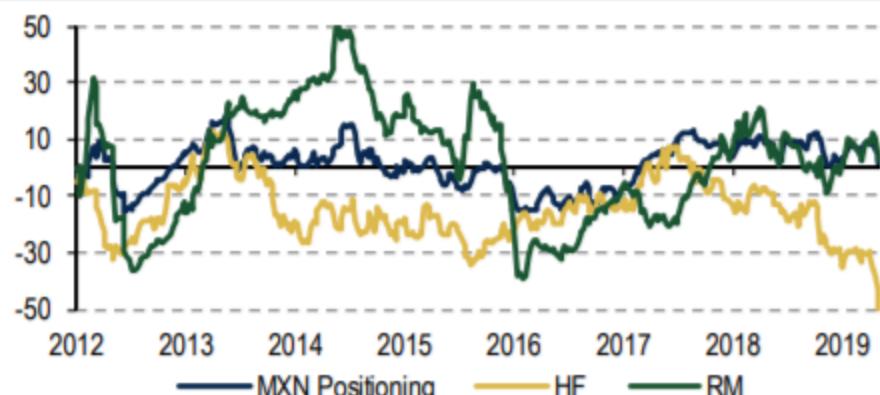


Source: BofA Merrill Lynch Global Research, Bloomberg

**Chart 157: BofAML Weekly indexed MXN flow**

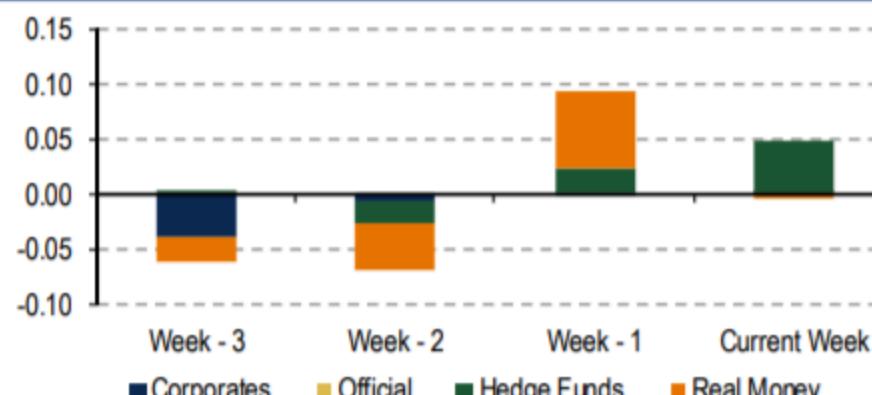


**Chart 158: MXN Positioning**

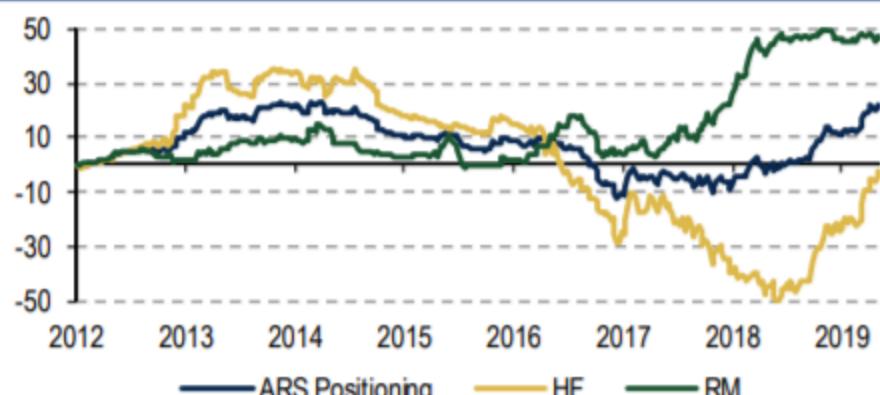


Source: BofA Merrill Lynch Global Research, Bloomberg

**Chart 159: BofAML Weekly indexed ARS flow**

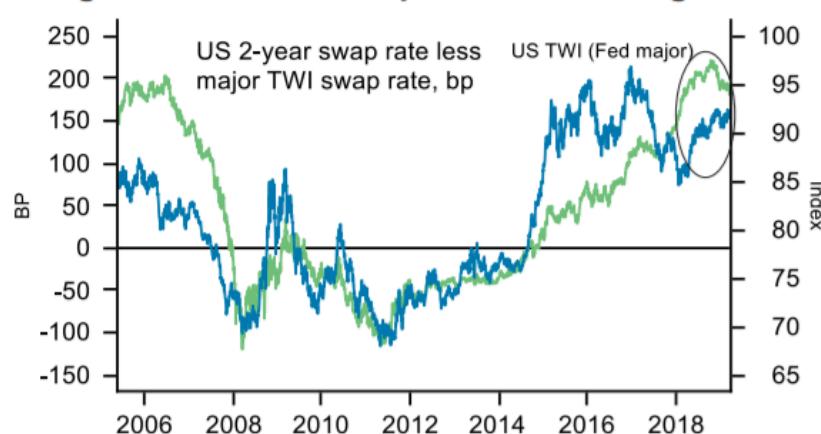


**Chart 160: ARS Positioning**



Source: BofA Merrill Lynch Global Research, Bloomberg

**Fig. 1: USD has decoupled from rates again**



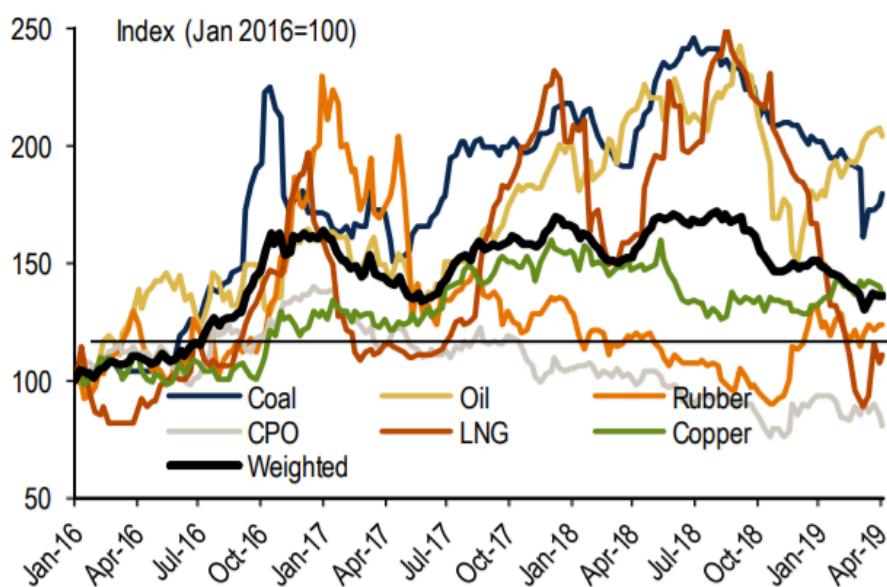
Sources: Macrobond, Bloomberg, BNP Paribas

**Fig. 2: Vol-adjusted carry still high**

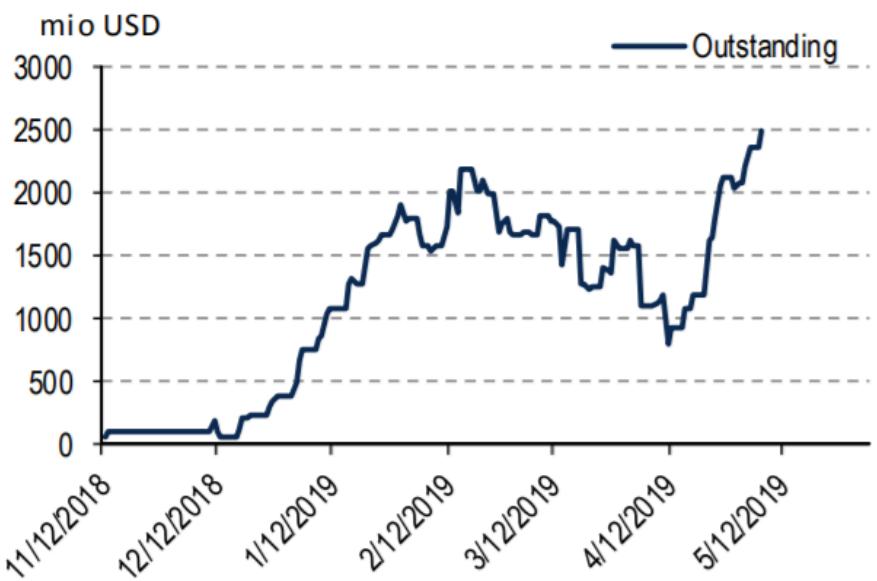


Sources: Macrobond, Bloomberg, BNP Paribas

**Chart 2: Palm Oil, Coal and LNG have led the collapse in ToT**



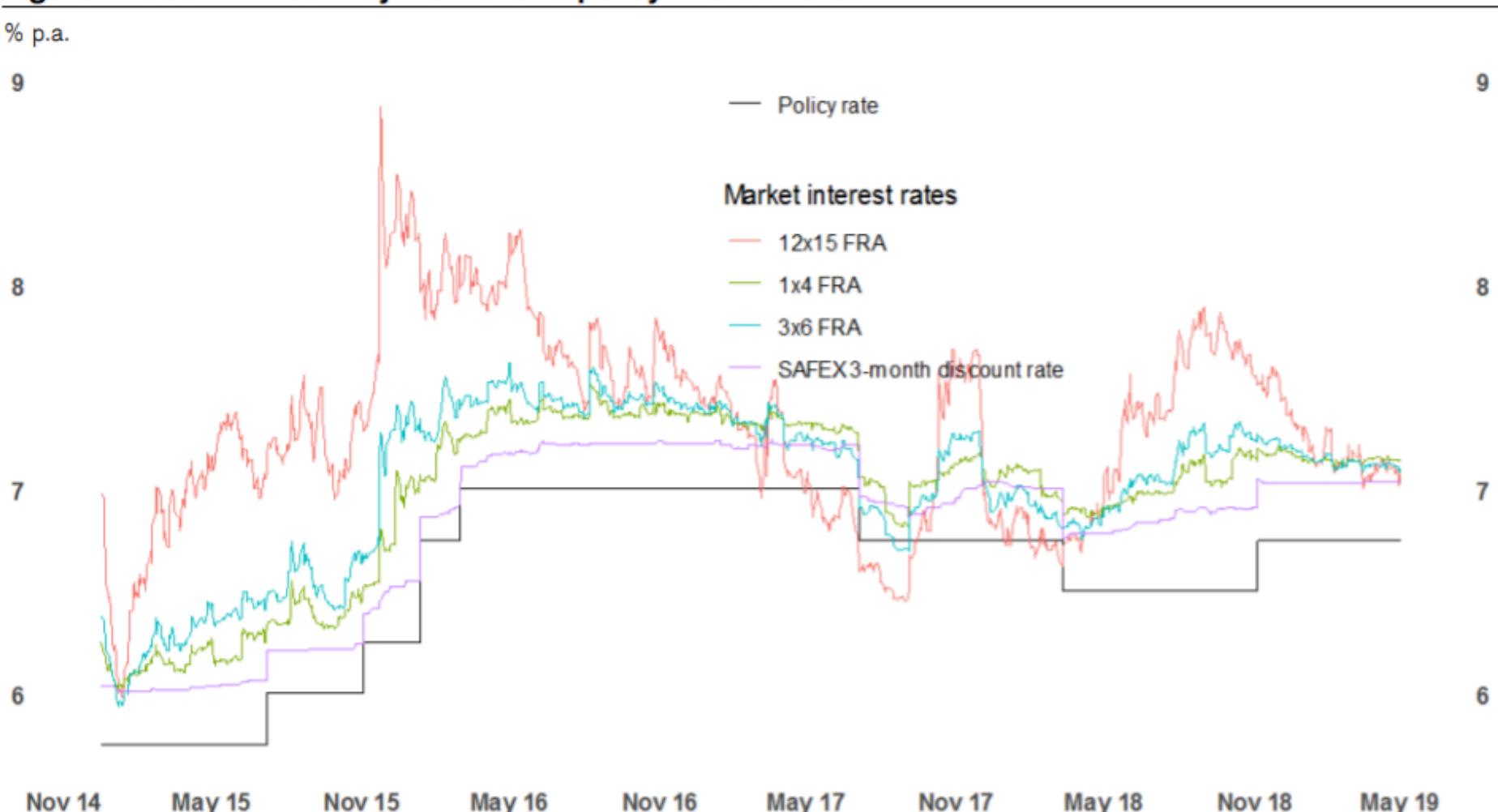
**Chart 3: Outstanding DNDFs reaching new highs**



## BI to let go of spot

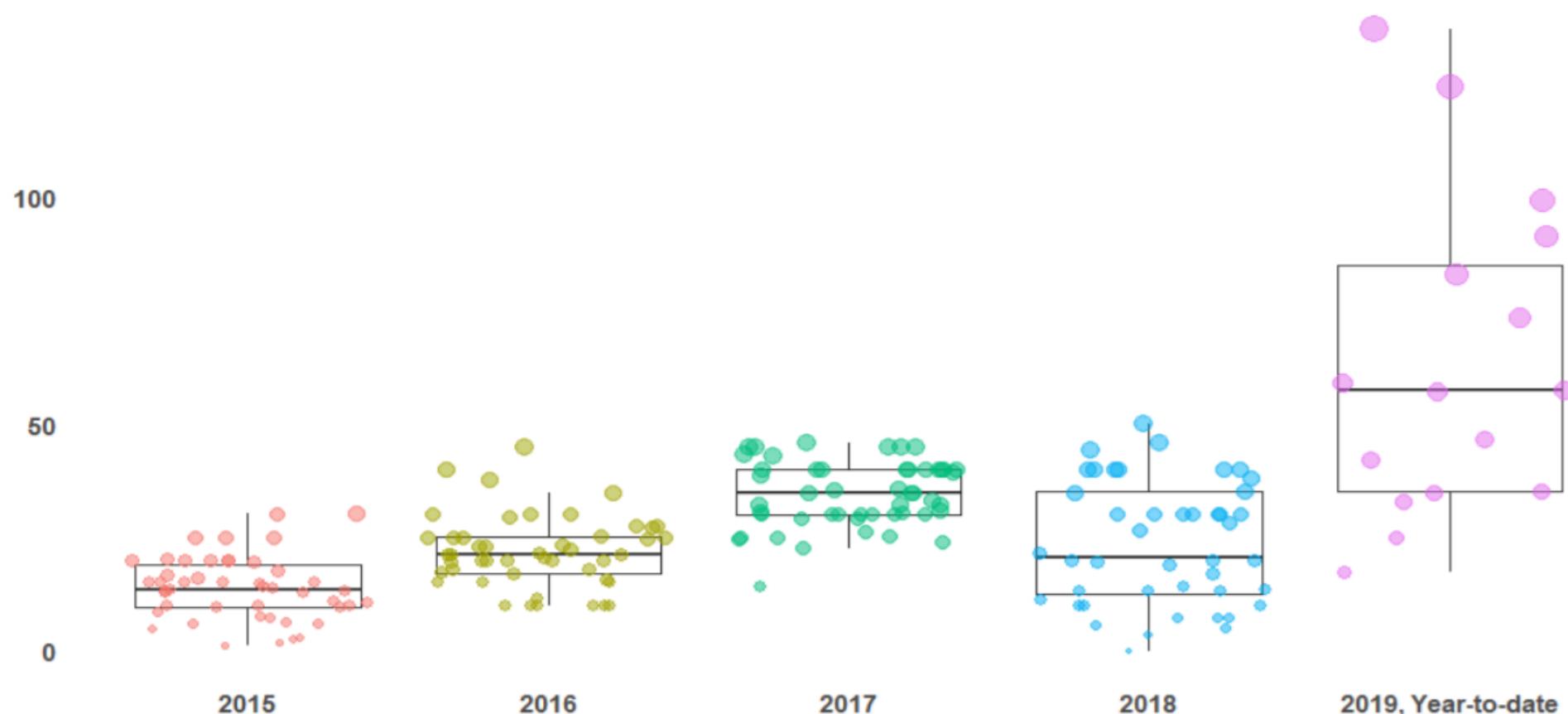
Given the collapse in terms of trade and the fact that IDR looks a bit too strong on a REER basis, we think BI will have little choice on the currency front and will allow Rupiah to weaken. BI will only “manage” the weakness. Chart 3 shows that outstanding DNDFs (through auctions) have sharply risen since the middle of April and has now reached a new all-time high of 3.1bn USD. The sharp rise in DNDF outstanding also constrains BI's hand in terms of their capability to consistently intervene.

**Figure 4. South Africa: Key market and policy interest rates**



**Figure 2. Russia: Weekly OFZ allotment in auctions<sup>1</sup>**

RUB bn



Source: Ministry of Finance, the BLOOMBERG PROFESSIONAL™ service, Credit Suisse estimate

**Global EM Bond Portfolio Strategy**

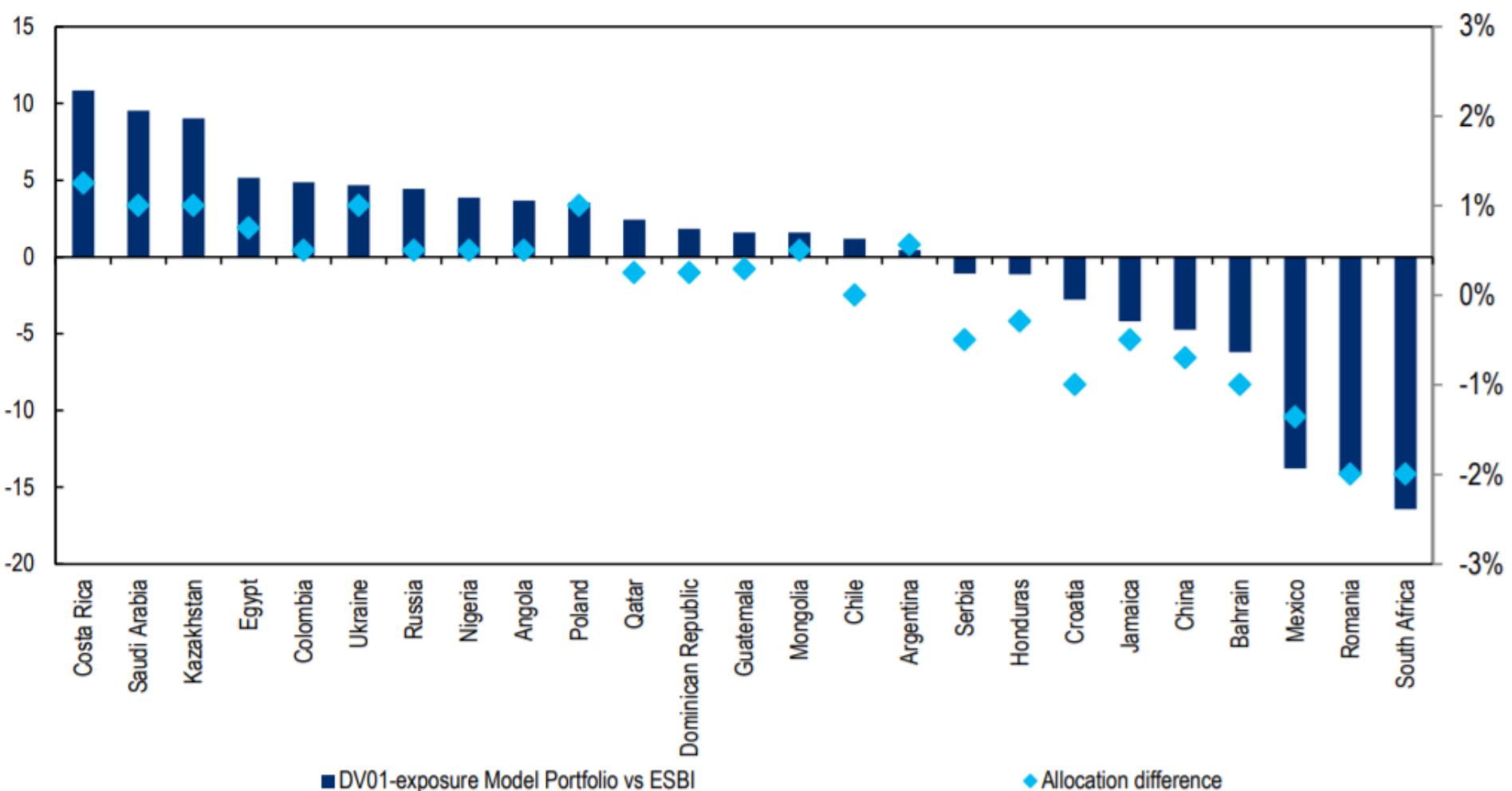
22 May 2019

**Citi Research**

## EM Sovereign Credit Portfolio Allocation Analysis

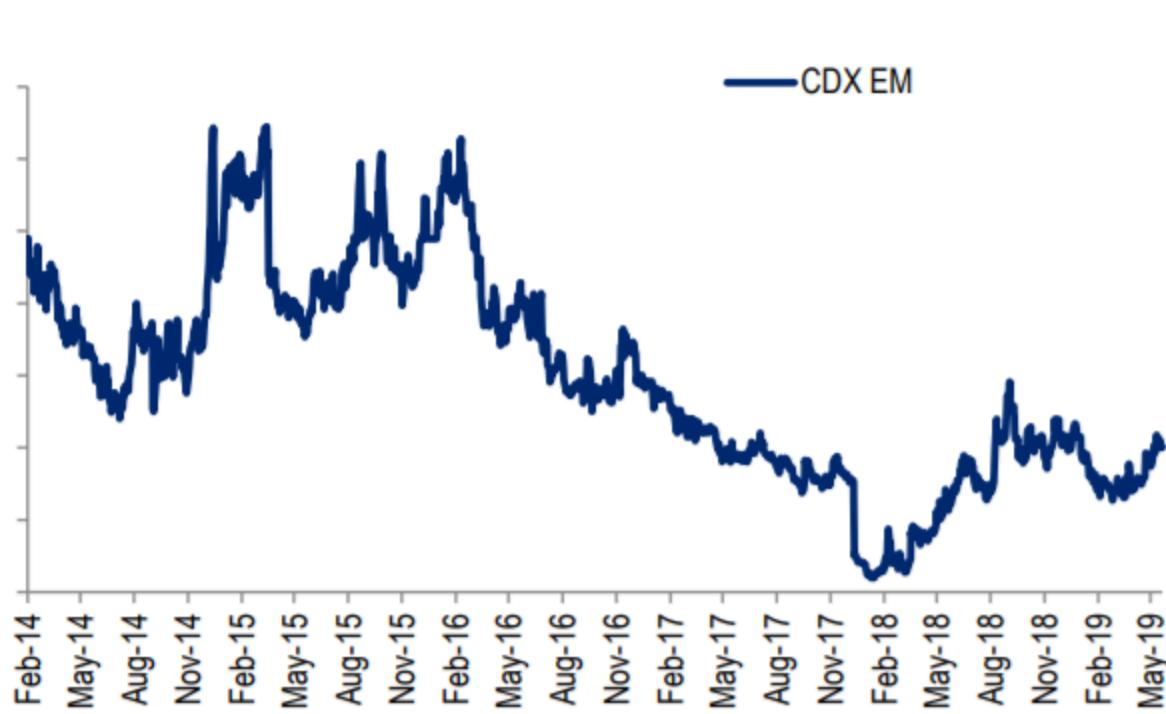
**Figure 1. Exposure of Model Portfolio vs Citi Emerging Markets USD Sovereign Bond Index (ESBI)\***

Model Portfolio vs ESBI Relative Exposure



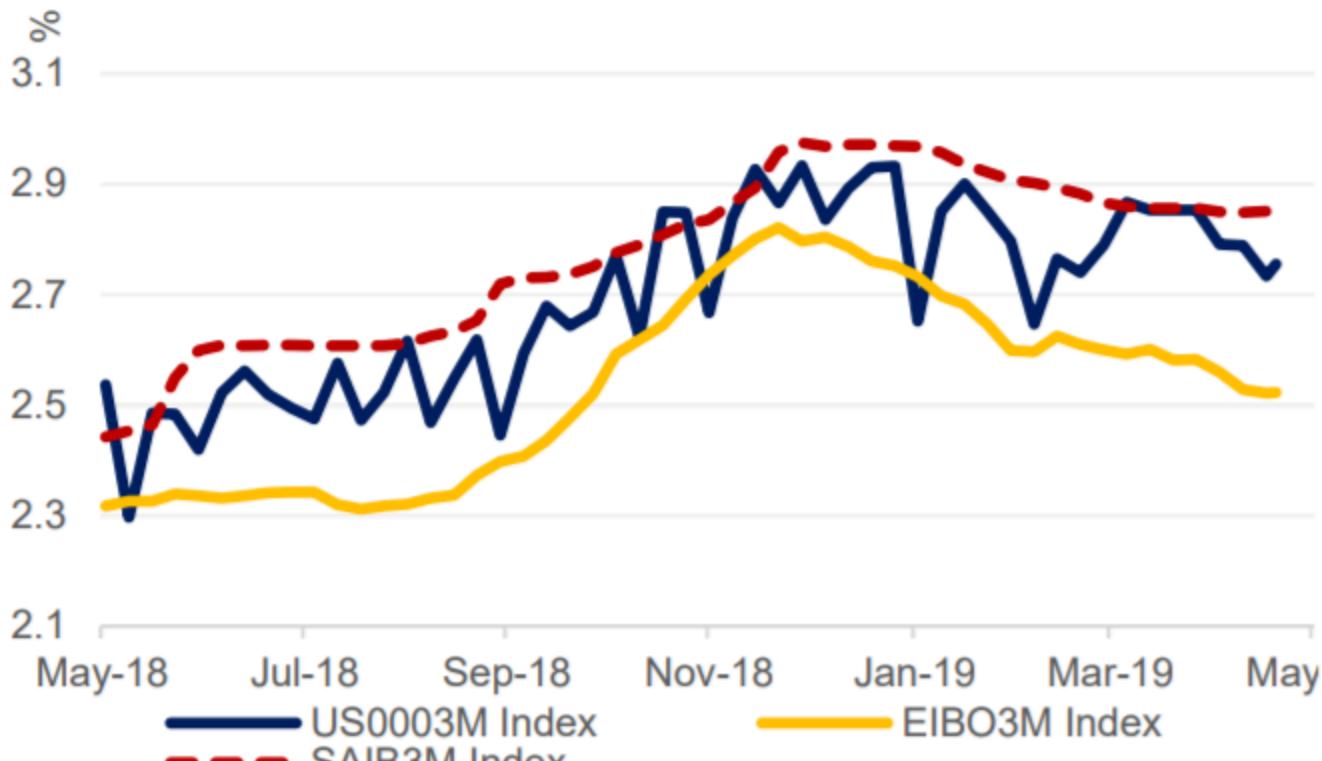
Source: Citi Research

**Figure 3. The cost of EM protection has marched higher**



Source: Bloomberg, Citi Research

### 3m EIBOR / SAIBOR / LIBOR rates



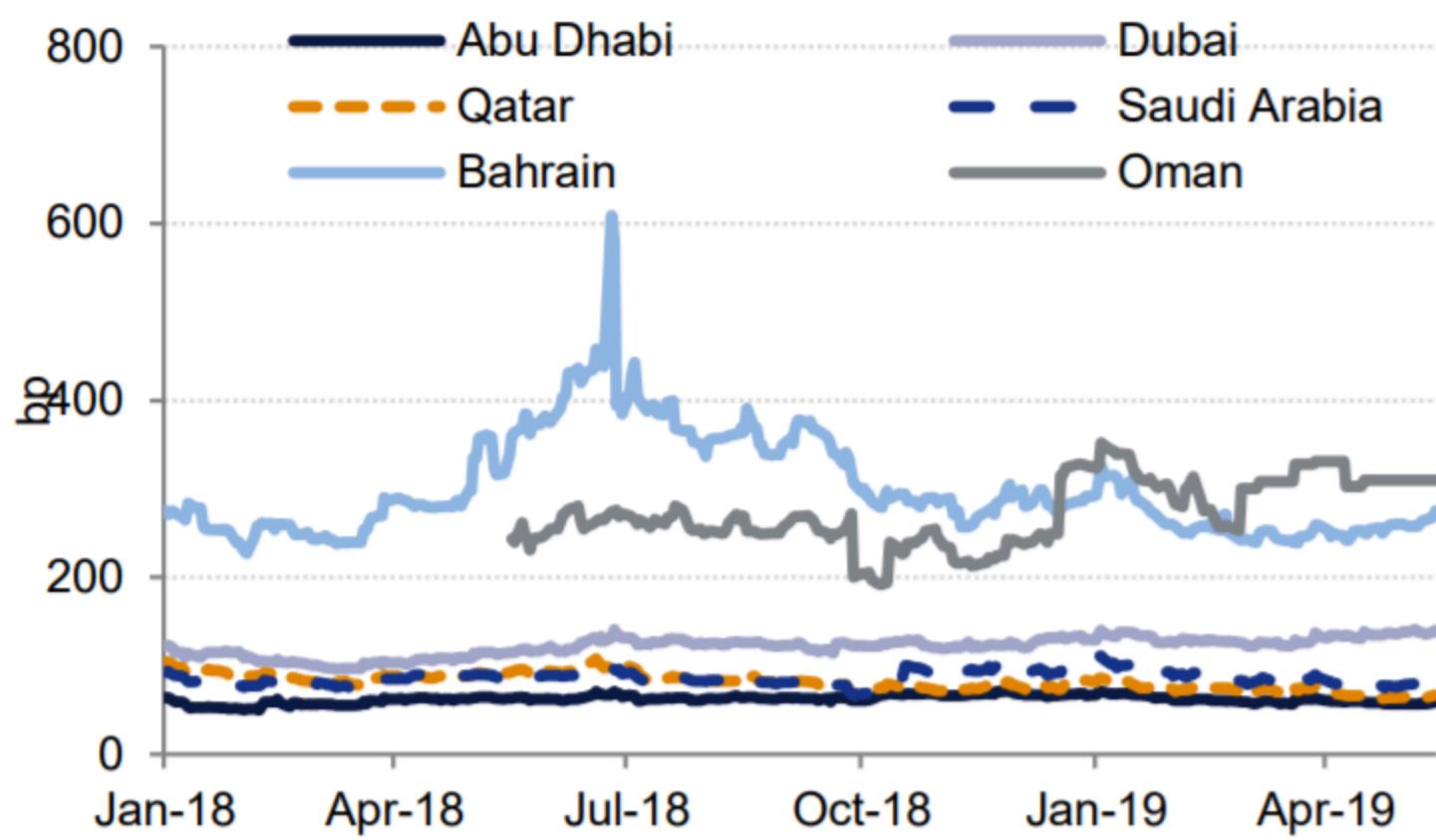
Source: Bloomberg, Emirates NBD

## Bbg Barclays GCC Bond Index - OAS



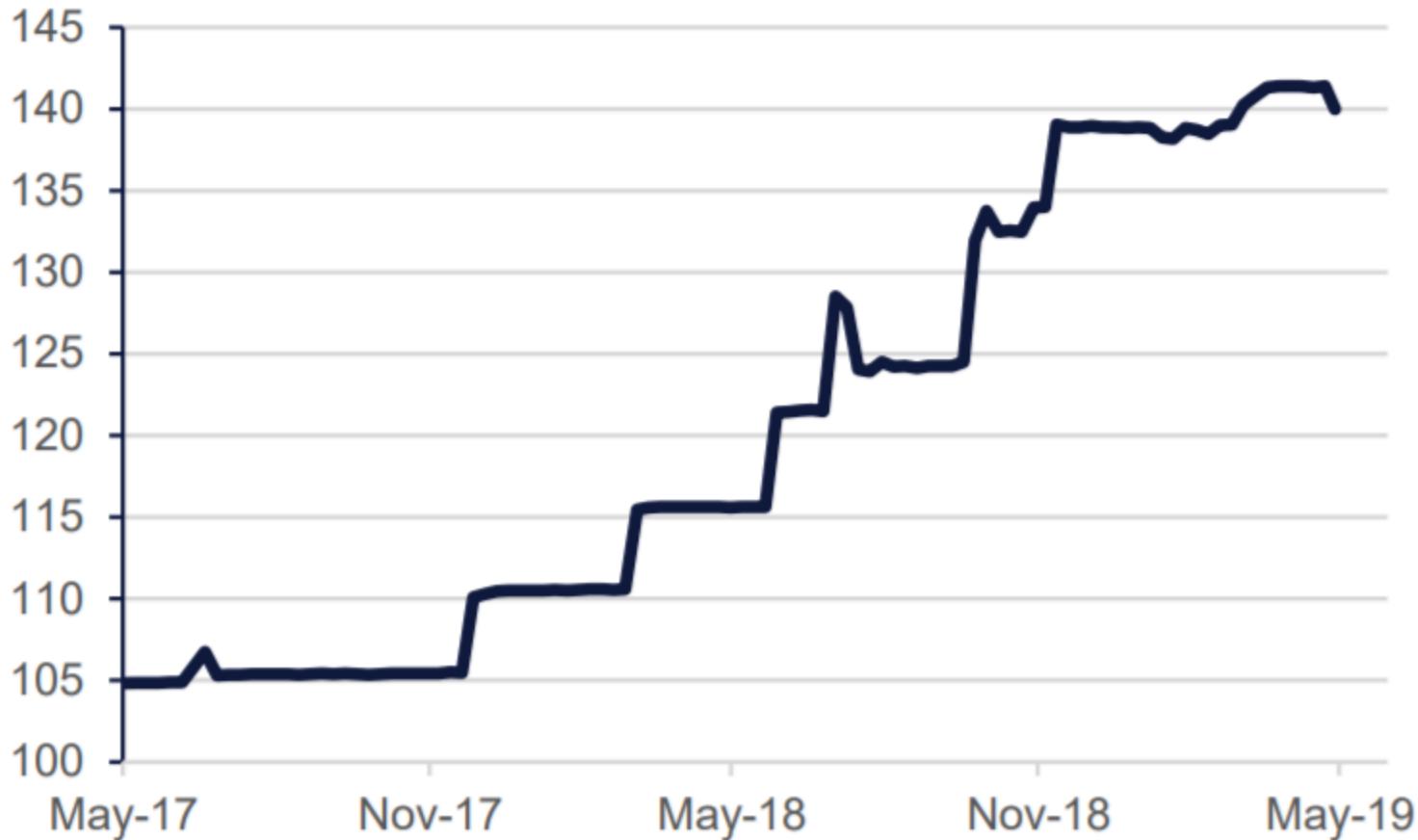
Source: Bloomberg, Emirates NBD

## CDS Spreads



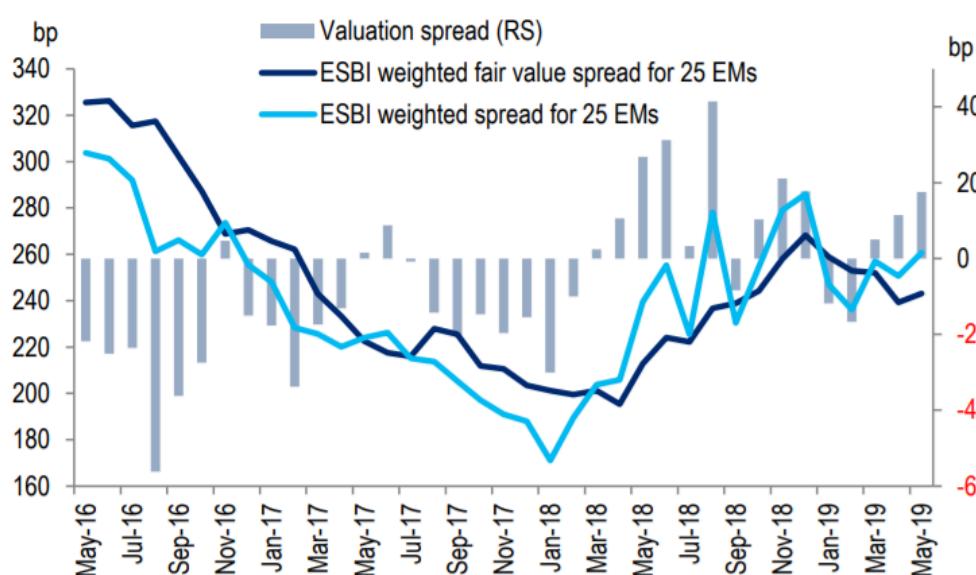
Source: Bloomberg

## Multiple devaluations drives PKR/USD to new lows



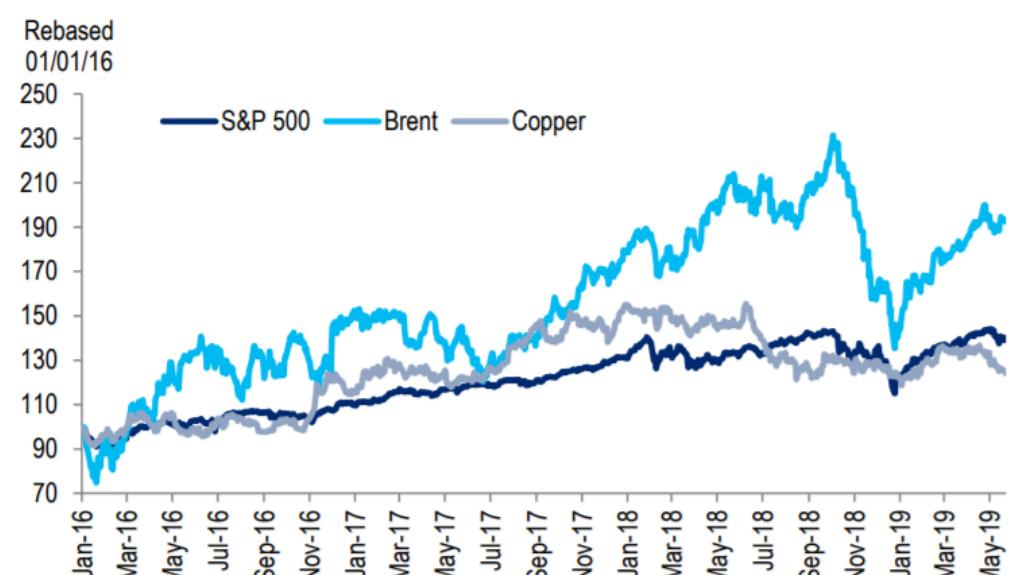
Source: Bloomberg, Emirates NBD Research

Figure 5. EM looks cheap vs its fundamental value

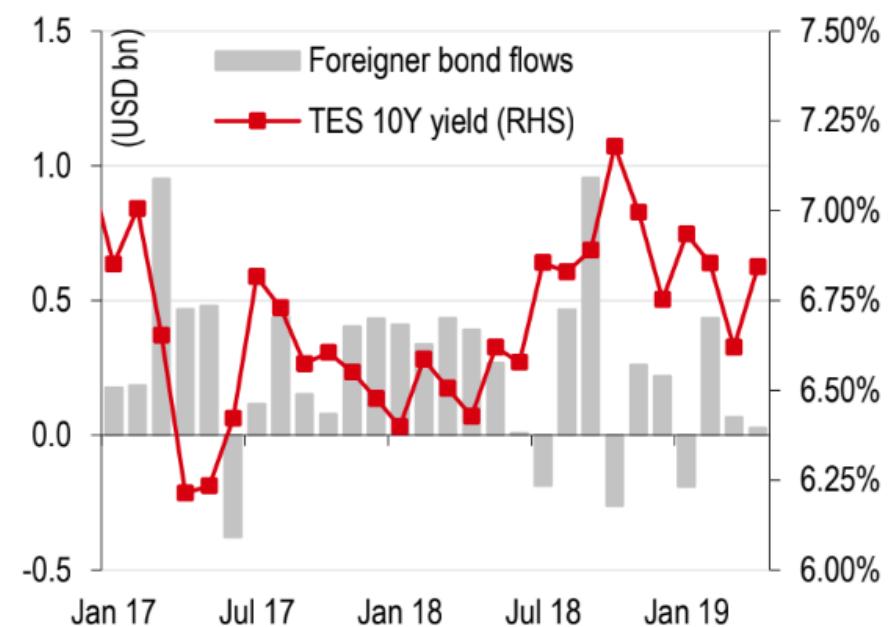


Source: Bloomberg, Citi Research

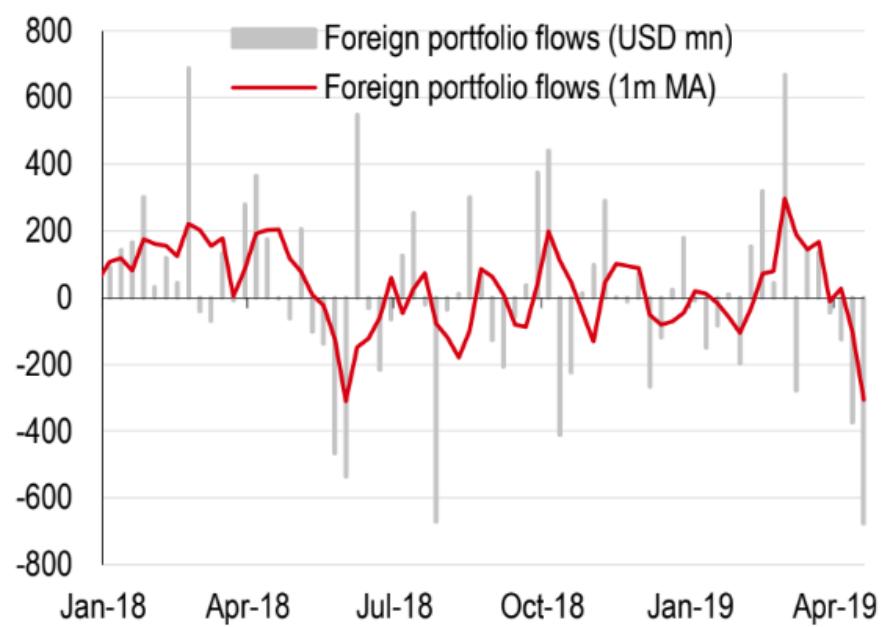
Figure 6. Plunge in copper price is worrisome



Source: Bloomberg, Citi Research

**4. Foreign bond positioning looks cleaner**

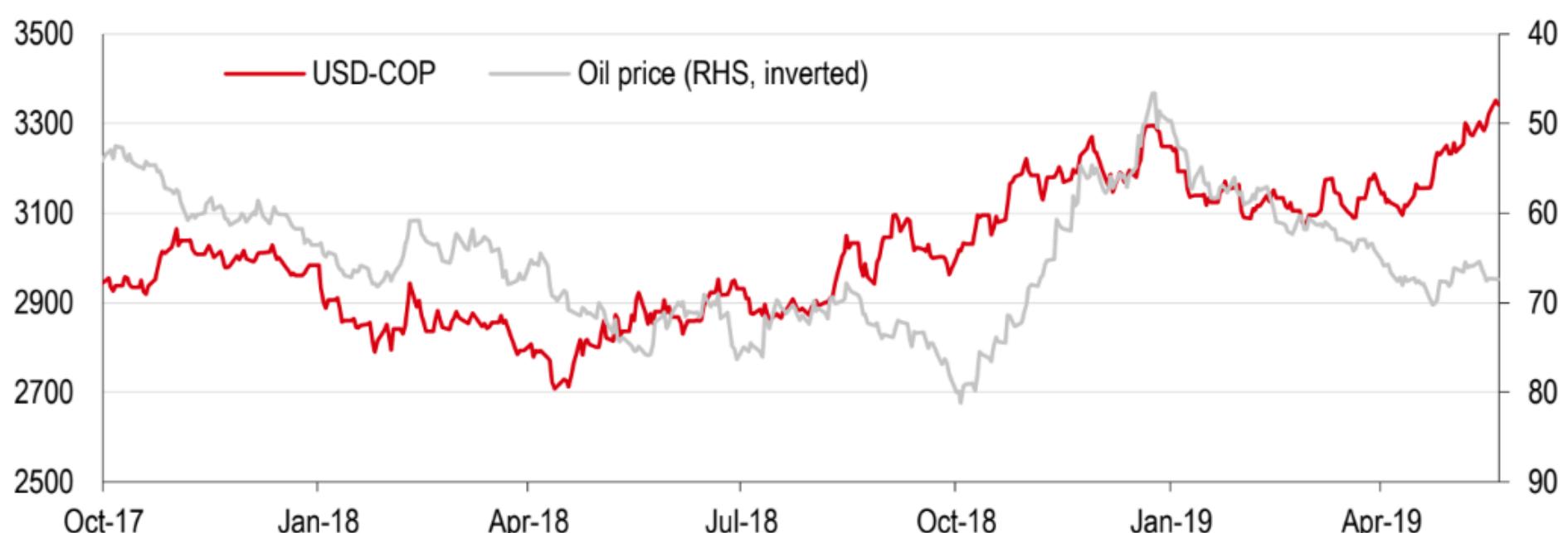
Source: Bloomberg, Ministry of Finance and HSBC.

**5. Foreign portfolio outflows**

Source: BanRep and HSBC.

**Breaking the wheel?**

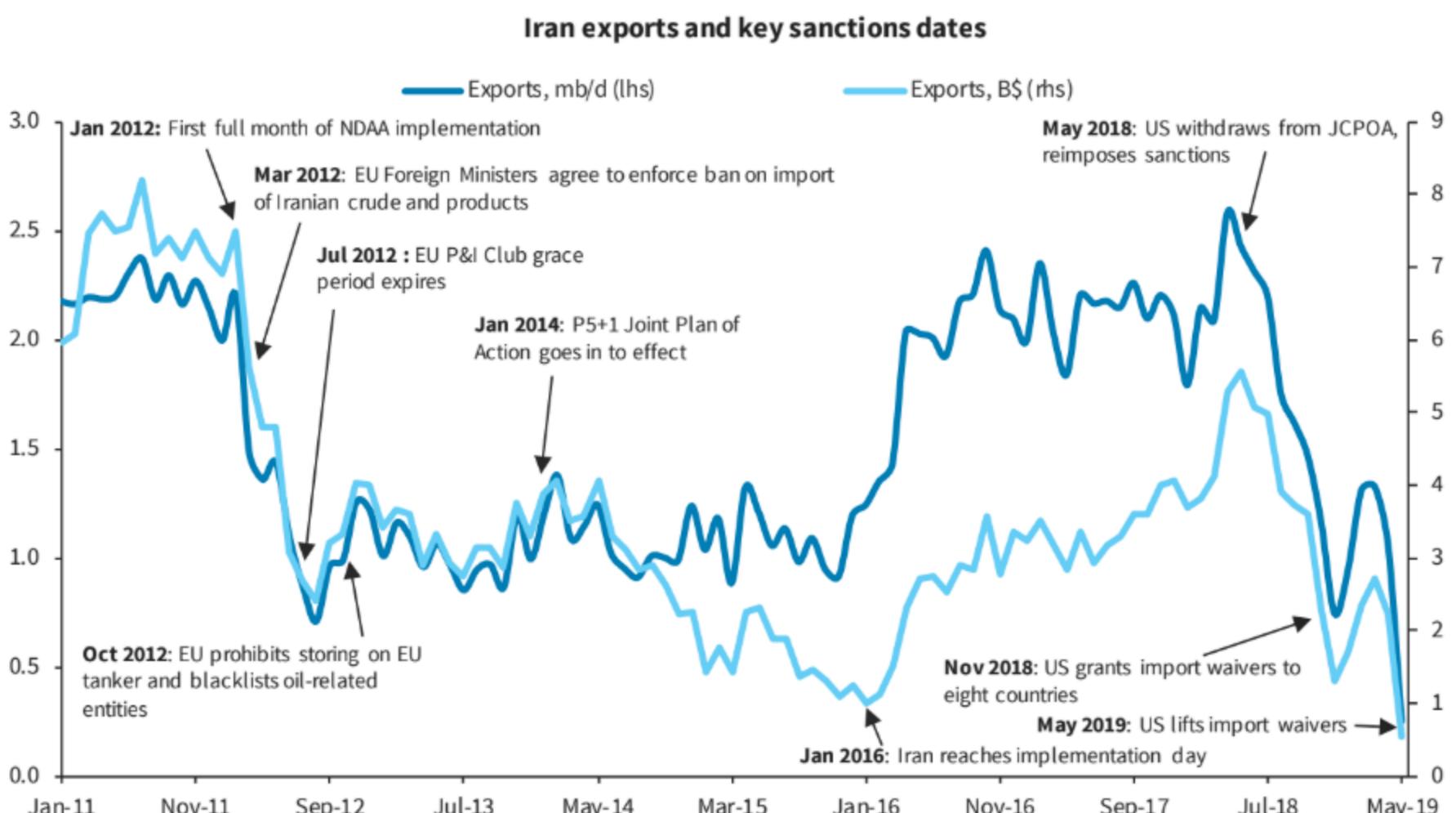
Several things should be working in COP's favor at the moment: oil prices have been firm, the currency looks cheap in real terms and local banks' long USD positioning has been quite heavy. However, COP has been the worst performing currency in LatAm over the last month, which can be attributable to a mix of factors.

**1. USD-COP dislocated from move in oil**

Source: Bloomberg and HSBC.

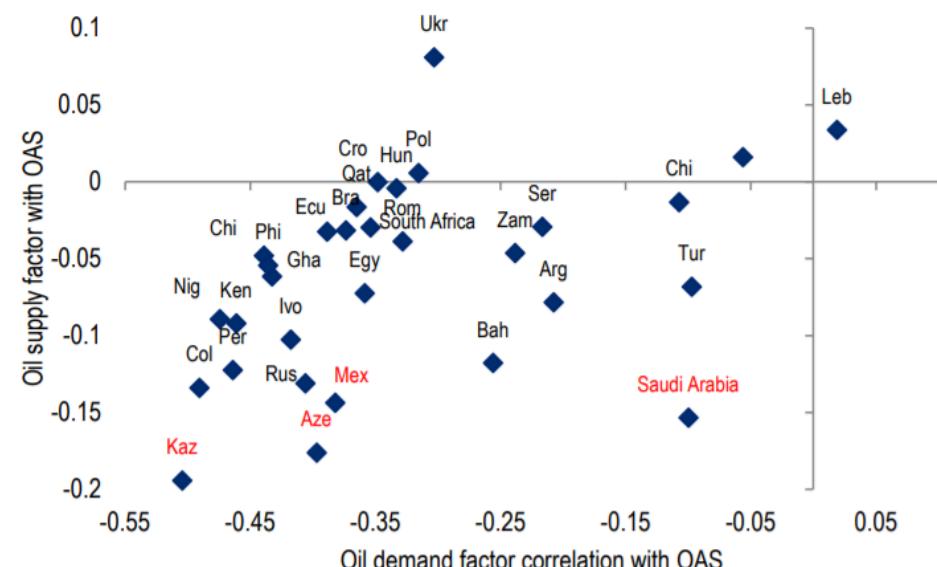
# Iran's exports have fallen sharply over the past twelve months

Exports reached a record high of almost 2.6 mb/d in April last year and have since fallen to just 0.3 mb/d. Revenues have reached a record low of less than \$1bn/month.



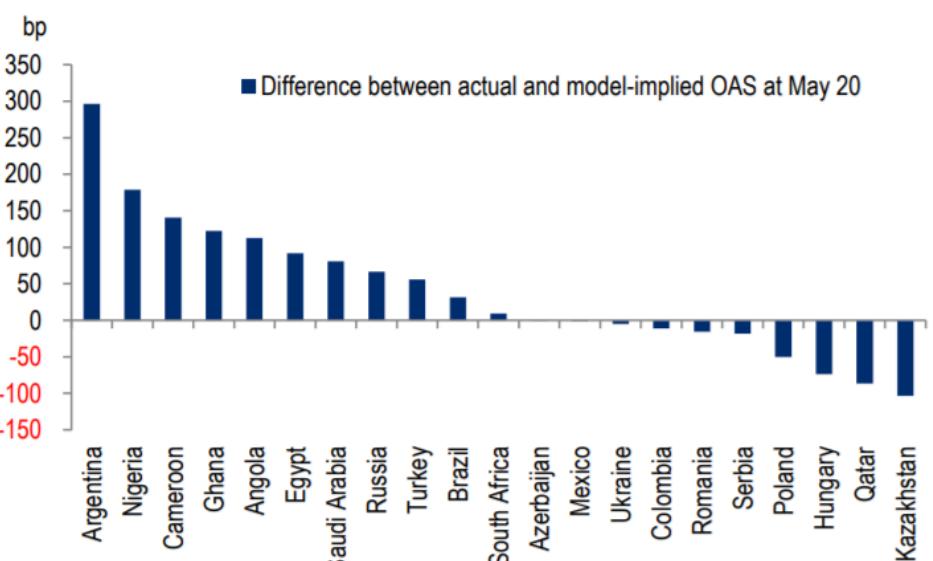
Source: IEA, Petro-logistics (exports), Barclays Research

**Figure 11. Saudi Arabia and Kazakhstan are one of the most sensitive to supply-driven oil fluctuations.**



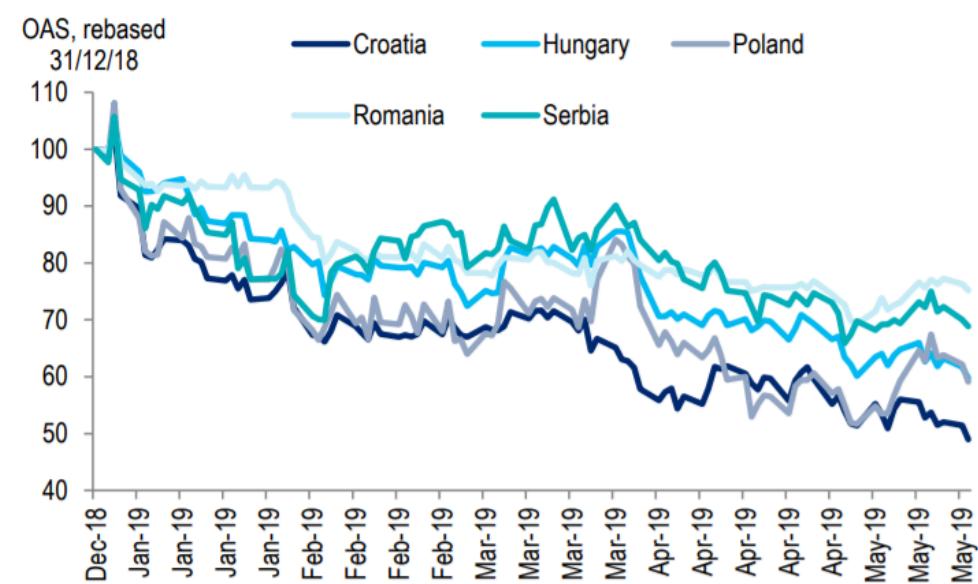
Source: Bloomberg, Citi Research

**Figure 12. Nigeria, Ghana, Egypt and Saudi Arabia are among the cheapest sovereigns.**



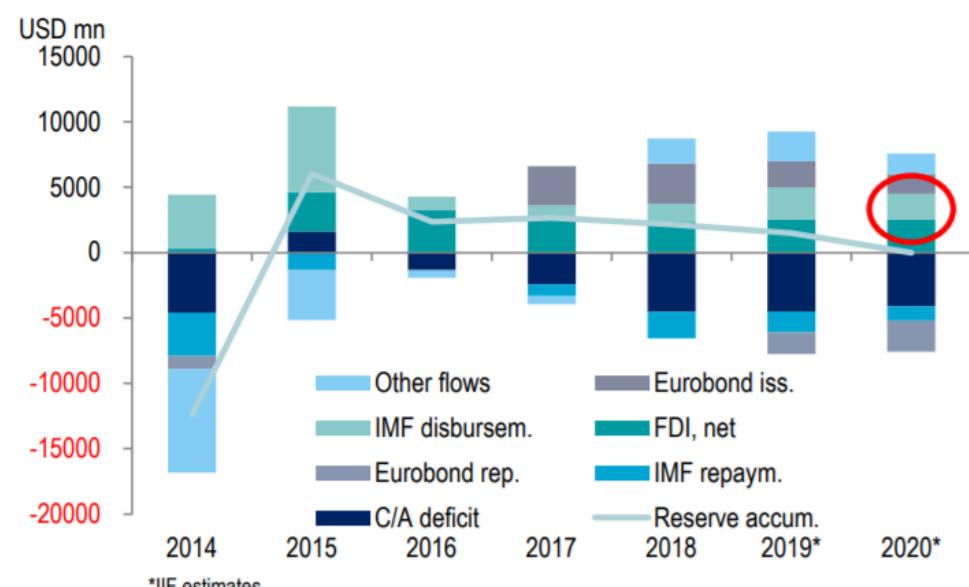
Source: Bloomberg, Citi Research

**Figure 13. Poland has widened more than its peers**



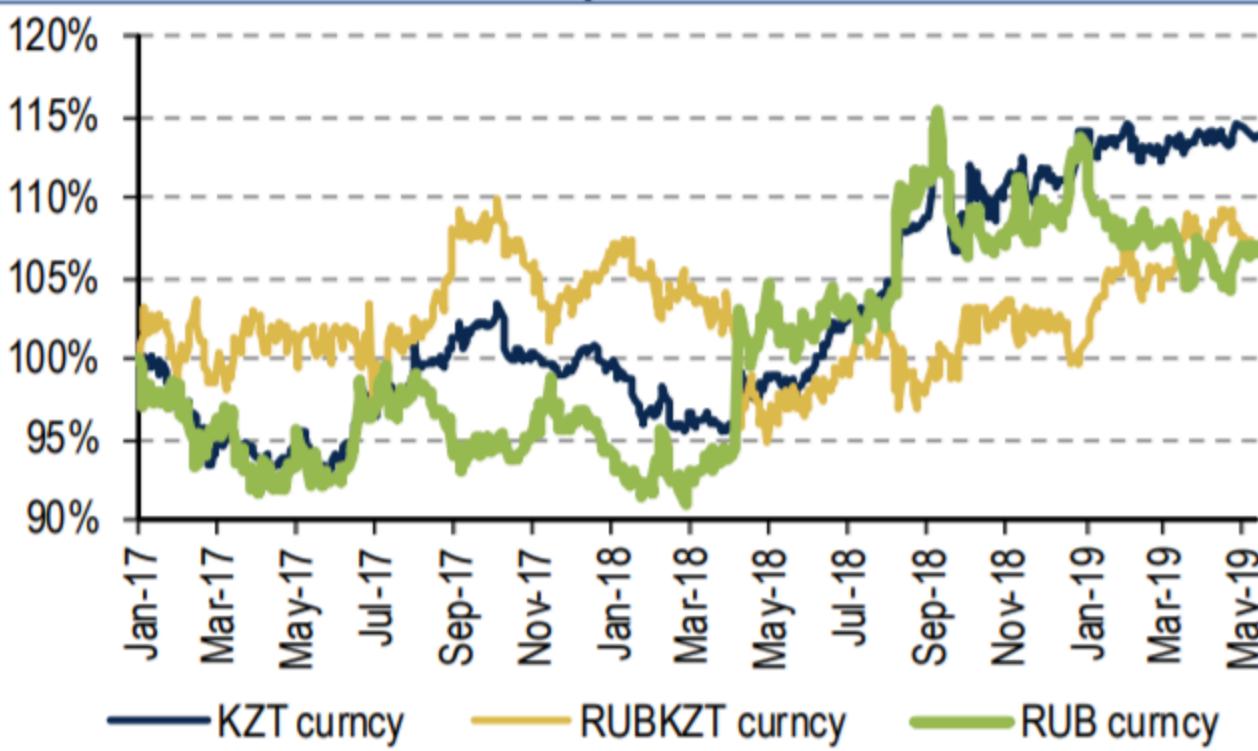
Source: Citi Velocity, Citi Research

**Figure 14. Ukraine high redemptions require the continuation of IMF support**



Source: IIF, Citi Research

## Chart 47: KZT continues to underperform RUB

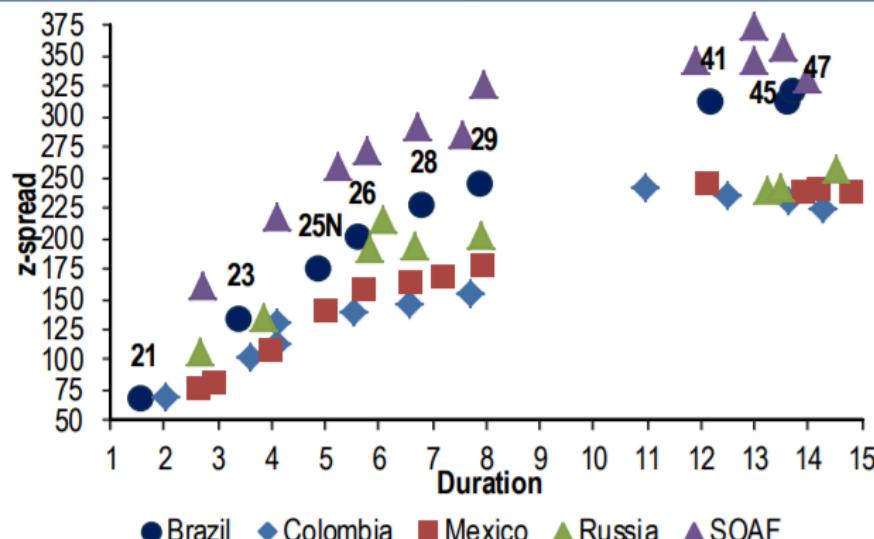


Ticker	Last Price	Time	Bid	%1D	Net	Price Change Week	Chg Net 1M	%YTD	%1M	Mid YTM	Mid Spread To Treasury (bp)	Mid Z-Sprd	Bid Z-Sprd	YAS Yld Sprd
UKRAIN 7 3/4 09/01/19	100.445	11:24	100.240	-.01%	-.010	+.010		+1.14%		5.891	352.0800	331.9	412.0	277.566
UKRAIN 7 3/4 09/01/20	100.875	11:25	100.625	-.12%	-.125	+.125		+4.06%		6.997	468.0884	463.4	484.3	463.423
UKRAIN 7 3/4 09/01/21	1100.060	11:25	99.810	-.06%	-.065	-.082		+6.02%		7.696	549.2147	549.0	562.8	540.560
UKRAIN 7 3/4 09/01/22	99.335	11:25	99.045	-.17%	-.172	+.160	+.250	+7.83%	+.25%	7.979	581.4584	583.5	594.1	577.843
UKRAIN 7 3/4 09/01/23	197.255	11:25	97.005	-.25%	-.242	-.145		+7.61%		8.512	633.8013	638.2	646.9	631.094
UKRAIN 7 3/4 09/01/24	95.571	11:25	95.237	-.36%	-.347	-.342	-1.774	+8.24%	-1.82%	8.816	661.9670	667.6	676.1	661.725
UKRAIN 7 3/4 09/01/25	94.570	11:25	94.240	-.36%	-.338	-.486	-2.182	+8.72%	-2.26%	8.896	665.3083	673.5	681.0	670.770
UKRAIN 7 3/4 09/01/26	93.465	11:25	93.220	-.44%	-.410	-.280	-1.695	+9.16%	-1.78%	8.991	670.5662	680.7	685.7	661.880
UKRAIN 7 3/4 09/01/27	92.480	11:25	92.230	-.56%	-.520	-.590	-2.135	+8.80%	-2.26%	9.059	673.7557	684.9	689.6	668.953
UKRAIN 7 3/8 09/25/32	187.811	11:26	87.472	-.71%	-.624	-.740	-2.766	+10.05%	-3.05%	8.958	657.5260	672.7	677.9	663.990
UKRAIN 8.994 02/01/24	100.177	11:25	99.851	-.41%	-.417	-.276	-1.868	+7.04%	-1.83%	8.941	676.3076	680.6	689.5	673.883
UKRAIN 9 3/4 11/01/28	102.287	11:25	101.994	-.47%	-.488	-.255		+9.03%		9.377	707.1868	714.0	718.9	700.628

## Turkey - Money-Market and Cross-Currency Swap curve

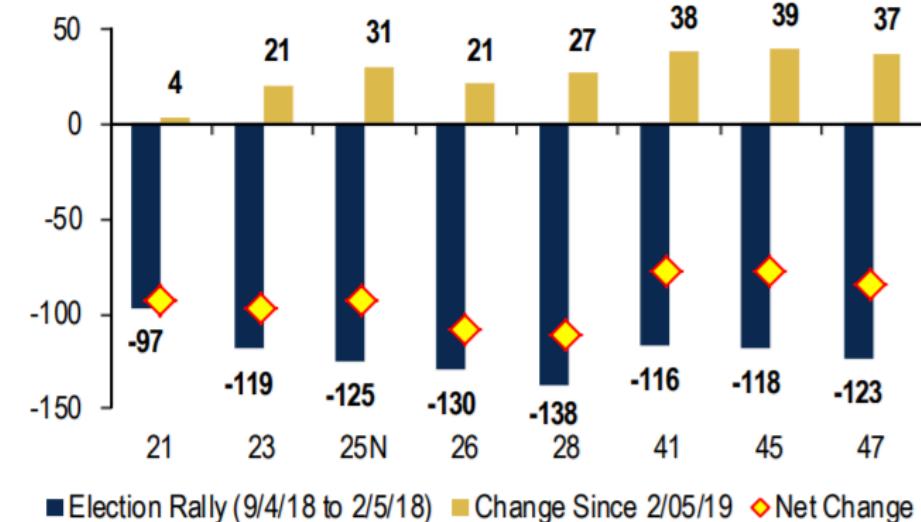
Contracts	Level	change since			z-score (1Y)	Carry/Roll over 3m			Carry/Roll Protection Ratio		
		1d	7d	1m		B/E	Vol	Ratio			
<b>Money-Market curve</b>											
3m FX Implied Yield	25.93	-19	-341	-18	0.62	-	-	-	-	-	-
6m FX Implied Yield	26.70	-50	-354	-52	0.74	-18.6	596	-	-	75%	
<b>Forward Implied yield</b>											
3m3m FX Implied yield	25.74	-69	-324	-89	0.80	-18.6	609	-	-	73%	
6m3m FX Implied yield	25.56	-99	-317	-7	1.05	-18.4	673	-	-	71%	
9m3m FX Implied yield	24.71	-103	-237	33	0.98	-84.8	742	-	-	83%	
12m6m FX Implied yield	23.31	-94	-223	-18	0.91	-128.9	675	-	-	89%	
<b>Cross-Currency Swap curve</b>											
<b>Benchmark Cross-Currency Swaps</b>											
1Y XCCY	28.08	-90	-372	-23	0.94	-33.6	738	-	-	75%	
2Y XCCY	26.17	-97	-306	-23	0.94	-89.0	743	-	-	83%	
5Y XCCY	22.28	-89	-272	-75	0.96	-80.3	597	-	-	85%	
10Y XCCY	19.29	-89	-259	-110	1.09	-63.0	430	-	-	85%	
1y1Y XCCY	23.79	-108	-226	-21	0.87	-114.9	748	-	-	86%	
2y2Y XCCY	19.05	-78	-214	-115	0.86	-68.6	497	-	-	84%	
5y5Y XCCY	13.14	-57	-159	-161	1.42	-20.7	101	-	-	74%	
<b>Benchmark Cross-Currency Swap Slope Trades</b>											
1Y - 2Y XCCY	-191	-8	67	0	-0.13	-55.5	82	-	-	38%	
1Y - 5Y XCCY	-580	1	100	-52	-0.49	-46.8	223	-	-	82%	
2Y - 5Y XCCY	-389	8	34	-52	-0.64	8.7	187	0.05	56%		
2Y - 10Y XCCY	-688	9	47	-87	-0.63	26.1	343	0.08	51%		
5Y - 10Y XCCY	-299	0	13	-35	-0.49	17.3	173	0.10	27%		
<b>Cross-Currency Swap curve in detail</b>											
1Y XCCY	28.08	-90	-372	-23	0.94	-33.6	738	-	-	75%	
3m1Y XCCY	27.21	-106	-332	-27	0.96	-87.3	780	-	-	82%	
6m1Y XCCY	26.15	-113	-293	-6	0.96	-105.4	790	-	-	85%	
9m1Y XCCY	24.94	-111	-249	-7	0.91	-121.2	778	-	-	86%	
1y1Y XCCY	23.79	-108	-226	-21	0.87	-114.9	748	-	-	86%	
2y1Y XCCY	20.26	-77	-194	-88	0.87	-77.3	563	-	-	84%	
3y1Y XCCY	17.62	-78	-238	-146	0.84	-51.3	426	-	-	80%	
2Y XCCY	26.17	-97	-306	-23	0.94	-89.0	743	-	-	83%	
3m2Y XCCY	25.25	-104	-279	-32	0.93	-92.3	749	-	-	84%	
6m2Y XCCY	24.25	-106	-255	-28	0.93	-100.1	734	-	-	85%	
9m2Y XCCY	23.19	-101	-228	-36	0.89	-106.0	704	-	-	86%	
1y2Y XCCY	22.19	-94	-214	-51	0.88	-99.4	663	-	-	86%	
3Y XCCY	24.54	-97	-289	-44	0.93	-94.3	696	-	-	86%	
3m3Y XCCY	23.69	-98	-262	-53	0.92	-85.2	689	-	-	84%	
6m3Y XCCY	22.77	-99	-247	-54	0.92	-92.0	666	-	-	85%	
1y3Y XCCY	20.92	-91	-223	-79	0.88	-89.6	594	-	-	86%	
2y3Y XCCY	18.18	-76	-211	-129	0.90	-59.3	442	-	-	81%	
4Y XCCY	23.28	-92	-279	-61	0.93	-87.4	645	-	-	85%	
3m4Y XCCY	22.46	-95	-259	-73	0.93	-81.3	632	-	-	85%	
1y4Y XCCY	19.97	-87	-221	-96	0.90	-79.9	535	-	-	85%	
5Y XCCY	22.28	-89	-272	-75	0.96	-80.3	597	-	-	85%	

**Chart 7: Brazil trades wider in the long-end**



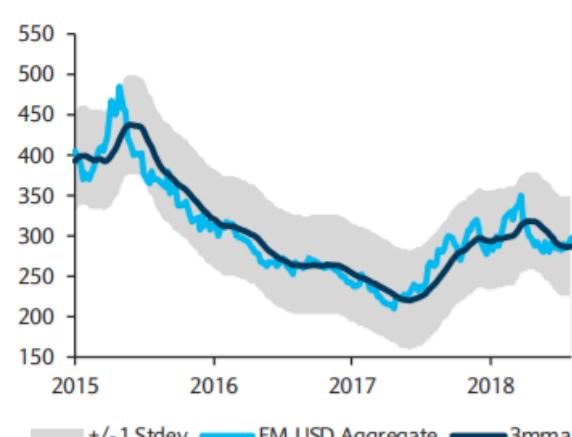
Source: BofA Merrill Lynch Global Research, Bloomberg

**Chart 8: Long-end had smaller election rally and widened most since Feb**



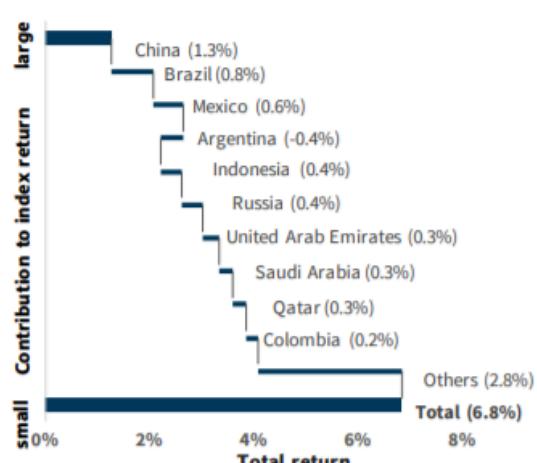
Source: BofA Merrill Lynch Global Research, Bloomberg

**FIGURE 1**  
**Global EM USD aggregate: spread history**



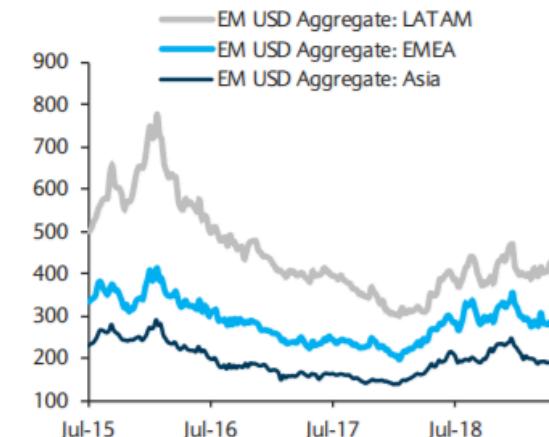
Note: Dark blue line is 3mma. Shaded area encompasses 3mma +/- 1 standard deviation. Source: Barclays Research

**FIGURE 4**  
**Largest contributors/detractors to index 12m returns**



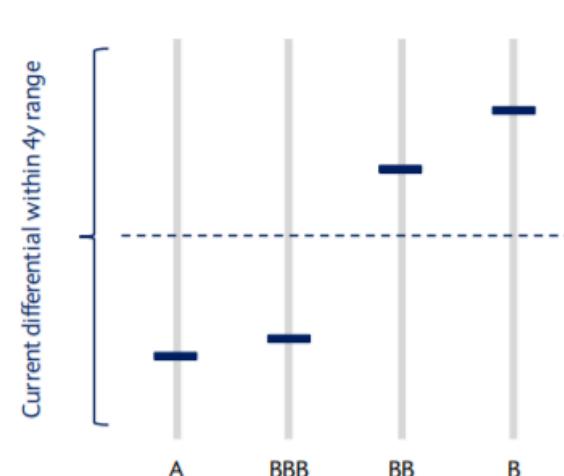
Note: Top 10 countries shown. Each bar and label represent that country's *contribution to index returns* (not the country return).  
Source: Barclays Research

**FIGURE 2**  
**Global EM USD aggregate by region**



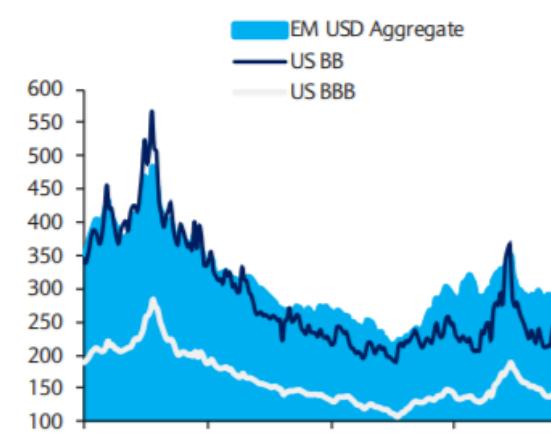
Source: Barclays Research

**FIGURE 5**  
**Differentials vs. US credit by rating over past 4 years**



Source: Barclays Research

**FIGURE 3**  
**Global EM USD Aggregate vs. US credit**



Source: Barclays Research

**FIGURE 6**  
**Total returns for global credit, ranked by YTD return**

	1M	3M	6M	1Y	YTD
US HY	-0.3%	2.6%	6.0%	6.1%	8.2%
EM USD Sov	0.3%	2.1%	7.7%	6.9%	6.3%
EM USD Agg	0.7%	2.6%	7.5%	7.4%	6.2%
US IG	0.9%	3.3%	7.4%	7.7%	6.1%
EM USD Corp-Quasi	0.7%	2.8%	7.0%	7.5%	5.9%
EUR HY	-0.8%	3.0%	4.3%	2.0%	5.7%
EUR IG	0.4%	2.1%	3.8%	3.2%	3.8%

Note: Best- and worst-performing asset class in each period highlighted. Source: Barclays Research

FIGURE 7  
Global EM credit: Current spreads, YTD spread change, YTD % spread change. Data under ratings columns do not include sovereign (only corporates + quasis)

	SOV	CURRENT SPREAD						YTD SPREAD CHANGE						YTD % SPREAD CHANGE									
		CORPORATES AND QUASIS						SOV	CORPORATES AND QUASIS						SOV	CORPORATES AND QUASIS							
		AA	A	BBB	BB	B	CCC		AA	A	BBB	BB	B	CCC		AA	A	BBB	BB	B	CCC		
Total		361	80	118	210	324	653	755	-31	-21	-23	-57	-68	-33	-159	-8%	-21%	-17%	-21%	-17%	-5%	-17%	
Mexico		180		135	302	298			-36		-21	-67	-82			-17%		-13%	-18%	-22%			
China		49		111	185	421	697	1842	-14		-21	-48	-207	-175	-411	-22%		-16%	-21%	-33%	-20%	-18%	
Brazil		216			243	297	232		-26			-17	-64	-68		-11%		-6%	-18%	-23%			
Russia		192			194	253	381	951	-26			-74	-40	-129	-435	-12%		-28%	-14%	-25%	-31%		
Turkey		513				480	758	1407	104			53	105	-241	25%			12%	16%	-15%			
Indonesia		154			219	401	533		-42			-61	-91	-207		-22%		-22%	-19%	-28%			
UAE		98	112	139	180	282	499		-19	-30	-43	-42	-90	-103		-16%	-21%	-24%	-19%	-24%	-17%		
Philippines		78			106				-40			-64				-34%		-38%					
Colombia		166			199	212			-39			-69	-118			-19%		-26%	-36%				
S.Korea		54	66	114	117	238			-18	-19	-19	-38	-83			-25%	-22%	-14%	-24%	-26%			
Chile		62		130	187	378	336	464	-38		-36	-68	-44	-82	-32	-38%		-22%	-27%	-10%	-20%	-6%	
Qatar		119	81	129	135		719		-6	-35	-40	-84		-244		-5%	-30%	-24%	-38%		-25%		
India				155	349	588					-41	-25	-101					-21%	-7%	-15%			
Argentina		1109			455	1049			200			-81	121			22%			-15%	13%			
Peru		111			178	302			-32			-65	-98			-22%			-27%	-24%			
S.Africa		272			177	264	665	425	-20			-90	-65	-55	-217	-7%		-34%	-20%	-8%	-34%		
Hungary		83			63				-44			-68				-35%		-52%					
Kazakhstan		127			215	174	1886		-43			-72	-141	-143		-26%		-25%	-45%	-7%			

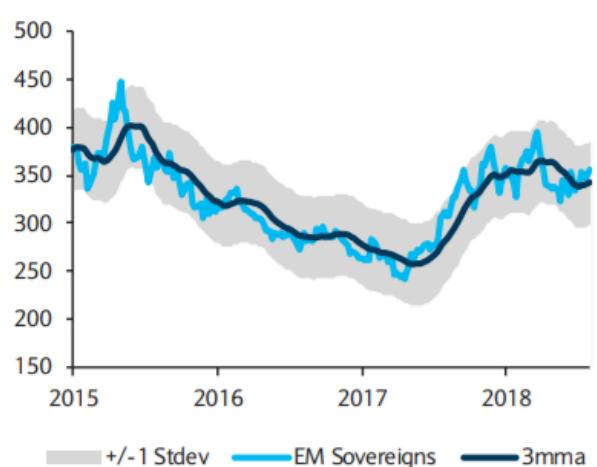
Note: Largest 20 countries in Barclays Global EM USD Aggregate index shown. Top 10% and bottom 10% performing segments within each rating highlighted. Spread performance not adjusted from new issuances.

Source: Barclays Research

20 May 2019

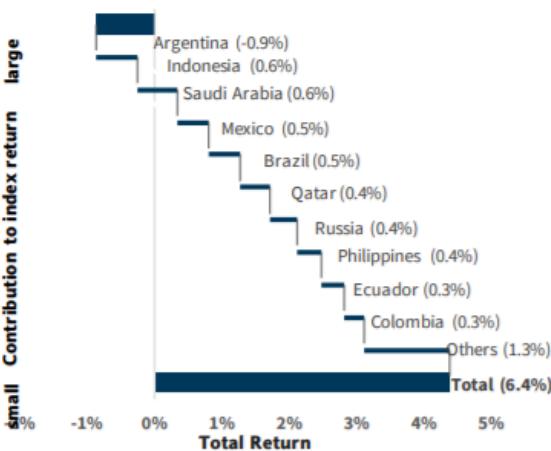
3

Global EM USD sovereigns: spread history



Note: Dark blue line is 3mma. Shaded area encompasses 3mma +/- 1 standard deviation. Source: Barclays Research

Largest contributors/detractors to index 12m returns



Note: Top 10 countries shown. Each bar and label represent that country's contribution to index returns (not the country return). Source: Barclays Research

Corps, quasis, and sovereigns: average spreads today

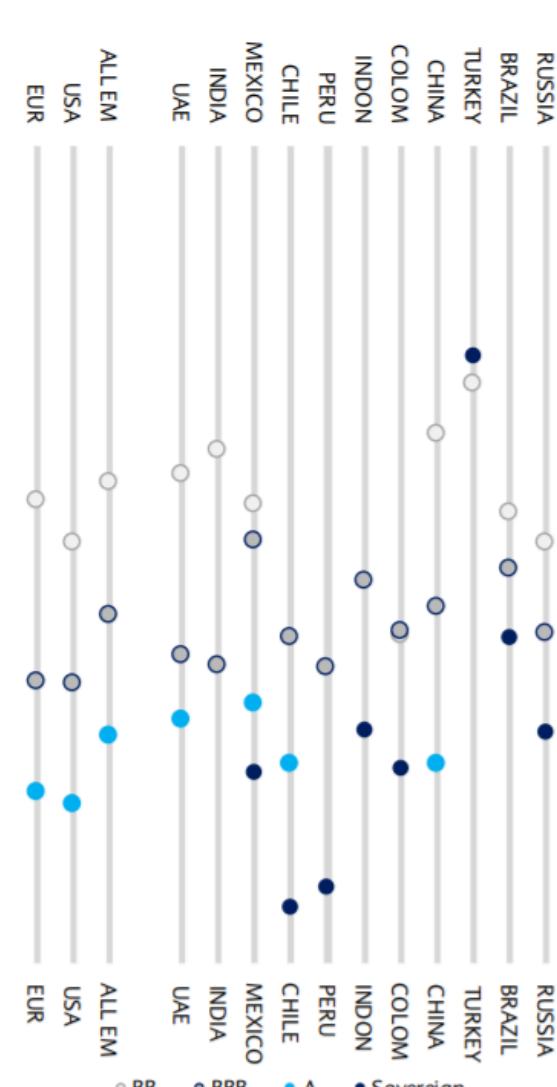
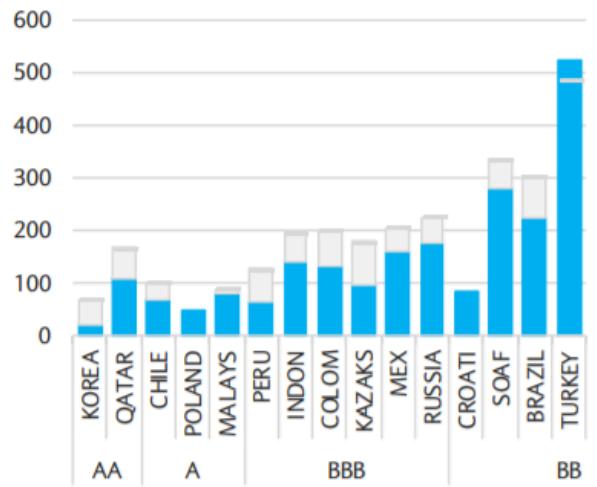


FIGURE 11  
Sovereign spread vs rating (10y in blue, 30y in grey)



Source: Barclays Research

FIGURE 12  
Sovereign bonds versus CDS basis



Note: Basis is CDS minus cash spread. 5y CDS used. Source: Barclays Research

Note: Scale is logarithmic as this allows easier visual comparison between ratings groups trading in different ranges. Source: Barclays Research

20 May 2019

4

We separate sovereigns into low to high beta categories based on their current spreads: current spread, w/w and YTD changes, and one-year range of 10y benchmark bonds

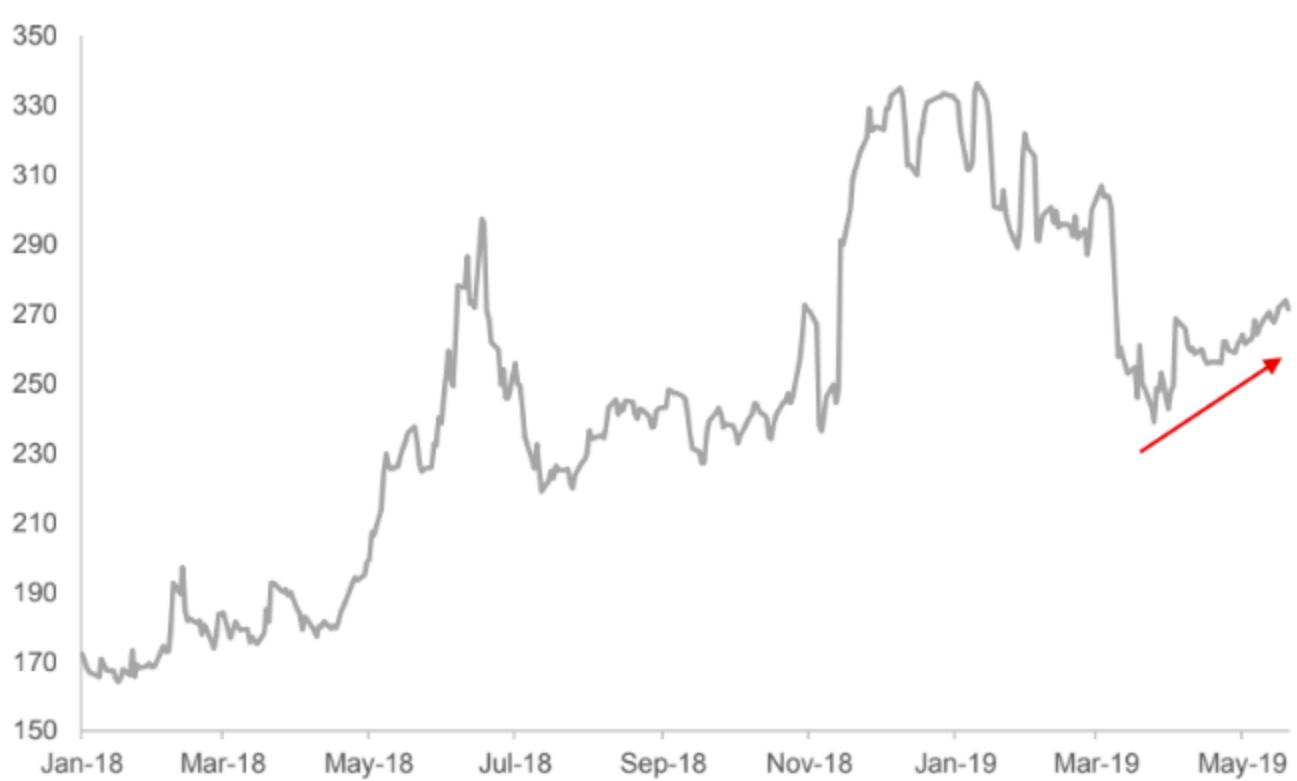
<b>LOW BETA</b>	S.KOREA W/W -9 41	CHILE W/W 0 63	ISRAEL W/W -9 40	PHILIPPINES W/W -11 62	QATAR W/W 3 91	MALAYSIA W/W 3 83	POLAND W/W 0 52	<b>LOW BETA</b>
	41 YTD -31	63 YTD -46	40 YTD -46	62 YTD -53	91 YTD -37	83 YTD -19	52 YTD -44	
PERU W/W -1 66	BOLIVIA W/W -6 305	MEXICO W/W -4 147	PANAMA W/W -6 108	ROMANIA W/W 1 115	URUGUAY W/W -1 103	MOROCCO W/W -15 103		103 YTD -70
	66 YTD -47	305 YTD -120	147 YTD -46	108 YTD -55	115 YTD -63	-1 YTD -42		
<b>LOW/MID BETA</b>	INDONESIA W/W -2 136	HUNGARY W/W -9 76	RUSSIA W/W -10 180	TRINIDAD W/W -4 219	COLOMBIA W/W -4 128	GUATEMALA W/W 7 238	PARAGUAY W/W -1 177	<b>LOW/MID BETA</b>
	136 YTD -62	76 YTD -63	180 YTD -51	219 YTD -101	128 YTD -59	238 YTD -63	177 YTD -60	
KAZAKHSTAN W/W -2 96	VIETNAM W/W -2 147	CROATIA W/W -11 84	TURKEY W/W -29 508	S.AFRICA W/W -6 261	AZERBAIJAN W/W -21 161	NAMIBIA W/W -14 333		333 YTD -131
	96 YTD -63	147 YTD -74	84 YTD -85	508 YTD +75	261 YTD -48	-21 YTD -68		
<b>HIGH MID BETA</b>	BRAZIL W/W 9 197	DOMINICAN RI W/W 6 274	JAMAICA W/W -9 212	COSTA RICA W/W -7 333	HONDURAS W/W -19 232	BAHRAIN W/W 18 366	LEBANON W/W 36 842	<b>HIGH MID BETA</b>
	197 YTD -31	274 YTD -81	212 YTD -46	333 YTD -174	232 YTD -126	18 YTD -52	842 YTD +5	
IVORY COAST W/W -13 371	ARGENTINA W/W 23 1023	SRI LANKA W/W -17 486	TUNISIA W/W 4 563	PAKISTAN W/W -4 427	SENEGAL W/W -15 297	NIGERIA W/W 1 457		457 YTD -123
	371 YTD -116	1023 YTD +179	486 YTD -85	563 YTD -105	427 YTD -143	-15 YTD -141		
<b>HIGH BETA</b>	ARMENIA W/W -23 229	EGYPT W/W 3 414	ETHIOPIA W/W -7 385	KENYA W/W -26 399	ELSALVADOR W/W -4 411	UKRAINE W/W -19 659	GABON W/W -15 521	<b>HIGH BETA</b>
	229 YTD -137	414 YTD -112	385 YTD -124	399 YTD -190	411 YTD -102	-19 YTD -180	521 YTD -149	
MONGOLIA W/W -19 337	ANGOLA W/W -8 497	ECUADOR W/W -18 605	GHANA W/W -13 503	ZAMBIA W/W -5 1384				
	337 YTD -120	497 YTD -102	605 YTD -242	503 YTD -181	-5 YTD +181			

Note: Top and bottom 10% of each category (for weekly and YTD spread changes) highlighted. In case of a tie, all tied issuers are highlighted. Small chart depicts LTM range. Source: Barclays Research

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## Chart 24: Pemex CDS USD SR 5Y.

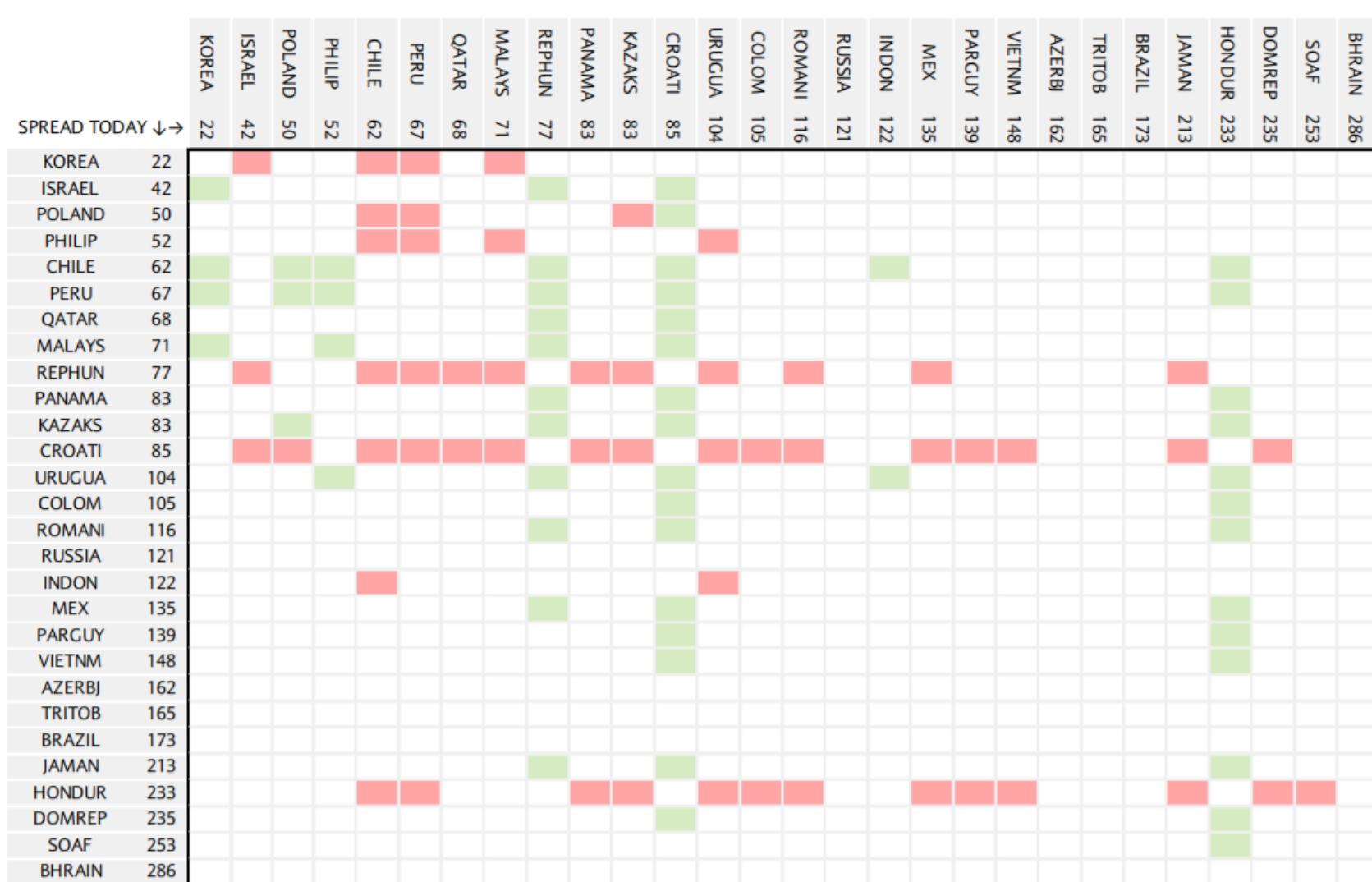


Source: Santander, Bloomberg

# EM LOW BETA SOVEREIGNS: CROSS-COUNTRY RELATIVE VALUE

FIGURE 14

10y benchmark bond performance matrix: low-beta sovereigns. Performance measured over past 12 months. Relationships more than 1.5 standard deviations from the 1y mean highlighted (green = cheap, red = rich, eg, green cell indicates that ticker in left column is cheap to ticker across top row).



Note: Grey cells indicate lack of at least one year of data. Source: Barclays Research

FIGURE 15

New and existing dislocations in LatAm

Relationship	New Dislocations					Conclusion
	Spread History (Z-Spread)	Z-Score			Difference Chart	
6mo Chart	Min	Now	Max			
BRASKM \$2024 - BRFSBZ \$2024		-170	-69	-43	2.7	BRASKM \$2024 is CHEAP to BRFSBZ \$2024
BRASKM \$2022 - VOTORA \$2021		-30	33	40	2.6	BRASKM \$2022 is CHEAP to VOTORA \$2021
BANCO \$2022 - BCICI \$2023		-42	-42	-9	2.5	BANCO \$2022 is RICH to BCICI \$2023
PETBRA \$2021 - BRASKM \$2021		-51	-46	11	2.5	PETBRA \$2021 is RICH to BRASKM \$2021
BRASKM \$2022 - PETBRA \$2021		27	85	93	2.4	BRASKM \$2022 is CHEAP to PETBRA \$2021
BRASKM \$2021 - VOTORA \$2021		-63	-6	-2	2.2	BRASKM \$2021 is CHEAP to VOTORA \$2021
BRASKM \$2024 - KLAB \$2024		-61	-7	20	2.2	BRASKM \$2024 is CHEAP to KLAB \$2024
PERU €2026 - PERU €2030		-32	-32	-5	2.0	PERU €2026 is RICH to PERU €2030
BRADES \$2022 sub - DAVIVI \$2022 sub		-28	-8	30	2.0	BRADES \$2022 sub is RICH to DAVIVI \$2022 sub
PERU €2026 - PERU \$2027		-1	-1	31	2.0	PERU €2026 is RICH to PERU \$2027
BRASKM \$2021 - BRAZIL \$2021		54	81	93	2.0	BRASKM \$2021 is CHEAP to BRAZIL \$2021
EMBRBZ \$2022 - VOTORA \$2021		-88	2	2	2.0	EMBRBZ \$2022 is CHEAP to VOTORA \$2021
BRFSBZ \$2024 - BRAZIL \$2024		178	184	263	1.9	BRFSBZ \$2024 is RICH to BRAZIL \$2024
COLOM €2026 - COLOM \$2026		-40	-32	5	1.9	COLOM €2026 is RICH to COLOM \$2026
PANAMA \$2025 - URUGUA \$2024		-18	-18	2	1.9	PANAMA \$2025 is RICH to URUGUA \$2024
Existing Dislocations						
Relationship	Spread History (Z-Spread)	Z-Score			Difference Chart	Conclusion
1y Chart	Min	Now	Max			
ECOPET \$2025 - MIICF \$2025		-148	18	18	3.7	ECOPET \$2025 is CHEAP to MIICF \$2025
ECOPET \$2026 - MIICF \$2025		-132	40	40	3.6	ECOPET \$2026 is CHEAP to MIICF \$2025
BUENOS \$2024 - ARGBON \$2024		-662	-604	256	3.3	BUENOS \$2024 is RICH to ARGBON \$2024
YPFDAR \$2024 - ARGBON \$2024		-1526	-1520	-102	3.3	YPFDAR \$2024 is RICH to ARGBON \$2024
YPFDAR \$2025 - ARGBON \$2024		-1485	-1458	-75	3.2	YPFDAR \$2025 is RICH to ARGBON \$2024

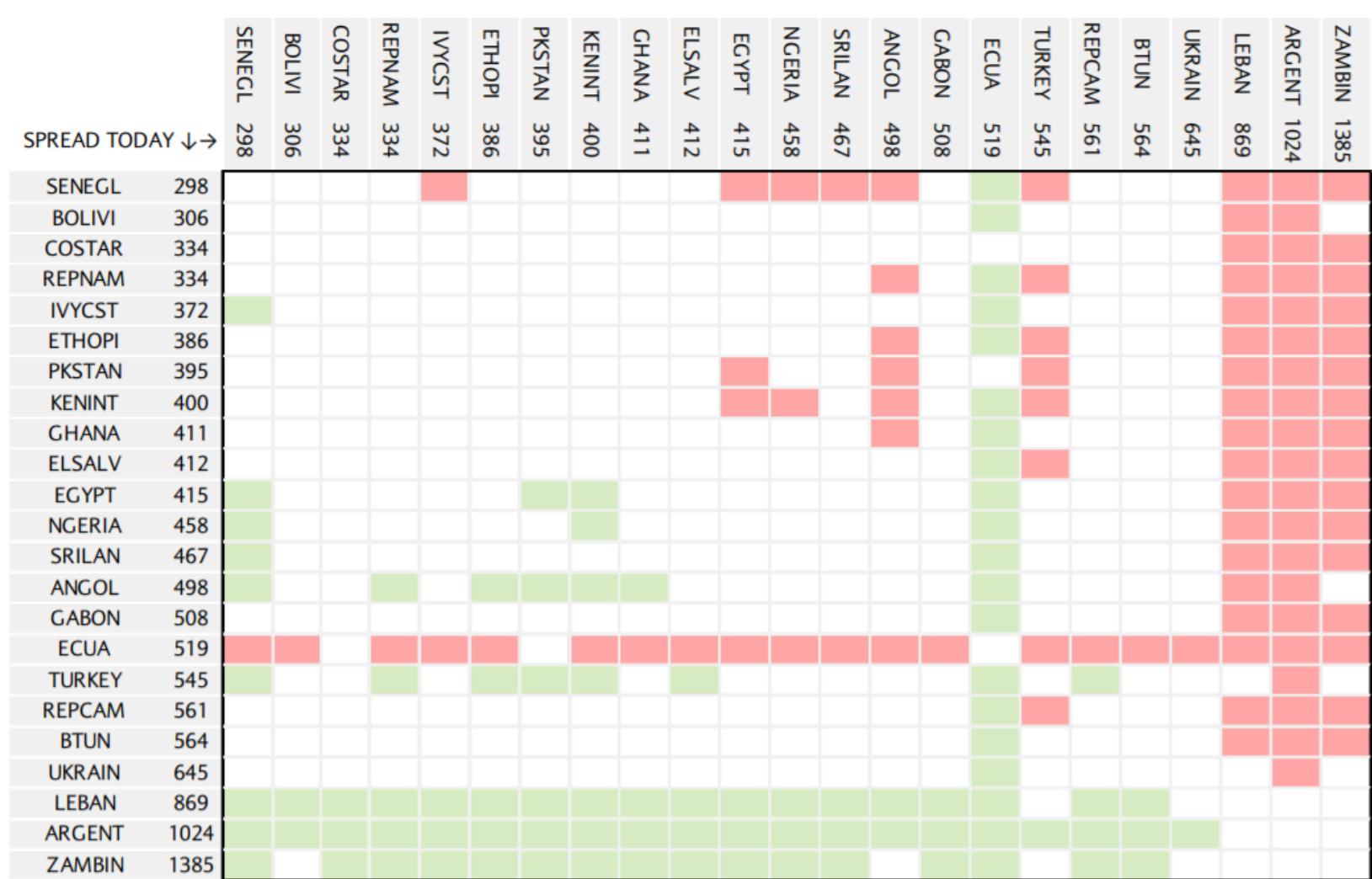
Note: Dislocation defined as a spread differential between a pair of bonds more than 1.5 standard deviations from the 6mo median (modified z-score; see highlighted column). Existing dislocations denotes a spread differential with a z-score above 1.5x at least over the past two weeks.

Source: Barclays Research

# EM HIGH BETA SOVEREIGNS: CROSS-COUNTRY RELATIVE VALUE

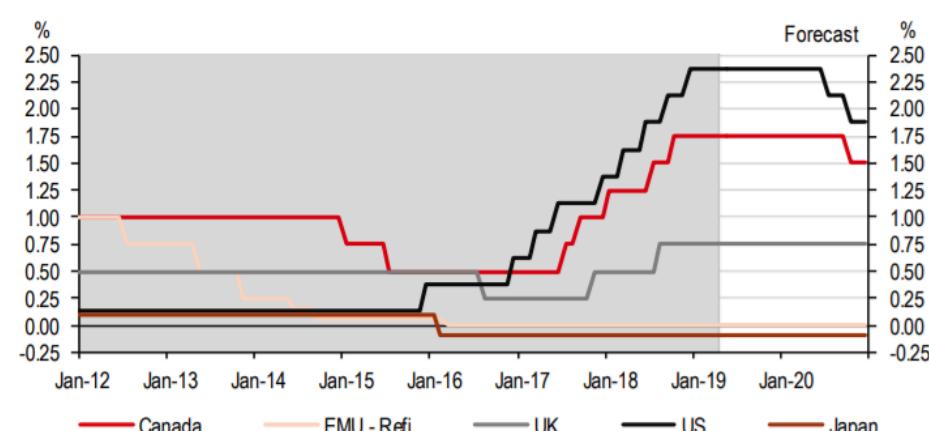
FIGURE 15

10y benchmark bond performance matrix: high-beta sovereigns. Performance measured over the past 12 months. Relationships more than 1.5 standard deviations from the 1y mean highlighted (green = cheap, red = rich, eg, green cell indicates that ticker in left column is cheap to ticker across top row).



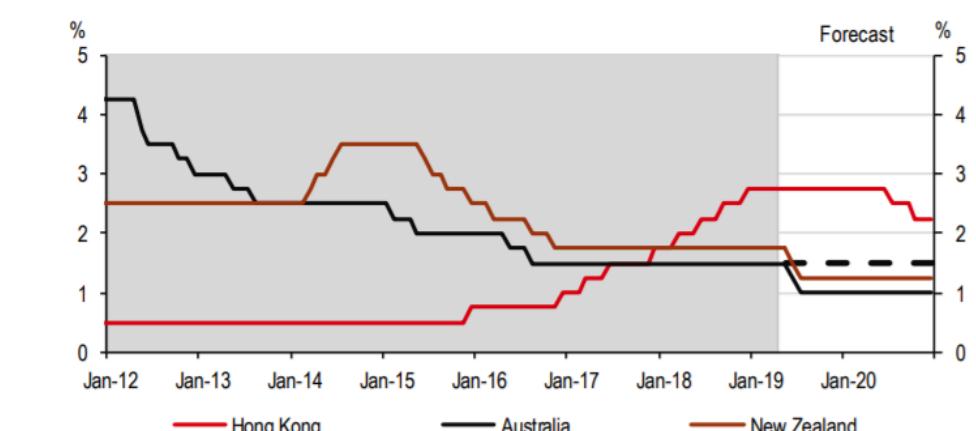
Note: Grey cells indicate lack of at least one year of data. Source: Barclays Research

G7



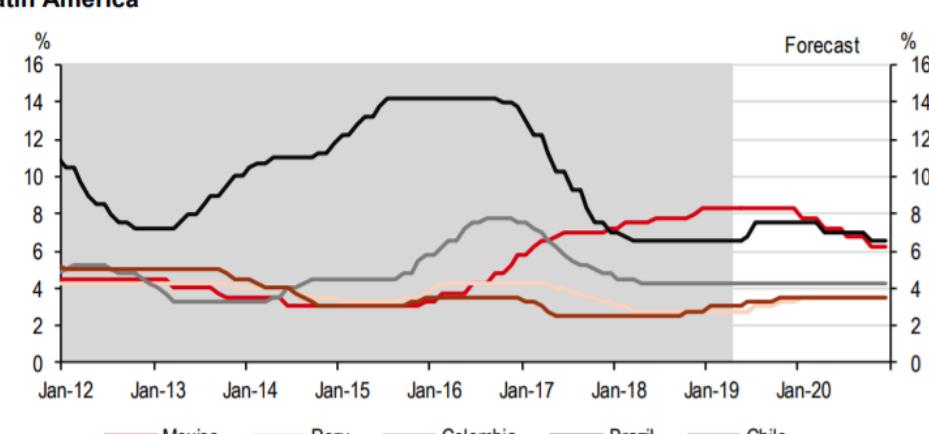
Source: Refinitiv Datastream, Bloomberg, HSBC

Asia-Pacific



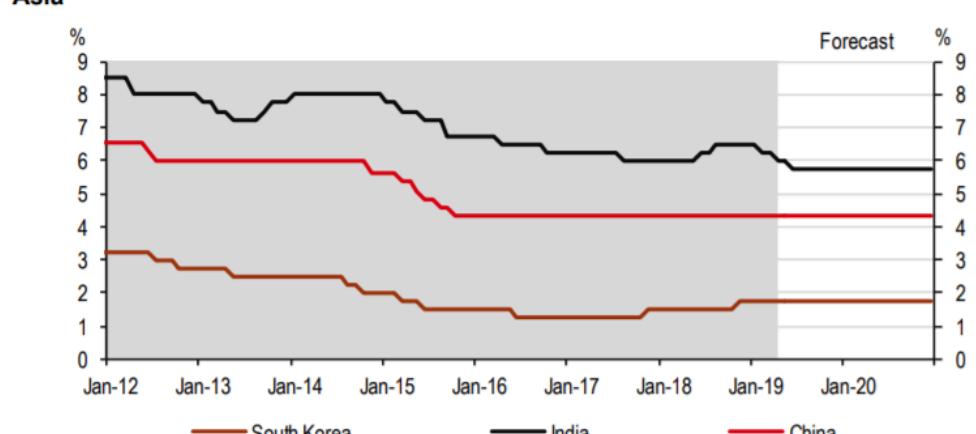
Source: Refinitiv Datastream, Bloomberg, HSBC

Latin America



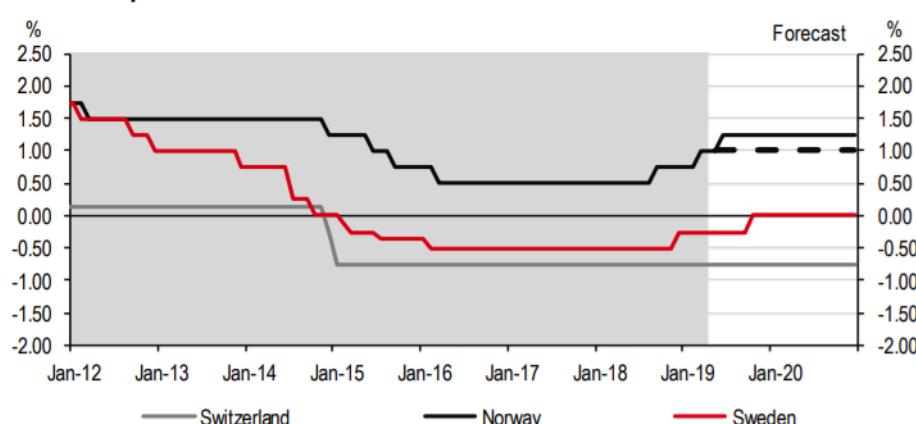
Source: Refinitiv Datastream, Bloomberg, HSBC

Asia



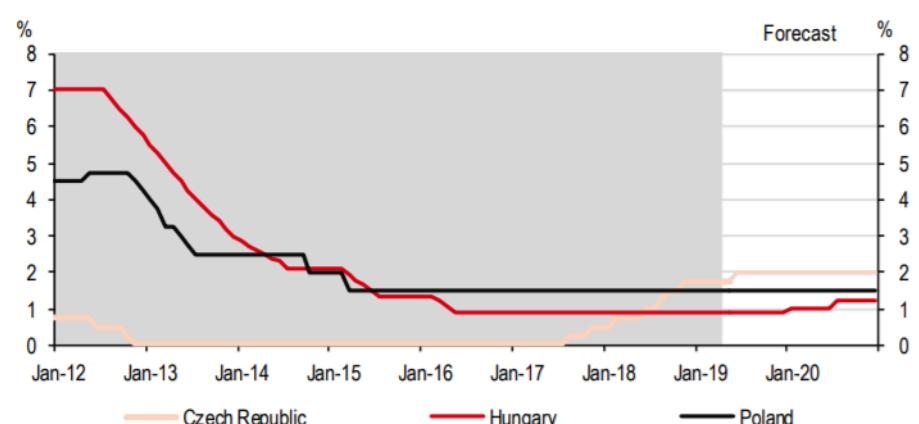
Source: Refinitiv Datastream, Bloomberg, HSBC

## Western Europe



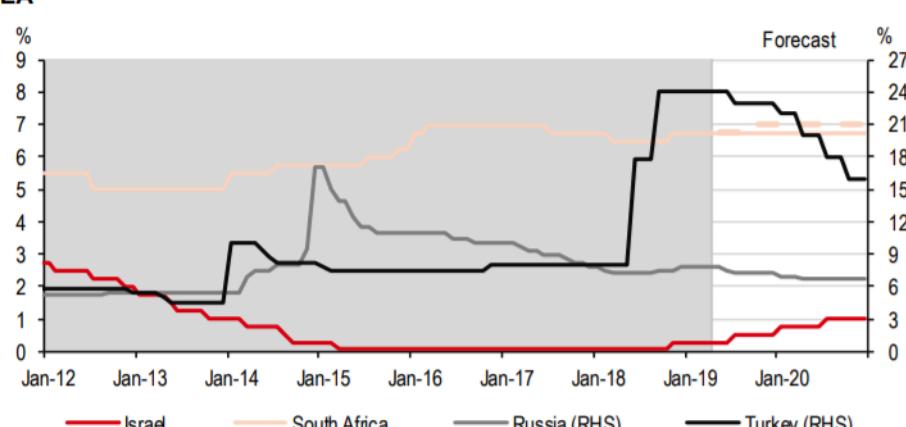
Source: Refinitive Datastream, Bloomberg, HSBC

## EMEA



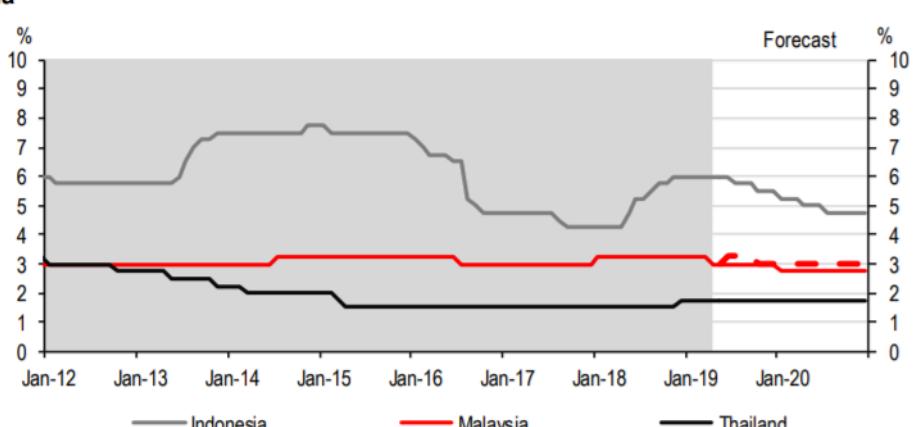
Source: Refinitive Datastream, Bloomberg, HSBC

## EMEA



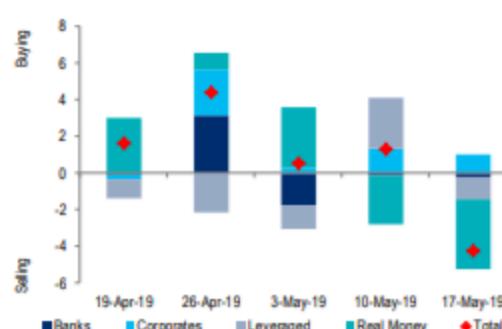
Source: Refinitive Datastream, Bloomberg, HSBC

## Asia



Source: Refinitive Datastream, Bloomberg, HSBC

**Figure 2. Weekly avg indexed flows by client type for INR**



Source: Citi Velocity

## Asia: Precautionary INR positioning to recede

Citi flow data show outflows from both real money and leveraged investors last week. This could well be the unwind of bullish positioning and some precautionary hedges ahead of the last phase of general elections and exit poll surveys over the weekend. With exit poll surveys pointing to a strong win for incumbent NDA coalition, this precautionary positioning may unwind. USDINR was about 1% lower today in reaction to the exit poll survey. Final election results are due on May 23 (Thu). Barring any material negative deviations from exit poll surveys, there may be some more unwind of precautionary positions. We discuss market reaction to exit poll survey in an earlier note: [Exit Polls: Near Unanimous on NDA Victory / Markets Reactions](#).

**Figure 3. Hedge fund 4-week avg flows and USDZAR (inverted, RS)**



Source: Citi Velocity

## CEEMEA: ZAR positioning declines

There has been a minor recovery in positioning in CEEMEA EMFX from leveraged and real money investors since last week. In regards to low-yielders, real money continued trimming HUF exposure while leveraged investors increased longs in CZK. Amongst high-yielders, ZAR experienced outflows largely from leveraged investors, despite Ramaphosa's recent address where he promised to address all the issues relevant to economic and social uplift. Markets are awaiting this week's SARB meeting and any market-friendly cabinet changes.

**Figure 4. BRL cumulative flow of investor clients**



Source: Citi Velocity

## LATAM: BRL underperformance to continue

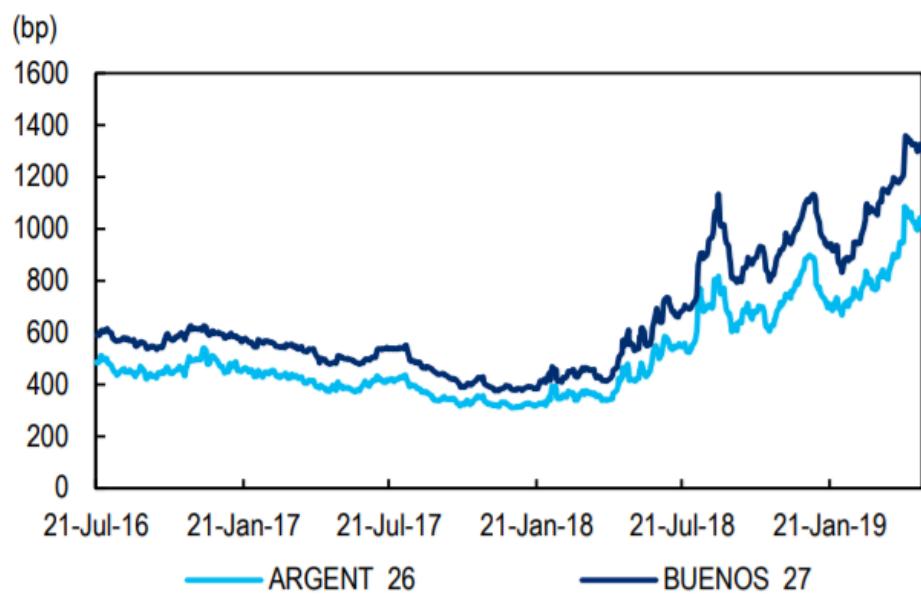
Latam was hit by 4 consecutive weeks of investor outflows, much of it because of the BRL, which also suffered 4 straight weeks of selling by investors. Judging by cumulative flow, positioning appears to be light on the leveraged side. (See left chart.) Real money investors have room to sell more. It's been our longstanding view that the period during which the pension reform bill is debated in the special committee generates the most political noise and market volatility. The BRL is likely to underperform its peers as it has done since the unveiling of key reform parameters in mid-February. We would expect the underperformance to last for at least another month or so until the bill clears the committee. We might also need to see leveraged accounts becoming more bullish on the BRL before a sustained rally unfolds.

## Chart 29: ARS/USD and NI zone



Source: Santander, Central Bank, Bloomberg

Figure 5. Republic and Province of BA bonds has been widening ...



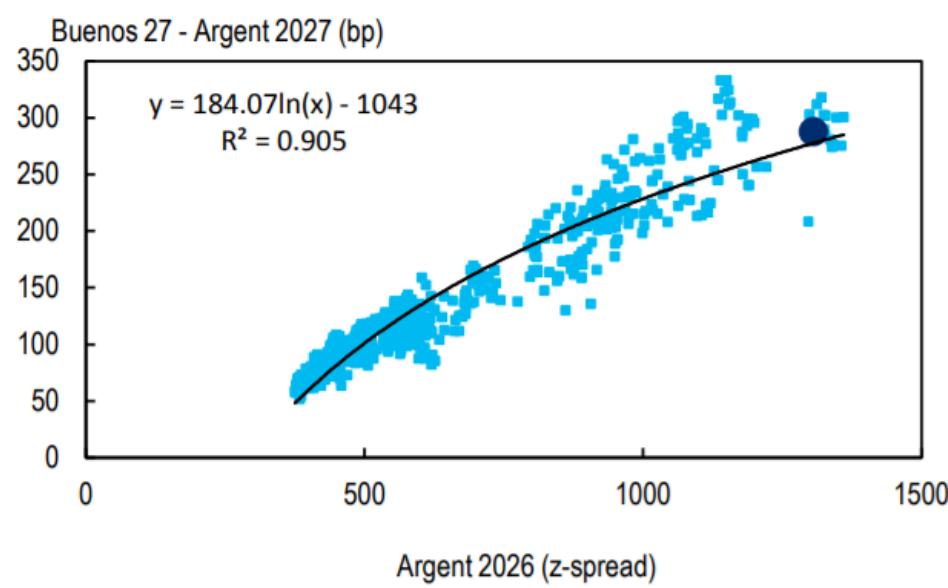
Source: Citi Research

Figure 6. ... with the Province underperforming



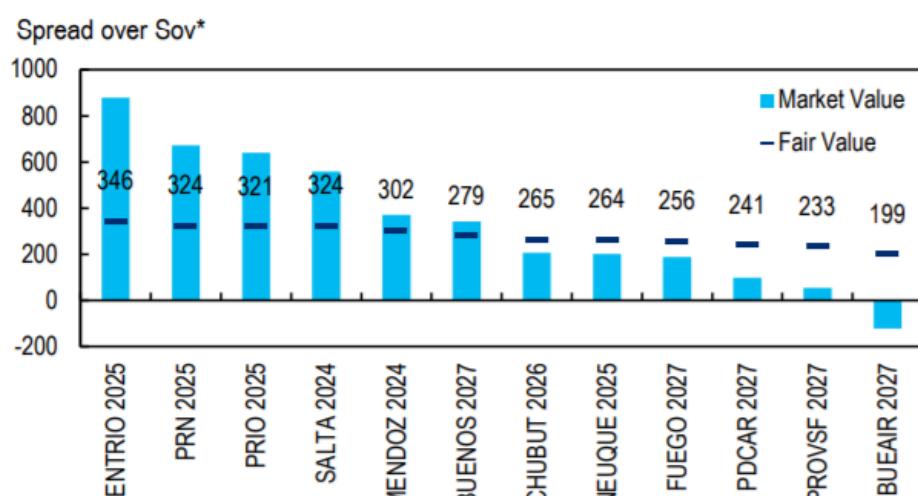
Source: Citi Research

Figure 7. BUENOS 2027 versus ARGENT 2026 spread since 2016



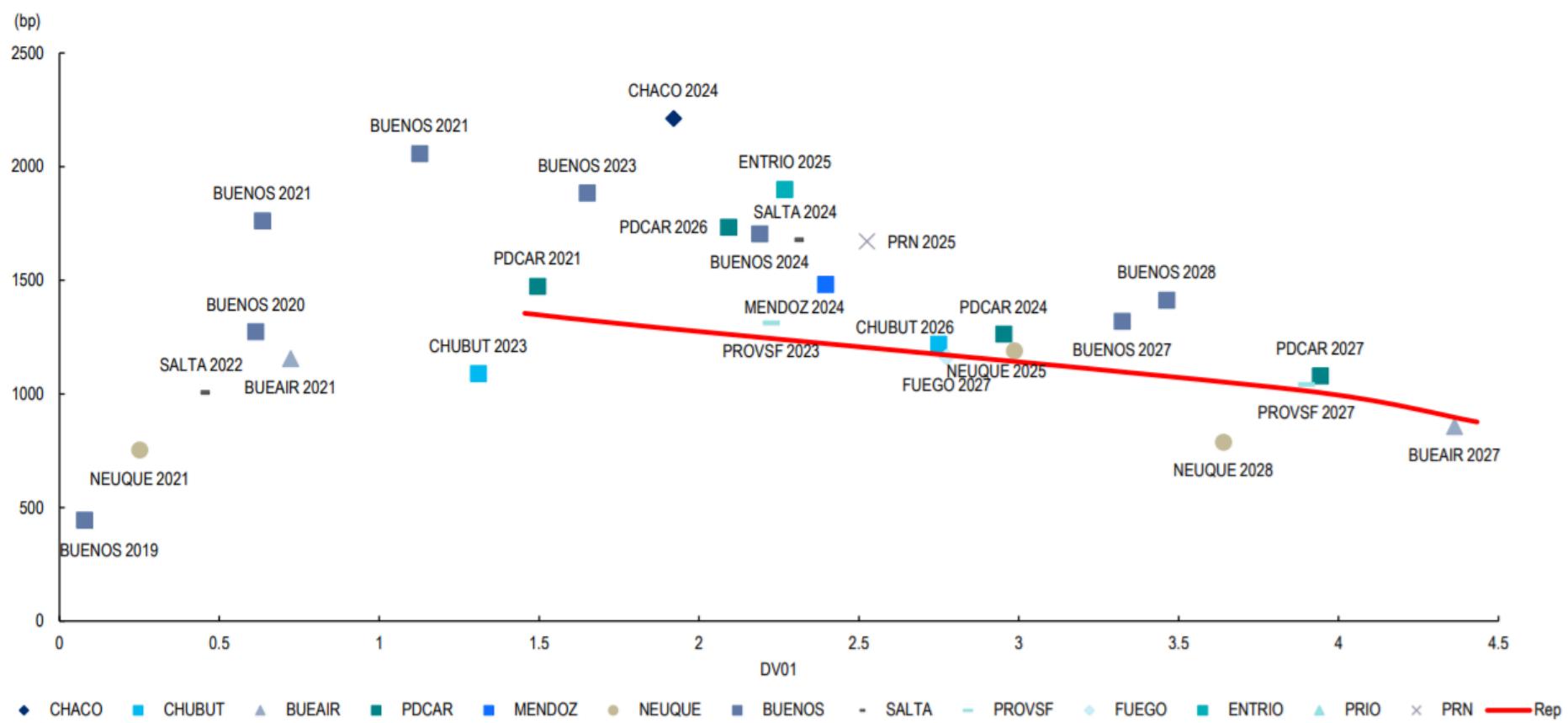
Source: Citi Research, Bloomberg

Figure 8. Smaller, less liquid bonds are cheap, bigger provinces are rich



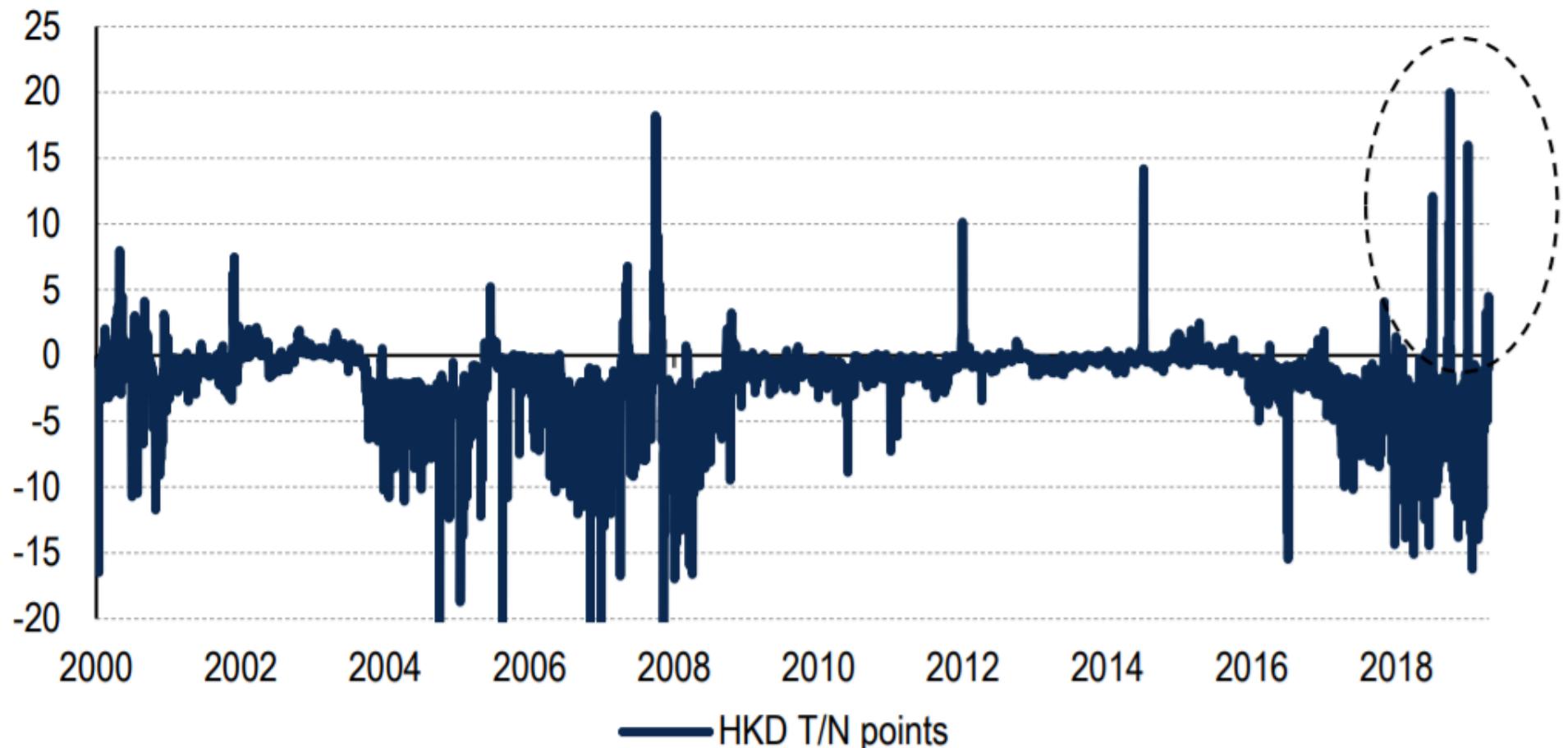
Source: Citi Research, Bloomberg

Figure 9. Argentina Provincial debt spreads versus DV01



Source: Citi Research, Bloomberg

## Chart 1: Quarter-end funding demand has been notable



Source: BofA Merrill Lynch Global Research, Bloomberg

FIGURE 41

New and existing dislocations in EEMEA

Relationship	New Dislocations				Conclusion
	Spread History (Z-Spread)	Z-Score	Difference Chart		
	6mo Chart	Min Now Max			
ARMEN \$2025 - BHRAIN \$2026	-121 -121 -33	3.4			ARMEN \$2025 is RICH to BHRAIN \$2026
NLMKRU \$2023 - VIP \$2022	33 33 82	3.2			NLMKRU \$2023 is RICH to VIP \$2022
ARMEN \$2025 - IVYCST \$2024	-139 -139 -65	3.1			ARMEN \$2025 is RICH to IVYCST \$2024
RURAIL \$2022 - VIP \$2022	-4 -4 61	3.0			RURAIL \$2022 is RICH to VIP \$2022
ANGOL \$2025 - ARMEN \$2025	163 268 268	3.0			ANGOL \$2025 is CHEAP to ARMEN \$2025
GARAN \$2021 - TURKEY \$2021	28 28 132	2.8			GARAN \$2021 is RICH to TURKEY \$2021
AKBNK \$2022 sub - GARAN \$2022 sub	-71 181 181	2.7			AKBNK \$2022 sub is CHEAP to GARAN \$2022 sub
NVTKRM \$2021 - VIP \$2022	-58 -58 23	2.5			NVTKRM \$2021 is RICH to VIP \$2022
VIP \$2022 - RUSSIA \$2022	15 75 76	2.4			VIP \$2022 is CHEAP to RUSSIA \$2022
EVRAZ \$2023 - VIP \$2022	78 78 143	2.4			EVRAZ \$2023 is RICH to VIP \$2022
TEVA \$2022 - ISRAEL \$2022	157 299 299	2.3			TEVA \$2022 is CHEAP to ISRAEL \$2022
MOBTEL \$2023 - VIP \$2022	57 57 128	2.2			MOBTEL \$2023 is RICH to VIP \$2022
CROATI \$2024 - ROMANI \$2024	-27 -24 3	2.2			CROATI \$2024 is RICH to ROMANI \$2024
REPHUN \$2041 - RUSSIA \$2042	-93 -93 -48	2.2			REPHUN \$2041 is RICH to RUSSIA \$2042
ISCTR \$2022 sub - VAKBN \$2022 sub	-8 -8 125	2.2			ISCTR \$2022 sub is RICH to VAKBN \$2022 sub
Existing Dislocations					
Relationship	Spread History (Z-Spread)	Z-Score	Difference Chart	Conclusion	
	1y Chart	Min Now Max			
AKBNK \$2022 sub - YKBNK \$2022 sub	107 801 817	3.4			AKBNK \$2022 sub is CHEAP to YKBNK \$2022 sub
AKBNK \$2022 sub - ISCTR \$2022 sub	11 689 712	3.2			AKBNK \$2022 sub is CHEAP to ISCTR \$2022 sub
BHRAIN \$2023 - CROATI \$2023	117 200 200	3.2			BHRAIN \$2023 is CHEAP to CROATI \$2023
AKBNK \$2022 sub - VTB \$2022 sub	123 1108 1129	3.2			AKBNK \$2022 sub is CHEAP to VTB \$2022 sub
AKBNK \$2022 sub - VAKBN \$2022 sub	56 681 717	3.1			AKBNK \$2022 sub is CHEAP to VAKBN \$2022 sub

Note: Dislocation defined as a spread differential between a pair of bonds more than 1.5 standard deviations from the 6mo median (modified z-score; see highlighted column). Existing dislocations denotes a spread differential with a z-score above 1.5x at least over the past two weeks.

Source: Barclays Research

FIGURE 42

New and existing dislocations in Asia

Relationship	New Dislocations				Z-Score	Difference Chart	Conclusion
	6mo Chart	Min	Now	Max			
INDON €2023 - INDON \$2023		-15	-15	23	2.2		INDON €2023 is RICH to INDON \$2023
RILIN \$2020 - RILIN \$2040		-138	-138	-106	2.2		RILIN \$2020 is RICH to RILIN \$2040
ONGCIN €2021 - ONGCIN \$2024		-94	-94	-31	2.0		ONGCIN €2021 is RICH to ONGCIN \$2024
PETMK \$2020 - MALAYS \$2021		-6	-2	23	1.8		PETMK \$2020 is RICH to MALAYS \$2021
CNOOC \$2021 - CITLTD \$2021		-51	-50	-43	1.7		CNOOC \$2021 is RICH to CITLTD \$2021
CITLTD \$2026 - SINOPE \$2026		34	38	47	1.6		CITLTD \$2026 is RICH to SINOPE \$2026
PETMK \$2026 - MALAYS \$2025		19	34	34	1.4		PETMK \$2026 is CHEAP to MALAYS \$2025
COSL \$2020 - KUNLEG \$2020		20	33	33	1.3		COSL \$2020 is CHEAP to KUNLEG \$2020
KUNLEG \$2025 - KUNLEG \$2020		32	52	53	1.3		KUNLEG \$2025 is CHEAP to KUNLEG \$2020
INDON €2025 - INDON \$2025		-13	-5	38	1.2		INDON €2025 is RICH to INDON \$2025
INDON €2021 - INDON \$2021		-47	-31	3	1.1		INDON €2021 is RICH to INDON \$2021
COFCO \$2023 - CNOOC \$2023		-4	26	27	1.0		COFCO \$2023 is CHEAP to CNOOC \$2023
BHARTI €2021 - BHARTI \$2023		-73	-73	79	0.9		BHARTI €2021 is RICH to BHARTI \$2023
PLNII \$2021 - INDON \$2021		28	37	54	0.9		PLNII \$2021 is RICH to INDON \$2021
INDON \$2035 - PHILIP \$2037		104	108	128	0.9		INDON \$2035 is RICH to PHILIP \$2037
Existing Dislocations							
Relationship	Spread History (Z-Spread)				Z-Score	Difference Chart	Conclusion
	1y Chart	Min	Now	Max			
INDON €2023 - INDON €2028		-59	-59	-34	2.2		INDON €2023 is RICH to INDON €2028
PLNII \$2020 - INDON \$2020		2	11	52	2.2		PLNII \$2020 is RICH to INDON \$2020
CNPCCH \$2022 - SINOPE \$2022		-6	2	3	2.0		CNPCCH \$2022 is CHEAP to SINOPE \$2022
SINOPE \$2043 - CNOOC \$2043		-4	-2	3	1.9		SINOPE \$2043 is RICH to CNOOC \$2043
CITLTD \$2023 - COFCO \$2023		3	5	19	1.8		CITLTD \$2023 is RICH to COFCO \$2023

Note: Dislocation defined as a spread differential between a pair of bonds more than 1.5 standard deviations from the 6mo median (modified z-score; see highlighted column). Existing dislocations denotes a spread differential with a z-score above 1.5x at least over the past two weeks.

Source: Barclays Research

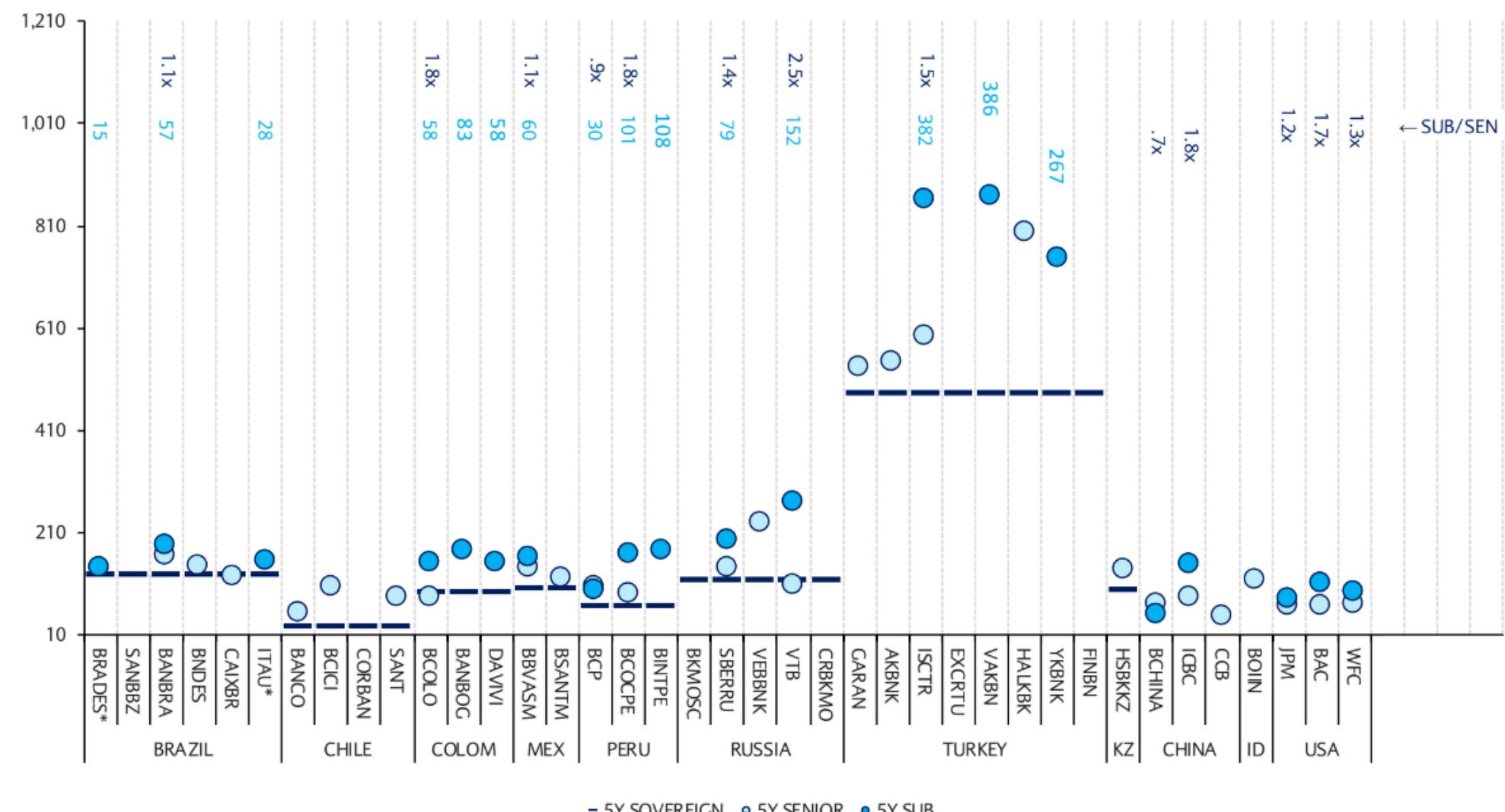
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## EM BANKS: CAPITAL STRUCTURES

FIGURE 39

Bank capital structures: 5y sovereigns, 5y seniors, 5y LT2



Note: ITAU and BRADES senior vs. sovereign ratios based on subordinated (LT2) bonds. Source: Barclays Research

FIGURE 40

New and existing dislocations in LatAm

Relationship	New Dislocations				Conclusion				
	Spread History (Z-Spread)	6mo Chart	Min	Now	Max	Z-Score	Difference Chart		
BRASKM \$2024 - BRFBSBZ \$2024			-170	-69	-43	2.7		BRASKM \$2024 is CHEAP to BRFBSBZ \$2024	
BRASKM \$2022 - VOTORA \$2021			-30	33	40	2.6		BRASKM \$2022 is CHEAP to VOTORA \$2021	
BANCO \$2022 - BCICI \$2023			-42	-42	-9	2.5		BANCO \$2022 is RICH to BCICI \$2023	
PETBRA \$2021 - BRASKM \$2021			-51	-46	11	2.5		PETBRA \$2021 is RICH to BRASKM \$2021	
BRASKM \$2022 - PETBRA \$2021			27	85	93	2.4		BRASKM \$2022 is CHEAP to PETBRA \$2021	
BRASKM \$2021 - VOTORA \$2021			-63	-6	-2	2.2		BRASKM \$2021 is CHEAP to VOTORA \$2021	
BRASKM \$2024 - KLAB \$2024			-61	-7	20	2.2		BRASKM \$2024 is CHEAP to KLAB \$2024	
PERU €2026 - PERU €2030			-32	-32	-5	2.0		PERU €2026 is RICH to PERU €2030	
BRADES \$2022 sub - DAVIVI \$2022 sub			-28	-8	30	2.0		BRADES \$2022 sub is RICH to DAVIVI \$2022 sub	
PERU €2026 - PERU \$2027			-1	-1	31	2.0		PERU €2026 is RICH to PERU \$2027	
BRASKM \$2021 - BRAZIL \$2021			54	81	93	2.0		BRASKM \$2021 is CHEAP to BRAZIL \$2021	
EMBRBZ \$2022 - VOTORA \$2021			-88	2	2	2.0		EMBRBZ \$2022 is CHEAP to VOTORA \$2021	
BRFBSBZ \$2024 - BRAZIL \$2024			178	184	263	1.9		BRFBSBZ \$2024 is RICH to BRAZIL \$2024	
COLOM €2026 - COLOM \$2026			-40	-32	5	1.9		COLOM €2026 is RICH to COLOM \$2026	
PANAMA \$2025 - URUGUA \$2024			-18	-18	2	1.9		PANAMA \$2025 is RICH to URUGUA \$2024	
Existing Dislocations								Conclusion	
Relationship	Spread History (Z-Spread)				Z-Score	Difference Chart			
	1y Chart	Min	Now	Max					
ECOPET \$2025 - MIICF \$2025		-148	18	18	3.7			ECOPET \$2025 is CHEAP to MIICF \$2025	
ECOPET \$2026 - MIICF \$2025		-132	40	40	3.6			ECOPET \$2026 is CHEAP to MIICF \$2025	
BUENOS \$2024 - ARGBON \$2024		-662	-604	256	3.3			BUENOS \$2024 is RICH to ARGBON \$2024	
YPFDAR \$2024 - ARGBON \$2024		-1526	-1520	-102	3.3			YPFDAR \$2024 is RICH to ARGBON \$2024	
YPFDAR \$2025 - ARGBON \$2024		-1485	-1458	-75	3.2			YPFDAR \$2025 is RICH to ARGBON \$2024	

Note: Dislocation defined as a spread differential between a pair of bonds more than 1.5 standard deviations from the 6mo median (modified z-score; see highlighted column). Existing dislocations denotes a spread differential with a z-score above 1.5x at least over the past two weeks.

Source: Barclays Research

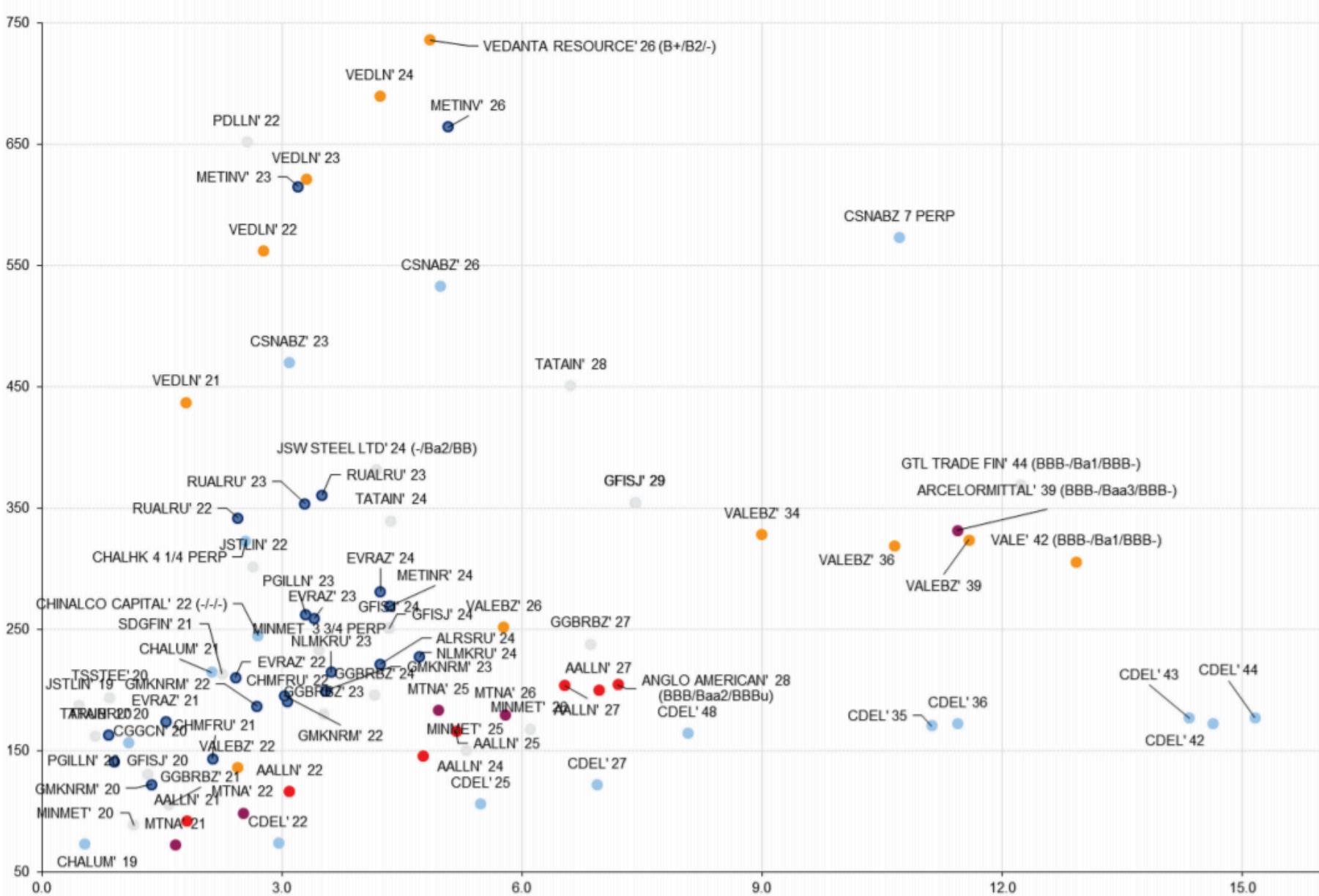
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## EM Metals & Mining corporates' Eurobonds z-spread dynamics

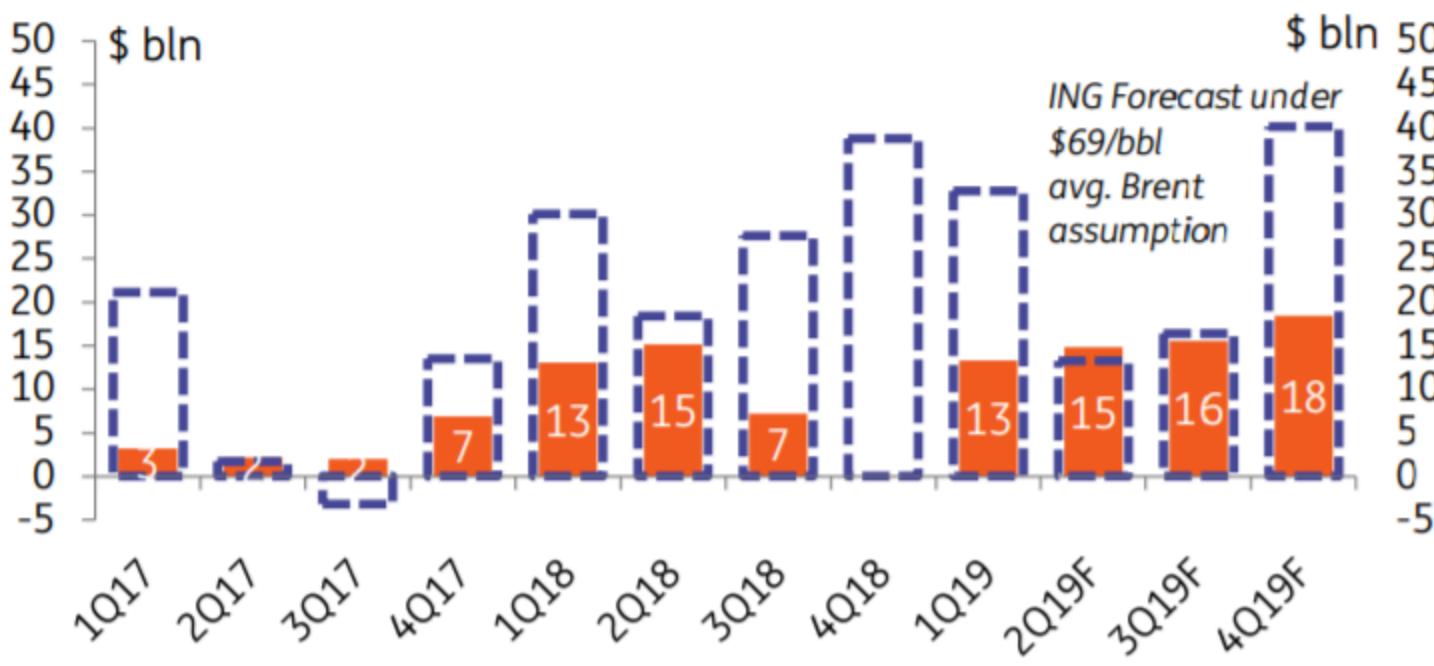


## EM Metals and Mining Corporates' Eurobonds z-spreads



Source: Bloomberg, ING

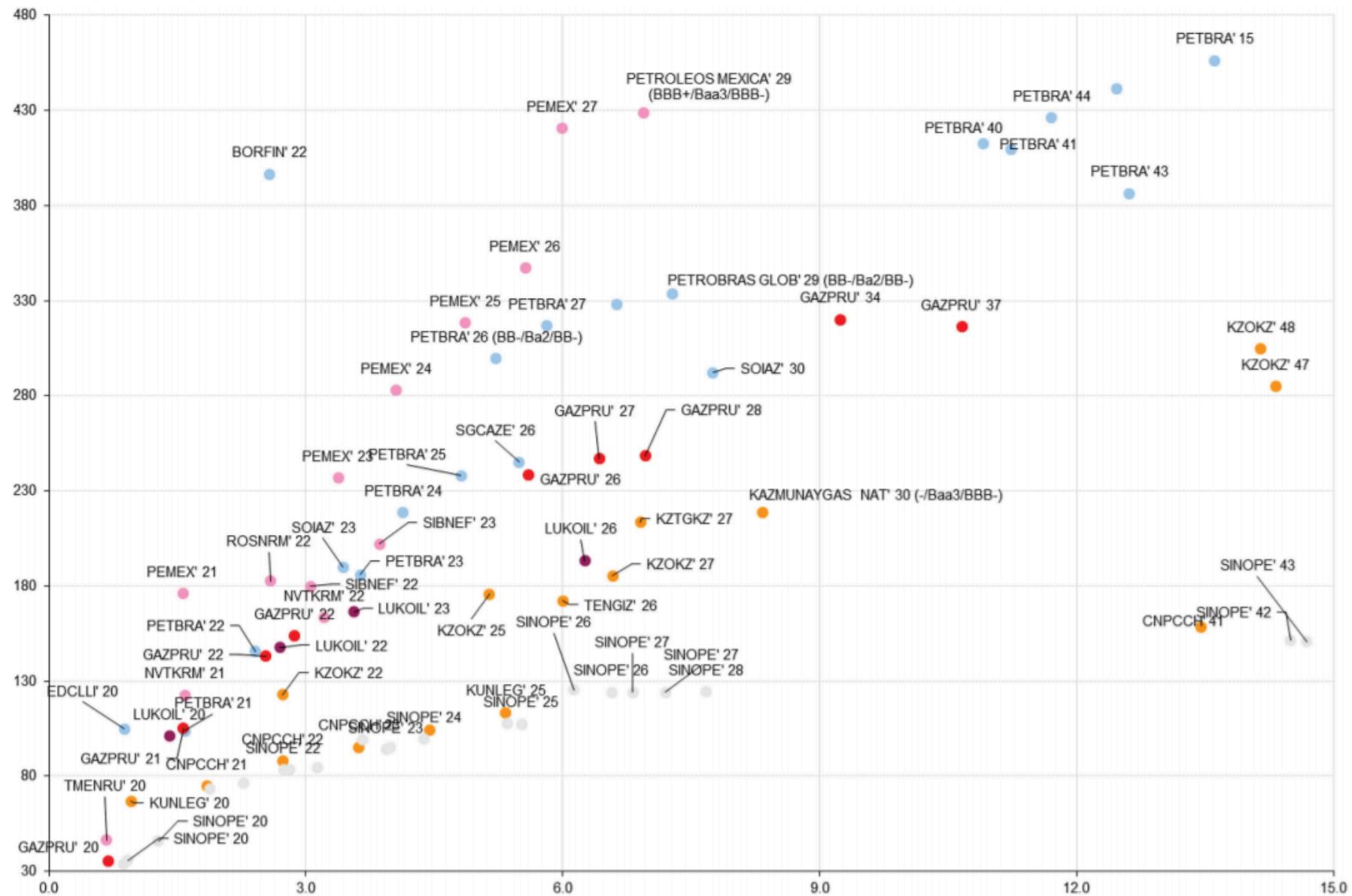
## Current account surplus and FX interventions



■ FX interventions by CBR for Finance Ministry ■ Current account surplus

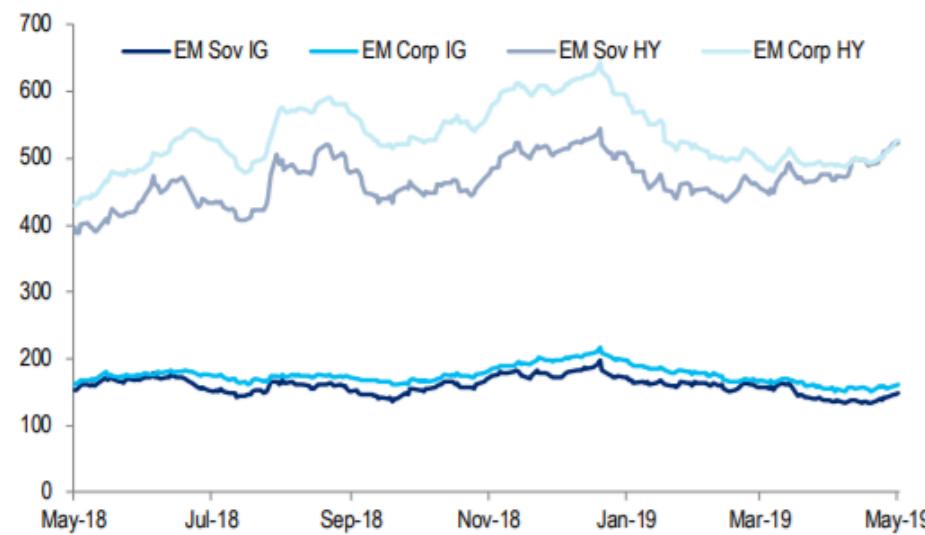
Sources : CEIC Database, Bloomberg, Rosstat, MinFin, VCIOM, ING

## EM Oil and Gas Corporates Eurobonds z-spreads



Source: Bloomberg, ING

**Figure 10. EM Credit Spreads – Sovereign & Corporate**



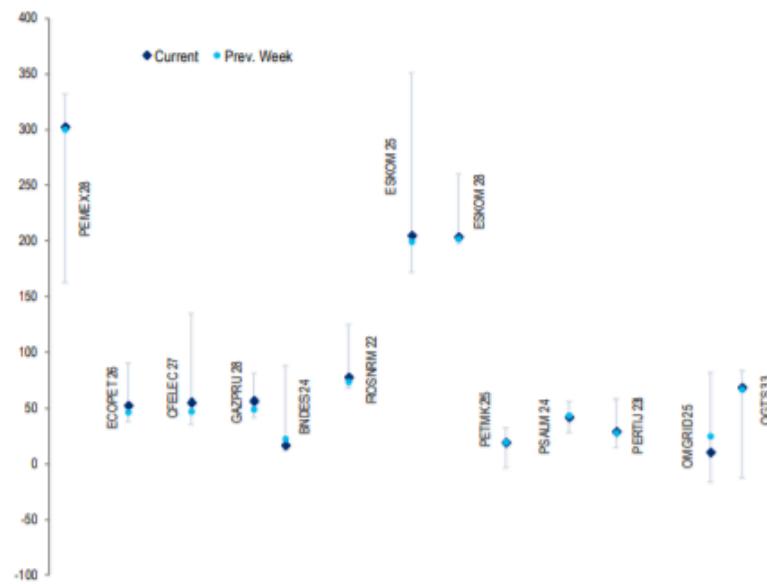
Source: Citi Research

**Figure 11. EM Credit Relative Spreads (vs US IG and HY)**



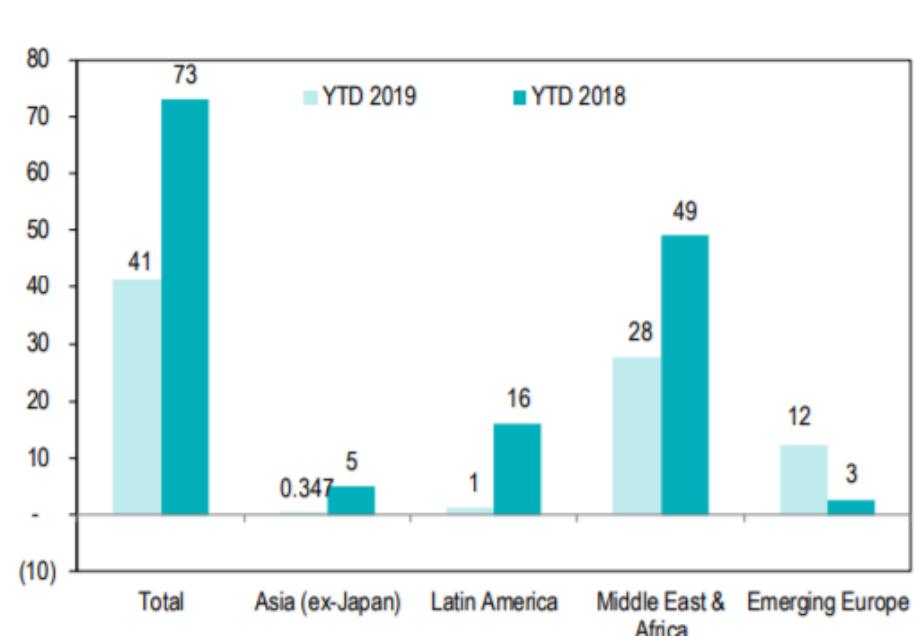
Source: Citi Research, Citi Fixed Income Indices, Bloomberg

**Figure 12. Quasi Sovereign Spread over Sovereign (with 1Y range)**



Source: Citi Research. Nearest matching sovereign maturity chosen for spread calculations.

**Figure 13. Sovereign: Net Issuances – Regional Breakdown (USD bn)**



Source: Citi Research, Bloomberg

Figure 5. Emerging Markets, Leveraged

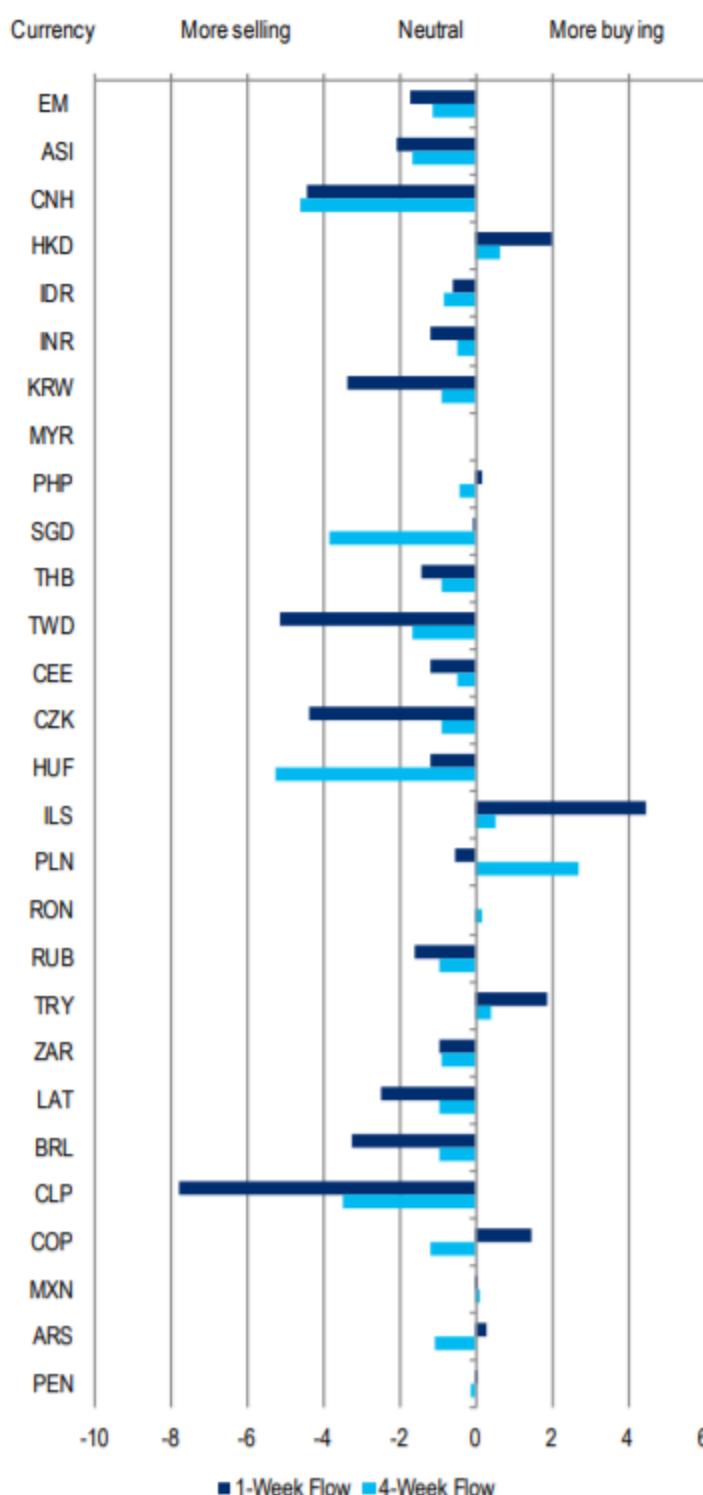
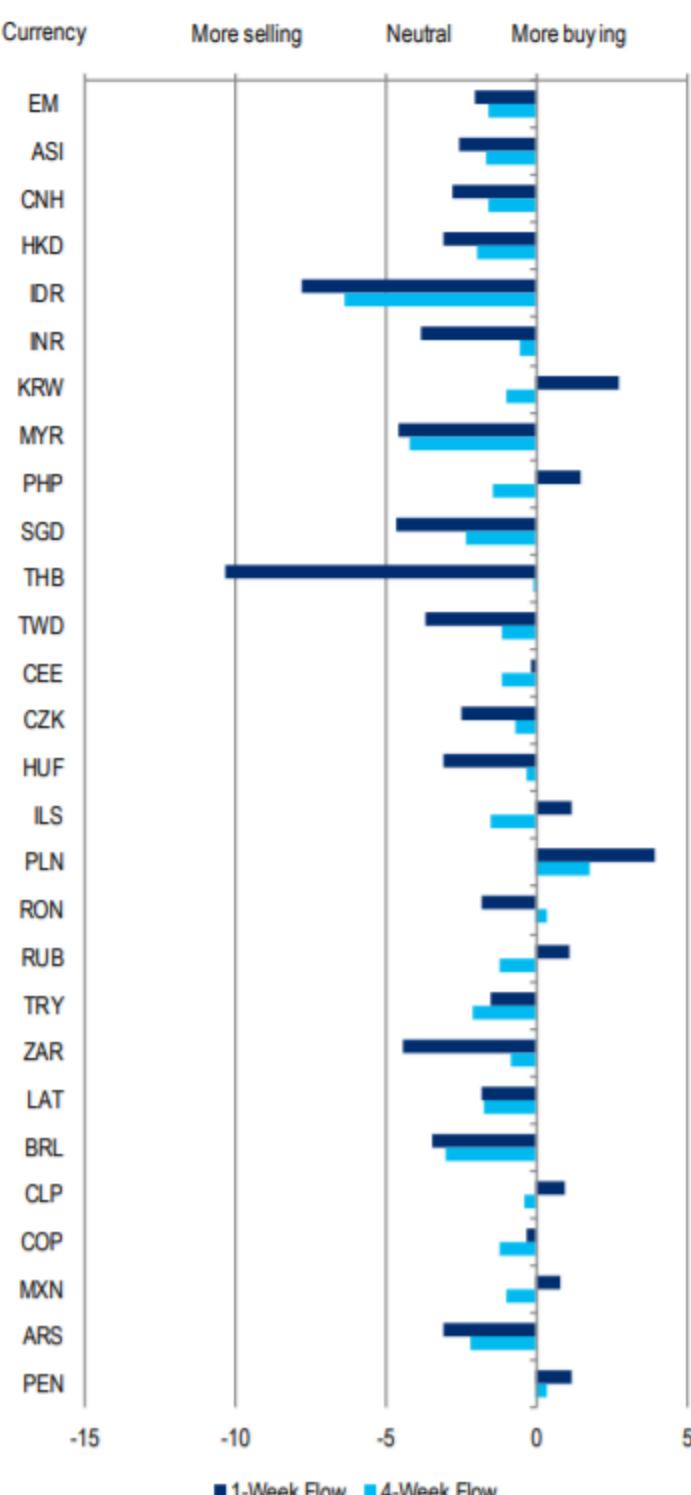


Figure 6. Emerging Markets, Real Money



Source: Citi Velocity

Source: Citi Velocity

## FX Flows Heatmaps

Figure 7. Emerging Markets 1-week indexed flows

	Total	Banks	Corporates	Leveraged	Real Money
EM	-2.12	0.76	0.92	-1.74	-2.07
ASI	-1.84	1.17	1.65	-2.07	-2.58
CNH	-2.21	2.20	2.84	-4.45	-2.81
HKD	-1.36	-0.93	0.71	1.96	-3.10
IDR	-6.57	1.82	-0.04	-0.60	-7.74
INR	-4.24	-0.22	1.00	-1.20	-3.81
KRW	-0.45	0.78	-0.61	-3.37	2.75
MYR	14.41	8.34	10.66	0.00	-4.59
PHP	2.85	0.51	0.71	0.17	1.47
SGD	-0.52	-1.20	5.37	-0.04	-4.66
THB	-12.13	-0.29	-0.09	-1.44	-10.32
TWD	-8.14	0.57	0.13	-5.16	-3.69
CEE	1.06	2.87	-0.41	-1.19	-0.20
CZK	0.27	6.59	0.55	-4.37	-2.51
HUF	5.64	7.41	2.54	-1.21	-3.09
ILS	2.62	-1.50	-1.49	4.46	1.15
PLN	3.07	4.74	-5.01	-0.57	3.91
RON	-5.19	3.69	-7.05	0.00	-1.83
RUB	0.65	3.10	-1.96	-1.61	1.11
TRY	-2.33	-2.93	0.29	1.86	-1.55
ZAR	-5.60	1.09	-1.28	-0.96	-4.46
LAT	-4.61	-1.44	1.18	-2.52	-1.83
BRL	-5.13	0.24	1.36	-3.27	-3.47
CLP	-3.89	2.99	0.02	-7.81	0.90
COP	-0.40	-2.71	1.13	1.47	-0.29
MXN	-0.26	-1.42	0.35	0.01	0.79
ARS	-1.61	-5.97	7.14	0.30	-3.07
PEN	-0.78	-1.79	-0.21	0.04	1.17

Figure 8. Emerging Markets 4-week indexed flows

	Total	Banks	Corporates	Leveraged	Real Money
EM	-1.22	0.94	0.56	-1.15	-1.57
ASI	-1.44	0.65	1.25	-1.69	-1.66
CNH	-4.06	0.72	1.41	-4.63	-1.56
HKD	-1.54	-1.04	0.86	0.64	-2.00
IDR	-6.46	0.31	0.46	-0.84	-6.39
INR	0.51	0.24	1.29	-0.46	-0.57
KRW	-1.85	0.47	-0.43	-0.90	-0.98
MYR	11.70	5.91	10.02	0.00	-4.23
PHP	0.99	2.53	0.38	-0.45	-1.48
SGD	-3.03	0.07	3.09	-3.83	-2.36
THB	-1.01	-1.13	1.13	-0.89	-0.13
TWD	-2.17	0.40	0.25	-1.68	-1.15
CEE	1.21	2.68	0.16	-0.51	-1.12
CZK	2.69	2.30	1.96	-0.88	-0.69
HUF	0.90	4.77	1.71	-5.26	-0.32
ILS	2.08	0.38	2.75	0.50	-1.55
PLN	3.46	2.01	-2.99	2.68	1.76
RON	-3.90	4.12	-8.48	0.13	0.33
RUB	0.40	3.56	-0.96	-0.97	-1.23
TRY	-4.17	-2.43	-0.04	0.39	-2.09
ZAR	1.59	4.03	-0.66	-0.91	-0.88
LAT	-2.55	0.26	-0.10	-0.98	-1.73
BRL	-5.08	-0.51	-0.64	-0.94	-2.98
CLP	0.77	4.70	0.01	-3.49	-0.43
COP	-4.21	-2.33	0.56	-1.20	-1.23
MXN	-0.92	-0.75	0.73	0.09	-0.99
ARS	-2.66	-1.84	2.48	-1.08	-2.21
PEN	0.83	1.47	-0.91	-0.11	0.37

Source: Citi Velocity

Source: Citi Velocity

## EM FX Aggregate Flows

Figure 9. Weekly avg indexed flows, latest 5 weeks

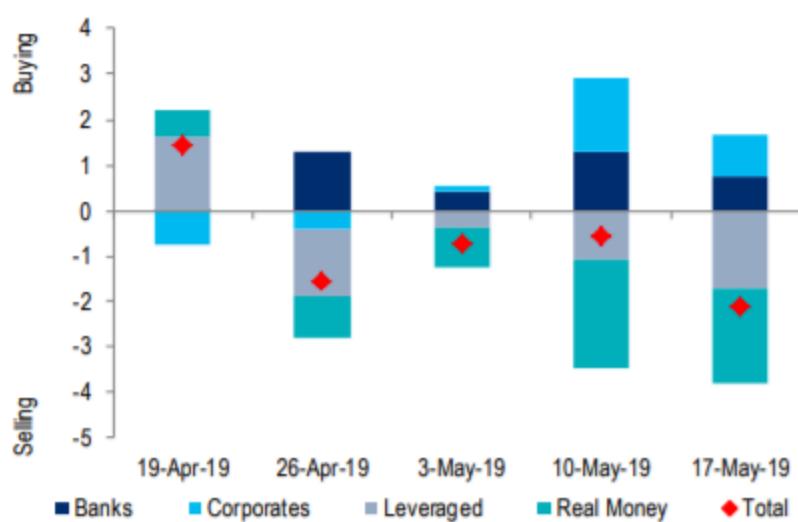


Figure 10. Cumulative 1-year indexed flows



Figure 11. Breakdown of avg weekly flows by client type

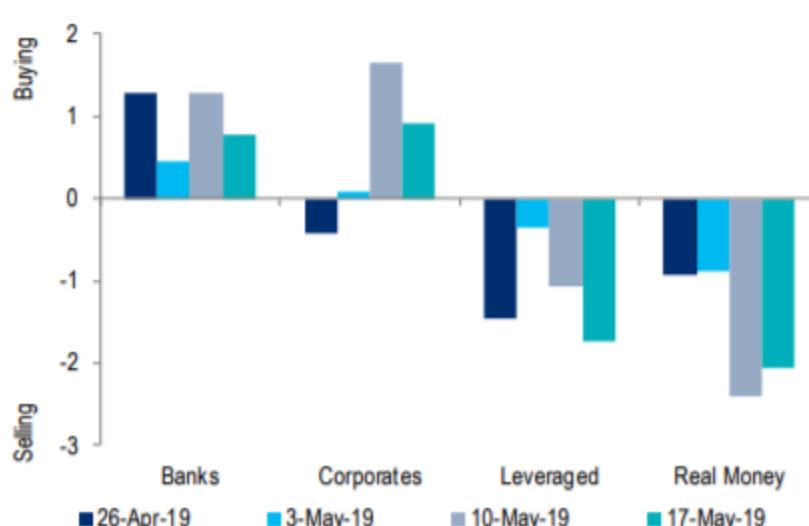
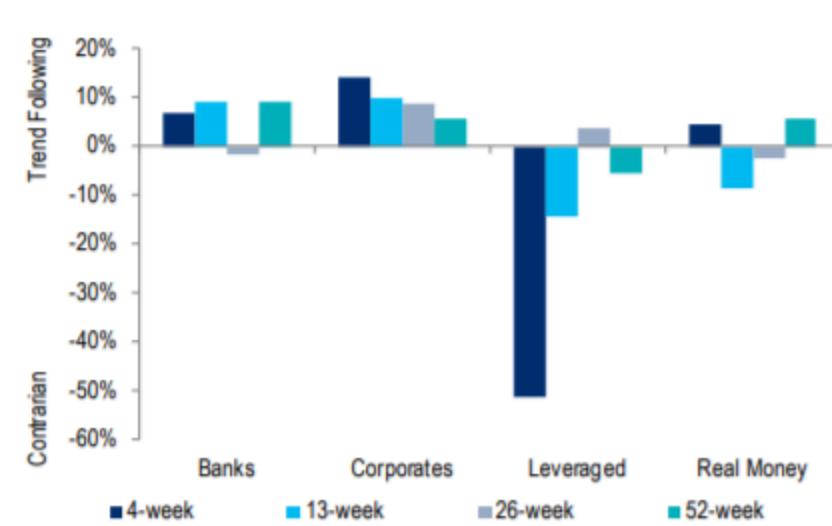


Figure 12. Correlation of FX flow with currency return





# OVERVIEW: G10 key trade ideas



Kaushik Banerjee  
Head of Global Macro Research  
BNP Paribas London Branch

We keep trade ideas we expect to perform well in a risk-off/higher vol, higher dispersion environment, and selectively unwind our carry trade ideas.

## Valuation

- Stay long OAT versus swap** and **long OAT versus Olo**.
- Close long OAT versus Bund**. The spread has re-widened after the end of the seasonal compression period.
- Stay long breakeven inflation in the US**, which is underpriced versus the Fed's inflation target, carries positively and offers protection if there is a rise in inflation from trade tariffs and/or against Fed rate cuts (not our central case). Moreover, the Fed is conducting its largest review of its inflation targeting mechanism on concerns about low inflation expectations.
- Keep 5y5y/15y15y euro inflation swap flattener**, given the risk of a further repricing of long-term inflation expectations.
- Keep CAC 40 versus DAX index**. Equity markets are unlikely to break new highs before end-2019, in our view, given higher valuations and the headwind of a likely unfavourable seasonal effect from May until the end of September. We prefer relative value trades.
- BBB Credit\***; we are downgrading our view on global Credit markets to a neutral stance, having been bullish this year. Credit markets have rallied mostly on an easier monetary policy stance - in particular, the end of quantitative tightening - but have exhausted that potential and at current valuations are far more sensitive to the growth outlook.

The US-China trade conflict poses a significant downside risk but Credit market valuations are not discounting a material growth recovery, which is a partial offset. We expect spreads broadly unchanged through the year. Our preferred investment is BBB credit, which is supported by balance sheet improvement.

*\*This Credit section has been prepared by Viktor Hjort part of the Credit Trading Desk Analyst team who work closely with the Sales and Trading function. This is not a research report and has not been prepared by the BNP Paribas Research Department. Please see disclaimer.*

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Laurence Mutkin, Global Head of G10 Rates Strategy | Marco Meijer, G10 Rates Strategist | Sam Lynton-Brown,

Head of G10 FX Strategy, Europe | BNP Paribas London Branch

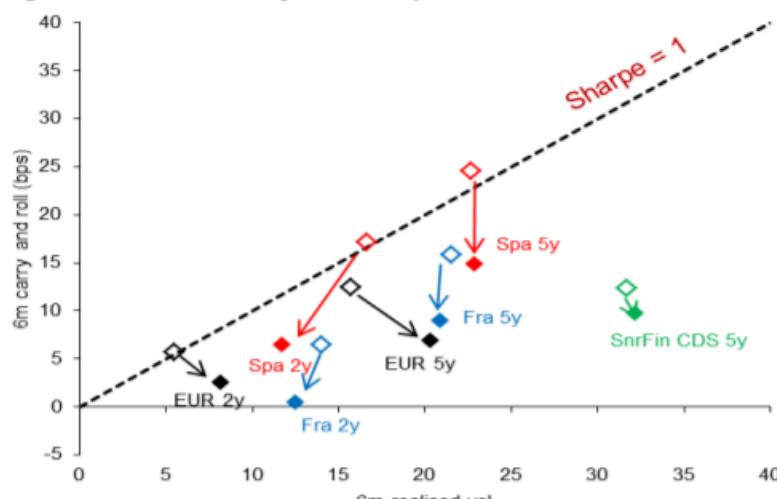
MARKETS 360 | GLOBAL OUTLOOK 21/05/2019 15

## BNP Paribas London Branch

Our macro strategy now shifts from an overweight long-carry, short-vol risk-on position to a neutral stance. The market factors below have moved significantly since we pitched a global basket which was long carry and short vol, consisting of rates, credit and FX trades (Figures 2 and 3). In our view, positive carry and volatility have bottomed out. We see no risk of contagion at this stage.

- Valuations** are no longer as favourable in equity, credit and fixed income, and the USD as a currency has returned to expensive levels. Carry has fallen, credit spreads have compressed and realised volatility has increased, reducing Sharpe ratios (Figure 1).
- US real yields are unlikely to make new lows** under our base case for trade tensions. The repricing of global rates and the subsequent easing of financial conditions provided a strong push for all assets. Despite the inversion in the front end of the US yield curve, we forecast the Fed to stay on hold for 2019 and any risk-off-led retracement in 2y nominal and real yields to be temporary, removing support for some of our trade ideas.

Figure 1: Reduced carry and Sharpe ratios



Sources: BNP Paribas, Bloomberg

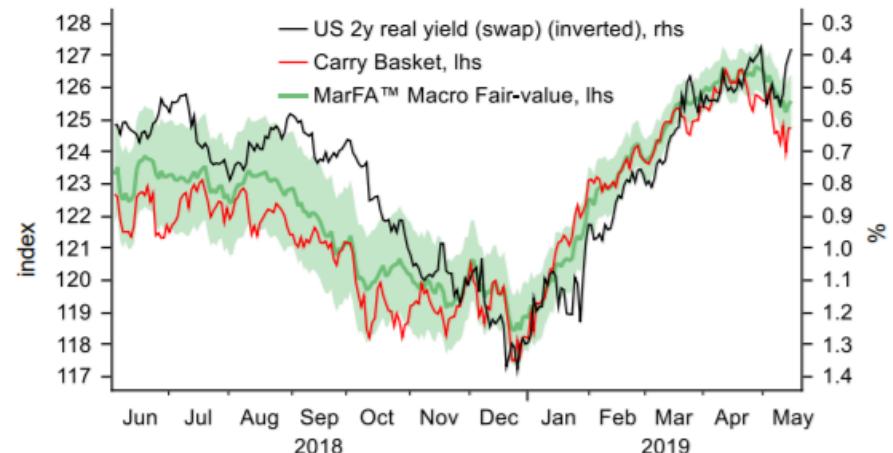
## Risk-off/higher vol and dispersion

- Hold a US 5s30s steeper versus a EUR 5s30s flattener**. We expect the euro swap curve to out-flatten the US curve over the next year, by more than the forwards imply.
- Stay long 2y UST versus OIS swap**. We expect this position to benefit from any risk-off sentiment and any 'untwist' of the Fed's balance sheet.
- Stay long Germany versus swap**, favouring the 5-year which looks cheap on the curve, in our view.
- Buy shorter-dated low-coupon BTPs versus high coupons**. Italian banks have been large buyers of BTPs due to attractive carry. Given the increasing stress linked to global and domestic political issues, any unwinding of carry trades may affect short-dated BTPs, and high coupon BTPs are likely to underperform in a spread widening, we think.
- Buy outright 3m EURGBP calls**, especially with EURGBP implied vols close to 2014 lows, to position for our tactically bearish GBP view.
- Hold a dispersion trade on eurozone equities**; we expect higher dispersion in European exporter stock prices.
- BNPP end-of-cycle long/short equity basket**. We expect companies with pricing power and low labour costs as a share of earnings to be less affected by the cyclical slowdown than corporates that have more leverage, a higher correlation to credit and low margins.

## Fading carry

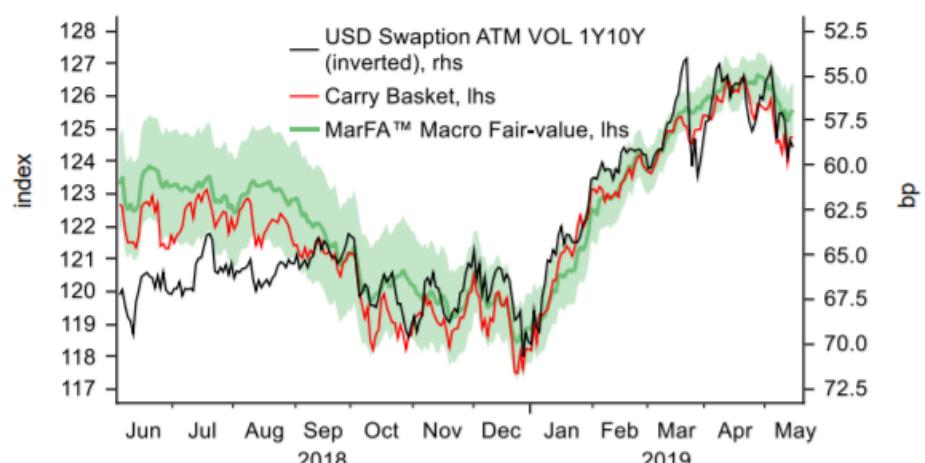
- Take profit on outright and conditional euro curve steepeners**, due to the less-appealing carry and the risk of a duration extension.
- Unwind directional longs in 5y France and Spain** (28 March).
- Stay short USDJPY**. Our carry outlook reinforces our medium-term structurally bearish stance on the highest yielding G10 currency – the USD. As US growth slows in H2, we expect reduced willingness from eurozone and Japanese investors to accumulate USD exposure via slowing outflows or rising foreign currency hedge ratios and project USDJPY falling to 102.

Figure 2: Carry basket and US 2y real yield



Sources: BNP Paribas, Bloomberg

Figure 3: Carry basket and USD 1y10y vol



Sources: BNP Paribas, Bloomberg



## LATE-CYCLE CARRY



## KEY TRADE IDEAS

Our macro strategy shifts from overweight long carry, short vol and risk-on to a neutral stance. As we expect volatility and dispersion to rise, and idiosyncratic factors to become more important, we step back from carry trades selectively and initiate defensive trades.

We continue to forecast most major advanced economies to grow below their long-run trend over 2019–20, with risks to the downside. The probability of a global recession within the next 12 months remains relatively high: 25% on our estimates.

For emerging markets, our base case is that global commercial and financial channels are balanced, with idiosyncratic stories likely to remain in the spotlight.

## THEMES



**ECONOMIC CYCLE ANALYSIS:** Our new 'cycle clock' suggests the US is in the last stage of the economic cycle and the eurozone has recently entered it. We think the market is prone to sharp asymmetric spikes in volatility.



**TRADE:** Our 50% base case is that US–China talks will continue, with no escalation, but that the stand-off will persist until at least the end of 2019, prolonging the uncertainty already weighing on investment.



**JAPANISATION:** While we do not think the eurozone is inevitably heading for persistently low nominal growth and the associated low nominal yields, we think a number of factors make it vulnerable to Japanisation.



**INFLATION:** We do not think the cost-push model has completely broken down. Still, structural factors and the weaker global growth outlook suggest the pass-through of wage growth to price increases is likely to be low.



**GLOBAL IMBALANCES:** While we expect the USD to remain above levels indicated by our fair-value models, we think structural imbalances, US fiscal deterioration and a potential slowdown increase the risk of a reversal.



**POLITICS:** The soaring number of social media messages masks the true risk to the market of a mispriced 'jump risk', in our view. We think this jump risk is highest in news about Brexit and Italy.



**OIL:** Producer cuts and involuntary outages are likely to support prices in Q2–Q3, depending on risk appetite. We forecast Brent will rise to USD76/bbl on average in Q3, followed by a range-bound market in 2020.

## Rates

[US 5s30s steepener vs EUR 5s30s flattener](#)

[Long shorter-dated, low-coupon BTPs vs high coupons](#)

[Long OAT versus swap](#)

[Long OAT vs Olo](#)

[Long Germany vs swap](#)

[Long 2y UST vs OIS swap](#)

[Long breakeven inflation in the US](#)

[5y5y/15y15y euro inflation swap flattener](#)

## FX

[Stay short USDJPY](#)

[Buy outright 3m EURGBP calls](#)

## Equities

[Keep CAC 40 vs DAX index](#)

[Hold a dispersion trade on eurozone equities](#)

[BNPP end-of-cycle long/short equity basket](#)

In [emerging markets](#), we like long positions in CE3 currencies against the USD and to be short Asian currencies. We favour receiving local currency rates in Brazil, China and Mexico.



## WHERE WE DIFFER FROM CURRENT CONSENSUS

**Growth:** For most of the advanced economies, our growth forecasts for 2019–20 are below both the consensus and long-run trends.

For [emerging markets](#), too, we are below consensus on growth, especially for Brazil, South Africa and Mexico.

**Federal Reserve:** We expect the Fed to remain on hold over 2019–20.

**US equities:** We expect a challenging environment for US equities in H2 2019 and the S&P 500 to fall 9% by the end of the year.

**GBP:** We expect GBP weakness to continue in the near term.

**JPY:** We see a risk of sharp JPY appreciation as US growth slows in H2 2019.

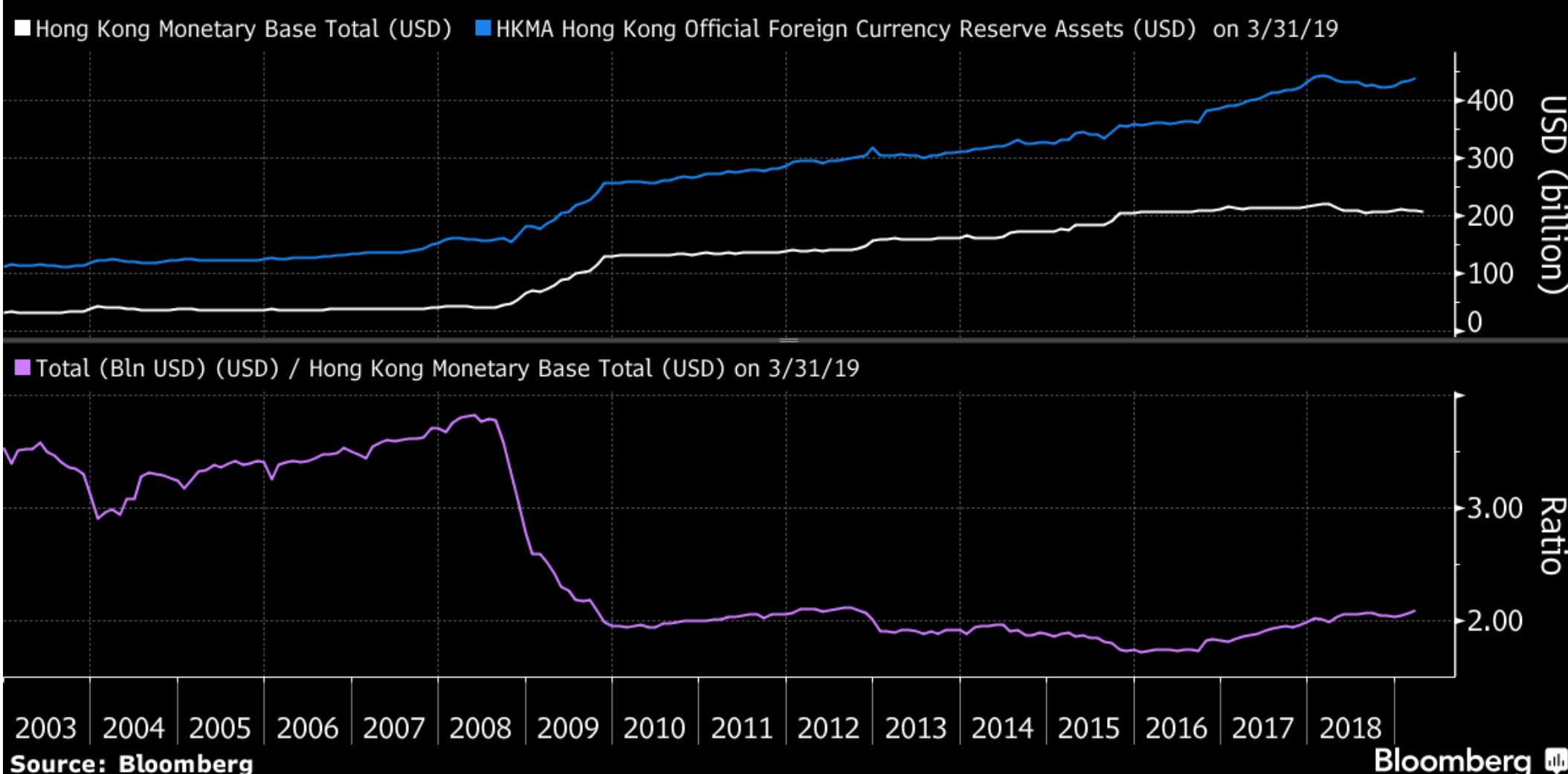
- Last night's indicative closing levels on Guatemala's outstanding issues are shown in the table below.

MIZUHO LATAM SOVEREIGN & QUASI-SOVEREIGN BOND STATISTICS (Indication Only. Source: Bloomberg BVAL.)																
Country / Instrument	Mdy	S&P	Fitch	Face	Avg. Life	Mod. Dur	Price		YTM		Current Yield		Z-Spread		G-Spread	
							Bid	Ask	Bid	Ask	Bid	Ask	Bid	Ask	Bid	Ask
GUATEM 5.75% '22	Ba1	BB-	BB	700	3.0	2.7	105.07	105.50	3.95	3.81	5.47	5.45	177	162	181	167
GUATEM 4.5% '26	Ba1	BB-	BB	700	6.9	5.9	98.43	98.86	4.77	4.69	4.57	4.55	255	248	252	244
GUATEM 4.375% '27	Ba1	BB-	BB	500	8.0	6.5	97.21	97.72	4.80	4.72	4.50	4.48	255	247	251	243
GUATEM 4.875% '28	Ba1	BB-	BB	700	8.7	7.0	100.61	101.00	4.79	4.73	4.85	4.83	252	246	247	242
GUATEM 8.125% '34	Ba1	BB-	BB	330	15.4	9.4	125.39	125.76	5.63	5.60	6.48	6.46	324	321	316	313

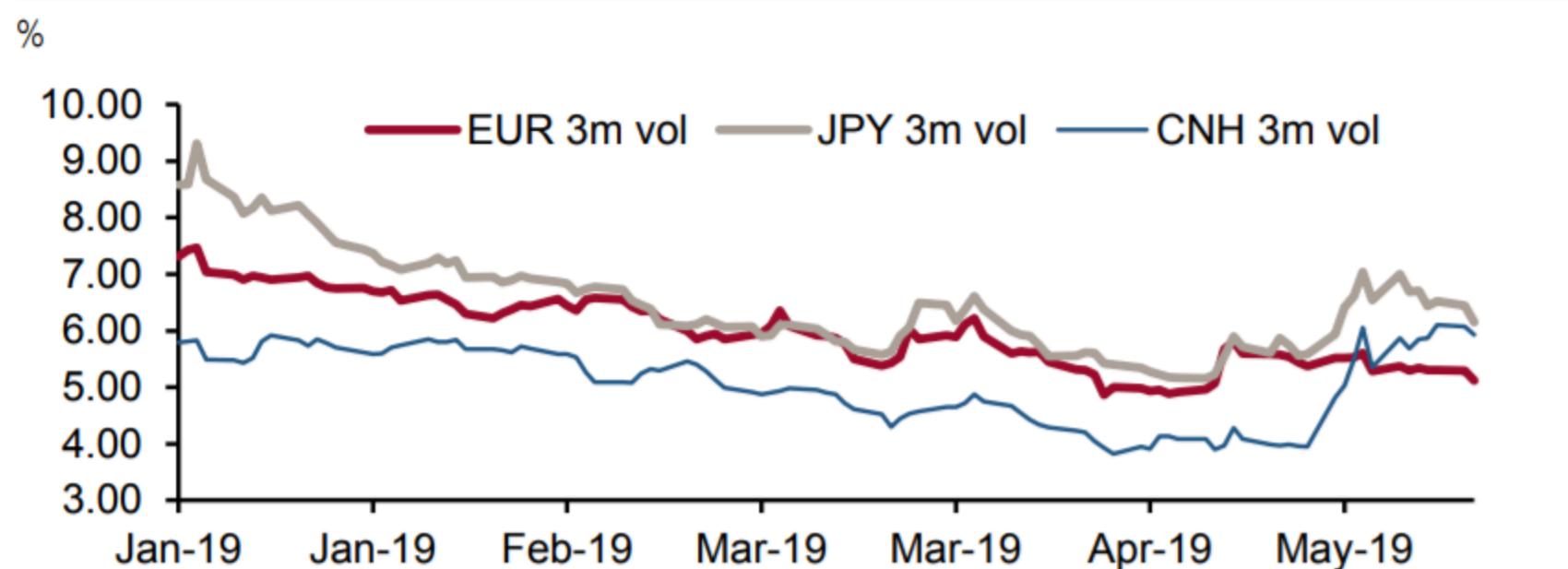
- The benchmark 4.875% due (February) '28 closed 100.61 bid last night, for a 4.79% yield to maturity, and a G-spread of +247 bps. The '28s have an average life of 8.7 years and modified duration of 7.0. Guatemala's spread curve is shown below (using last night's closing data).

# Don't Fight the HKMA?

Hong Kong's FX reserves cover its monetary base more than twice over



**Figure 1: CNH vols still at the highs as EUR and JPY vols retrace gains**



Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service



Figure 135: EUR 2s7s30s versus the model\*

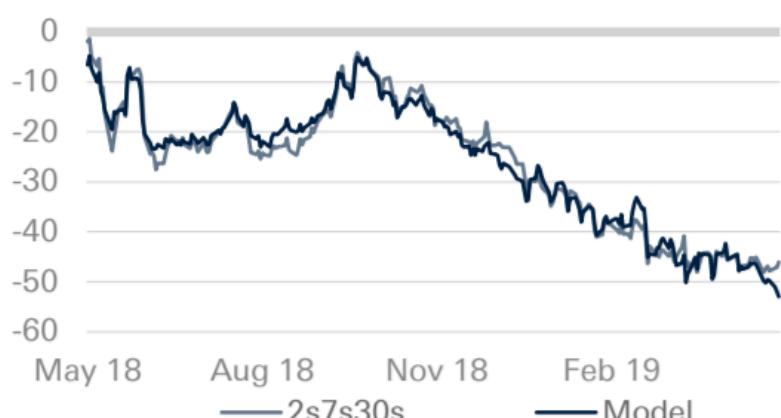
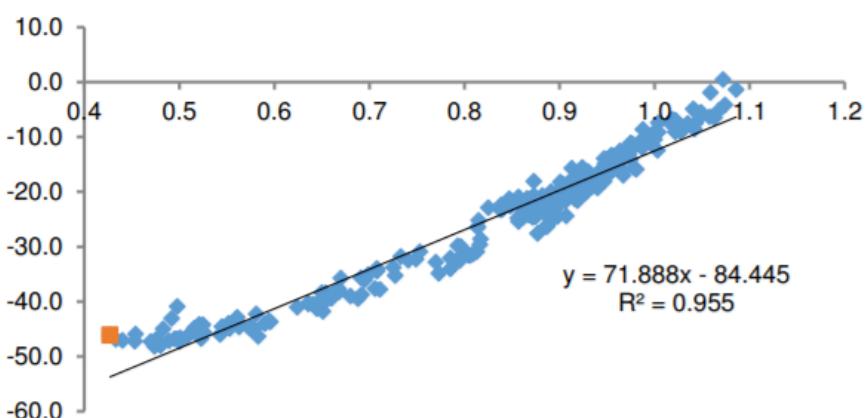


Figure 136: EUR 2s7s30s regressed on 10s



In the figure below on the left we show the PCA residuals non overlapping forwards over a 1y look back period using two factors. Our PCA model is consistent with the fly model - namely the wings (2y and 20y) appear rich versus the belly (5y-7y). In the figure on the right we show the PC1 factor loadings over one year and three-month look back periods. The loadings show that over the last year the market has been driven by the forwards around the 5y point, but more recently it is the forwards around 10y-15y that drive the moves - this is the same message as the vol grid (30y tails are more volatile).

Figure 139: EUR 2s5s30s fly has diverged versus 10s

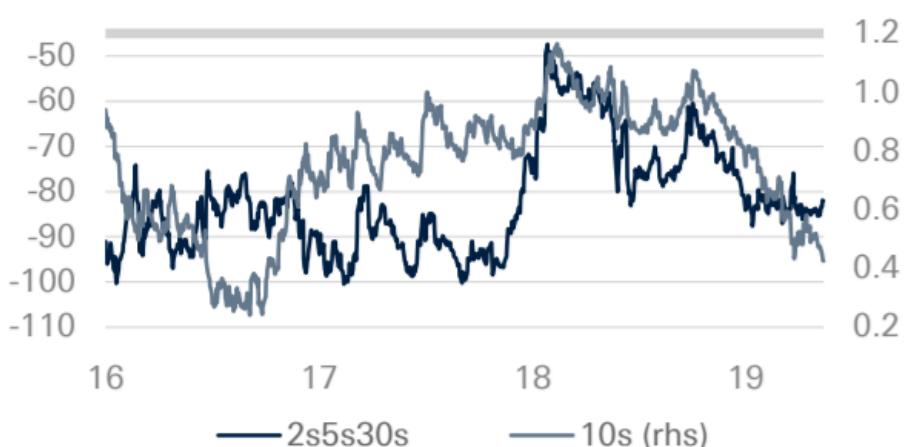


Figure 140: EUR 2s5s30s swap fly versus 3m fwd 2s5s30s vol fly



Figure 141: EUR 2s5s30s regressed on 10s - 10s not correlated to EUR 2s5s30s in ytd 2019

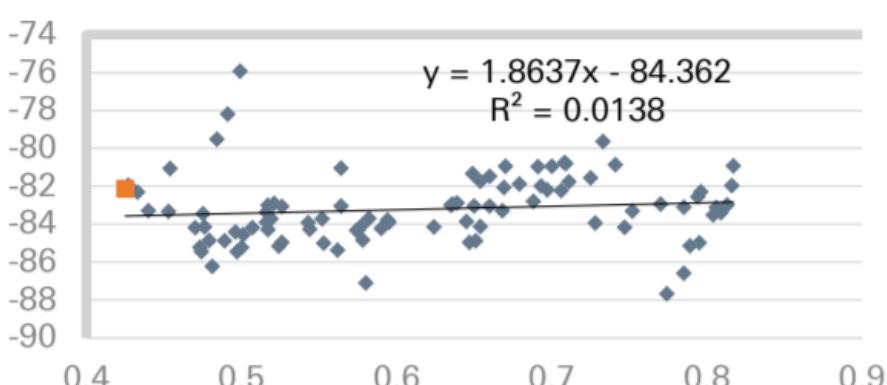


Figure 142: EUR 2s5s30s regressed on 10s has had a high R2 in 2018

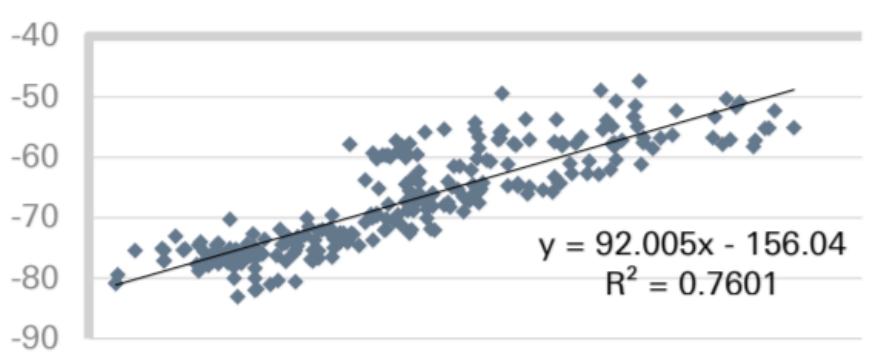
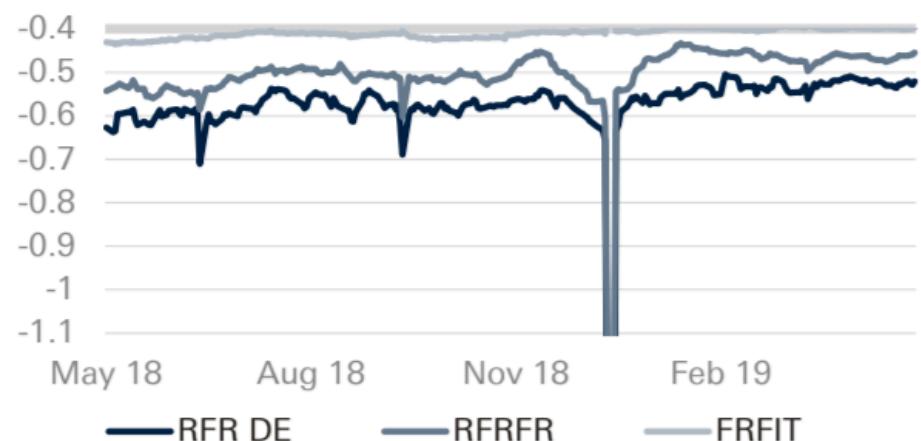


Figure 76: Repo volumes



Source : RepoFundsRate

Figure 77: Repo rates have remained cheap since early 2019



Source : RepoFundsRate

## Supply overview

**Schatz** - The new 2Y Jun21 will be issued on 28th May for EUR 5bn after which it will be included in the Schatz basket. This will be followed by 2 more taps for EUR 5bn and EUR 4bn on 25th June and 30th July respectively.

**Bobl** - The current 5Y Apr24 will be tapped one last time on 29th May for EUR 3bn after which the new 5Y Oct24 will be issued on 3rd July for EUR 4bn. It will be included in the Bobl basket after the tap on 7th Aug. OBL Oct24 is scheduled to be tapped 5 times in 2019 for EUR 4bn each on 7th Aug, 4th Sep and 2nd Oct whereas it will be tapped for EUR 3bn each on 30th Oct and 27th Nov.



## Figure 10: Political risks are more balanced, but vols remain stable



Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

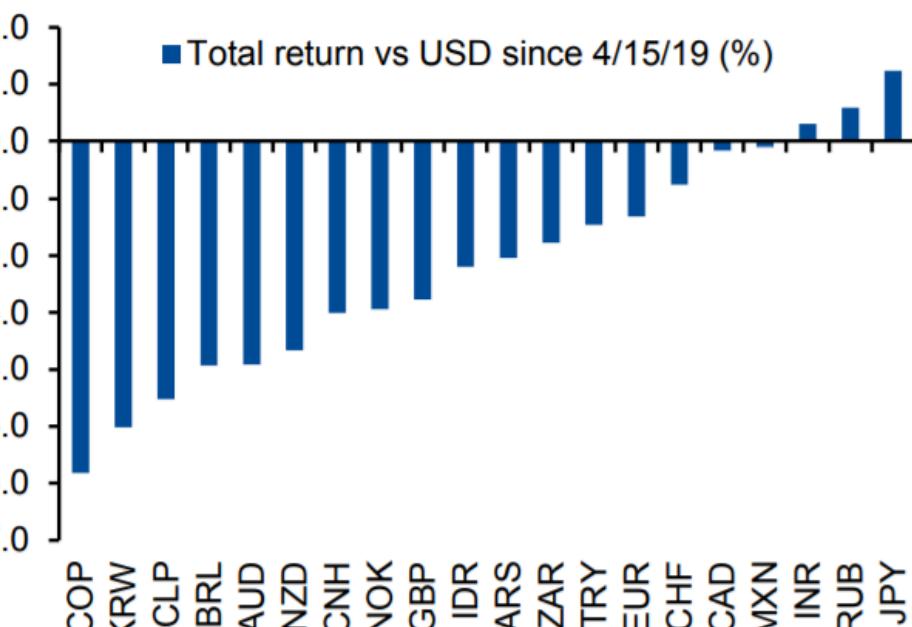
- 2) On 16 May Banxico surprised markets with a hawkish rate decision, adding "cost pressures in the economy" to the list of the factors that it monitors in the guidance portion of its statement. This reflects the recent rebound in CPI inflation, and has been consistent with an improvement in MXN's carry profile (Figure 12).

**Figure 11: MXN vols have fallen back to the lows of the year following removal of US tariffs**



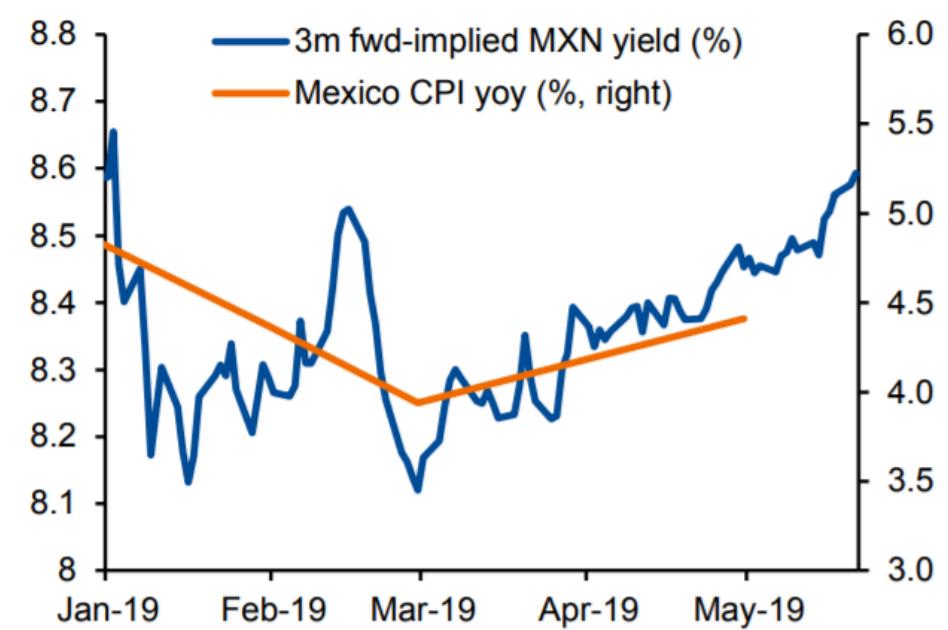
Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

**Figure 13: COP has weakened most than all FX vs the USD since equity vol bottomed out in mid-April**



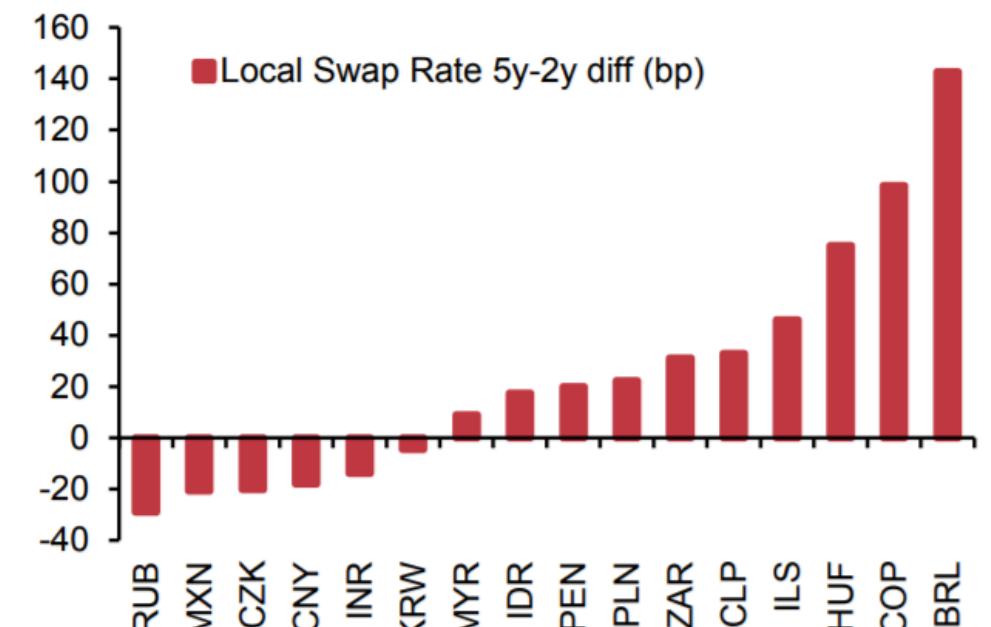
Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

**Figure 12: MXN's carry profile has improved in line with recent renewed strength in inflation**



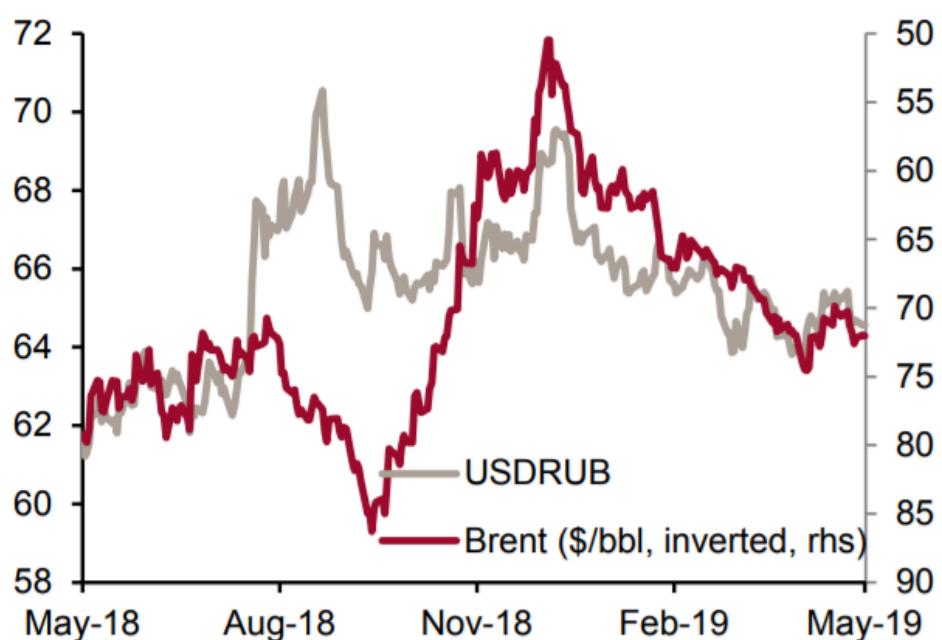
Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

**Figure 14: Policy expectations in Colombia are amongst the most hawkish in EM FX**



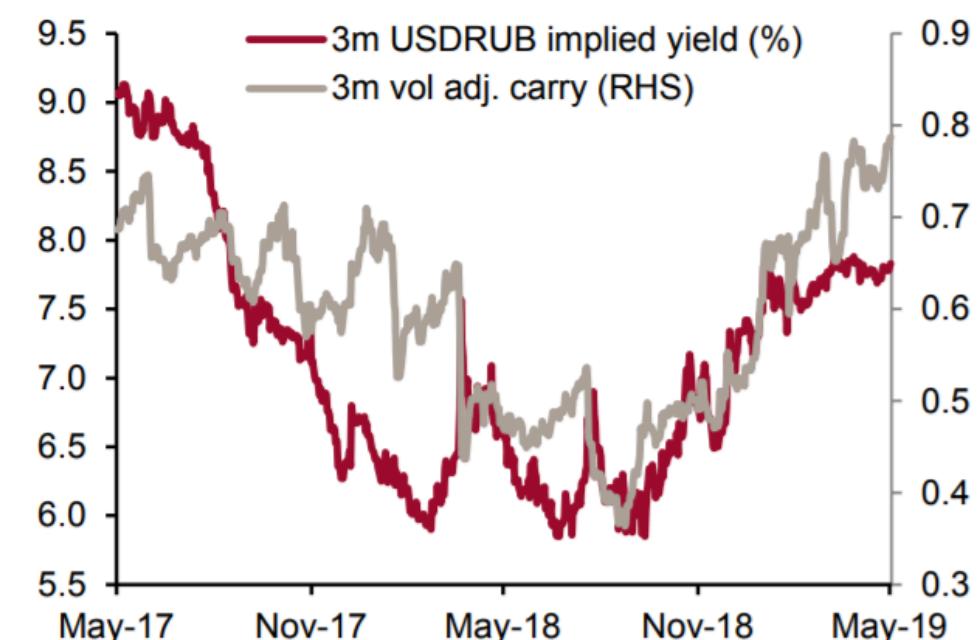
Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

**Figure 17. Oil has been playing a more meaningful role since early April**



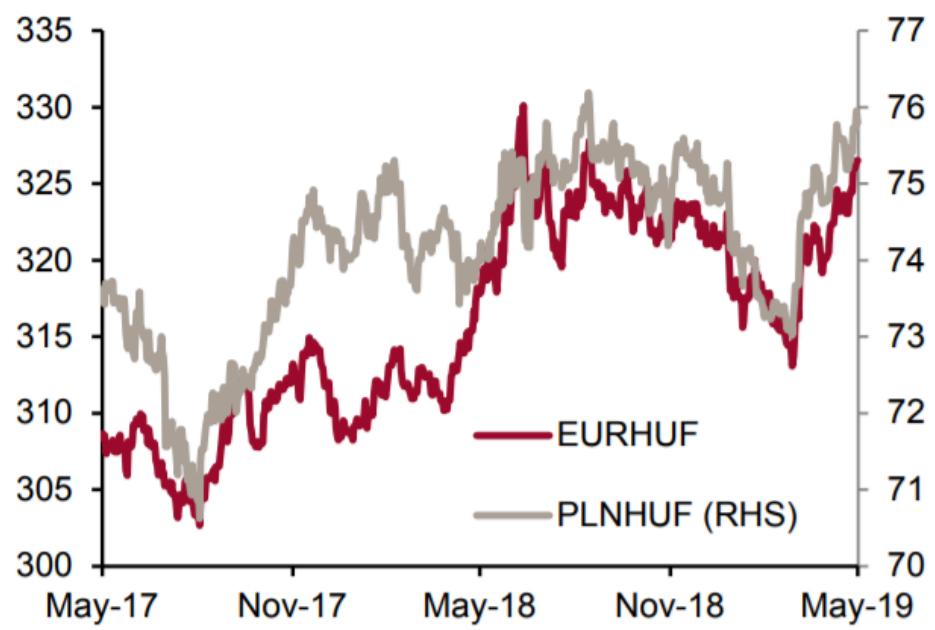
Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

**Figure 18. Vol-adjusted carry for USDRUB is at multi-month highs**



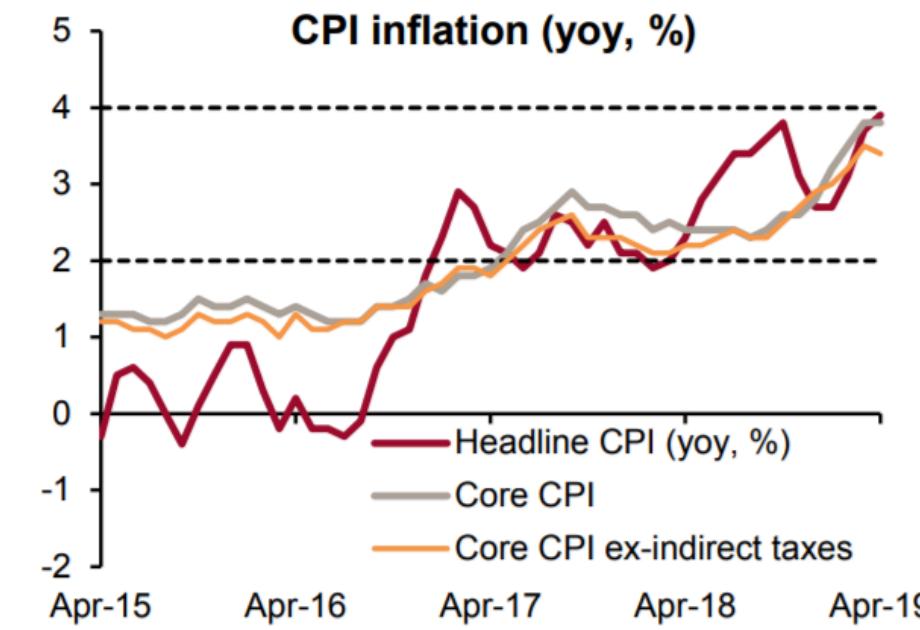
Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

**Figure 19. Forint selloff looks like an overshoot with both EURHUF and PLNHUF getting close to their multi-month highs**



Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

**Figure 20. Core inflation ex-indirect taxes moderated in April but remains at elevated levels**



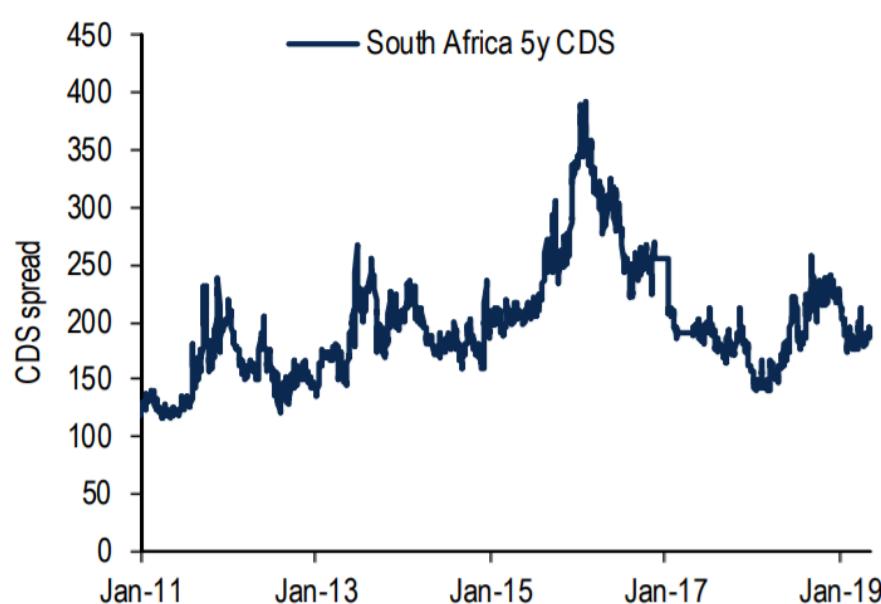
Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

## Hedge ideas: SoAf CDS, Saudi rates, long COP/CLP

Given the low probability but high impact nature of an escalation in Iran-related tensions, we are looking for hedges that are reasonably asymmetric and inexpensive. We look for oil importers with relatively low risk premium. The crowded positioning in GCC credit and equity markets could likely come under pressure. Long COP/CLP hedges higher oil and trade tension risks. We add a recommendation to buy South Africa CDS at 192bp and stay paid Saudi rates, both of which remain at very attractive asymmetric levels in our view. *SOAF CDS trade risks; broader market rally, trade war resolution.*

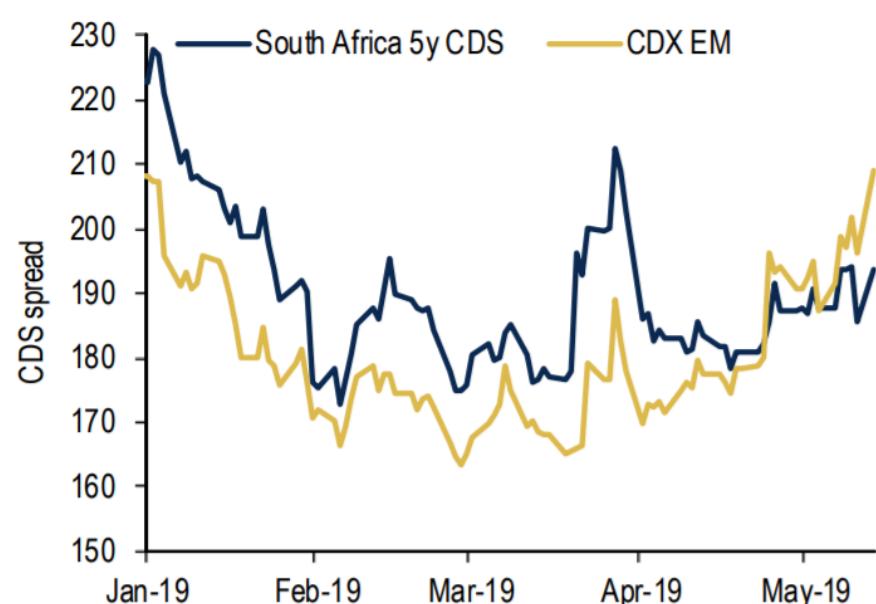
We buy **South Africa CDS** at 192bp, targeting 240bp, with a stop at 160bp (notional amount of US\$5mn). Levels are close to historical tights over the past five years (except the very brief undershooting in the early 2018 EM frenzy, Chart 4). We further highlight South Africa CDS's outperformance vs. other CDS contracts in recent weeks (likely reflecting expectations of a broadly market-positive election result, Chart 5).

Chart 5: SOAF CDS has substantial upside in a shock



Source: Bloomberg. Please note limited data availability for late 2016 / early 2017

Chart 6: South Africa CDS has outperformed the broader market



Source: Bloomberg

Chart 7: SAR 12m forward points have limited downside



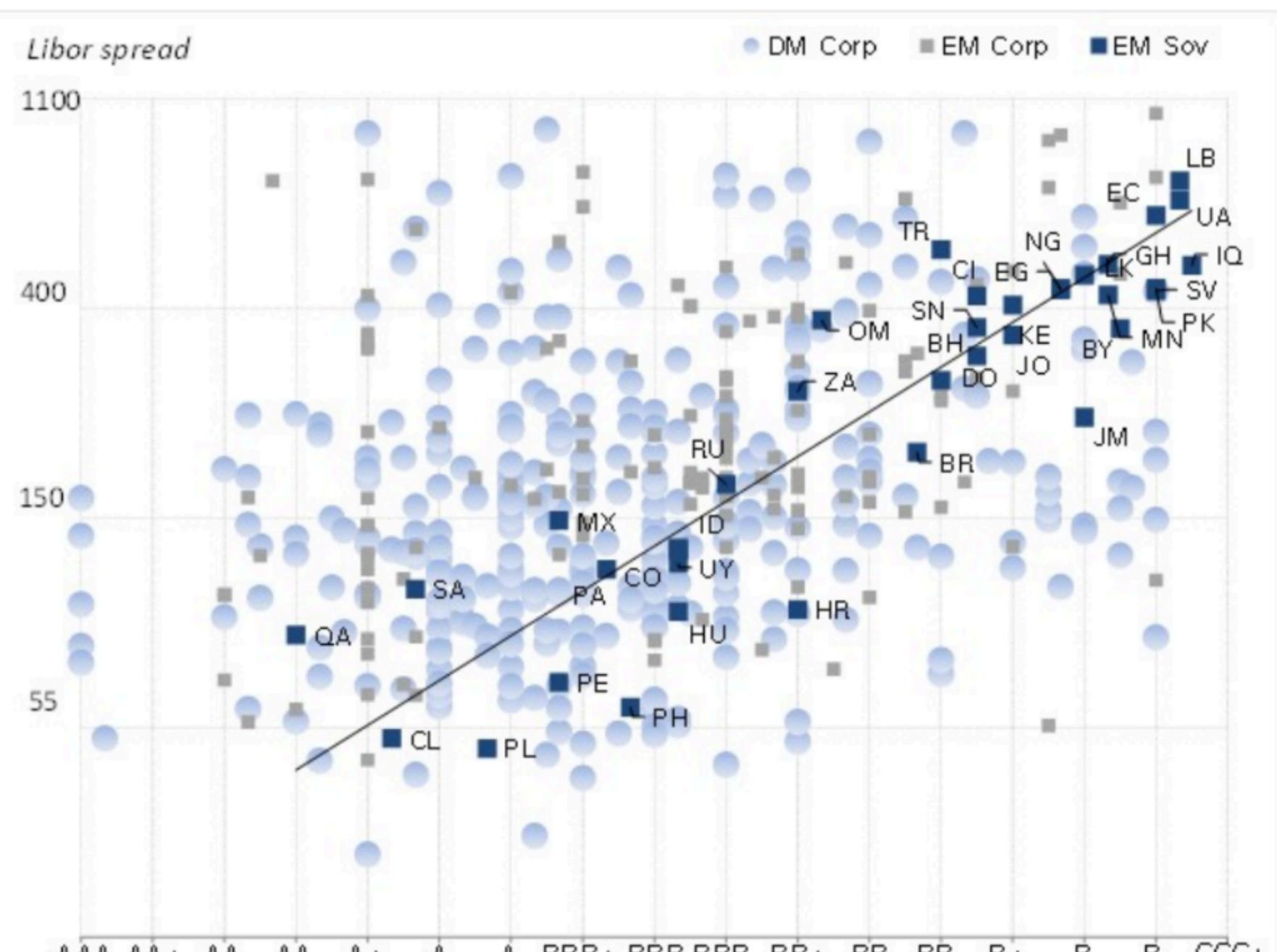
Source: Bloomberg

Chart 8: We remain paid SAR rates



Source: Bloomberg

Figure 1: Ukraine remains one of the widest sovereign credits



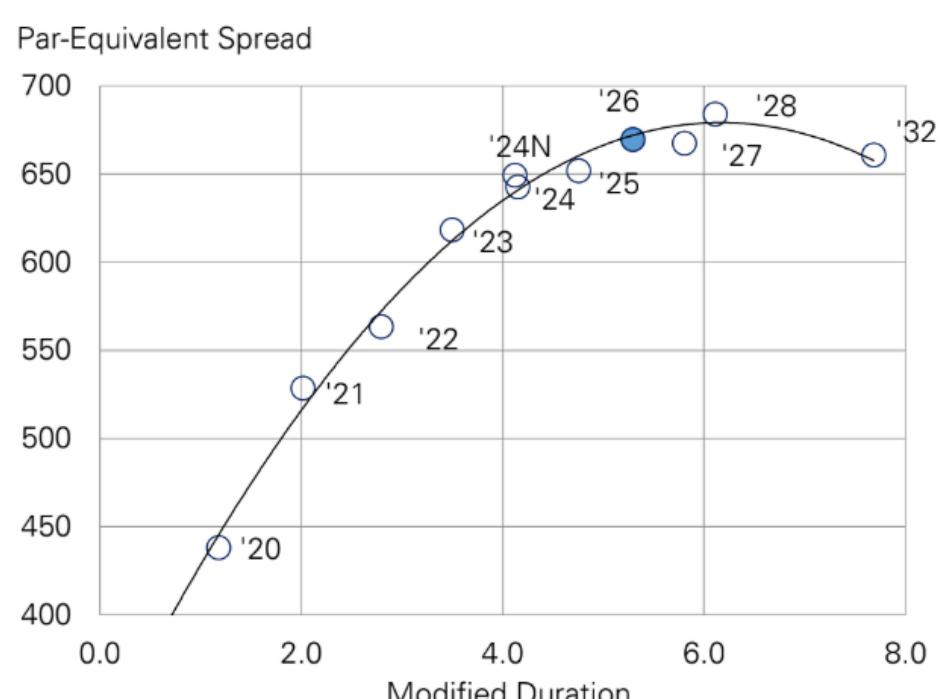
Source : Deutsche Bank, Bloomberg Finance LP

Figure 2: Ukraine curve - very steep

3M and 1Y z-score of residual – Regression of slope vs spread											
1Y	3M	'21	'22	'23	'24N	'24	'25	'26	'27	'28	'32
	'21		1.7 (15)	2.4 (32)	2.6 (40)	3.0 (45)	2.8 (40)	2.6 (39)	2.1 (39)	2.6 (37)	2.5 (41)
	'22	1.4 (15)		2.2 (17)	2.3 (24)	2.5 (29)	2.3 (25)	1.9 (24)	1.5 (24)	1.7 (21)	1.8 (26)
	'23	2.8 (36)	2.7 (21)		1.3 (8)	1.6 (12)	1.3 (8)	1.2 (7)	0.9 (7)	0.7 (5)	1.1 (9)
	'24N	2.6 (50)	2.5 (35)	1.0 (11)		0.4 (5)	-0.1 (1)	0.0 (-1)	0.0 (-1)	-0.3 (-3)	0.4 (2)
	'24	3.3 (43)	3.2 (28)	1.2 (7)	0.1 (1)		-0.9 (-4)	-0.2 (-5)	-0.3 (-5)	-0.8 (-8)	0.2 (-3)
	'25	2.5 (34)	2.0 (18)	0.2 (-3)	-0.5 (-4)	-0.9 (-10)		0.1 (-1)	0.0 (-1)	-0.4 (-4)	0.6 (1)
	'26	2.3 (33)	1.6 (18)	0.3 (-3)	-0.4 (-2)	-0.4 (-10)	0.2 (0)		-0.2 (0)	-0.6 (-2)	0.3 (2)
	'27	1.8 (30)	1.2 (15)	0.1 (-6)	-0.5 (-3)	-0.5 (-14)	-0.1 (-4)	-0.4 (-3)		-0.4 (-2)	0.4 (2)
	'28	1.6 (48)	1.2 (33)	0.2 (9)	-0.5 (-2)	-0.6 (-3)	-0.2 (2)	-0.2 (0)	-0.1 (1)		1.0 (5)
	'32	0.9 (18)	0.5 (3)	-0.2 (-18)	-0.2 (1)	-0.5 (-26)	-0.4 (-16)	-0.5 (-15)	-0.4 (-12)	0.3 (3)	

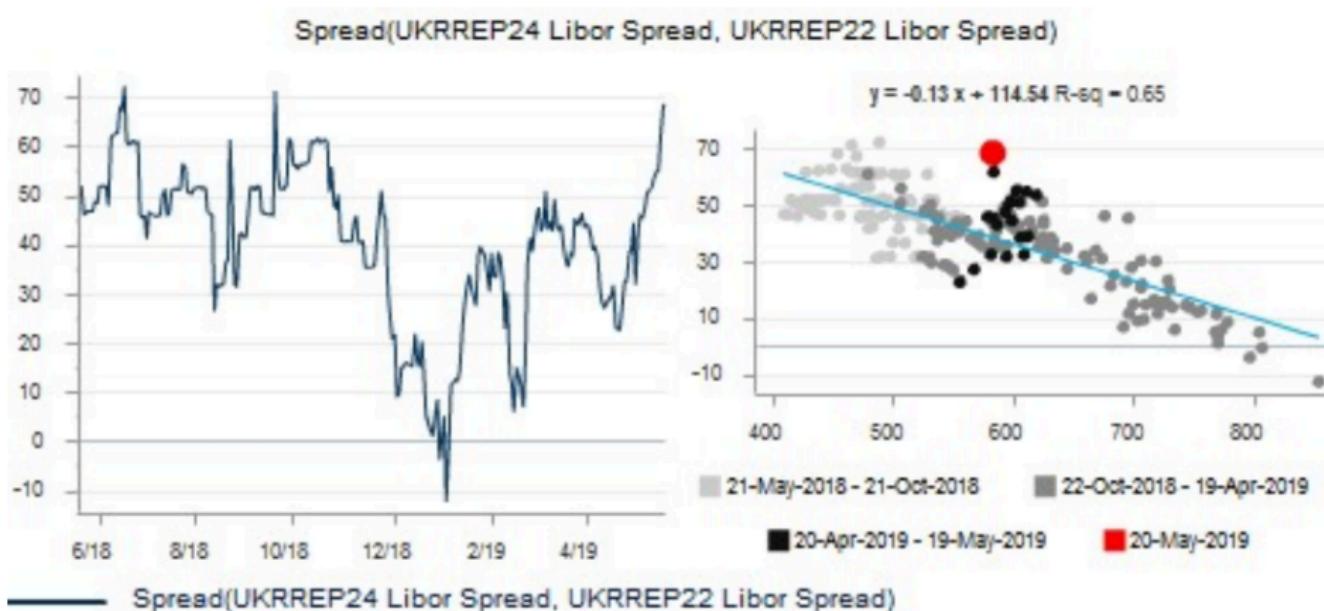
Source : Deutsche Bank Credit Valuation Snapshot

Figure 3: 26s - good spread for the price



Source : Deutsche Bank, Bloomberg Finance LP

Figure 4: Trade history - Ukraine 24s (old) vs. 22s



Source: Deutsche Bank Global Markets Research (Indicative prices)

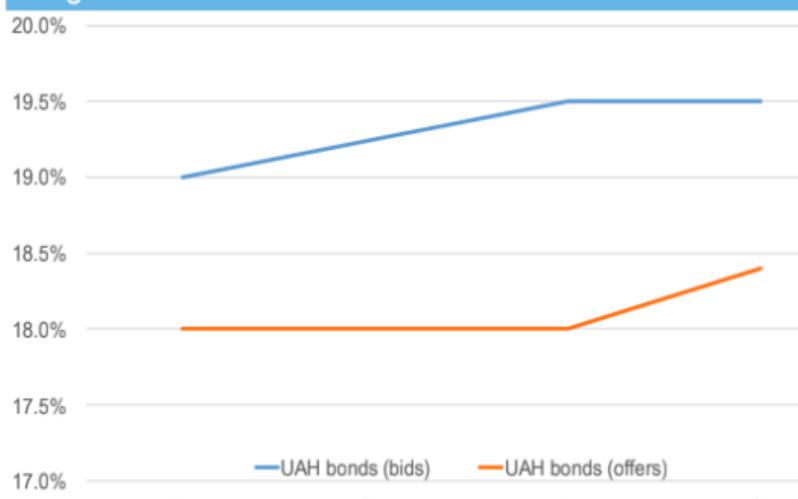
Source : Deutsche Bank Autobahn (Time Series Charting)

Figure 5: Ukraine GDP warrant pricing



Source : Bloomberg Finance LP, Deutsche Bank

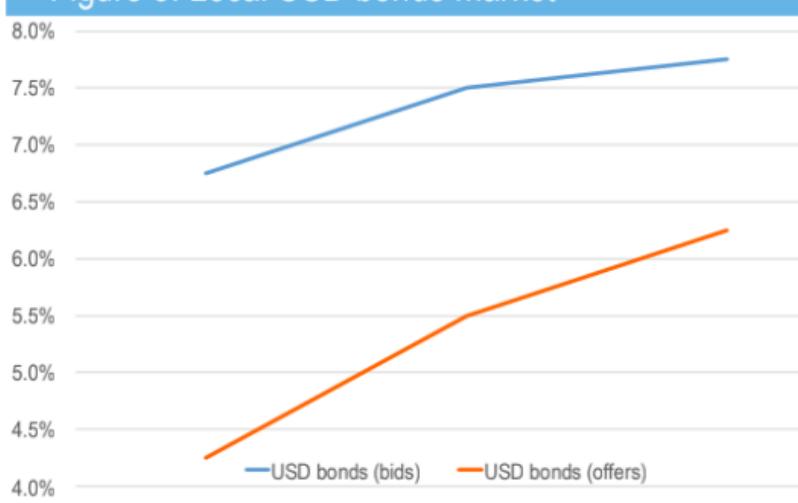
Figure 4. Local UAH bonds market



Government bond market

CCY	Maturity	Cut-off rate	WA rate	Max bid rate	Min bid rate	Number of bids	Bids accepted	Bid size, mn	Place-ment size, mn
UAH	3m	17.89%	17.89%	18.50%	17.89%	18	8	674.614	500
UAH	6m	18.50%	18.37%	18.50%	18.25%	16	16	319.48	319.48
UAH	1y	18.50%	18.50%	18.50%	18.50%	15	15	498.17	498.17
UAH	1,5y	18.00%	17.95%	18.50%	17.95%	13	9	528.46	345.46
UAH	3y	16.00%	16.00%	16.10%	16.00%	8	7	668.20	667.20
USD	6m	6.70%	6.70%	6.70%	6.70%	16	16	97.23	97.23
USD	1y	7.25%	7.25%	7.25%	7.25%	11	11	8.62	8.62
USD	1.5y	7.75%	7.74%	7.75%	7.50%	26	26	6.39	6.39

Figure 5. Local USD bonds market



FinMin has attracted UAH5bn (equivalent) on the primary auction held May 21th. The key demand was on 3m UAH bonds, totaling to UAH674.6mn. The Ministry, however, continued to limit the bonds offer and satisfied only 10 of 18 applications, for UAH500mn, pushing the cut-off rate on 3m UAH down to 17.89% from 18.5% a week before. Cut-off rates for the rest of UAH bonds generally stayed unchanged within a range 16.00%..18.50%.

Sales of USD-denominated bonds doubled to USD112mn comparing to the previous auction. The key demand was on 1y bond at the rate of 6.7%.

According to the NBU the international accounts decreased participation in the FinMin auctions in May comparing to April. We attribute this cooling of interest to

Chart 3: KENINT 24s have outperformed the curve recently

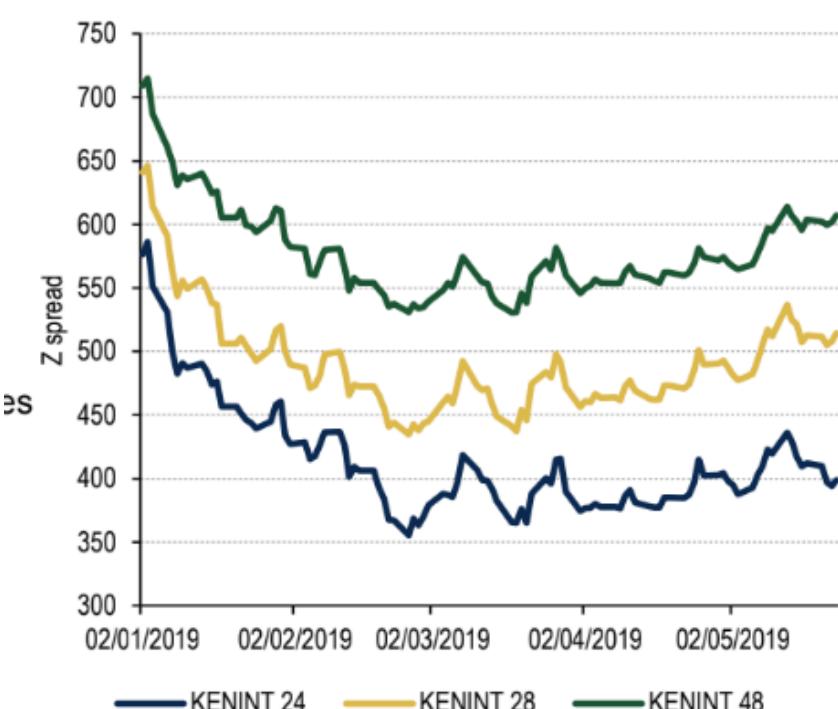


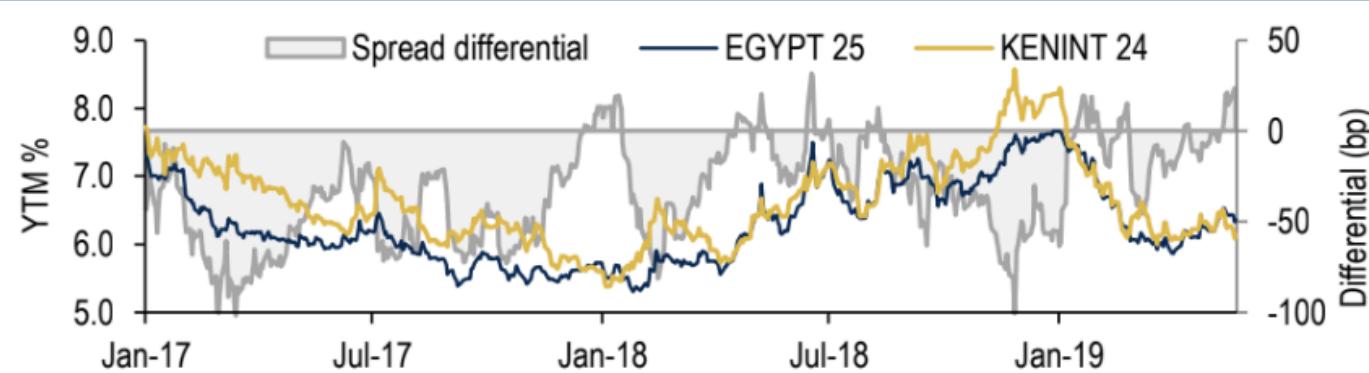
Table 1: Trade details

Bond	Buy Bond	
	EGYPT 5 7/8 06/11/25	KENINT 6 7/8 06/24/24
Price	97.75	
Yield	6.33%	
Risk	4.89	
Notional (thousands)	2,000	
Principal	-1,955,000	
Accrued interest	-54,507	
Total cost	-2,009,507	
Source:	Bloomberg	

## RV dislocation - buy EGYPT '25 vs. KENINT '24

Amid limited visibility for EM, we look to take advantage of RV opportunities that in our view are not justified by fundamentals. We recommend buying EGYPT \$ 25s and selling KENINT \$ '24s for a yield differential of +4bp. The current differential compares to a 1y average of -22bp, and is near historical wides (Chart 1). Historically, Egypt has tended to be more resilient vs. Kenya in times of large spread widening (such as in early and late 2018).

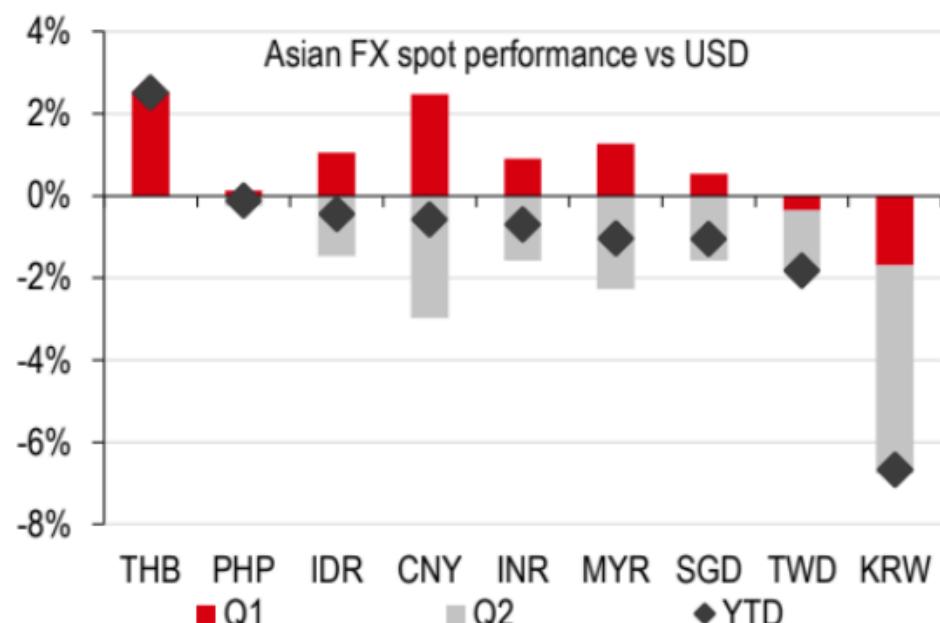
Chart 1: EGYPT \$ '25s trading unusually wide of KENINT \$ '24s



Source: Bloomberg. Shows mid levels.

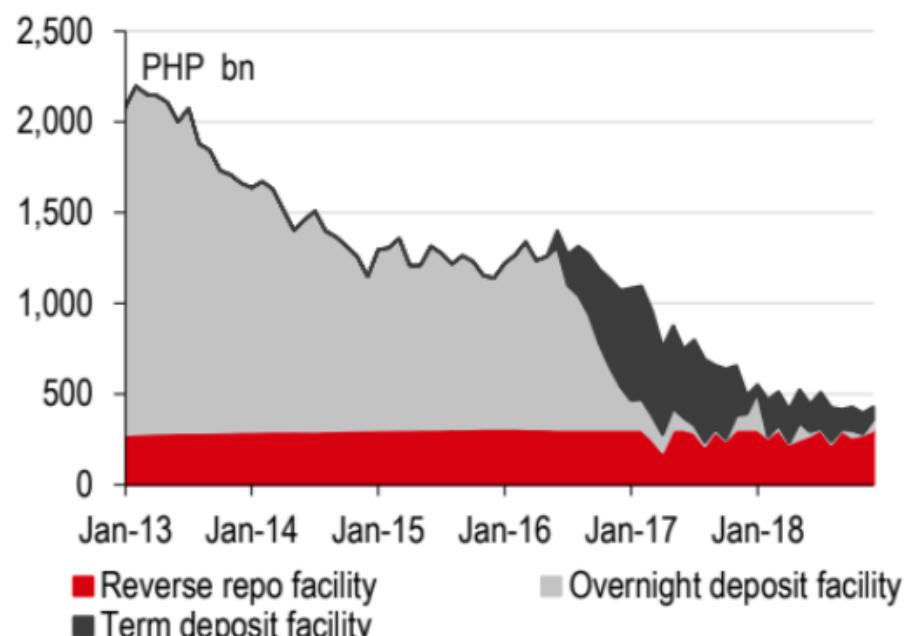
This RV opportunity has arisen as a result of outperformance by the KENINT \$ 24s, and modest underperformance by Egypt. The KENINT \$ '24s are only 13bp wider since 3 May (before the re-emergence of trade war risks) vs. 38- 45bp widening in longer-dated bonds. In contrast EGYPT \$ '25s are 42bp wider.

## 1. The PHP is one of the best performers in the region, year-to-date



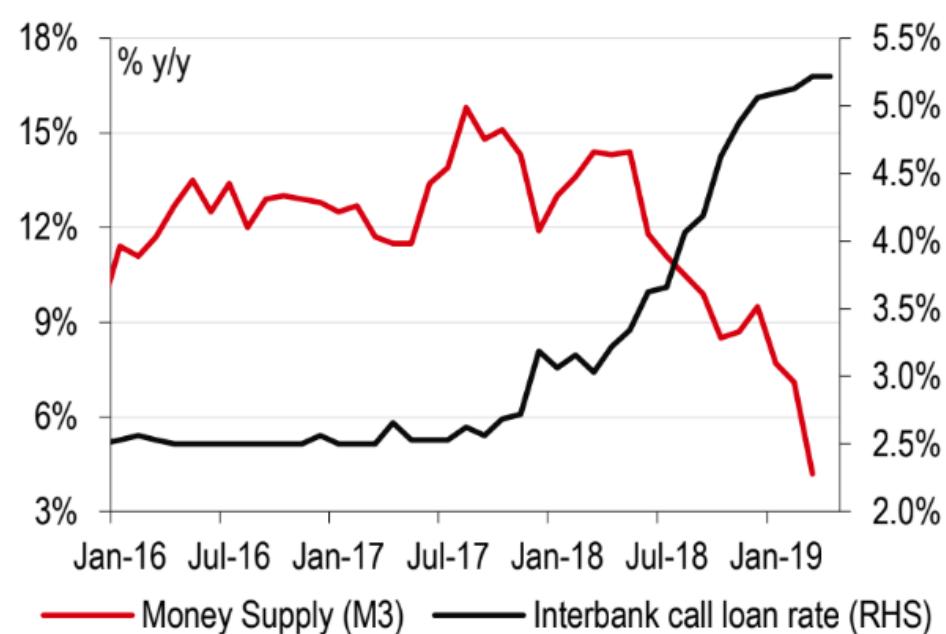
Source: Bloomberg, HSBC. Note: Q2 data is as of 17 May 2019

## 2. Excess liquidity in the banking system is at a multi-year low



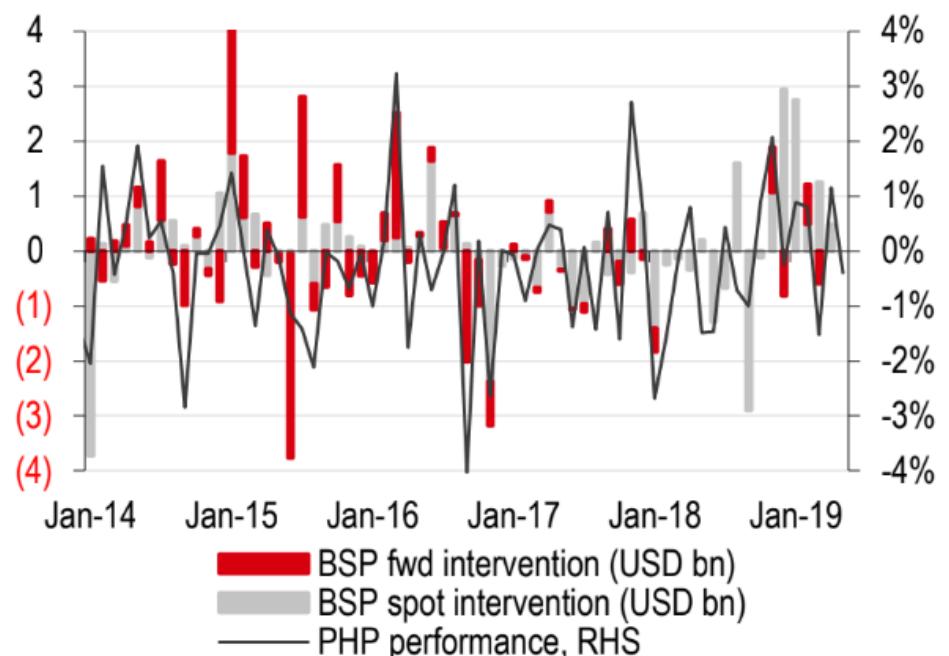
Source: Bloomberg, CEIC, HSBC

## 3. Money supply growth has plunged and interbank rates have risen sharply



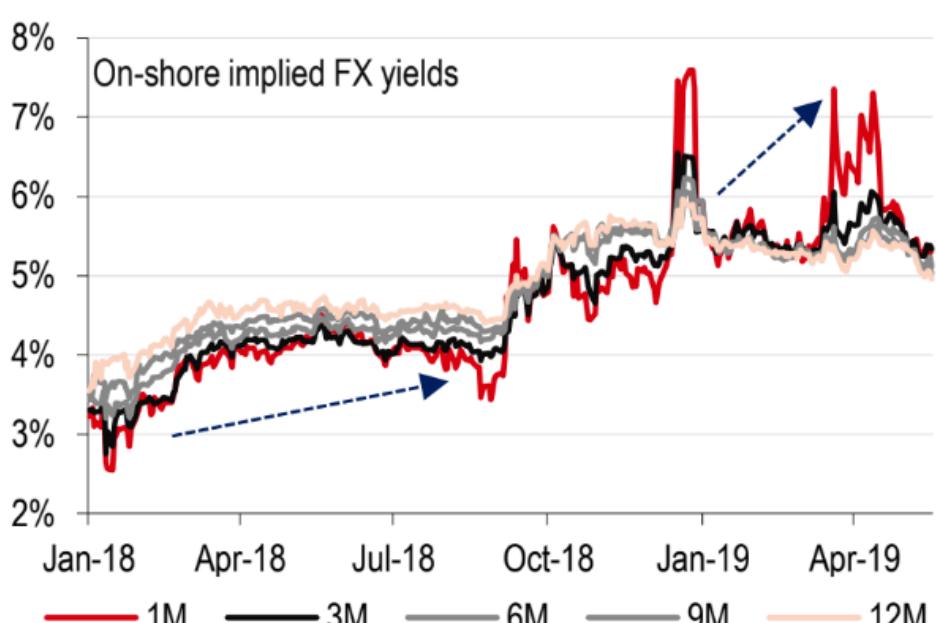
Source: Bloomberg, CEIC, HSBC

## 4. The BSP injected liquidity with its FX reserves building earlier (sans sterilisation)



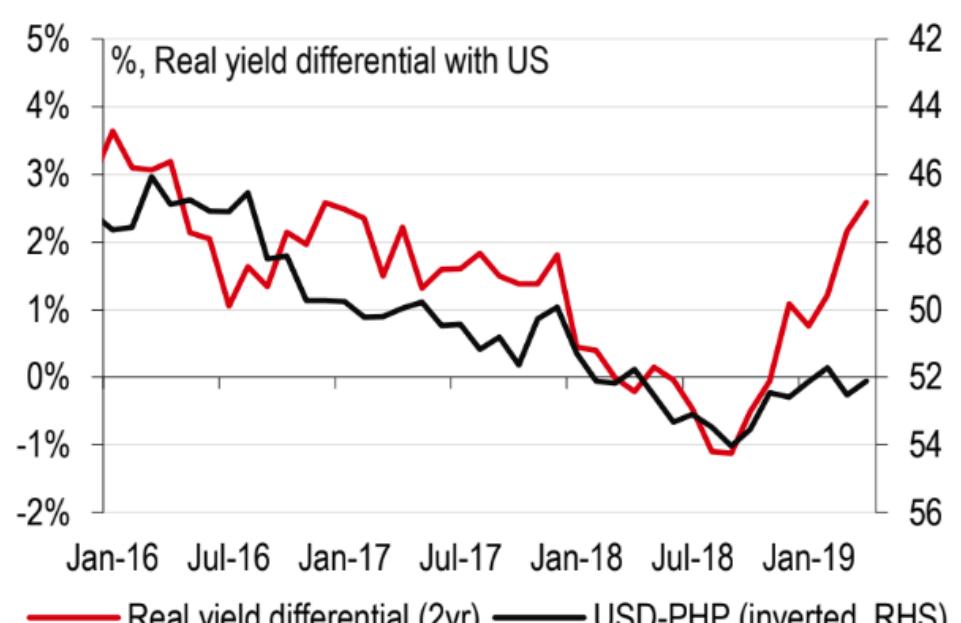
Source: Bloomberg, CEIC, HSBC

## 5. Easing PHP funding conditions should lead to a decline in onshore FX implied yields



Source: Bloomberg, HSBC. Data is as of 17 May 2019.

## 6. The PHP's real yield advantage over the USD should also narrow

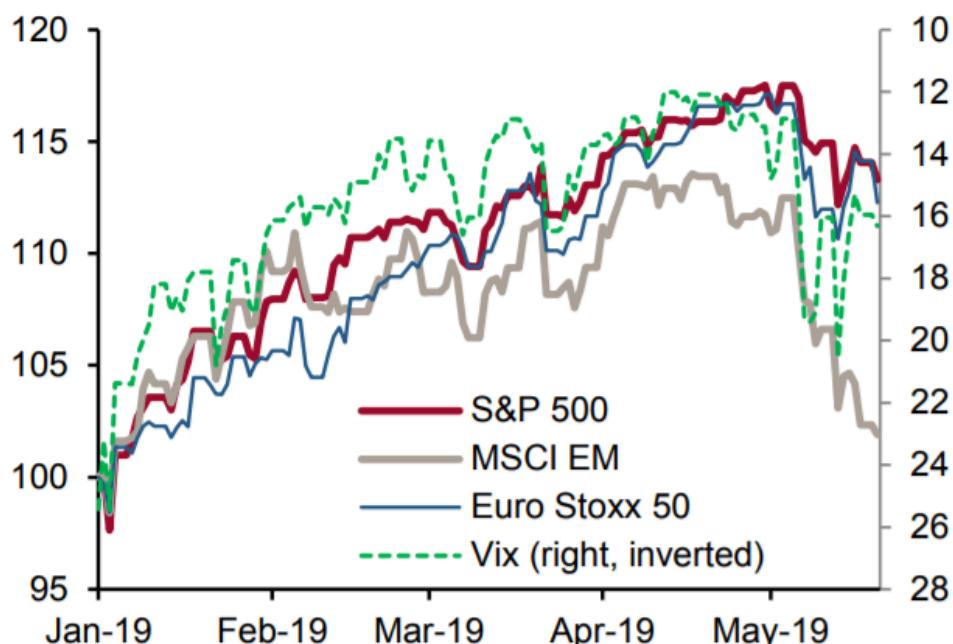


Source: Bloomberg, CEIC, HSBC



**Figure 2: US and European equities have rebounded in line with the Vix, EM equities still under pressure**

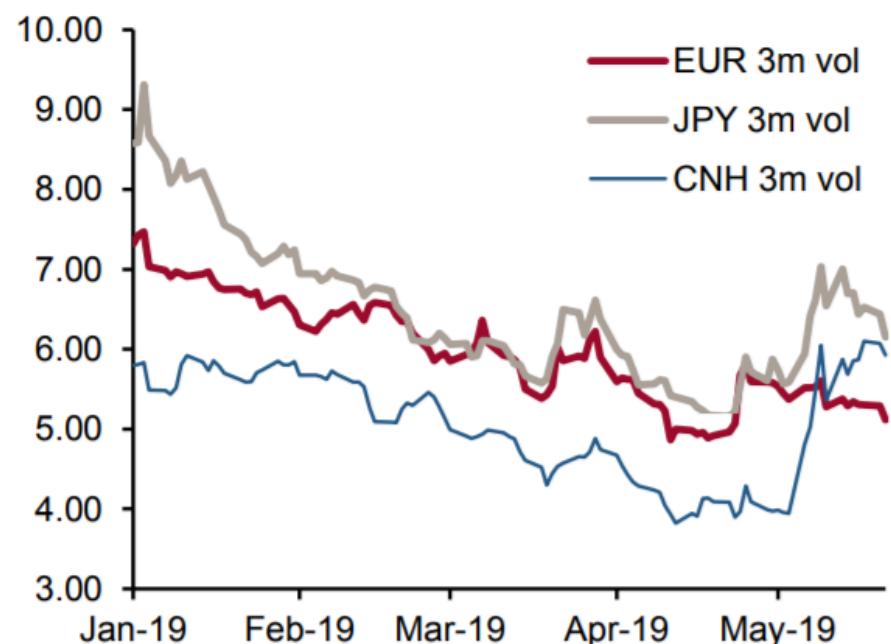
Equity indices normalized, 1/1/19 = 100



Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

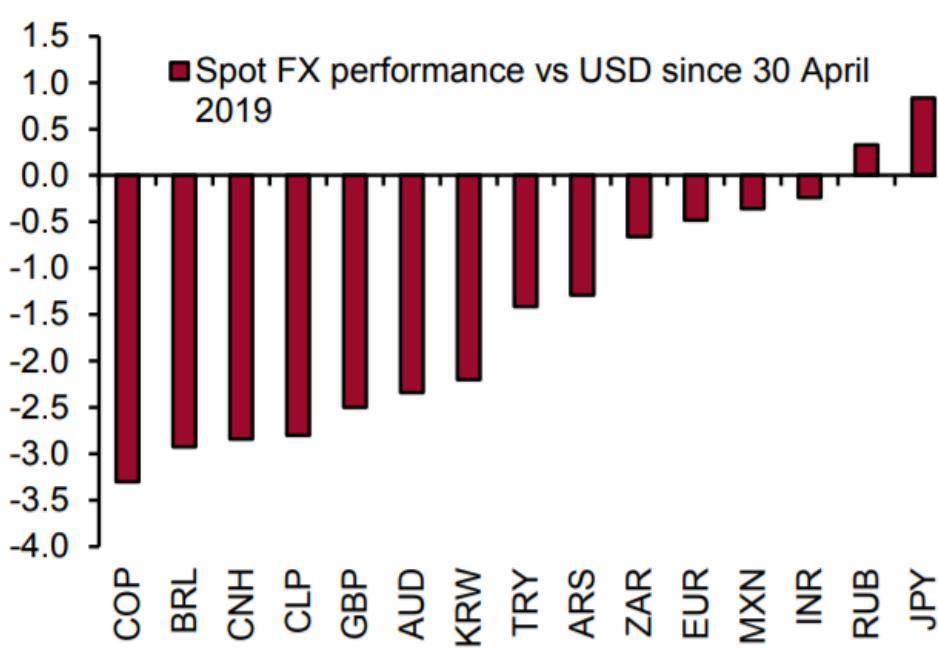
**Figure 3: While EUR and JPY vols have retraced gains, CNH vols are still at the highs**

%



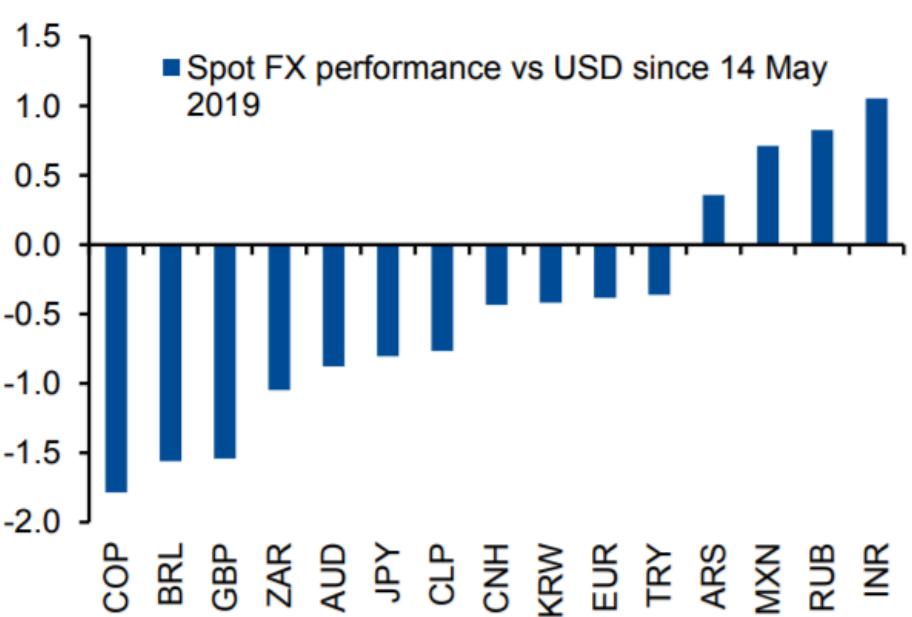
Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

**Figure 4: EM FX have underperformed throughout the trade war scare of early May...**



Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

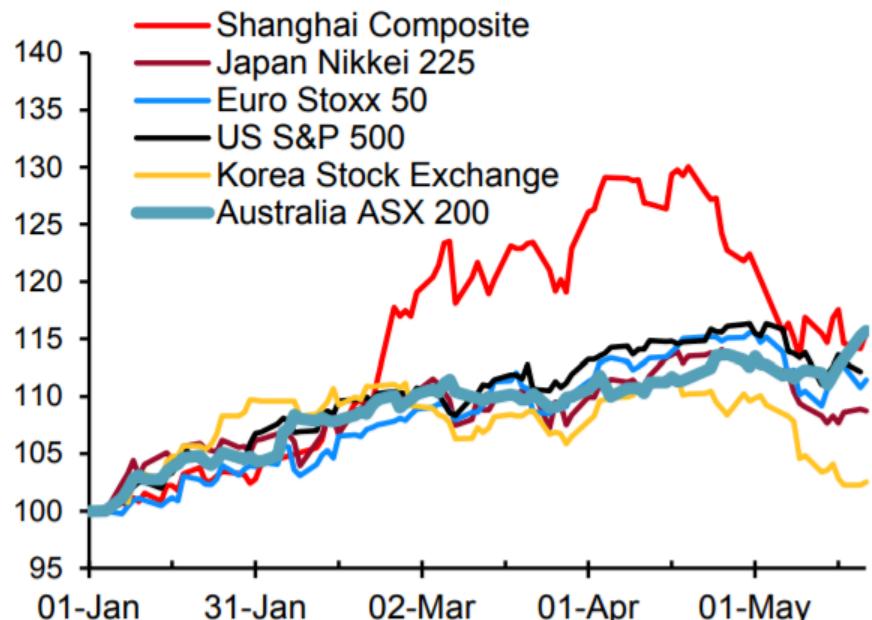
**Figure 5: ...but remain under pressure even as other gauges of risk appetite improve**



Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

**Figure 6. Australian equities have offered a cleaner expression of recent macro news than AUD FX**

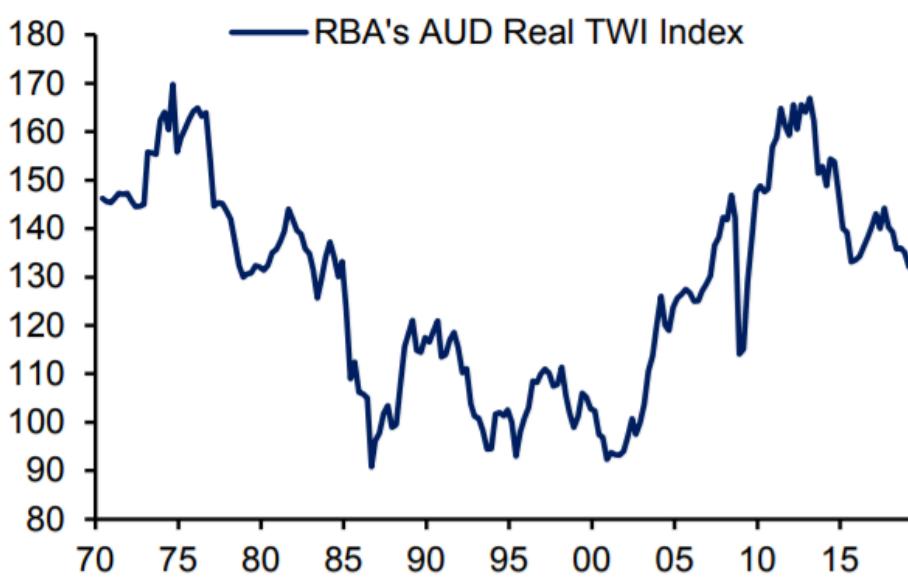
Indexed to Jan 1<sup>st</sup> 2019



Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

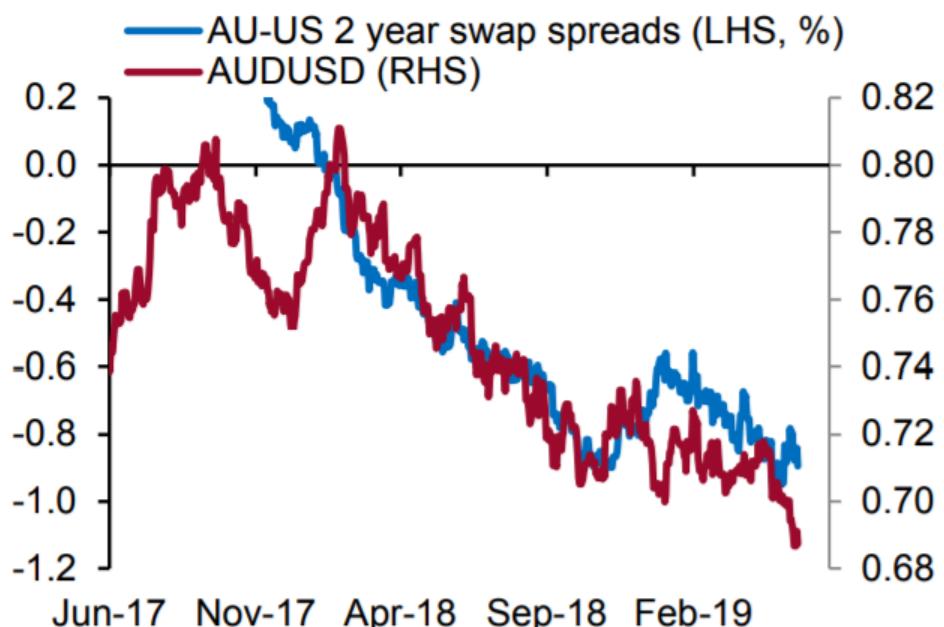
Risks are still tilted to the bearish AUD side, in our view

**Figure 8. AUD is not historically weak, especially if there's been structural economic change**



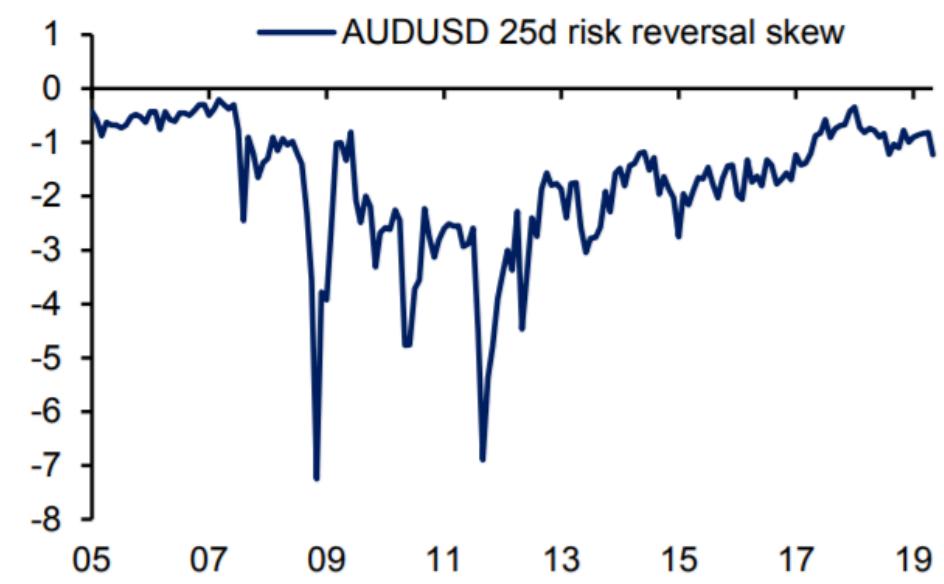
Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

**Figure 7. AUDUSD has lacked a more extensive push from AU-US swap spreads in recent weeks**



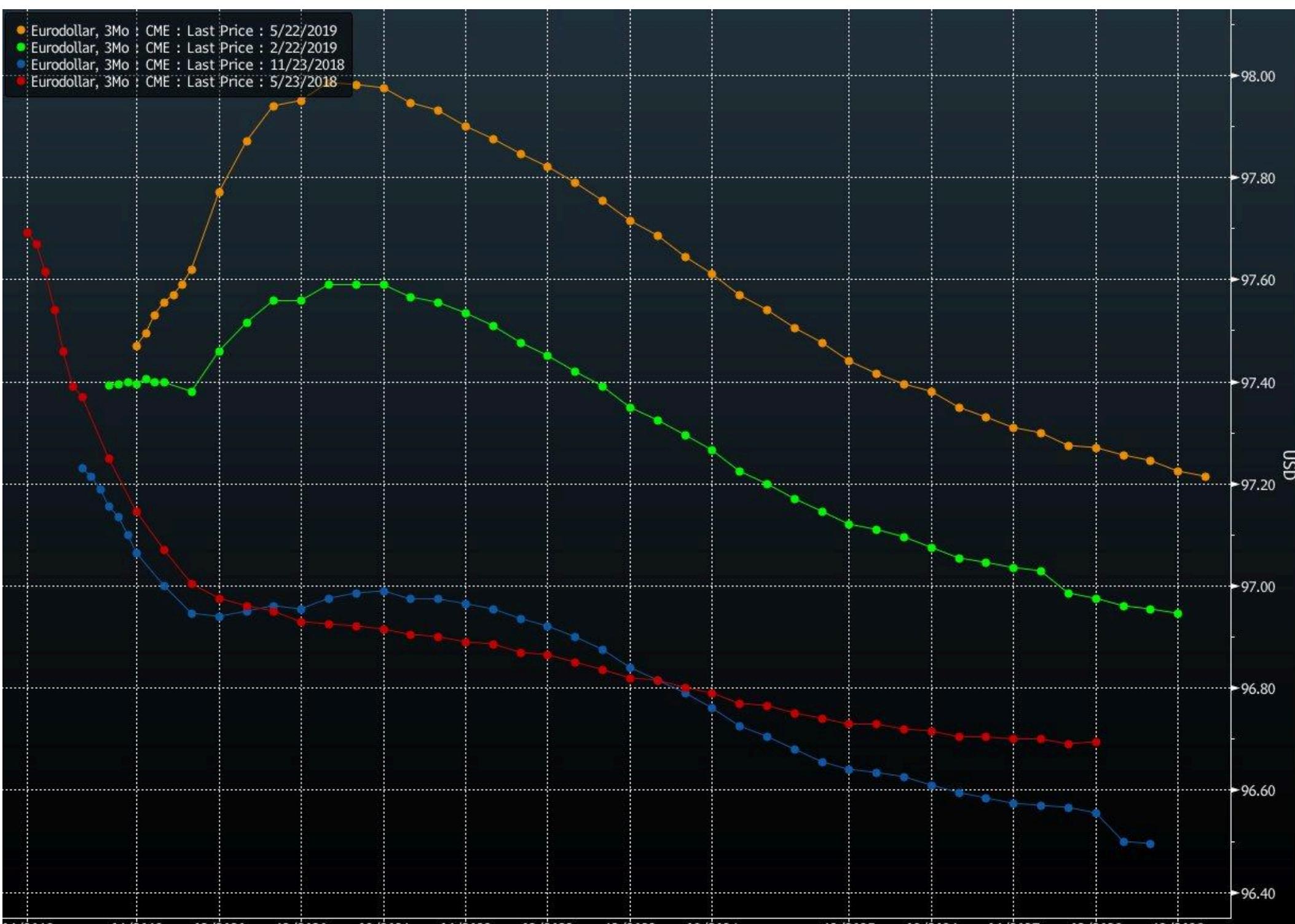
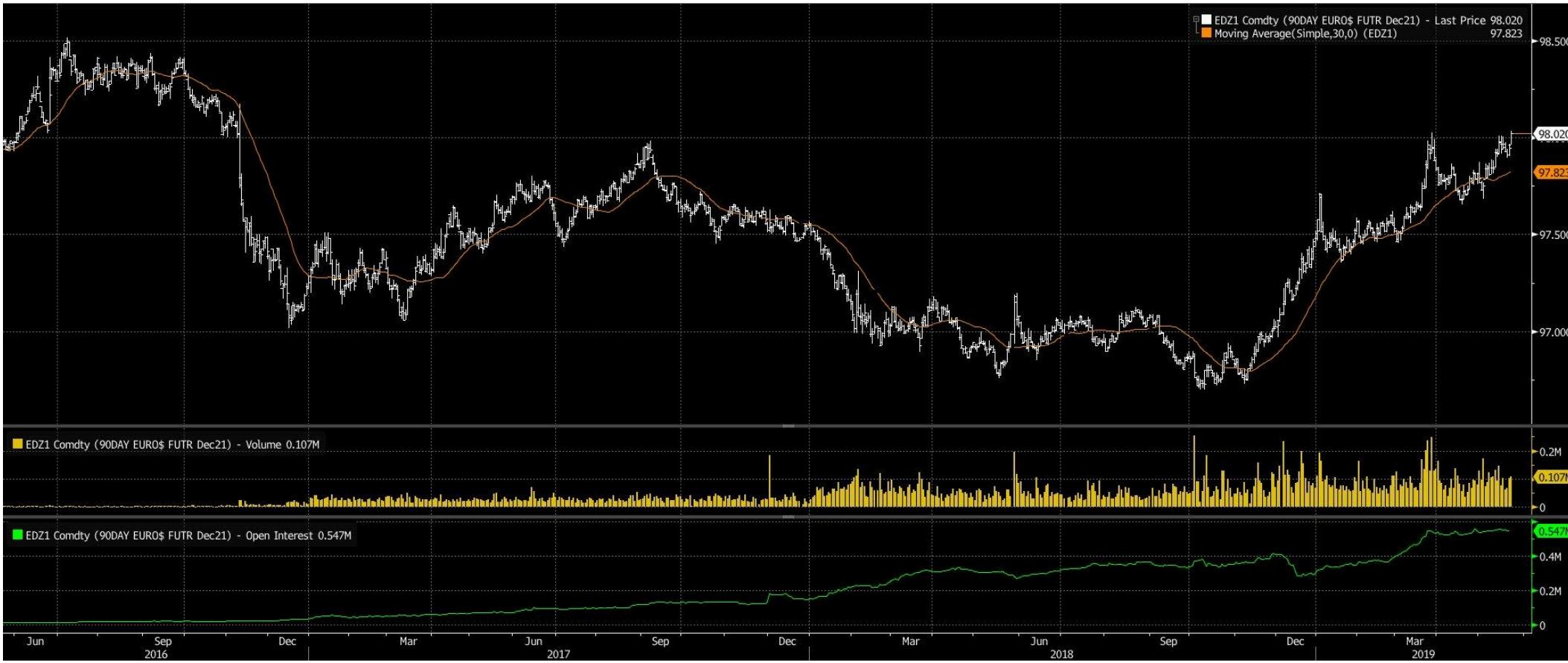
Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

**Figure 9. AUDUSD 3m skew is also at the higher end of post-2000 ranges, despite RBA dovishness**



Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

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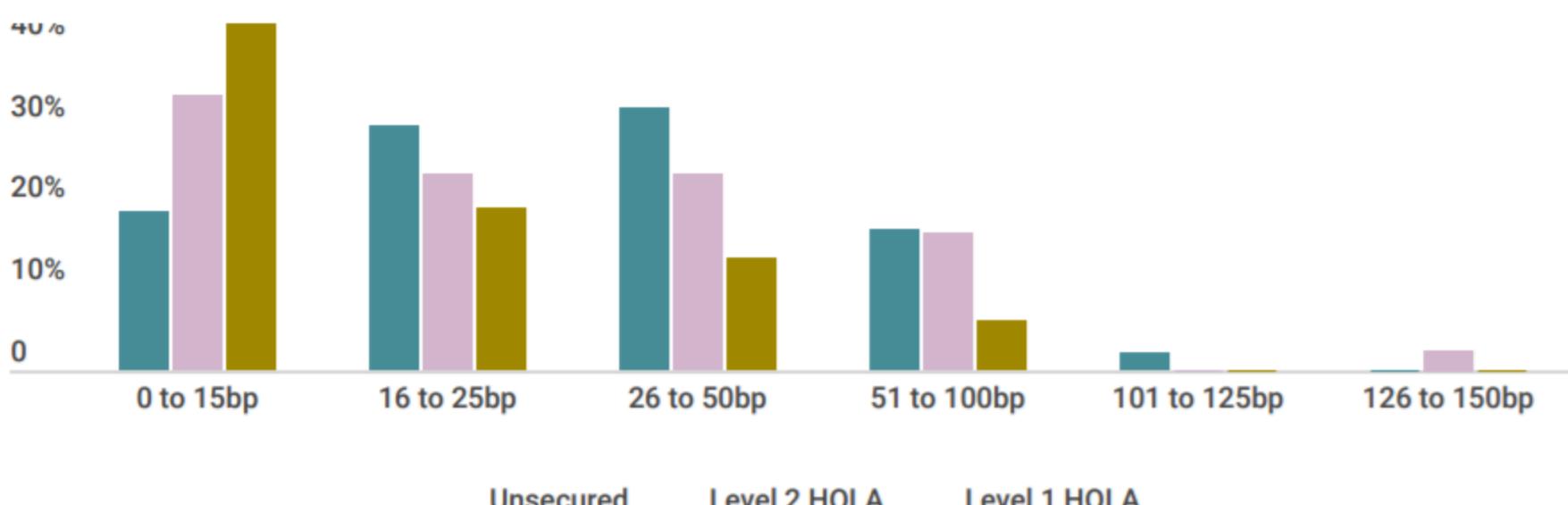
# US banks demand high rates for overnight loans

Louie Woodall

23 May 2019

Most US banks would not lend cash overnight for less than 25 basis points over the interest rate paid on balances held at the Federal Reserve, a survey of banking chiefs shows.

Out of 31 domestic firms that said they would be willing to lend in the unsecured overnight wholesale funding market, 26 (83.9%) said they would do so only in return for at least 26bp over the interest on excess reserves (IOER) rate. Eight of these banks said they would demand at least 50bp before opening their wallets.

[Download data](#)

Sample size:

Unsecured – 31 domestic, 16 foreign

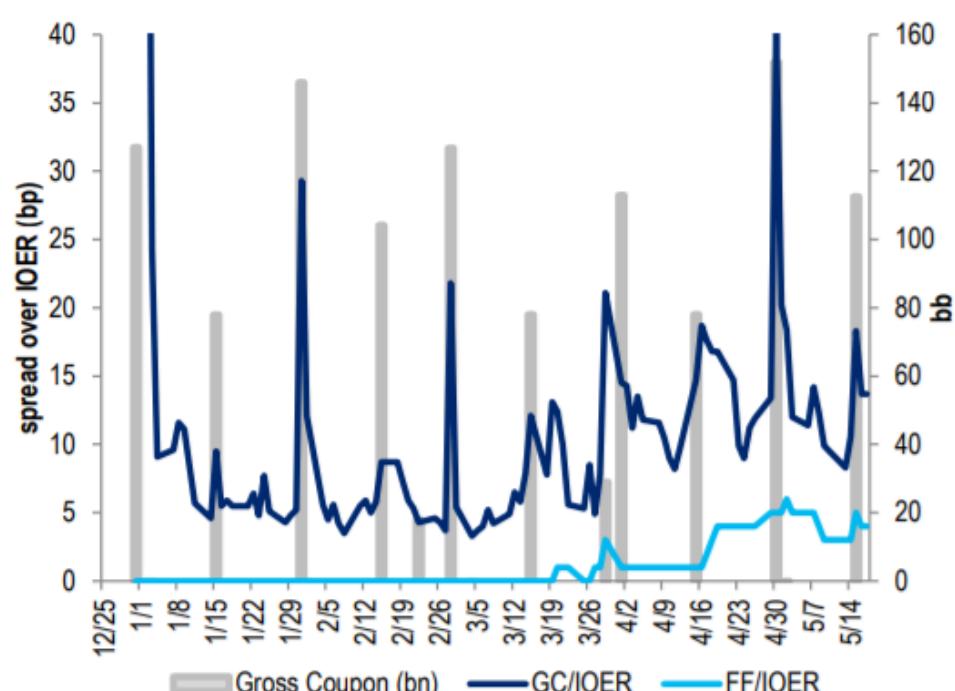
Level 1 HQLA – 32 domestic, 19 foreign

Level 2 HQLA – 29 domestic, 13 foreign

Source: [Federal Reserve](#)[Share](#)

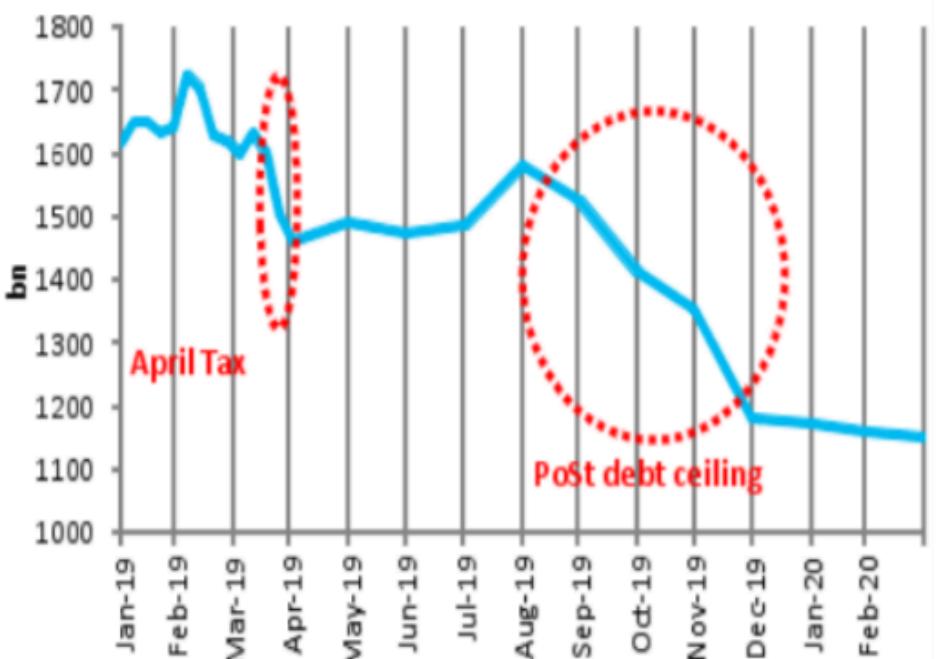
Where is this liquidity demand coming from? It doesn't seem to be driven by global banks. To grossly simplify, global banks require reserves over other assets to keep their post-crisis liquidity metrics in check – such as intraday liquidity and resolution liquidity. These banks started to lend out their excess reserves into repo market from Nov 2018 to take advantage of higher GC/IOER. Their repo lending remained high, according to the latest H8 data – suggesting that global banks face no pressure on their own liquidity yet<sup>3</sup>.

Figure 9. GC and EFFR remain volatile



Source: Citi Research, Bloomberg

Figure 10. Reserve projections on each month-ends



Source: Citi Research, Bloomberg

Part of the upward pressure seems to be driven by regional banks, but it is difficult to put a high weight on these banks. Regional banks keep fewer reserves, which may require them borrow in money markets whenever payment flows ramp-up,

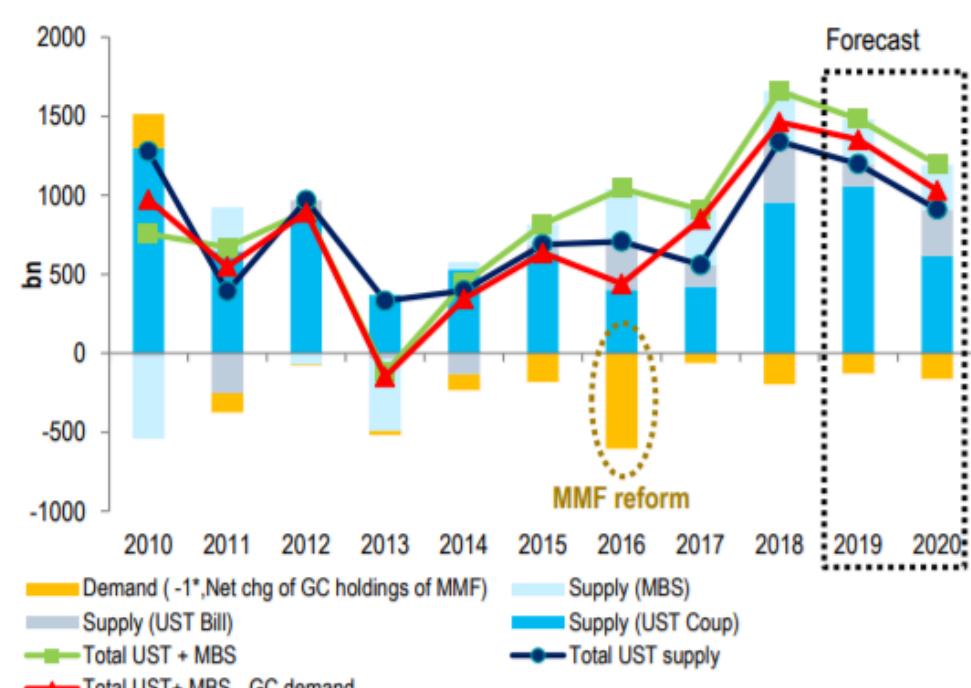
<sup>2</sup> [North America Rates Trade Idea - Sell July 1-month SOFR Futures \(SERN9\)](#)

<sup>3</sup> [Short-End Notes - Preview of reserve scarcity](#)

### Collateral is bad, reserves are good

Figure 11 is showing our measures of excess collateral: The red line is showing GC collateral supply to private minus MMF demand for GC (UST, Agency, GC repo holdings). Figure 12 shows our excess collateral measures against GC/IOER from 2020 – where we see a good correlation. As noted before, 2018/2019 are the years with a large increase in excess GC collateral. GC/IOER in 2019 is showing levels above what has been associated the amount of excess collateral this year. We speculate reserve scarcity impact here.

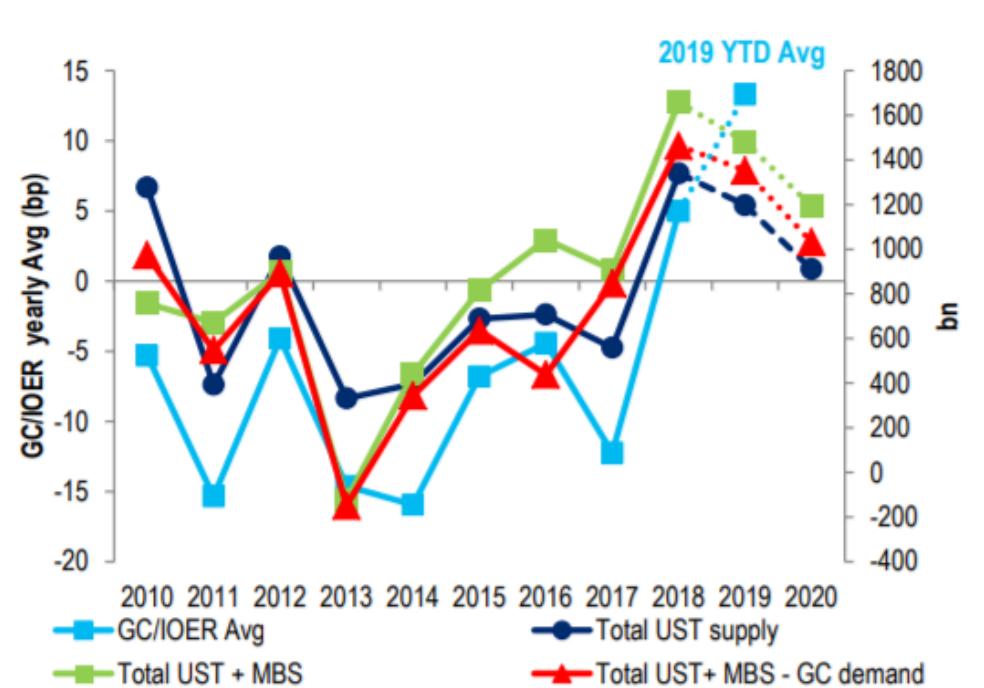
Figure 11. Our measure of excess GC supply. 2018/2019 are the years with a large increase in excess GC collateral



Source: Citi Research, Federal Reserve, Bloomberg

Note: Supply numbers here are net private (ex Fed) supply for each calendar year. GC Demand (yellow) is measured as Y/Y change in repo+UST+Agency MBS holdings of US MMFs. We inverted this number for demand, so more negative yellow bar means increased MMF investments to GC.

Figure 12. Increased UST supply is keeping GC elevated. But the impact seems larger this time around, suggesting start of a different regime



Source: Citi Research, Federal Reserve, Bloomberg

9. Generally speaking, and excluding the effects of month-end activity, please specify the lowest spread relative to the IOER rate at which your bank would be willing to lend in the overnight unsecured (for example, federal funds or overnight Eurodollars) wholesale funding markets. When specifying spread, please assume that this will persist for some time.

- A. Respondents were asked to report the lowest spread relative to the IOER rate at which they would be willing to lend in the unsecured overnight wholesale funding market as well as how much they would be willing to lend at that spread.

Forty-seven banks provided both a spread and an amount they would be willing to lend. Two provided only a spread, and one of these two indicated in writing that the amount that they would be willing to lend was conditional on the availability of liquidity and other internal credit risk metrics. The remaining 26 either left this question blank or indicated “N/A.”

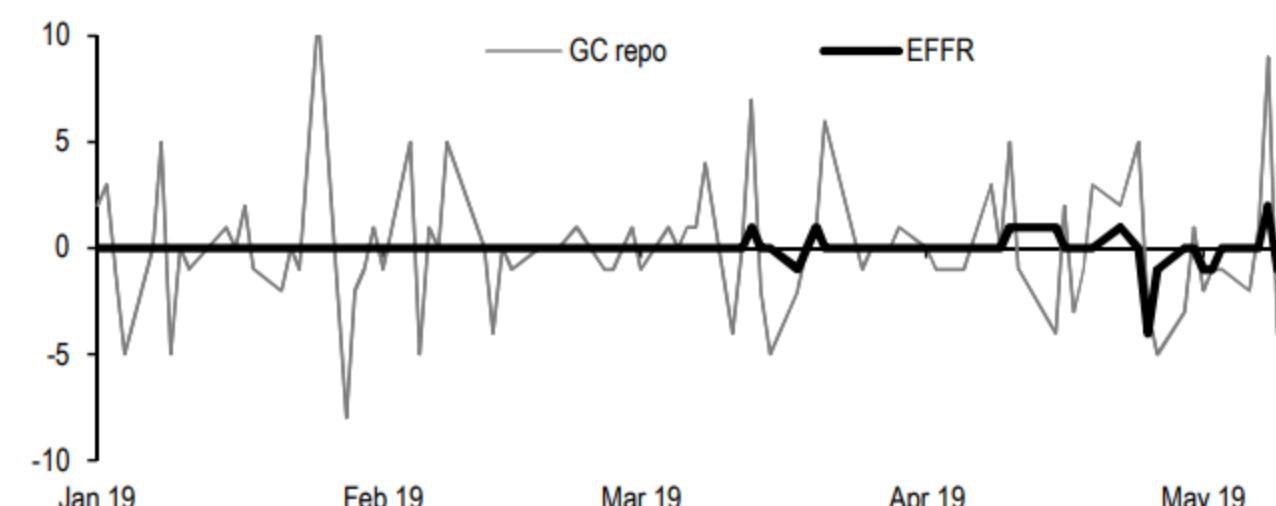
The tables below summarize respondent counts by different ranges of lowest spreads to the IOER rate and lendable amounts for all respondents and then by institution type.

#### Results for all respondents

Lowest Spread to the IOER Rate	Lendable Amount							
	0 to \$0.5 billion		\$0.5 billion to \$1 billion		Over \$1 billion		All Respondents	
	Banks	Percent	Banks	Percent	Banks	Percent	Banks	Percent
0 to 15 basis points	5	21.7	1	16.7	3	16.7	9	19.2
16 to 25 basis points	6	26.1	1	16.7	7	38.9	14	29.8
26 to 50 basis points	5	21.7	2	33.3	8	44.4	15	31.9
51 to 100 basis points	6	26.1	2	33.3	0	0.0	8	17.0
101 to 125 basis points	1	4.3	0	0.0	0	0.0	1	2.1
Total	23	100.0	6	100.0	18	100.0	47	100.0

Note: Twenty-eight respondents provided a qualitative answer, N/A, or left it blank.

**Exhibit 1: Given the recent increased correlation in terms of directional moves between repo and fed funds, we should see a follow through in the funds rate as well**  
Daily change in overnight GC repo and EFFR, excluding month-ends (bp)



**Exhibit 1: Intermediate yields decline this week, once again testing the lower end of their recent trade range ...**

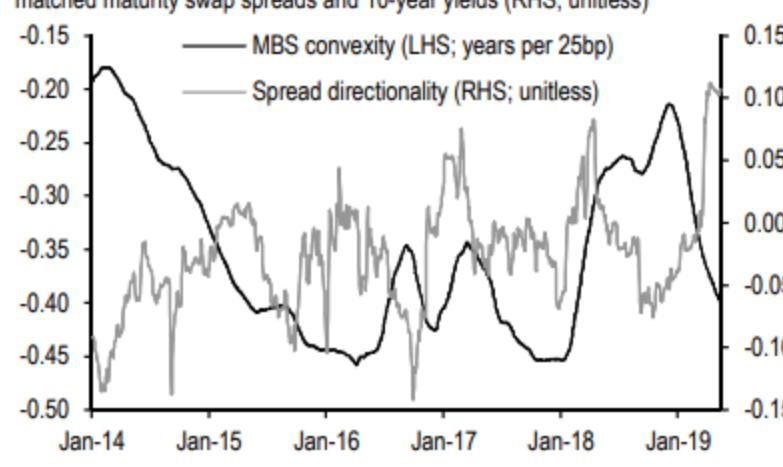
10-year Treasury yields as well as 3-month trailing max/min;%



Source: J.P. Morgan

**Exhibit 2: ... which combined with significantly more negative convexity in the mortgage market likely explains the jump in delivered spread directionality**

Rolling 3-month average Agency MBS negative option-adjusted negative convexity (LHS; years per 25 bp) and the rolling 3-month beta of weekly changes in 10-year matched maturity swap spreads and 10-year yields (RHS; unitless)



Source: J.P. Morgan

**That said, short-term markets are likely primed to firm in the coming weeks.** T-Bill net supply, for one, is set to turn quite negative through the end of June, and we estimate the Treasury General Account balance will decline to around \$200bn over the same period. At the same time, we have seen a significant recovery in government MMF assets, which as of this writing have recovered roughly \$65bn since the tax season lows. **This all points to tighter funding spreads across a number of metrics, including GC/OIS (see also [Cross currency basis 2H19 Outlook](#), F. Bassi et al., 5/17/19).**

**Exhibit 3: Forward intermediate spreads look tight versus their drivers, and are partially protected from FX reserve outflows**  
3-year fair value estimate for 2Yx5Y forward Treasury/OIS swap spreads

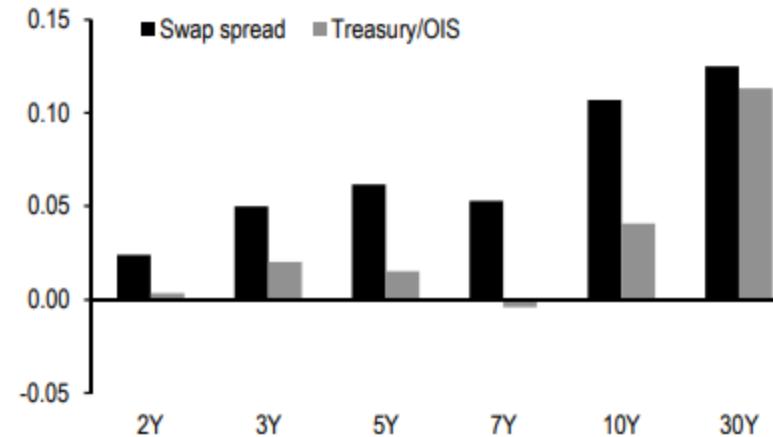
Factor	Coeff	T-stat	Curr
Intercept	-534	-47.2	
1M GC/OIS	-0.13	-4.6	10.8
Large bank hldngs; \$bn	0.25	24.7	\$481
Fed custody holdings; \$bn	0.13	47.1	\$3,062
EM Asia FX vol*, %	-0.85	-3.4	5.02
R-squared	84%		
Std. error	5.1		
Current; bp	-32.4		
Fair value; bp	-25.7		
Mispricing; bp	6.6		
Z-score	1.3		

\* Based on a turnover weighted average of 1-month ATM vols on CNH, KRW, TWD, SGD, MYR, and IDR, using BIS Triennial Data.

Source: J.P. Morgan, NYFRB, BIS

**Exhibit 4: ... and these positions are empirically less exposed to convexity hedging flows, as evidenced by a near-zero delivered beta over the past three months**

3-month beta of weekly changes in matched maturity Treasury/OIS and swap spread versus Treasury yields; unitless



Source: J.P. Morgan

## Swaps: SOFR, CME-LCH, and spreads directionality

- Bilateral SOFR-linked derivatives may be exempt from initial margin regulations for uncleared swaps. We would expect this development to boost liquidity in SOFR-linked uncleared derivatives, such as SOFR swaptions. However, the exemption will provide dealers and clients with a strong incentive to transfer the delta risk from CCPs to the bilateral market. We expect CME-LCH spreads to tighten in this case.**
- We argue that strategic selling of China Treasury holdings is unlikely and prefer fading the recent spreads tightening. We also do not think the recent positive directionality of spreads will persist, so swaption vol should cheapen to Board vol. We buy delta-hedged TYQ9 calls vs swaption receivers. Note: Futures trading involves substantial risk of loss.**

### Bilateral SOFR derivatives may be exempt from initial margin rules

The Alternative Reference Rates Committee (ARRC) has requested that US regulators exempt new bilateral SOFR-linked derivatives, executed before a certain regulator-specified date (at or prior to the cessation of LIBOR), from initial margin (IM) requirements for uncleared swaps in order to build liquidity in the SOFR market. As a background, IM regulations have been phasing in since 2016 based on the gross notional of covered swaps, with two remaining phases hitting the market in September 2019 and 2020 (Figure 17; see [US Rates Weekly - Locked into Lowflation](#) and [US Rates Focus - New Margin Rules to Hit the Vol Market](#) for more detail).

IM requirements only apply to new uncleared trades, but the exact definition of “new” is somewhat ambiguous. This creates potential frictions for the LIBOR/SOFR transition. Market participants are justifiably concerned that modifications in the fallback language or preemptive modifications of the reference rate in legacy bilateral swaps from LIBOR to SOFR may be considered as a new trade for the purposes of IM regulations and may require posting additional margins. Even if such modifications of legacy swaps are exempt from IM regulations (the ARRC submitted a request to this effect with prudential regulators last year), it may be challenging to distinguish these modifications from any other SOFR trades in practice. As a result, the ARRC has judged it appropriate to request a temporary blank exemption for all new SOFR trades from IM regulations in order to facilitate a smooth market transition to SOFR.

Figure 17. IM regulations are phasing in

**Compliance Date IM Requirement**

September 1, 2016	aggregate gross notional of covered swaps>\$3tn
September 1, 2017	aggregate gross notional of covered swaps>\$2.25tn
September 1, 2018	aggregate gross notional of covered swaps>\$1.5tn
September 1, 2019	aggregate gross notional of covered swaps>\$0.75tn
September 1, 2020	aggregate gross notional of covered swaps>\$8bn

Source: Citi Research

Figure 18. Before IM optimization...



Source: Citi Research

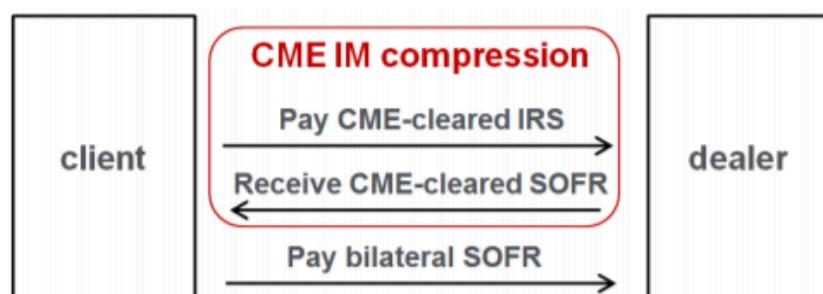
It is too early to tell whether SOFR derivatives will get this blank exemption, but given the current regulatory focus on the LIBOR/SOFR transition we think there is a good chance it may. While the exemption period would have a regulator-specified end date, we would expect IM requirements to be applied only to new SOFR trades after the end date, so bilateral SOFR derivatives initiated during the exemption period won't require compliance with IM regulations until maturity/expiration.

If this request is granted, investors will have a strong incentive to transition from LIBOR-linked uncleared derivatives, such as swaptions, caps/floors and cross-currency swaps, to corresponding SOFR-linked derivatives, boosting liquidity in those SOFR markets. It is also possible that SOFR derivatives may be exempt from the aggregate gross notional of covered swaps used in the calculation of the threshold in the phase-in schedule. In that case, smaller clients may have a strong incentive to transition to SOFR-linked products in order to delay the application of IM rules to 2020 or avoid them altogether.

### Risk may be transferred from CCPs back to the bilateral market

One unintended consequence of the blank exemption, however, is a strong incentive for dealers and clients to transfer the delta risk from CCPs to the bilateral market for capital optimization reasons. As an illustration, a domestic real money investor, who is net paying CME-cleared IRS swaps, may enter two offsetting SOFR OIS positions by 1) receiving a CME-cleared SOFR swap and 2) paying a bilateral SOFR swap (Figure 18 and Figure 19). By doing that, the investor can effectively transfer the delta risk to the bilateral market. Because delta is the first order effect in margin models, that should result in a significant reduction in IMs required by CME. For example, by hedging 10y IRS with SOFR one can reduce the IM required by CME by 76-80%, and reduce IMs required by LCH by 48-65% (Figure 20).

Figure 19. ... and after IM optimization



Source: Citi Research

Figure 20. CCP-required IM after hedging delta with SOFR

Position	IM margin, \$K	
	CME	LCH
Pay \$100K DV01 10y IRS	3237	4539
Pay \$100K DV01 10y IRS vs receive 10y SOFR	766	1596
% in IM reduction	76	65
Receive \$100K DV01 10y IRS	3959	4165
Receive \$100K DV01 10y IRS vs pay 10y SOFR	782	2180
% in IM reduction	80	48

Source: Citi Research

While a dealer may require posting some IM on the bilateral SOFR leg in that optimization solution, the required IM is likely to be much smaller than CCP requirements for large clients. In fact, large real money clients were known to post no IM on bilateral trades with dealers before the advent of IM regulations for uncleared swaps. Similarly, dealers normally posted no IM in bilateral trades with other dealers or clients before IM regulations came into effect in 2016. It is very likely the same conventions may be used for exempt bilateral SOFR swaps. As a result, both clients and dealers will be able to reduce total required IMs significantly by transferring the delta risk to the bilateral market.

### CME-LCH spread may tighten, less collateral demand

If the delta risk is transferred back to the bilateral market, the CME-LCH spread in IRS swaps is likely to tighten. Remember the spread exists mainly because domestic real money investors are structurally paying in CME-cleared swaps, while dealers hedge this risk by paying in LCH-cleared swaps and need to post IMs to both CME and LCH. The corresponding financing and balance sheet costs incurred by dealers are passed to clients as the CME-LCH spread. As discussed, dealer IM requirements should decline if the delta risk of cleared IRS swaps is transferred from CME back to the bilateral market using SOFR swaps. The competitive forces should result in tighter CME-LCH in that scenario.

Lower IM requirements also should be negative for the demand for collateral. ISDA estimates that regulatory-required IMs for uncleared derivatives are as high as \$163bn, with about 88% in government securities (as of YE 2018). It is not clear yet how much delta risk can be transferred to the bilateral market, but these numbers indicate a significant potential for the reduction in required collateral. As a result, we would expect a marginal cheapening effect on the Treasury repo market.

## Spreads tightening may be overdone

Turning to recent market developments, swap and OIS/Tsy spreads have tightened notably in the recent risk-off, likely for the following reasons: 1) fears of China selling Treasuries, 2) mortgage convexity receiving, and 3) capitulation of long spread positions.

## Quantifying potential market impacts of proposed Libor fallbacks, and estimating fair value for long-end basis

ISDA this week published two consultation papers, both open until July 12<sup>th</sup>, focused on fallback provisions pertaining to the discontinuation of various IBORs, including Libor. The first of these two consultations<sup>2</sup> relates to the weeds of implementing fallbacks, including several proposed calculation methodologies. Put simply, the fallback computation depends on choices surround two stages: (1) how best to convert an overnight risk free rate (RFR) into something comparable to a benchmark of various tenors, and (2) how then to calculate a spread between the benchmark and the adjusted RFR.

**In theory, we want to capture an ‘unbiased’ spread between, say, 3M Libor and an equivalent tenor RFR.** Ideally, one could do this by taking the spread between the trimmed mean OIS rate based on transactions around the time that Libor quotes are submitted (certainly prior to the daily Libor fixing) on each day to compute this unbiased spread adjustment. However, SDR data suggest that traded volumes in spot into 3-month OIS are meager in general, and are particularly so in the morning: less than once a week on average. To be sure, this is a lower limit on such activity—some trading may occur between counterparties who are out of scope for SDR reporting. But such low reported volumes suggest such an approach is arguably infeasible and undesirable in practice (**Exhibit 5**).

To overcome the term mismatch between RFRs and benchmarks, ISDA suggest implementing an adjustment to the overnight RFR to make it more comparable to the applicable benchmark, therefore calculating an “adjusted RFR”. In its original July 2018 consultation, ISDA set out four approaches for adjusting RFRs, and these include:

- Assume the spot RFR remains steady over the life of the benchmark tenor – “**the spot overnight rate**”
- Assume the spot RFR remains steady, but adjust for the convexity that results from daily compounding of overnight returns – “**the convexity-adjusted overnight rate**”

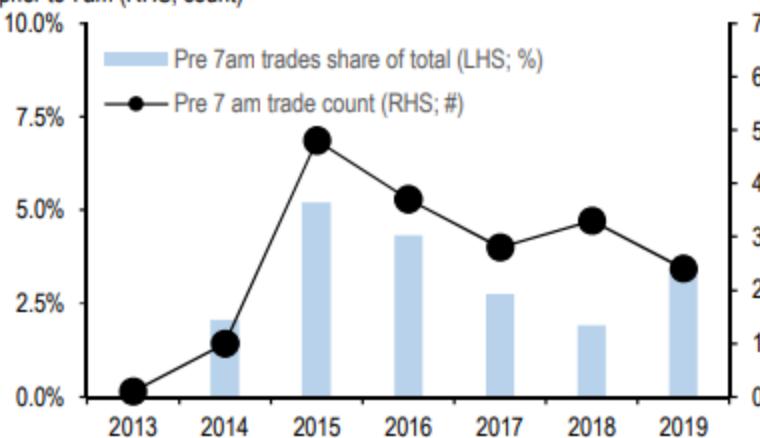
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<sup>2</sup> The second consultation relates more to pre-cessation issues in contracts related to the announcement that benchmarks, recognized under the EU Benchmarks Regulation, are no longer representative of an underlying market

- Assume that the RFR is equal to the daily compounded RFR over the length of time (equal to the benchmark length) leading up to but preceding the start date of the benchmark tenor – “**the compounded ex-ante rate**”
- Assume that the RFR is equal to the daily compounded RFR over the applicable term for the benchmark rate – “**the compounded ex-post rate**”

**Exhibit 5: Trading in OIS rates around the 3M tenor tends to be very light prior to 7 am Eastern time**

Share of 3M\* OIS traded pre 7am EST (LHS; %) and number of trades in 3M OIS prior to 7am (RHS; count)

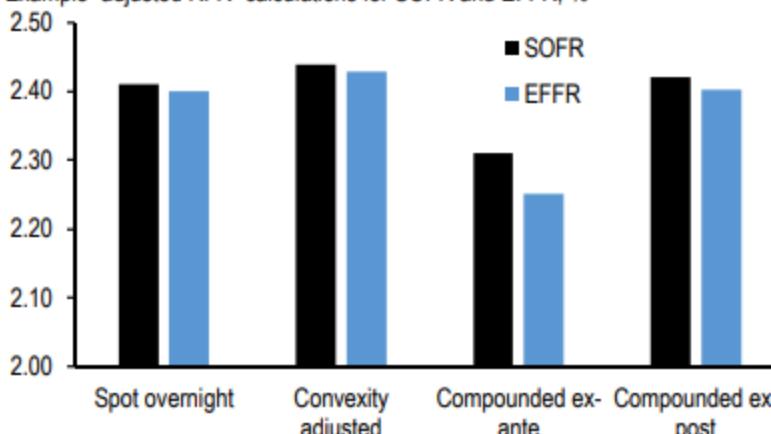


\* We take all trades within a 2 to 4 month tenor.

Source: J.P. Morgan, DTCC

**Exhibit 6: The choice of RFR adjustment methodology has meaningful implications for the ultimate spread level**

Example “adjusted RFR” calculations for SOFR and EFFR; %



Note: Calculations are for the 1/11/19. See main text for details on computation methodology

Source: J.P. Morgan, NYFRB

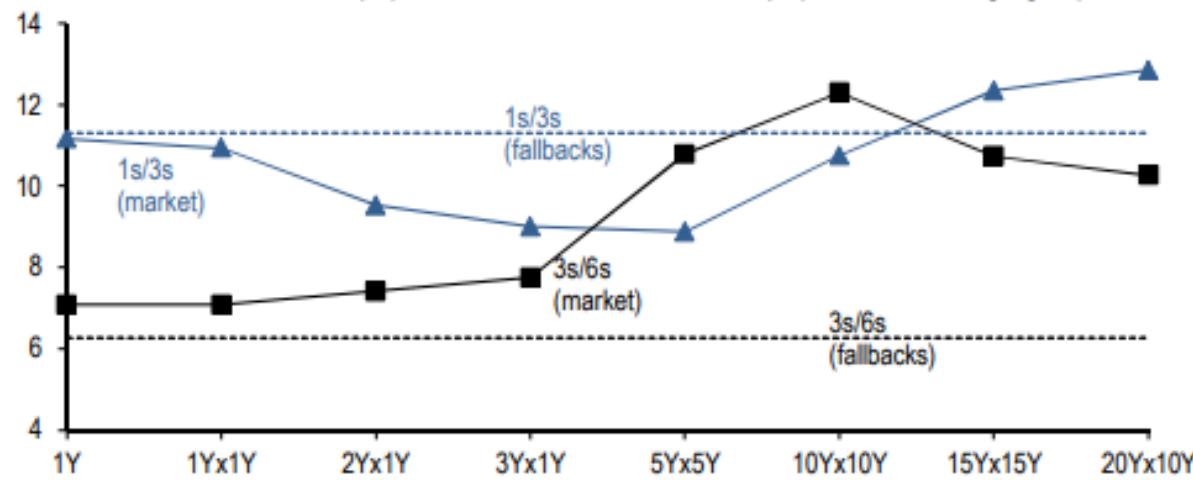
Underlining the sensitivity of results to the adjustment methodology, **Exhibit 6** shows an example computation for each method described for both SOFR and EFFR (as the RFRs) for a randomly selected day in January 2019. Following a Fed hike in December 2018, the choice to compound on an ex-ante basis results in a significantly lower adjusted RFR, and therefore higher spread to 3mL. Even excluding this option, differences in the choice of methodology produce a ~3bp range of values for a snapshot of just one day. After this stage is settled, the next step for calculating fallback positions involves the “spread adjustment”, whereby the mean or median historical spread between the benchmark rate and the RFR over a to-be-chosen lookback window is used to calculate the fallback rate<sup>3</sup>.

In **Exhibit 7**, we summarize our estimates of the spread adjustments that would be calculated were the fallbacks to be triggered today, using each proposed methodology and utilizing both official SOFR fixings and simulated historical values provided by the New York Fed. We also restrict ourselves to the historical mean/median approach, which as ISDA notes is clearly preferred by respondents to prior consultations. Consistent with the above, we find a meaningful difference in spread among the various methodologies, with *ex-post* compounding resulting in the narrowest and *ex-ante* in the widest, with a roughly 15 bp spread between the two.

exposures. Based off the outstanding stock of receive-fixed swaps with a CSA, we estimate the P/L impact to be as high as \$32bn across all corporates under an *ex-ante* compounding RFR. With the vast share of outstanding receive-fixed swap positions, the bulk of the cost is shared amongst financials and insurance companies, although other corporates, particularly the energy, healthcare, technology and automotive sectors, are also adversely exposed (Exhibit 8). Of course, offsetting this, those asset managers, hedge funds and dealers with pay-fixed exposure would stand to gain from higher Libor receivables. By our calculations, the *ex-post* RFR adjustment would generate the smallest P/L impact, since the level is most reflective of the simple 5-year median FRA/OIS level. In this sense, *ex-post* RFR adjustment mechanism, whereby the benchmark rate is matched to the daily compounded rate over the days reflected in that tenor, would likely be the least disruptive choice. This is consistent with the “overwhelming majority” of respondents to the 2018 consultation on IBORs in other currencies.

**Exhibit 9: If we assume a 5-year median spread adjustment based on *ex-post* measurement of the RFR, the long end of 3s/6s looks rich and the belly of 1s/3s looks cheap**

Market 1s/3s and 3s/6s basis swap spreads versus fair value\* from ISDA proposed fallback language; bp



\* Fair value assumes a 5-year median using the *ex-post* RFR calculation methodology, and that the fallbacks are triggered in January 2022. We use actual overnight levels from 1/2/2018 to 5/16/19, and forward rates from OIS and swap curves as of 5/16/19 otherwise.

Source: J.P. Morgan

We can furthermore use these results to estimate fair value for long-end basis swap spreads. Motivated by the above conclusions and the results of the 2018 ISDA Consultation, for this exercise we assume the RFR will be estimated using the *ex-post* approach, and the spread adjustment will be based on a 5-year median. We furthermore assume that Libor will be discontinued as of year-end 2021, and the fallback levels calculated as of that date. Doing so requires splicing together realized levels from January 2018 to today with forward levels priced into the OIS and Libor swap markets. We also focus on 1s/3s and 3s/6s so that the RFR legs cancel, and we are left with just the difference in spread adjustment and are not forced to estimate FF/SOFR spreads over the same forward-looking period. Doing so suggests that **fair value for longer-run 1s/3s is approximately 11 bp, and 3s/6s is closer to 6 bp, using a 5-year median spread adjustment**; using an average adjustment results in slightly higher estimates of 13 bp and 8 bp, respectively. In both cases, the 3s/6s basis swap curve is clearly too steep compared to these estimates, and the belly of 1s/3s is too cheap (Exhibit 9). It is also worth noting that long end flatteners are positive carry and right-way with issuance-related receiving. **We specifically recommend selling 10Yx10Y versus 1Yx1Y 3s/6s, and buying 5Yx5Y 1s/3s versus selling 50% risk in 1Yx1Y and 20Yx10Y** (see Trade recommendations).

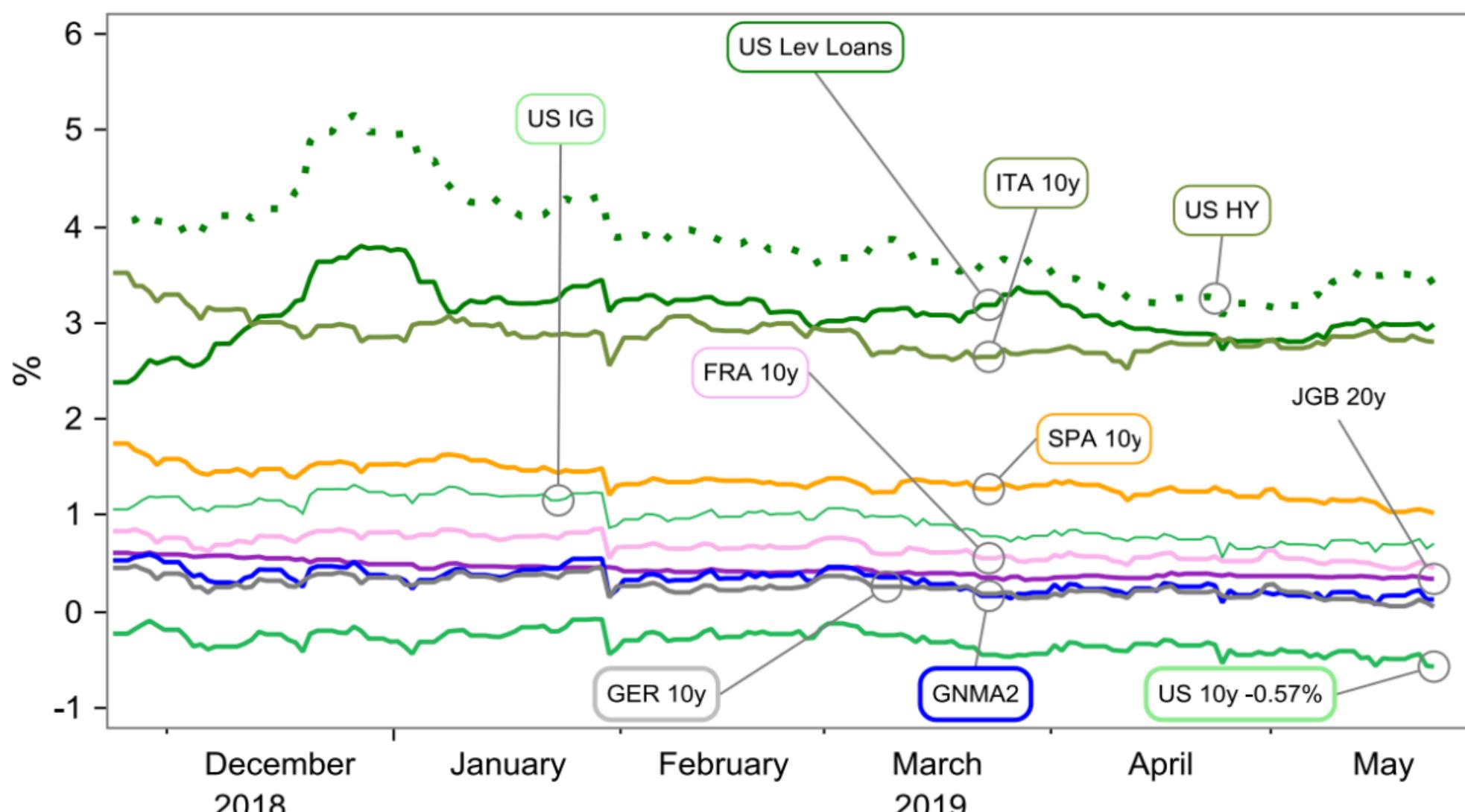
May 22, 2019

## FOMC Minutes: No Consensus on SOMA Composition, Low Inflation “Transitory”

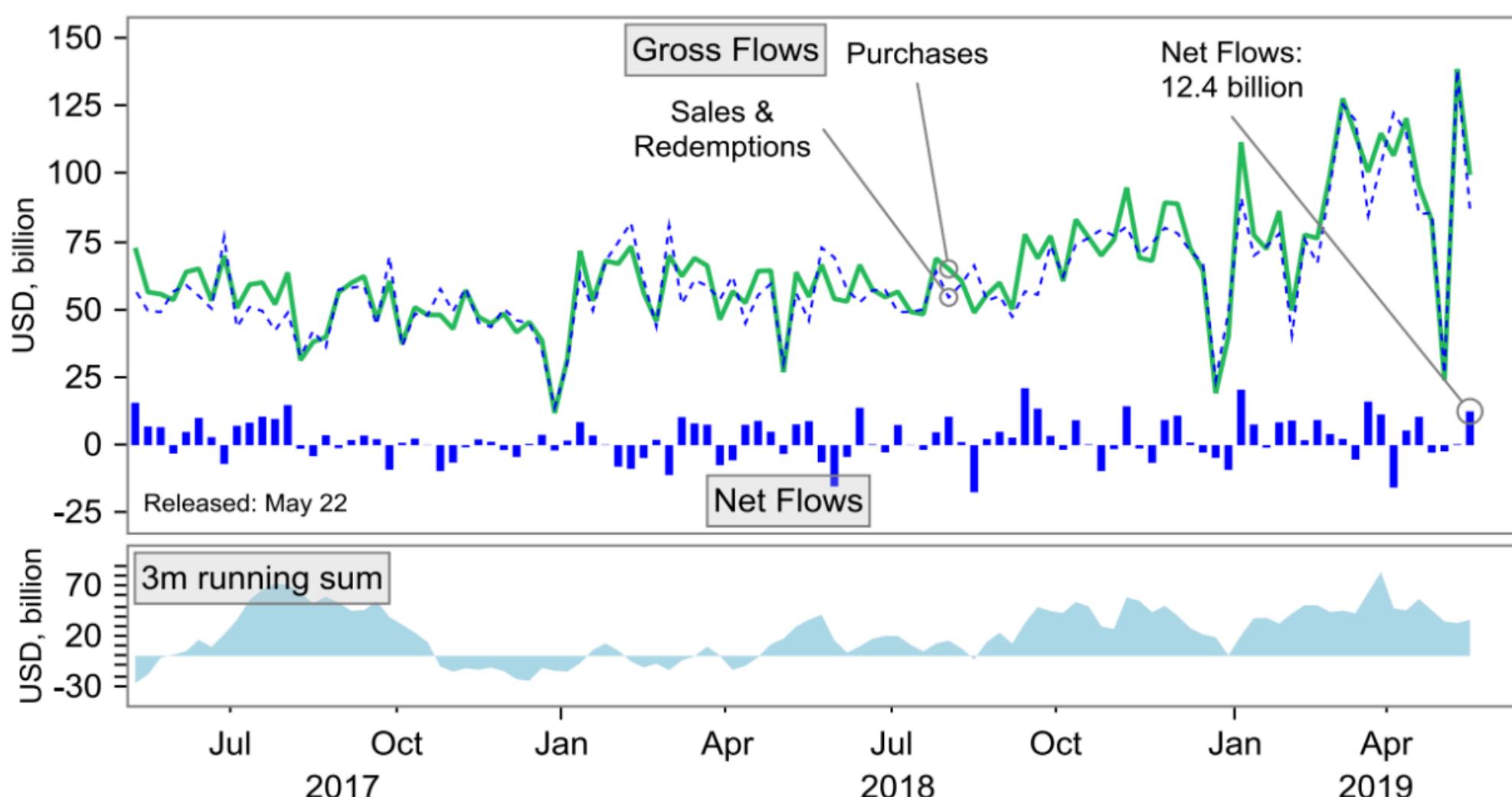
The Minutes convey the following messages:

1. FOMC policymakers continue to embrace the “patient” approach to interest rate policy, as they have so far in 2019 to-date.
2. The outlook remains uncertain, and policymakers have varying degrees of concern about different sources of downside risks.
3. A few policymakers can see potential for another rate hike this year, but contingent upon the fulfillment of a strong economic forecast.
4. There was no discussion about a rate cut or the conditions that might lead to one.
5. Policymakers have begun the debate over how to modify the composition of the SOMA portfolio’s securities holdings after the conclusion of the winddown in September 2019. It is clear that there is a wide variety of opinions regarding the optimal strategy and the potential costs and benefits stemming from various approaches.
6. The only point of debate in the balance sheet discussion that generated a solid consensus opinion was that there is no rush to make a final decision on the path forward for the SOMA portfolio.

**FX hedged yields and JGB 20y**



# Weekly Japanese flows into foreign bonds (globally)



Source: Macrobond, Mizuho Securities USA, Japanese Ministry of Finance

## Cross currency basis 2H19 Outlook

Since our last update in mid-January, global Libor cross currency bases have drifted broadly lower at the front end of the curve, with the exception of JPY and mostly lower in the intermediate sector, in a move more driven by the relative FRA/OIS dynamics than by USD supply/demand imbalances (Exhibit 1). USD funding conditions remained without any pressure over the period, the muted year-end dynamic persisted in the first few months of the year with limited quarter end pressure.

**Exhibit 1:** Global Libor cross currency bases have drifted broadly wider at the front end of the curve (with the exception of JPY) and less so in the intermediate sector, in a move more driven by relative FRA/OIS dynamic than by USD supply/demand imbalances

1Y (top table) and 5Y (bottom table) EUR/USD, JPY/USD, GBP/USD, AUD/USD, CHF/USD and SEK/USD cross currency basis and statistics since 15 January 2019; bp

1Y	Current	15 Jan 19	Change	Min	Max	Average	Std Dev	Z-Score
EUR	-17	-11	-7	-17	-9	-14	2	-2.3
JPY	-29	-28	-1	-30	-22	-26	2	-1.4
GBP	-2	3	-5	-3	4	0	2	-1.8
AUD	19	25	-6	19	29	25	2	-2.3
CHF	-14	-9	-5	-14	-7	-11	1	-2.6
SEK	-15	-6	-9	-16	-6	-10	2	-2.6
5Y	Current	15 Jan 19	Change	Min	Max	Average	Std Dev	Z-Score
EUR	-19	-13	-6	-19	-12	-15	1	-3.1
JPY	-44	-47	3	-49	-40	-45	3	0.4
GBP	3	10	-7	3	10	7	2	-2.1
AUD	27	30	-4	27	32	30	2	-2.6
CHF	-15	-15	-1	-16	-11	-13	1	-1.6
SEK	-5	0	-6	-5	1	-1	1	-3.4

The volatility of cross currency basis was particularly low at the front end of the curve, especially in EUR and GBP, where volatility of the basis is now hovering close to the lows since early 2015 (Exhibit 2). We attribute some of these modest volatility to a steady repricing of monetary policy from the Fed, with the removal of the additional rate hikes priced in and eventually with market pricing policy rate cuts by the end of 2019, and limited bouts of risk aversion.

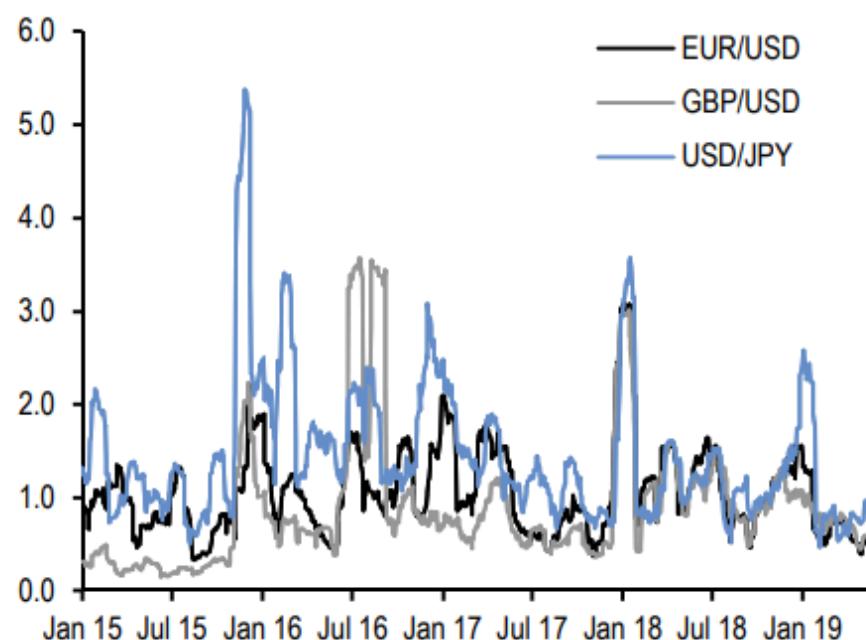
This low volatility was very subdued also in the intermediate sector, with historical volatility of 5Y cross currency basis at the lows of the last few years (Exhibit 3).

We believe that a large driver of the decline in cross currency basis volatility has been the overall benign environment for risky assets since the beginning of the year, with the rebound in equity markets after the dismal performance of late 2018. Leaving aside recent resurfacing concerns on trade deal between US and China and more recently BTP/Bund spread, most of the quarter traded with a risk-on profile, with muted impact on cross currency basis.

In terms of issuance there was a decent pick up in cross border issuance activity. We typically see an increase in domestic and cross border issuance in the first quarter and this year proved no exception, with the additional component that the relative attractiveness increased some issuance hedging flows in EUR and to a certain extent also in GBP.

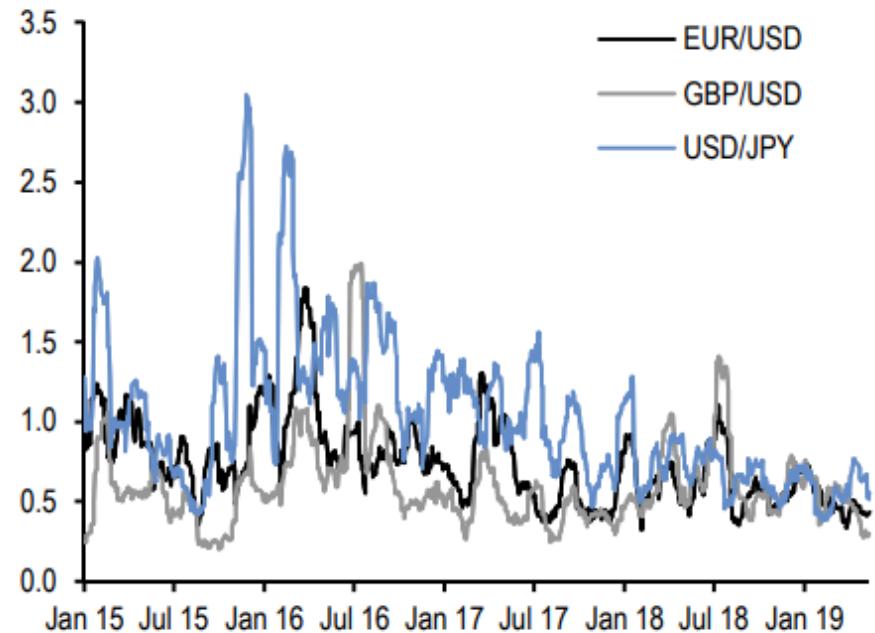
**Exhibit 2: The volatility of cross currency basis was particularly low at the front end of the curve especially in EUR and GBP...**

1M historical volatility of 1Y EUR/USD, USD/JPY and GBP/USD cross currency basis; since Jan15; bp/day



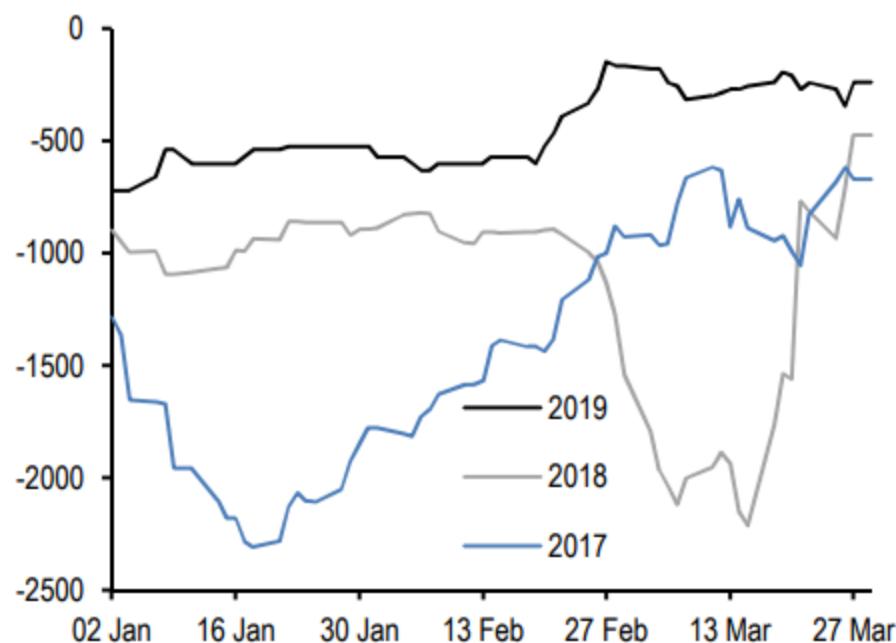
**Exhibit 3: ...and very subdued also in the intermediate sector**

1M historical volatility of 5Y EUR/USD, USD/JPY and GBP/USD cross currency basis; since Jan15; bp/day



**Exhibit 4: After a year-end turn which appeared early in 4Q18 but dissipated quickly, the quarter end turn (adjusted for number of days) was subdued with virtually no USD funding stress**

March quarter-end turn in FX OIS EUR/USD basis adjusted for the number of days in the turn in the first quarter of year in 2017, 2018 and 2019; bp



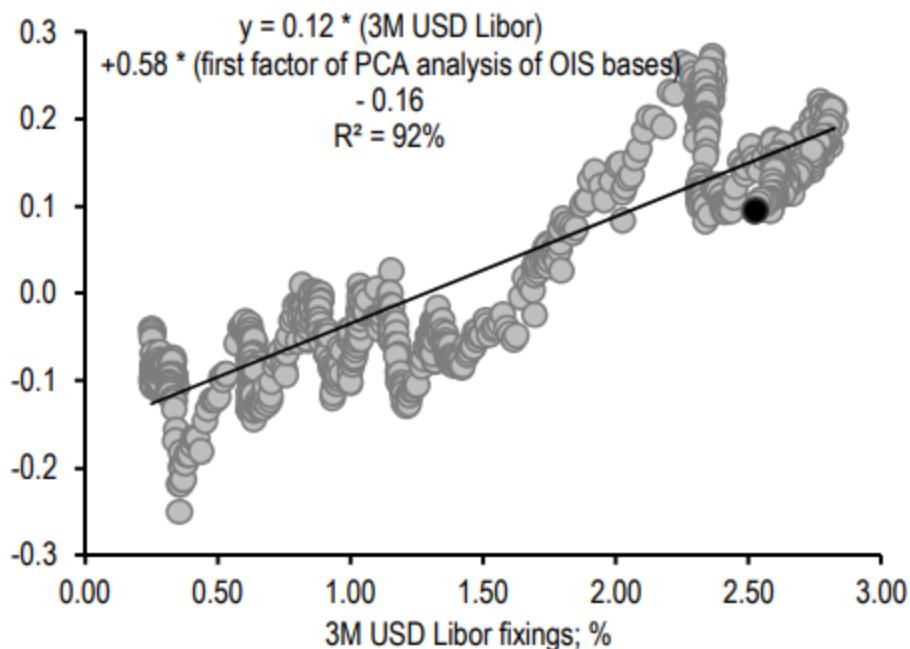
As our frequent readers may recall, we typically run a Principal Component Analysis (PCA) across major currencies to assess the drivers of global cross currency bases. The objective is to find market variables that are locally empirically correlated with the dynamic of the first factor and could be used to make a call on the evolution of the bases. At different point in time we find that fundamental macro drivers such as the relative monetary policy difference are statistically significant in explaining the variability of the cross currency bases, whereas in other episodes risk aversion

To separate the dynamic between Libor and FX OIS bases we now run two sets of PCA analysis, one on the global Libor and the other on the global FX OIS bases. By doing so we are able to separate the component of the basis coming from pure USD scarcity considerations (FX OIS) or from the combined effect including the relative FRA/OIS dynamic (Libor bases), which given the higher relative volatility is often a call on USD FRA/OIS.

If we simply regress the first factor of the PCA for the Libor basis against the first factor of the PCA for the FX OIS basis we find that we cannot explain the volatility of the Libor bases unless we add the level of USD Libor fixings (**Exhibit 5**), which is statistically significant. This confirms the evidence of cross currency Libor bases narrowing more or widening less than OIS bases when USD FRA/OIS is outperforming FRA/OIS in other currencies and vice versa.

#### **Exhibit 5: The evolution of USD Libor fixings explains most of the difference between the first PCA factor of 5Y cross currency basis in Libor and OIS space**

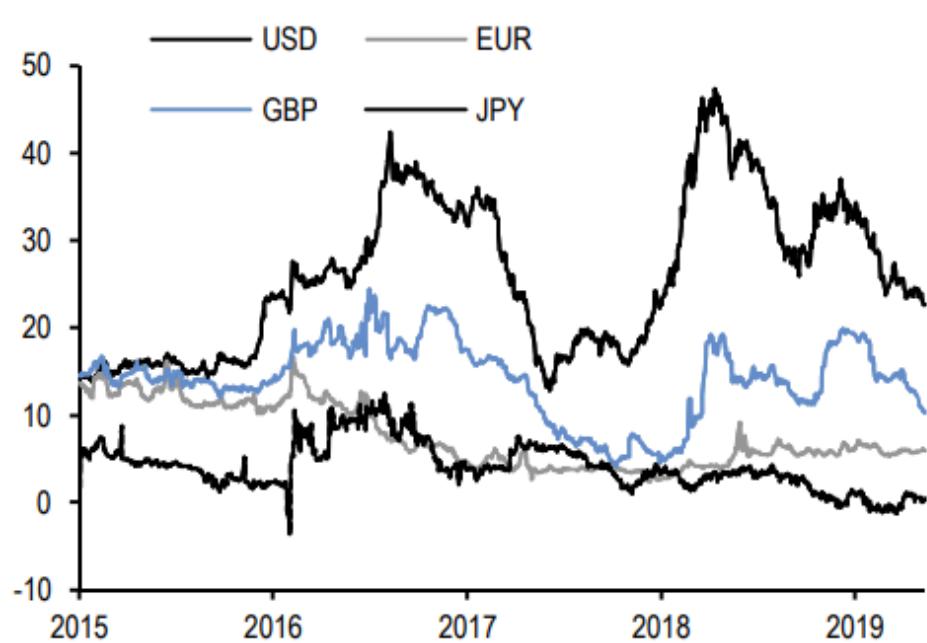
First factor of PCA\* analysis of Libor bases run since January 2013 regressed against first factor of PCA analysis of OIS bases and 3M USD Libor fixings; since Jan15; %



\* PCA runs since January 2013 on 5Y G3 Libor and FX/OIS bases separately

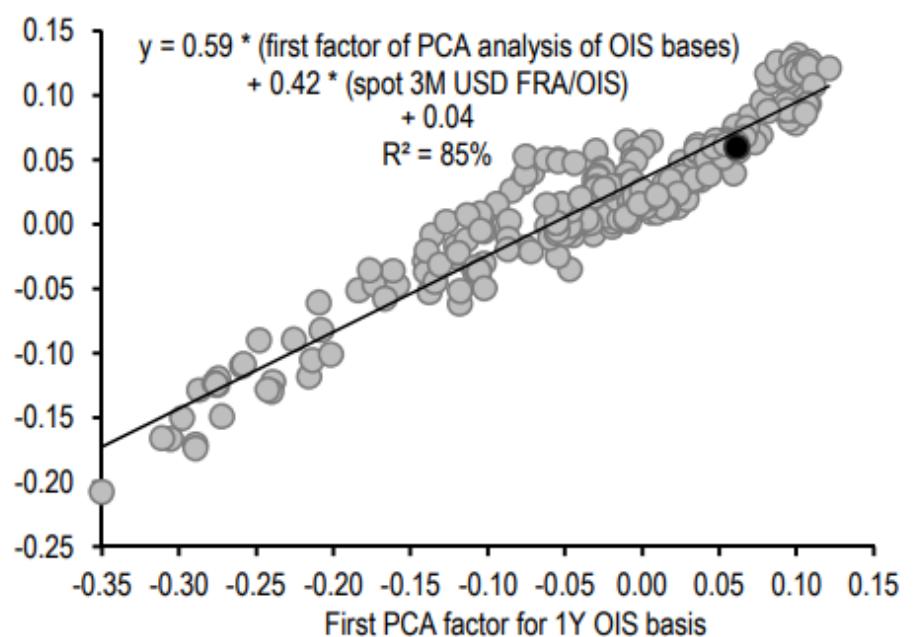
#### **Exhibit 6: The relative narrowing of USD FRA/OIS has mostly contributed to the widening of the global Libor basis**

1Y FRA/OIS in USD, EUR, GBP and JPY; since Jan15; bp



#### **Exhibit 7: At the front end of the curve USD FRA/OIS explains most of the difference between the Libor and OIS basis; we expect this dynamic to continue**

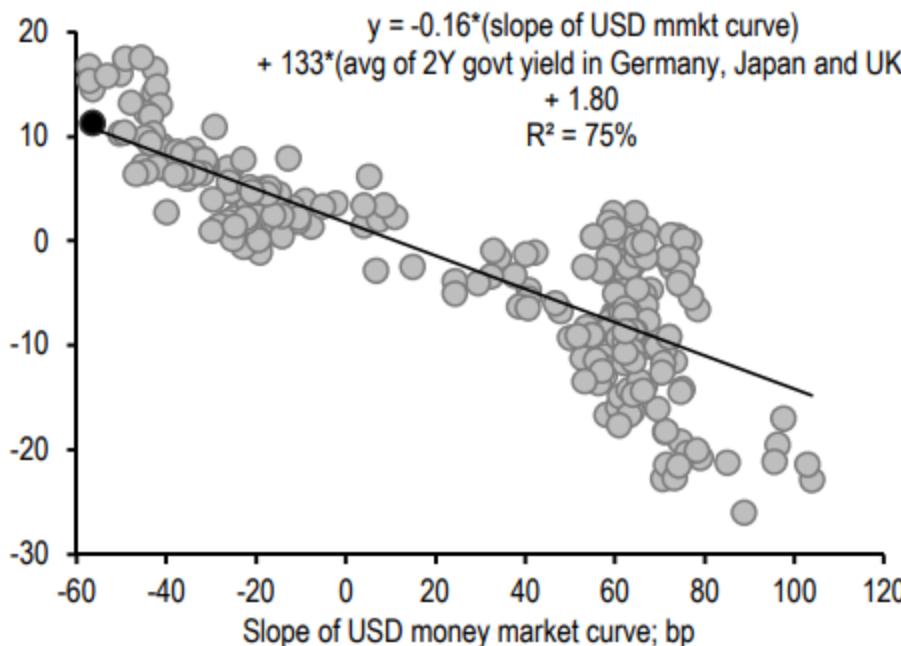
First PCA factor for 1Y Libor cross currency basis in EUR, GBP and JPY (since early 2013) regressed against 1) first PCA factor of 1Y FX OIS basis and 2) spot 3M USD FRA/OIS in USD (3M USD Libor fixing – 3M USD OIS rate); past 1Y;



Looking ahead, we prefer to run our analysis on the fundamental drivers of the FX/OIS basis, to separate the valuation from the relative FRA/OIS dynamic. Analysis of the first PCA factor of the 1Y FX OIS basis suggests that monetary policy continue to remain the main driver of the recent narrowing. **Exhibit 8** shows the 1Y regression of the first PCA factor of the FX OIS basis against two proxies of relative monetary policy, the slope of USD money market curve (measured as the difference between 1M OIS rate 3Y forward and spot 1M OIS) and the average of 2Y government yield in Germany, Japan and UK.

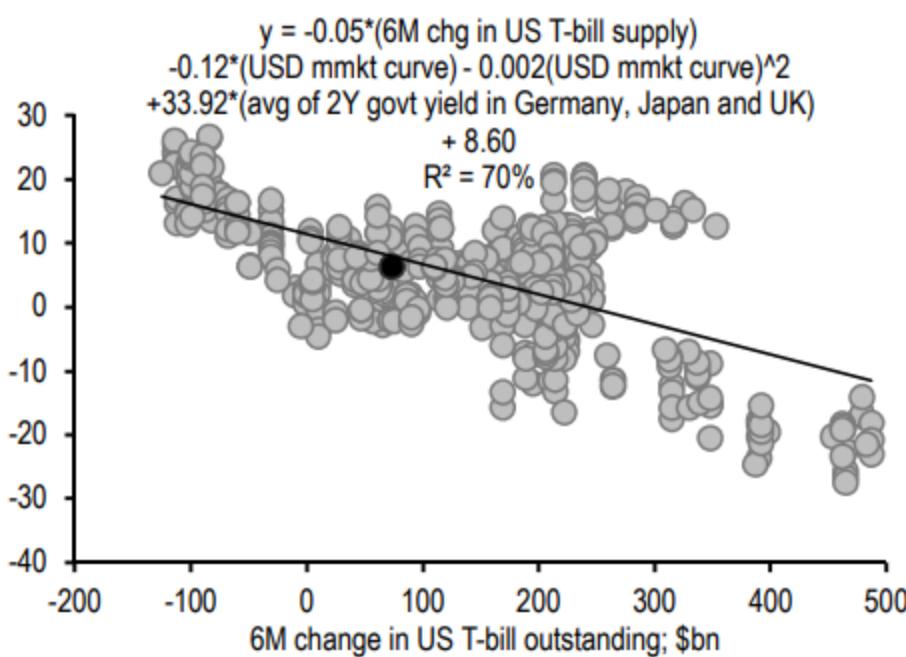
**Exhibit 8: The main driver of OIS cross currency basis remains the monetary policy difference with the repricing of Fed rate hike expectations explaining the recent move in FX OIS cross currency basis**

Regression between the first PCA factor of 1Y FX OIS basis and the slope of USD money market curve (measured as the difference between 1M OIS rate 3Y forward and spot 1M) and the average of 2Y government yield in Germany, Japan and UK; past 1Y;



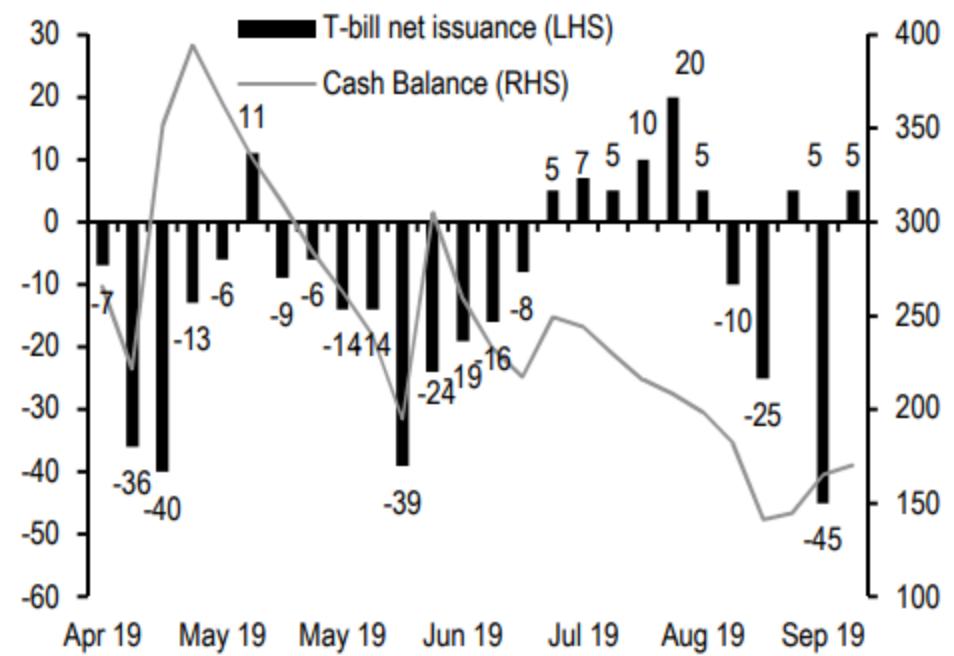
**Exhibit 9: The evolution of T-bill issuance will become an important driver especially in 4Q18 when we expect a temporary pick up**

Regression between the first PCA factor of 1Y FX OIS basis and a) 6M rolling change in US T-bill outstanding supply b) the slope of USD money market curve (measured as the difference between 1M OIS rate 3Y forward, quadratic fit) and c) spot 1M) and the average of 2Y government yield in Germany, Japan and UK; past 2Y;



**Exhibit 10: Projected negative net T-bill issuance over the short term could lead to some interim narrowing in FX OIS however we are biased for wider front end basis over the medium term on Fed not delivering the insurance cuts priced in**

Projected net issuance of T-bills and Treasury operating cash balance; \$bn both

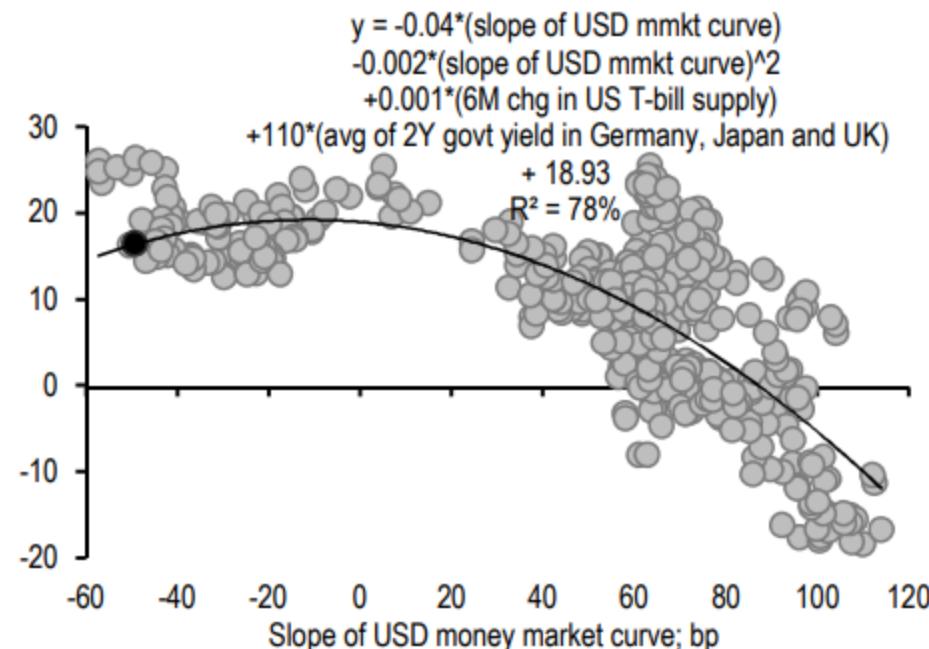


In **Exhibit 9** we add the rolling 6M change in US-T-bill issuance as a regressor and we find that the sign of the regression is negative and statistically significant. The projection for the evolution of T-bill issuance is shown in **Exhibit 10**. Over the summer months we expect negative net T-bill issuance with a drawdown in Treasury cash balance with an eventual pick up in issuance in September and October, given debt ceiling considerations.

Drivers are broadly similar in the intermediate sector of the FX OIS curve, where we note a much lower sensitivity to relative monetary policy (**Exhibit 11**). We believe that the evolution of cross border issuance will become over the short term a more important driver of the FX OIS bases in the intermediate sector and the sections below cover these idiosyncratic analysis in details.

**Exhibit 11: Similar dynamic in cross currency basis is expected in the intermediate sector, where the sensitivity to relative monetary policy is more muted**

Regression between the first PCA factor of 5Y FX OIS basis and a) the slope of USD money market curve (measured as the difference between 1M OIS rate 3Y forward b) spot 1M) and the average of 2Y government yield in Germany, Japan and UK and c) 6M rolling change in US T-bill outstanding supply; past 2Y;



## EUR/USD

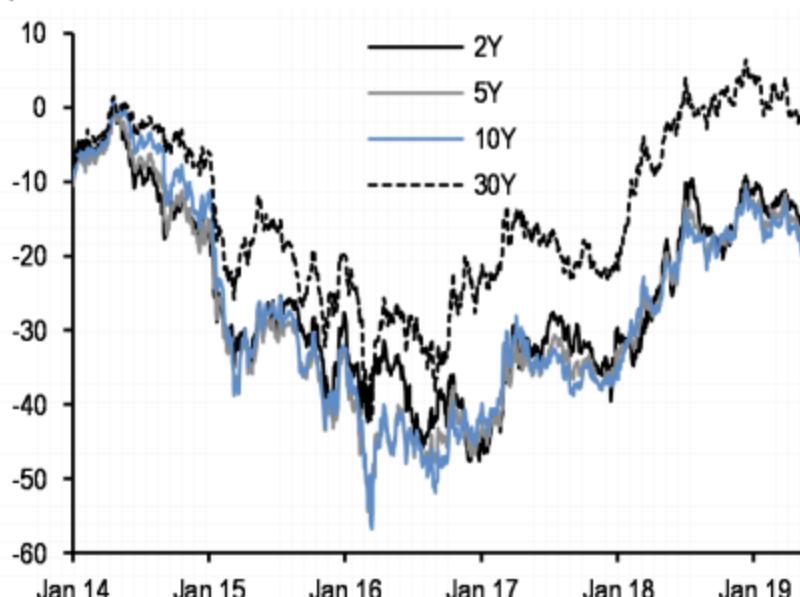
**Widening in the intermediate sector on EUR issuance before the summer months, bias to enter into front end FX/OIS widener as we approach expected pick-up in T-bill issuance and repricing of Fed cuts**

Since our publication in January, the EUR/USD cross currency basis has remained in a low range with limited volatility. The widening seen over the period has been mostly due to the underperformance of USD FRA/OIS vs. EUR FRA/OIS which mechanically results in wider Libor basis, whereas FX OIS basis stayed broadly unchanged to a touch tighter over the horizon (**Exhibit 12**).

Broadly funding pressure were muted with the benign year end dynamic of late 2018 continuing early this year. Risk aversion drivers were quite limited, as with the exception of some recent political noise in Italy on next year's budget the main macro concerns came from US/China trade deals. On a long term horizon, we note that current levels of the bases across the EUR/USD curve are on the low side relative to the long term history since 2011. On a Z-score basis 30Y and 2Y are the narrowest points at 0.9 SD and 1.0 SD narrower than their long term average, respectively (**Exhibit 13**).

**Exhibit 12: Since early January EUR/USD Libor cross currency basis widened marginally in the first quarter with muted perception of USD funding pressure...**

2Y, 5Y, 10Y and 30Y EUR/USD cross currency basis; since January 2014; bp

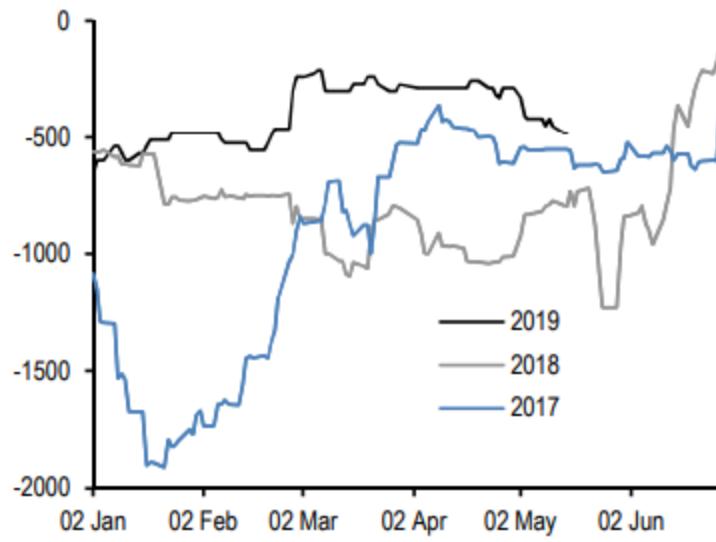


**Exhibit 13: ...as Libor EUR/USD cross currency bases across the curve remain on low side relative to the long term historical average since early 2011**

Statistics of 2Y, 5Y, 10Y and 30Y cross currency basis since January 2011; bp unless z-score unitless

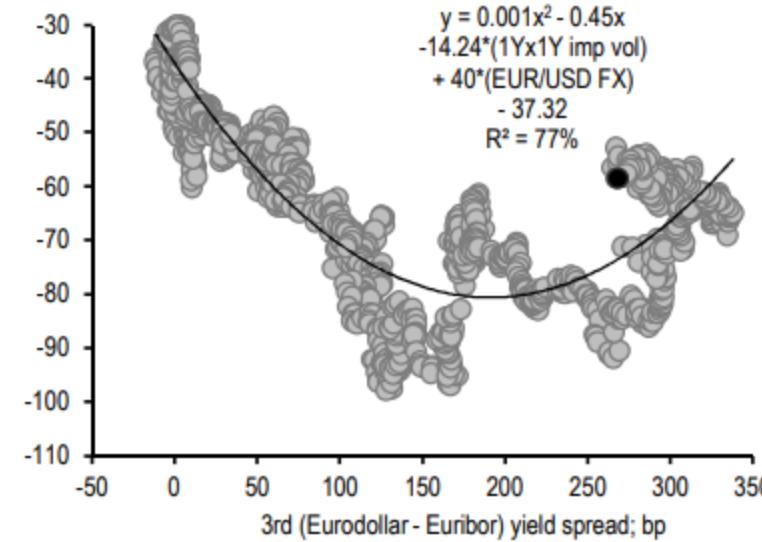
	Current	Min	Max	Average	Std Dev	Z-Score
2Y	-17	-88	0	-30	15	0.8
5Y	-19	-67	1	-29	13	0.7
10Y	-20	-57	1	-25	12	0.4
30Y	-2	-42	12	-12	11	0.9

**Exhibit 15: The mid-year turn effect in cross currency basis is priced quite muted relative to the dynamic of the past couple of years**  
 June quarter-end turn in FX OIS EUR/USD basis adjusted for the number of days in the turn in the second quarter of year in 2017, 2018 and 2019; bp



**Exhibit 16: On monetary policy considerations and expectations that the market will eventually remove at least some of the insurance cuts priced in the USD curve we have a modest widening bias at the front end of the EUR/USD FX OIS basis curve**

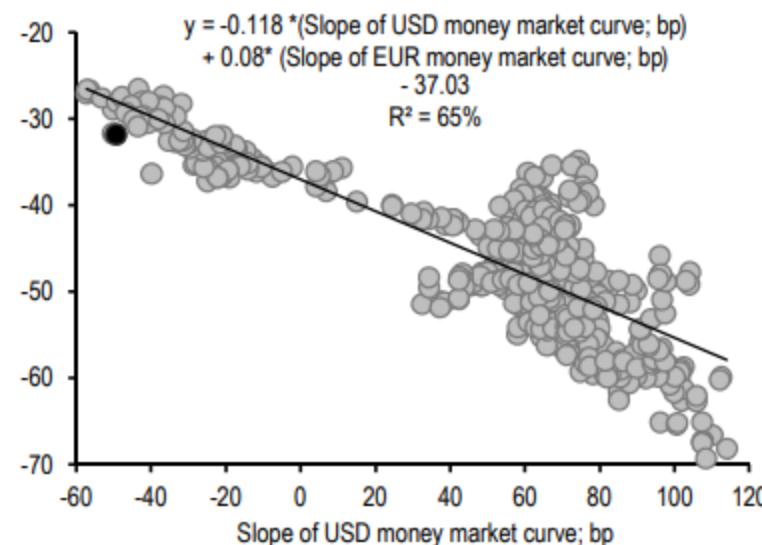
Reds EUR/USD OIS cross currency basis curve regressed against 1) spread between 3rd Eurodollar and 3rd Euribor yield, 2) 1Yx1Y EUR implied swaption vol, 3) spot EUR/USD FX rate; since 1 Jan 2013; bp



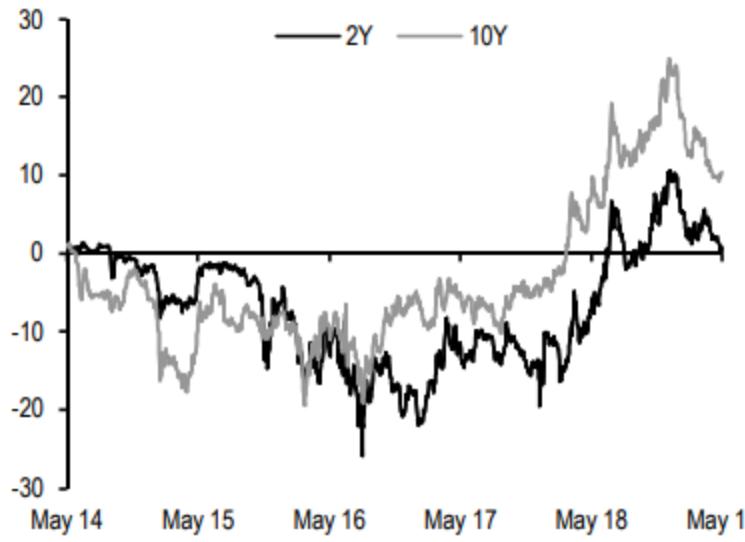
Looking at a simple monetary policy difference we note that the FX OIS basis is a function of the relative USD vs. EUR money market curve. Every 10bp flattening of the USD money market curve (defined as 3Yx1M - 1M) typically puts about 1.8bp of narrowing in the reds FX OIS basis, whereas a flattening of the same curve in EUR puts about 0.7bp of widening (**Exhibit 17**). Going forward, we believe that the market eventually will remove some of the easing priced into the USD OIS curve as we anticipate that the Fed will not deliver the currently priced in insurance cuts.

**Exhibit 17: While we have a modest steepening bias on the EUR curve we believe that the repricing of the exit strategy of the ECB will be modest, whereas we see more room for the Fed curve to reduce its inversion given Fed's pouring cold water on insurance cuts**

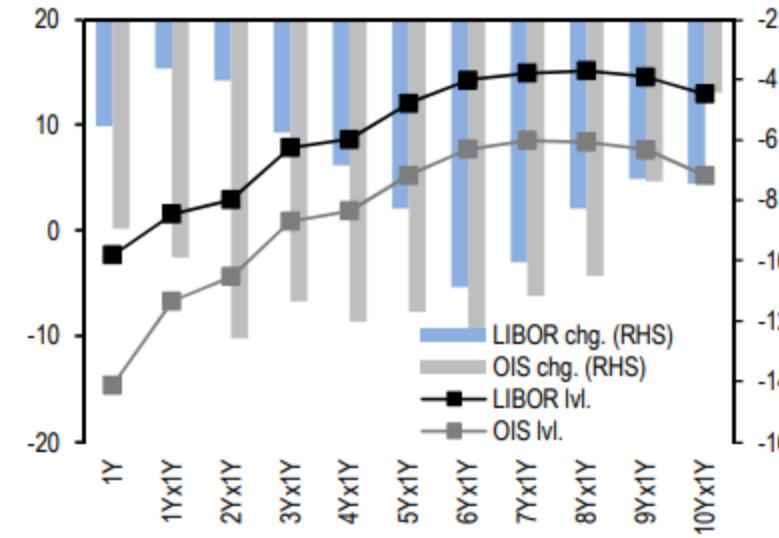
Reds EUR/USD OIS cross currency basis curve regressed against a) spread between 3Yx1M and 1M USD OIS rate and b) spread between 3Yx1M and 1M EUR OIS rate and; past 6M; bp



**Exhibit 21: GBP/USD cross currency basis has widened from the extreme levels seen at the end of last year although cross currency basis is still positive**  
 2Y and 10Y GBP/USD LIBOR cross currency basis; bp



**Exhibit 22: GBP/USD cross currency basis is narrower since our last publication in mid-January with the forward LIBOR basis curve still positive from 1Yx1Y and further out**  
 LIBOR and OIS GBP/USD cross currency basis, current levels and change since 14 Jan 19; bp



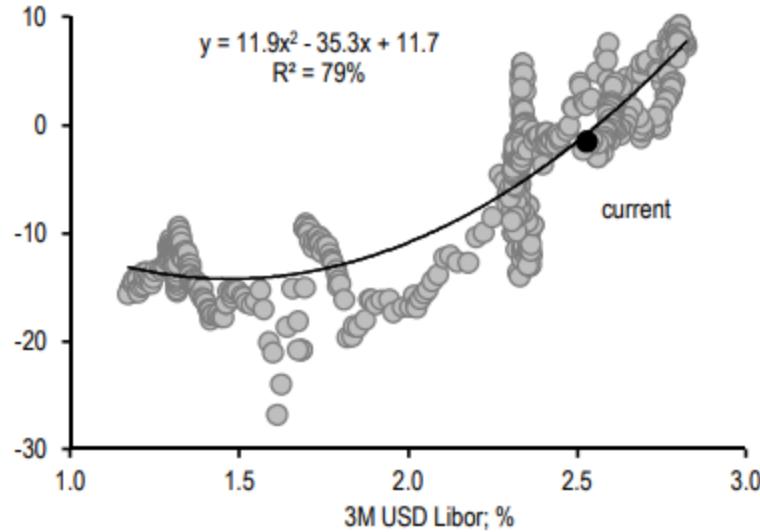
In LIBOR cross currency basis space, since the Fed began hiking the policy rate front end GBP/USD basis has been well correlated with 3M USD LIBOR exhibiting a convex relationship over the past couple of years (**Exhibit 23**). Based on this empirical convexity 1Y GBP/USD LIBOR basis looks fair value vs 3M USD LIBOR.

This dynamic makes sense intuitively as it captures the impact of tighter US monetary policy, however stripping out FRA/OIS and focusing on GBP/USD OIS basis the impact of relative Fed/BoE monetary policy is less clear. Typically, 1Yx1Y GBP/USD OIS cross currency basis has been positively correlated with 1Yx1Y SONIA – 1Yx1Y USD OIS spread, as tighter Fed policy relative to BoE policy has generally resulted in a wider OIS basis. However, this relationship has broken down over the past few months with the directionality between 1Yx1Y GBP/USD OIS basis and 1Yx1Y SONIA - 1Yx1Y USD OIS spread flipping to a negative sign locally (**Exhibit 24**). This shift in empirical directionality is counterintuitive as the Fed pivot and pricing of Fed easing into the front end of the US curve should result in narrower front end GBP/USD OIS basis, given little change in relative BoE rate expectations. Under our forecasts we expect the Fed to stay on hold into 2020 and the BoE to tighten late this year although markets price around 50bp of Fed easing by the

end of next year vs close to 20bp of MPC hikes. A repricing out of Fed easing from market pricing should theoretically result in a wider front end GBP/USD OIS cross currency basis but given the recent switch in directionality **we think expressing a view on front end GBP/USD OIS basis purely based on relative monetary policy expectations is not attractive**.

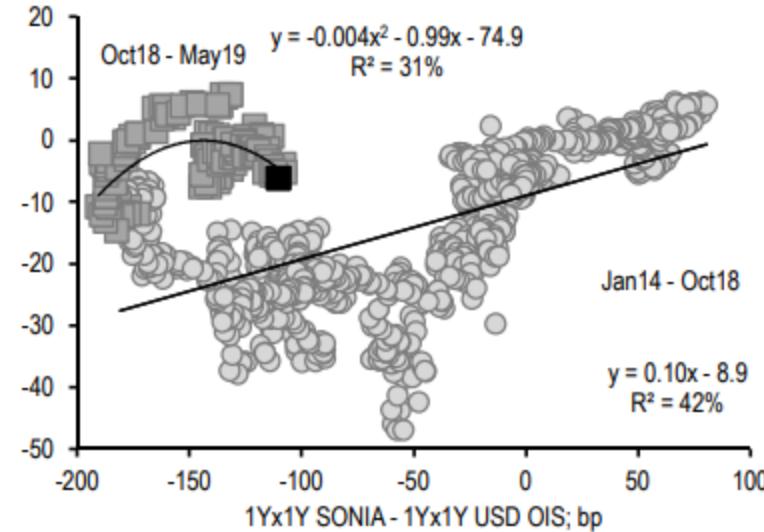
**Exhibit 23: USD LIBOR remains a key driver of front end GBP/USD LIBOR basis**

1Y GBP/USD LIBOR cross currency basis regressed against 3M USD LIBOR; past 2Y; bp



**Exhibit 24: The relationship between GBP-USD interest rate differentials and 1Yx1Y GBP/USD OIS basis has flipped sign recently**

1Yx1Y GBP/USD OIS cross currency basis regressed against 1Yx1Y SONIA - 1Yx1Y USD OIS; since Jan14; bp



From a more technical standpoint we expect US T-Bill issuance to pick-up over the coming quarters as US cash balances are drawn down which will likely “crowd out” other forms of USD funding into the fourth quarter. Theoretically, this crowding out effect should put widening pressure on front end GBP/USD OIS cross currency basis but historically there has been limited empirical evidence of this effect (**Exhibit 25**). There appears to be some modest convexity where an increase in net US T-Bill issuance of £300bn or more does result in some modest widening but the relationship is not particularly strong. Hence, at the margin we expect some very modest widening pressure on front end GBP/USD OIS basis from this net T-Bill issuance dynamic over the next couple of quarters, but the dynamic here is unlikely to be clear enough to warrant entering wideners. In LIBOR space, we would expect a mechanical narrowing in LIBOR GBP/USD cross currency basis from increased USD LIBOR on the back of increased T-Bill issuance.

**Macro and technical drivers provide limited support for a view on GBP/USD cross currency basis** and given the widening move seen since the start of this year we remain neutral on front end GBP/USD OIS basis. We note that **carry for received cross currency basis positions is positive and highest at the front end of the curve (Exhibit 26)** however on its own we do not see carry as a significant enough reason to position in cross currency basis space. **Overall, we are neutral on front end OIS GBP/USD cross currency basis with a modest narrowing bias on front end LIBOR GBP/USD cross currency basis.**

## USD/JPY

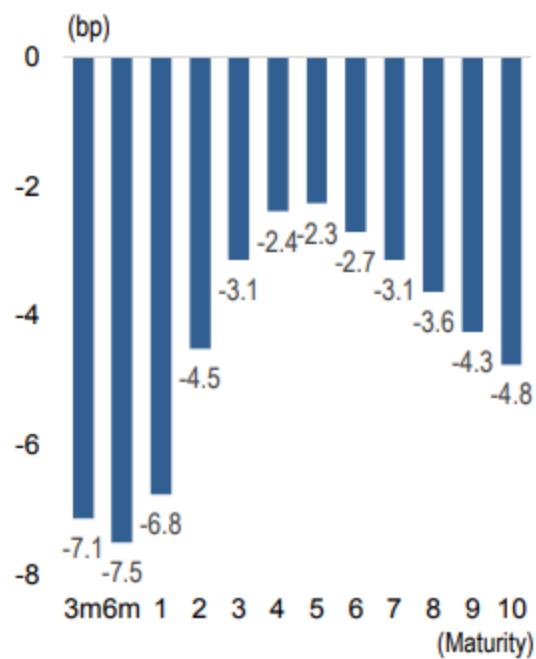
### Hold a mild widening bias on the short end and narrowing bias on intermediate sector for the next few months

After we published an update on cross-currency basis in April (see [note](#)), short-end of the curve widened more than intermediate sector, leading to a steepening as we expected (**Exhibit 32**). We envisage that widening on the short-end was mainly attributed to narrowing of 3M USD Libor-OIS spread. Thus, OIS-based 3M cross-currency basis did not change as much. Despite most of Libor-OIS spread narrowing taking place in January-March, we saw the trend continue into April and as a result Libor-based 3M cross currency basis continued to widen (**Exhibit 33**).

On the other hand, intermediate sector widened less most likely because the pace of Samurai issuance has decelerated post-April as the period of special demand before regulatory reform is now behind us (see below for more detail).

**Exhibit 32: Cross-currency basis curve steepened as expected**

Change in USD/JPY xccy basis from 11 April to 14 May 2019 (bp)



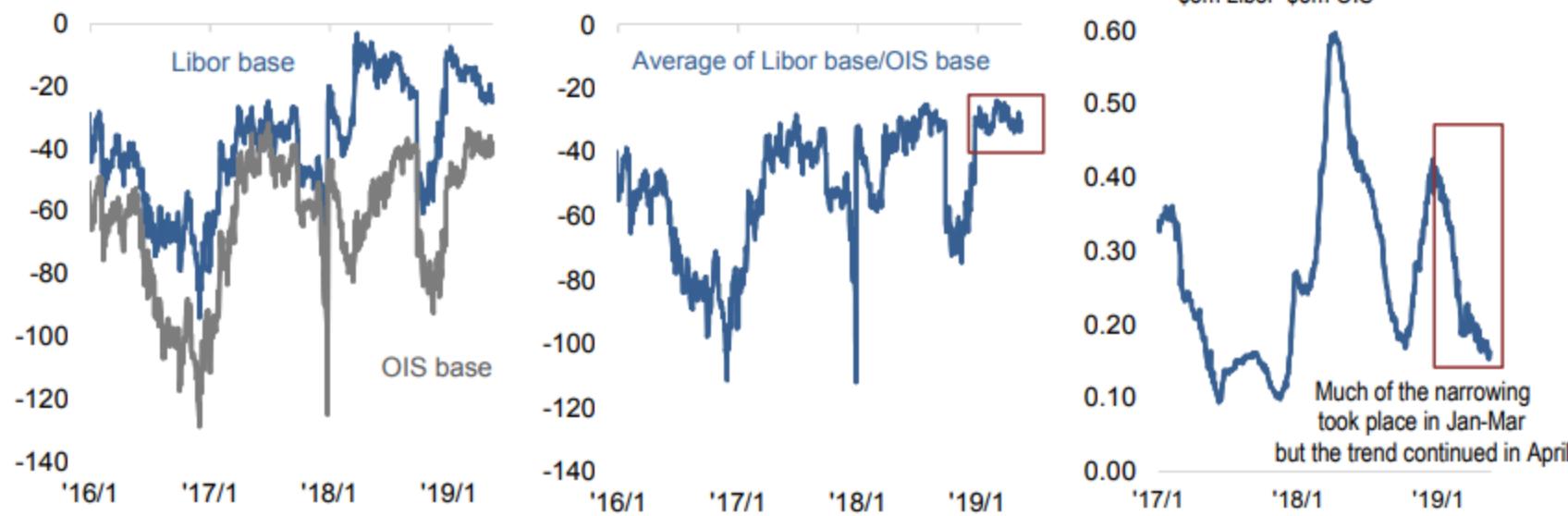
Source: J.P. Morgan

**Exhibit 33: 3M Libor-based cross-currency basis widened as 3M \$Libor-OIS spread continued to narrow**

Liber-based vs. OIS-based 3M basis (bp)

Average of 3M Libor-based and OIS-based (bp)

3M \$Libor-OIS (%)



Source: BoJ

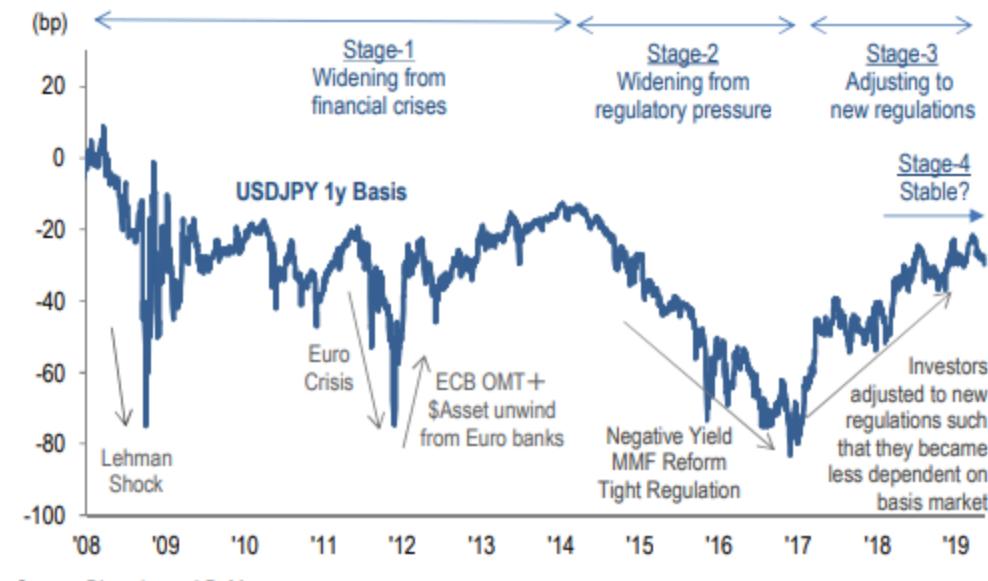
#### Outlook: range bound but intermediate sector may narrow

#### Big picture: We have entered stage-4 where the market will be more stable

Looking back at history, in late 2000s/early 2010s, JPY cross currency basis widened amidst deteriorating risk sentiment especially around GFC and Euro debt crisis (stage 1). During 2014-16, various regulatory tightening, especially various constraints on balance sheet sizes and US MMF reform in 2016, took the center stage, taking basis even wider as US investors' capacity to fund USD were significantly eroded (stage 2). In 2017-18, we saw some reversal of the widening from stage 2 as investors started adjusting to the new regulatory environment (stage 3).

**Exhibit 34: We probably have reached a more stable stage**

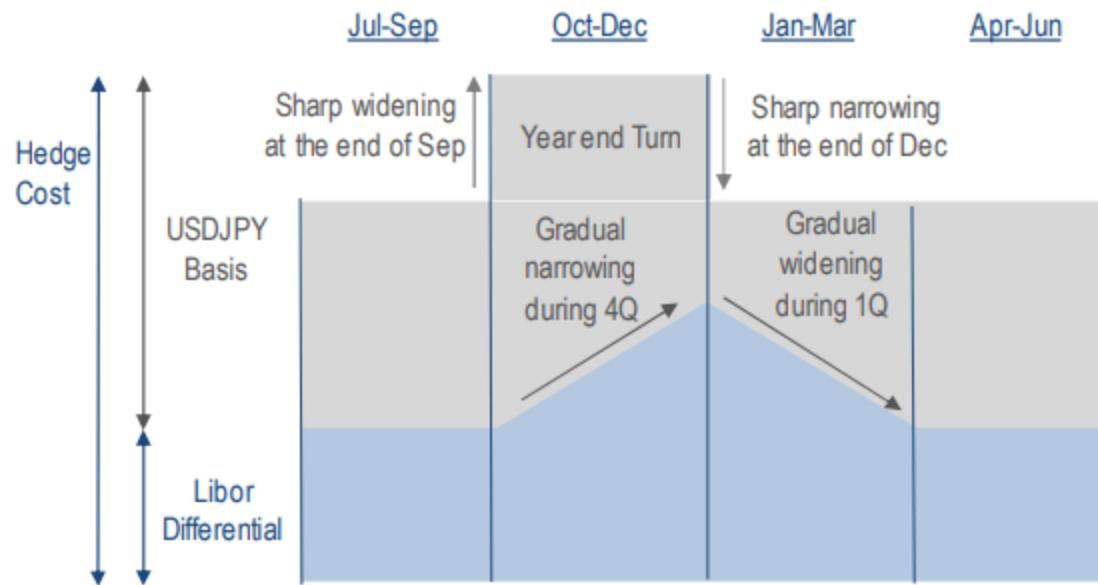
Liber-based 1Y xccy basis (bp)



Source: Bloomberg, J.P. Morgan

**Exhibit 35: Seasonality will be more neutral in April-September**

Seasonality of 3M USD/JPY cross-currency basis

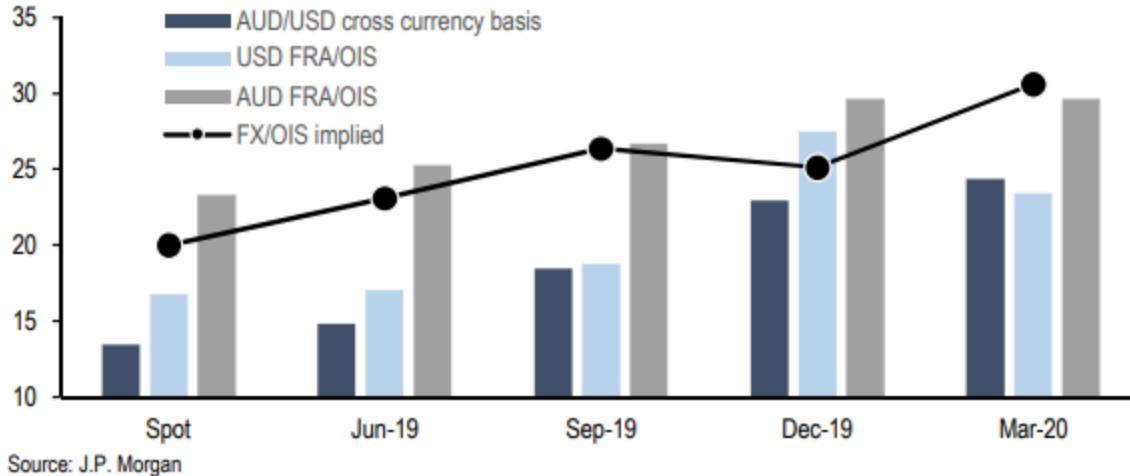


Source: J.P. Morgan

### Exhibit 51: Given current AUD/USD cross currency basis pricing, and a steeper AUD vs USD

FRA/OIS curve, FX/OIS basis appears to be priced for a modest widening into year-end

AUD/USD cross currency, FRA/OIS and FX/OIS implied basis; bps



Source: J.P. Morgan

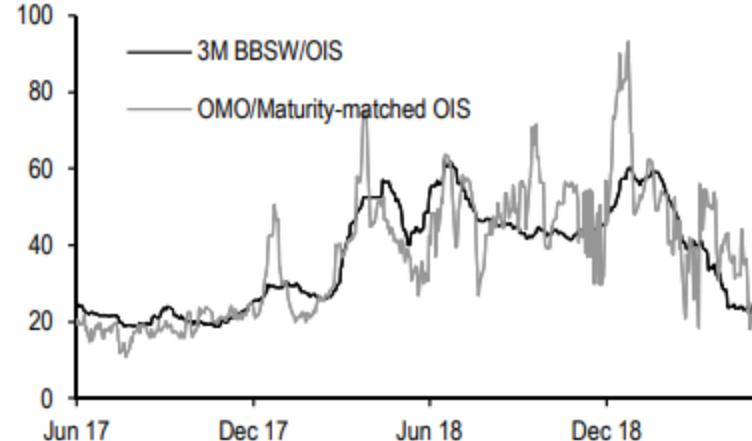
### Term cross currency basis should be biased lower

From the receive side of the AUD/USD cross currency basis, gross Kangaroo issuance has been fairly muted in recent months, following a strong seasonal flow late in the first quarter (**Exhibit 52**). As we have pointed out in the past, the statistical relationship between the cross currency basis and the level of gross issuance is difficult to plot in real time. In our last update, we argued that while a wide cross currency basis raises the relative value prospect of issuing into AUD and swapping the proceeds back to dollars or euros, the conditions that had brought about the widening in the basis (significant funding stress relating to a deterioration in domestic liquidity) also alluded to less than ideal conditions for the domestic investor community to absorb large issuance volumes. **With domestic funding conditions now having stabilized, and a still very wide cross currency basis prevailing in the market, this suggests some scope for a pick-up in Kangaroo issuance volumes as we head into 2H19.** This includes issuance volumes returning to the more common 7-15Y sector, with YTD issuance thus far being more heavily concentrated at the short end (**Exhibit 53**). Issuance seasonals tend to be fairly subdued through the mid-year period, before tending to rebound strongly in the latter portion of 3Q (**Exhibit 54**).

Unsecured and secured funding spreads have compressed noticeably at the very front end in recent weeks, with OMO leading the way sharply lower (**Exhibit 49**). At current levels, 3M BBSW/OIS is trading tight even relative to pre-2018 average levels, with the term structure of FRA/OIS significantly upward sloping. Our fair value estimates suggest BBSW/OIS is close to fair, albeit modestly too narrow, even in light of currently prevailing repo levels. The term structure of FRA/OIS also appears close to our current fair value estimates, although if repo remains well-contained just above +20bp, and assuming a fairly benign path for Libor/OIS according to our US colleagues' estimates, we see scope for U9 and Z9 to flatten relative to spot (**Exhibit 50**). Taking the current pricing of AUD/USD cross currency basis, and AUD and USD FRA/OIS as given, the market is implying a gentle rise in FX/OIS basis over 2H19 in the run-up to year-end (**Exhibit 51**). This level is consistent with what was seen in 2018, given the push and pull between a year of abnormal volatility in AUD funding conditions, and traditional USD scarcity into year-end. However, if AUD funding conditions have indeed abated, this level appears too high relative to pre-2018 norms, suggesting opportunity to receive AUD/USD cross currency basis into year-end.

### Exhibit 49: Unsecured and secured funding rates have come down sharply relative to OIS compared to 2018 average levels

3M BBSW/OIS and OMO/Maturity-matched OIS; bps



Source: J.P. Morgan, RBA

### Exhibit 50: Our fair value framework suggests FRA/OIS is close to fair value, albeit with some scope for the front end to move lower, and U9 and Z9 to move modestly higher, given current repo levels

Fair value model for 3M BBSW/OIS

	Coefficient	t-stat	3M BBSW/OIS			
			M9	U9	Z9	
Constant	13.98	15.36	-	-	-	-
Repo/OIS; bps	0.34	14.38	15.0	15.0	15.0	15.0
Credit-deposit gap; %-pt	1.21	11.07	4.5	4.5	4.5	4.5
VIX; %	-0.24	-3.68	19.3	19.3	19.3	19.3
Libor/OIS; bps	0.41	17.43	18.0	15.0	10.0	20.0
R <sup>2</sup>	84%					
Std error; bps	5.33					
Residual; bps			-3	-2	4	1

Regression using 2 years of daily data, and projections based on steady Repo/OIS, Credit/deposit gap and VIX over forecast horizon, and taking our J.P. Morgan forecasts for 3mL/OIS.

Source: J.P. Morgan, RBA

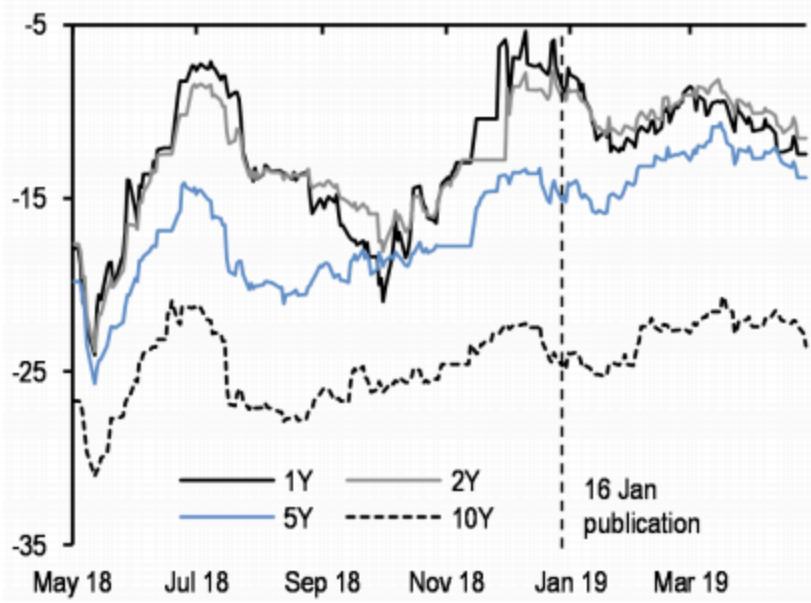
# CHF/USD

## Widening bias on 5Y FX OIS basis

Since our last [update](#) the CHF/USD cross-currency bases have traded in a tight range, with the 1-2Y CHF/USD cross-currency bases about 2-3bp wider and the 5-10Y bases about 1bp narrower overall (**Exhibit 56**). While the 1Y and 2Y CHF/USD cross-currency bases have exhibited a strong directionality with the respective EUR/USD bases (suggesting those have been mainly driven by idiosyncratic USD funding drivers), correlations have been much weaker further out (**Exhibit 57**).

**Exhibit 56: The CHF/USD Libor cross-currency bases have traded in a tight range since our mid-January publication**

Evolution of the 1Y, 2Y, 5Y and 10Y CHF/USD cross currency basis; past 1Y, bp



**Exhibit 57: Correlation with the EUR/USD Libor cross-currency bases have been weak in the 5Y+ sector of the curve...**

R-sqr from regressing 1Y, 2Y, 5Y and 10Y CHF/USD Libor cross-currency bases against the respective EUR/USD Libor bases over different horizons

However, those lower correlations in the 5Y+ sector of the curve appear to have been caused by FRA/OIS noise, with much stronger correlations observed in FX OIS basis space (**Exhibit 58**). Those high correlations suggest the relative USD scarcity component of the cross-currency bases is the same.

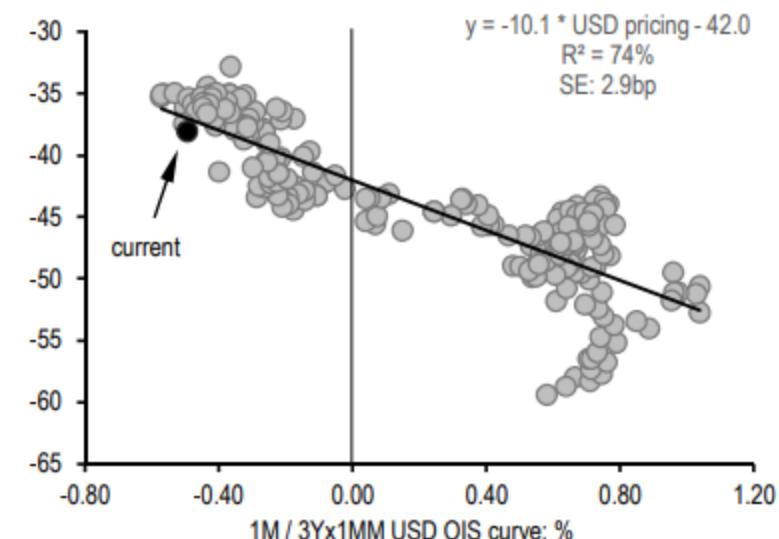
**Exhibit 58: ...but this appears to be driven by FRA/OIS bases given the much stronger correlation in FX OIS space**

R-sqr from regressing 1Y, 2Y, 5Y and 10Y CHF/USD OIS cross-currency bases against the respective EUR/USD OIS bases over different horizons

	since 16 Jan	past 6M	past 12M
1Y	88%	92%	98%
2Y	92%	93%	97%
5Y	84%	82%	92%
10Y	82%	74%	88%

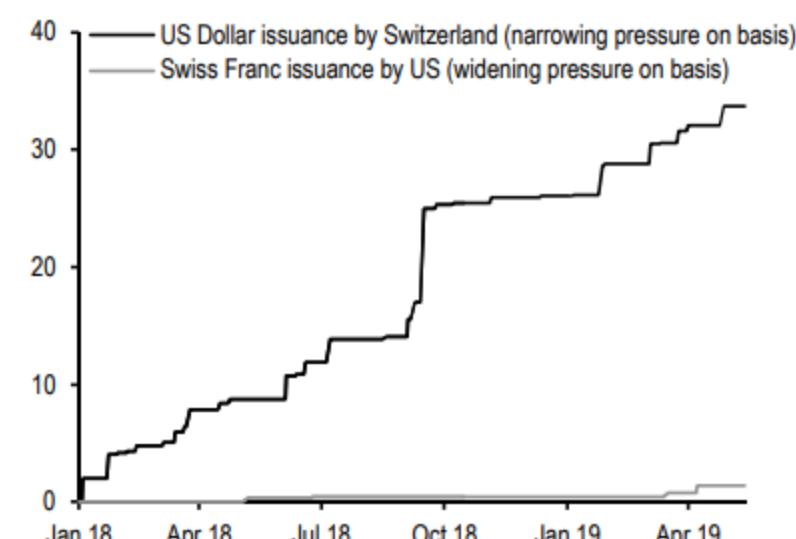
**Exhibit 59: We have a bias for narrower 5Y CHF/USD FX OIS basis curve based on our US monetary policy view**

5Y CHF/USD FX OIS basis regressed against the 1M / 3Yx1M USD OIS curve; past 12M, bp



**Exhibit 60: US/Swiss cross-border issuance flows have resumed, but flows remain difficult to predict**

Cumulative USD issuance by Swiss institutions, and cumulative CHF issuance by US institutions; both expressed in USD, since January 2018





# Deutsche Bank

24 May 2019

## **US Fixed Income**

### **Weekly Spreads in and out**

- We use our models of Treasury-OIS and LIBOR-OIS spreads to attribute changes in spreads to developments in the underlying explanatory variables for the periods from June 2015 to March 2016, and from October 2018 until the present.
- We argue that potential intervention-related Treasury liquidation is more limited than during the 2015-2016 period.
- This month's reduction in SOMA roll-off caps, the Q4 beginning of full reinvestment of Treasury redemptions and partial reinvestment of MBS redemptions into Treasuries should provide material relief to dealer balance sheet pressure.
- Discussion of IOER and overnight reverse repo from the FOMC minutes suggests that the Fed intends to achieve the smallest balance sheet size possible. A standing repo facility would

help support this goal. We present what the various Fed-administered rates could look like in a fully normalized scenario.

- The Fed's strategy of returning SOMA portfolio to long-run composition could be guided by two decisions: what the target SOMA looks like and how aggressively to pursue that transition. We summarize the pros and cons of two illustrative scenarios presented at the May FOMC meeting. **Our own model suggests that SOMA WAM could fall from the current 101 months to 60 months around 2027.**
- The move in rates has roughly harmonized with the correction in equities (with the same beta the two markets have maintained in the last few years). However, options markets seem to have their own take on events. While realized moves respected the underlying beta, implieds have had a somewhat divergent interpretation. In terms of implied vols, there do not seem to be any risk premia on top of realized vol for S&P, while rates gamma remains unimpressed with the realized 20bp move with the current 1M10Y vol consistent with an 11bp move over the past two weeks. In the light of the market's relatively uncomplicated gamma exposure, and given the underlying economic distribution of risks, one is tempted to embrace the rates volatility side of the story. In our view, receiver skew continues to exaggerate the probability of rate cuts, which we see, in the near term, as a risky proposition. We are sellers of low-strike skew through gamma-neutral receiver ratios.

- We assess the ECB response function and consider the extent to which rate cuts should be priced. In our view, pricing is justified given geopolitical developments but has not reached extreme levels.
- We examine the potential room for a restart of ECB APP (asset purchase programme). Under the continuation of capital keys allocation, PSPP will reach the 33% limit in the case of German bonds within 1 year under a 60bn / month pace.
- In the US, we use our models of Treasury-OIS and LIBOR-OIS spreads to attribute changes in spreads to developments in the underlying explanatory variables for the periods from June 2015 to March 2016, and from October 2018 until the present.
- We argue that potential intervention related Treasury liquidation is more limited than during the 2015-2016 period.
- This month's reduction in SOMA roll-off caps, the Q4 beginning of full reinvestment of Treasury redemptions and partial reinvestment of MBS redemptions into Treasuries should provide material relief to dealer balance sheet pressure.
- In Japan, City banks have historically taken profits on their domestic bond positions in April (the first month of the Japanese fiscal year), but this year bought more than they sold for the first time since 2004. JGB yields thus appear likely to face downward pressure as a consequence of domestic investors looking to at least maintain their exposure.
- While the demand for new EUR benchmark covered bonds declined in the past few weeks, primary market issues still received sufficient demand pricing without meaningful new issue premium. Agencies and supras traded broadly sideways in recent weeks, with covered bonds tightening and outperforming Eurozone sovereign bonds. With room for further tightening being extremely limited, the key risk for spreads seems a broader market widening due to increasing macro uncertainty.

24 May 2019

## **Global Relative Value - USD Swap Curve 'Dislocations'**

On 13 May we recommended a USD 3m 2s5s flattener plus 3m1y A-20 receiver aiming to capture the carry in 2s5s and hedging the risk of immediate cuts via the receiver (the carry in 2s5s was higher than the cost of the receiver). See original note [here](#). 3m 2s5s is flatter by 1.7bp whilst 3m1y is 5.3bp lower. We recommend closing the 2s5s plus 3m1y receiver combo. (We maintain the 6m1y-6m3y2y and EDU9/EDU1 bear flattener recommendations).

In our latest [macro update](#), we in fact argued that the market would struggle to price more cuts unless they are delivered soon. As a macro recommendation, we recommended a 2s5s steepener and given valuations (at 2007 lows) argued that the downside in that trade is broadly limited to the negative carry of the trade (6bp over three months). Within this note we explore other relative-value dislocations along the USD curve.

In fact, this week's bull flattening of the USD curve is abnormal and in fact creates an interesting entry point for steepeners. We think there are two potential drivers for the local dislocation of the curve versus the front end: 1) global rally in fixed income (driven by risk aversion and falling inflation expectations) causing term premia to fall and 2) anecdotal convexity hedging. In terms of micro relative value, 3y1y-4y1y appears too flat. In terms of a broader relative value, 5s10s (3y2y-5y5y) appears flat as term premia have fallen. From a carry perspective, steepeners are attractive 3y fwd onwards (they

suffer from negative carry closer to spot). In listed space, ED 2022 contracts have underperformed both 2020 contracts (due to Fed expectations) and 2023 onwards (due to global bull flattening). This means that EDM1-M2-M3 fly is currently cheap...



Interest Rates Research

23 May 2019

## US Money Markets

# Revisiting the standing repo facility

The standing repo facility may reduce banks' "supervisory" demand for excess reserves and improve flexibility in bank liquidity pool management.

- The Fed has not had trouble controlling the fed funds rate since lift-off with its administered rates, RRP and IOER.
- But once it runs out of room to cut IOER, the Fed could resume temporary open market operations (OMOs) to move the effective fed funds rate lower.
- Structural details about a standing repo facility are as yet unknown. We assume it would be a fixed rate, full allotment program open to banks only.
- We estimate the fixed rate could be set at 7 or 8bp over the top of the fed funds target band to minimize program use.
- We are skeptical, however, that it would create a hard ceiling over SOFR. Balance sheet availability, not reserve scarcity, is pressuring collateral rates.
- The May FOMC minutes hinted at some reservations about flattening the spread between the IOER and RRP rates as it could encourage heavier RRP use.
- The Fed's definition of "minimally ample" bank reserves appears to be smaller than what large banks see as their "lowest comfortable level of reserves (LCLoR)."
- The difference reflects the supervisory demand for reserves. A standing repo facility could reduce this surplus demand and improve HQLA flexibility.
- In theory, the program could encourage banks to shift more of their HQLA to Treasuries.
- In turn, more reserves would be available for banks to arb market rates and IOER (or RRP).
- But survey evidence from the Fed suggests that banks are somewhat hesitant to draw down reserve balances to shift into higher-yielding repo and fed funds trades.

We expect the Fed will create a standing repo facility as a means of reducing the supervisory demand for bank reserves. However, it is unclear how effective this may be, given the inherent reluctance of banks to arb market rates over IOER.

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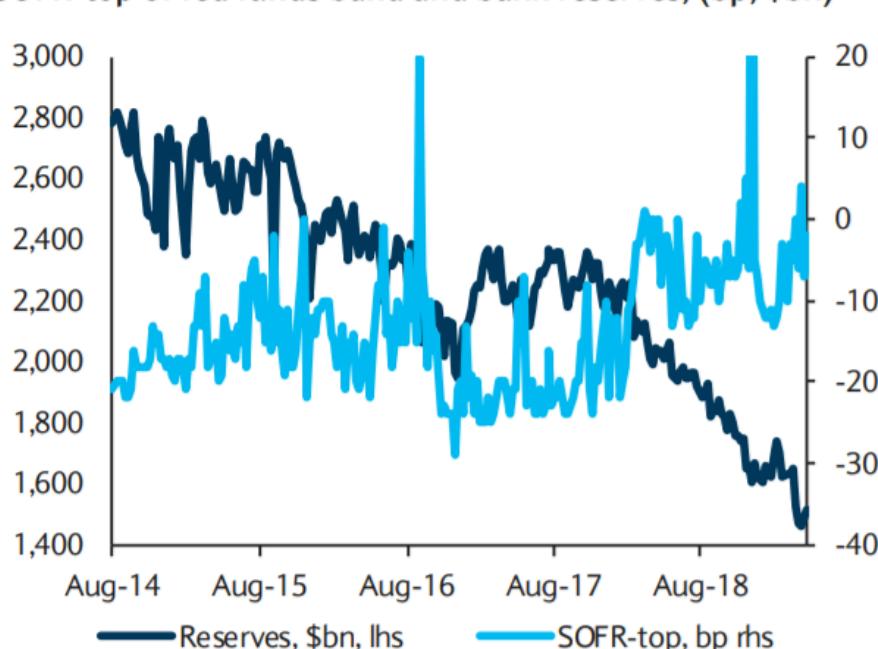
[www.barclays.com](http://www.barclays.com)

By expanding bank reserves,  
the facility could cap the fed  
funds rate

We think a standing repo facility would be more successful as a tool to cap the fed funds rate. As the standing repo facility temporarily expands the level of bank reserves, it should reduce pressure on the fed funds as much of the recent narrowing (and reversal) in the FF-IOER spread has been caused by shrinking balances at the Fed.<sup>2</sup> We believe access to a

FIGURE 1

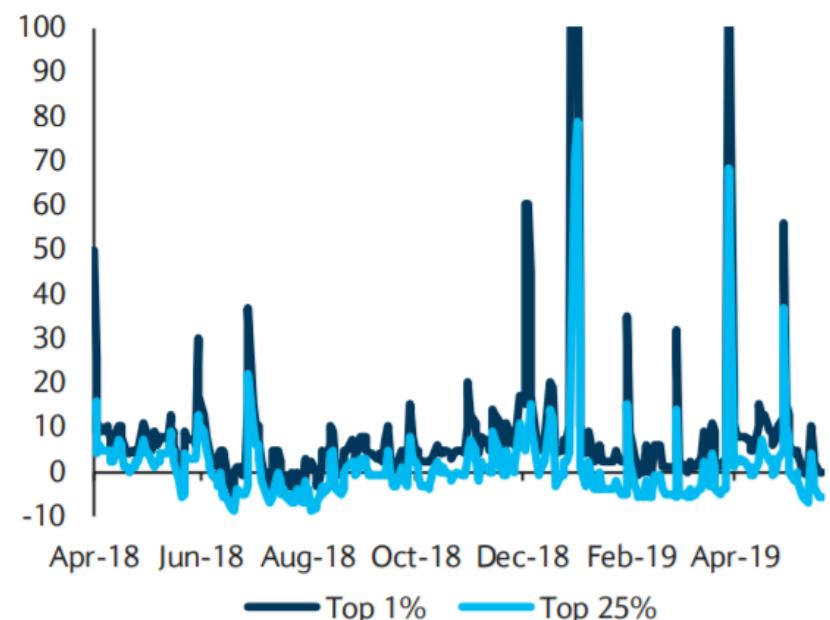
SOFR-top of fed funds band and bank reserves, (bp, \$bn)



Source: Federal Reserve, Barclays Research

FIGURE 2

SOFR rate distribution less the top of the fed funds band (bp)



Note: Spreads were dramatically wider at year-end. We have clipped the y-axis for clarity. Source: Federal Reserve, Barclays Research

<sup>1</sup> See *Standing repo facility: rate cap or insurance policy?* April 17, 2019

<sup>2</sup> Smith, for example estimates that 75% of the narrowing in IOER-FF from October 2014 to November 2018, was due to the decline in bank reserves. See, "Do Changes in Reserve Balances Still Influence the Federal Funds Rate?", A. Lee Smith, Federal Reserve Bank of St. Louis Economic Review, February 2019

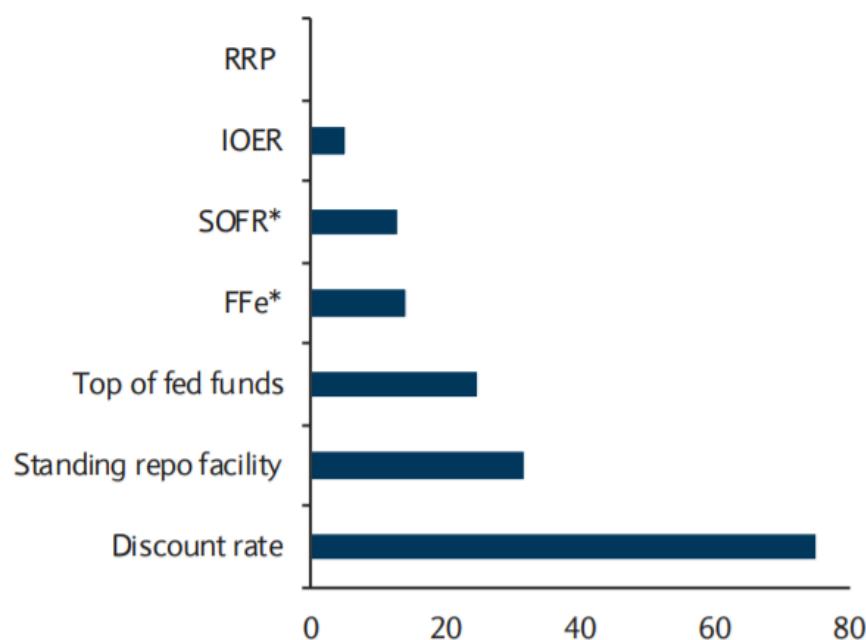
23 May 2019

3

Keep in mind, however, that neither the academic nor survey results suggested that the fed funds rate would move above IOER three times in the past year. Our reading of pressure in the funds rate suggests that whatever banks are saying in their survey responses, \$1.4-\$1.5trn in bank reserves may be close to their LCLoR. We view the pressure in the funds rate as evidence that balances at the Fed have fallen into the steeply sloping part of the bank reserve demand curve where small changes in balances cause noticeable swings in the fed funds rate.

FIGURE 3

Hypothetical administered rates, spread to RRP (bp)

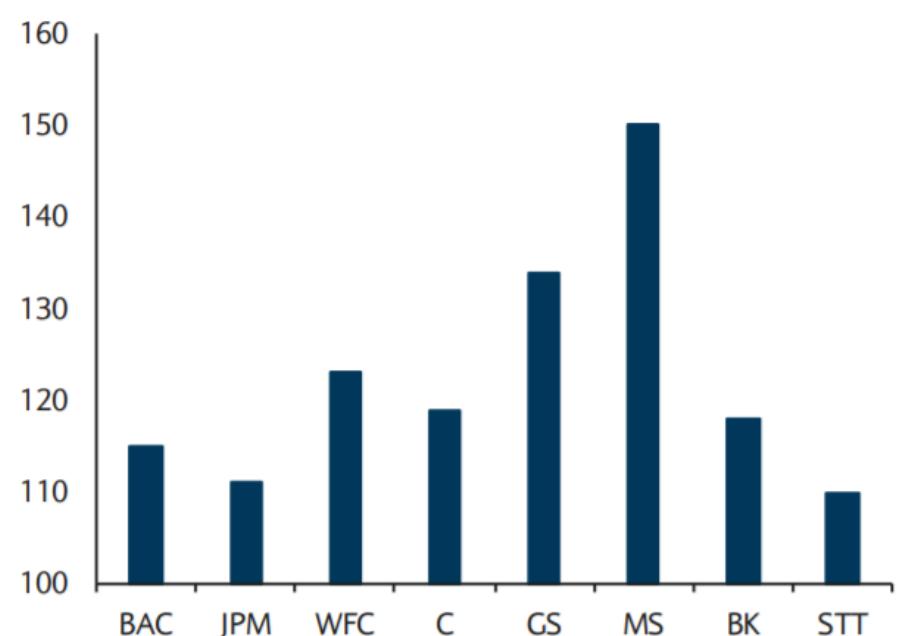


Note: Fed funds and SOFR are current spreads to RRP.

Source: Federal Reserve, Barclays Research

FIGURE 4

Large bank LCRs, Q1 19



Source: Company reports, Barclays Research

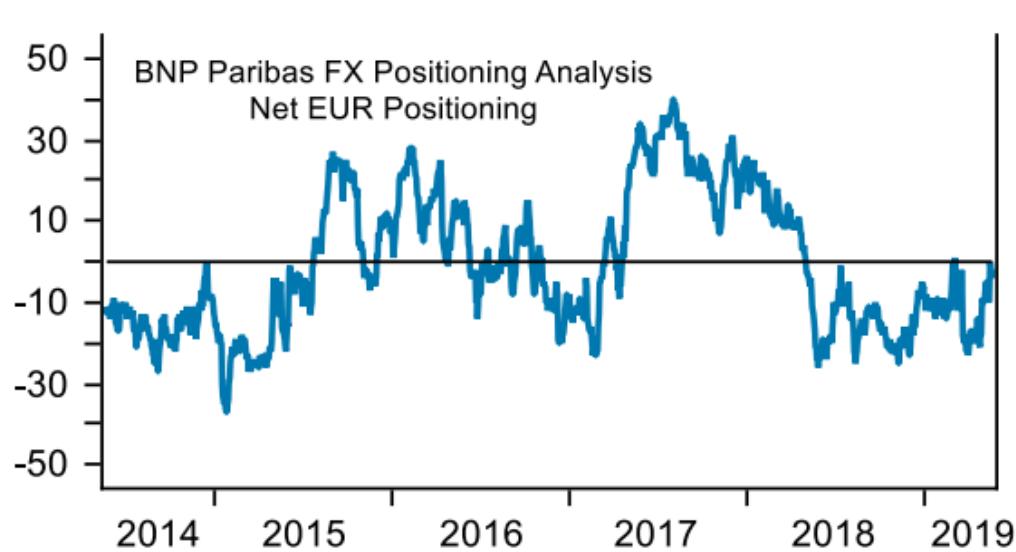
<sup>4</sup> See, "A Model of the Fed Funds Market: Yesterday, Today, and Tomorrow", G. Afonso, R. Armenter, and B. Lester, Federal Reserve Bank of New York, February 2018

**Fig. 1: EUR 10s30s has lagged the decline in inflation expectations and is likely to adjust lower**



Sources: Macrobond, BNP Paribas

**Fig. 2: FX investor EUR exposure is light ahead of the ECB**



Sources: Macrobond, Bloomberg, BNP Paribas



[Eric Oynoyan](#), G10 rates strategist | [Sam Lynton-Brown](#), Head of FX Strategy North America | BNP Paribas London Branch

**MARKETS** 360| DEEP DIVE 24/05/2019

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When considering the implications for the component real and inflation curves, the first observation to make is that it is unusual for the steepness of the nominal curve to mostly comprise inflation curve steepness, as we see now. Our Chart of the Day shows the history of the 2s10s real and inflation swap curves, 1-year forward, to highlight this. We show it on a forward starting basis to strip out volatility caused by short-term swings in print surprises and oil, etc. Chart 1 shows the same over a longer history.

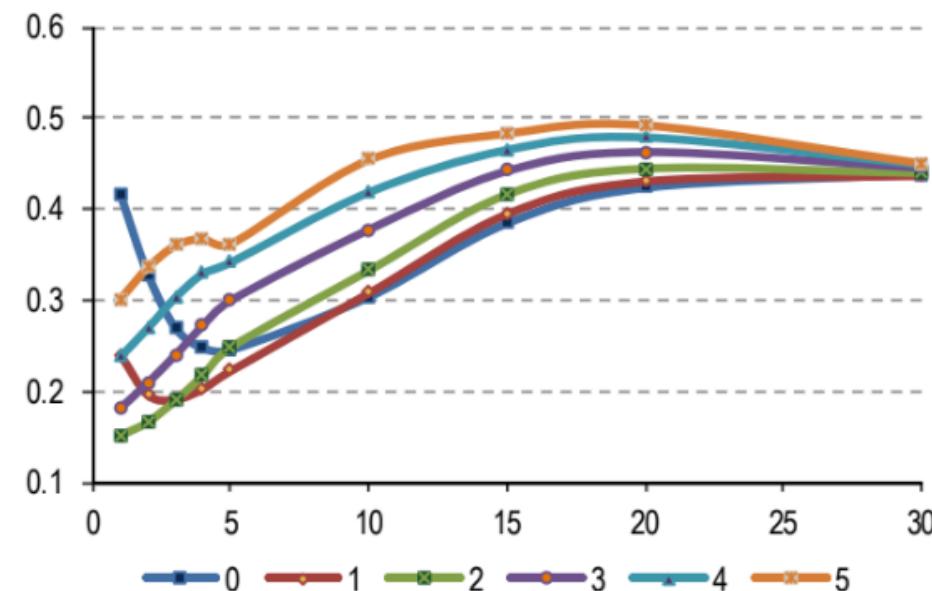
#### **Chart 1: Repeating our Chart of the Day but with a longer history, bp**



Source: BofA Merrill Lynch Global Research

On a spot basis, the 2s10s inflation swap curve is currently steeper than the nominal curve, so the real 2s10s curve is actually inverted:

**Chart 2: US real swap curve: spot, 1-, 2-, ..., 5-years forward, %**



Source: BofA Merrill Lynch Global Research

**Chart 3: Latest oil dip doesn't explain 2y inflation drop**



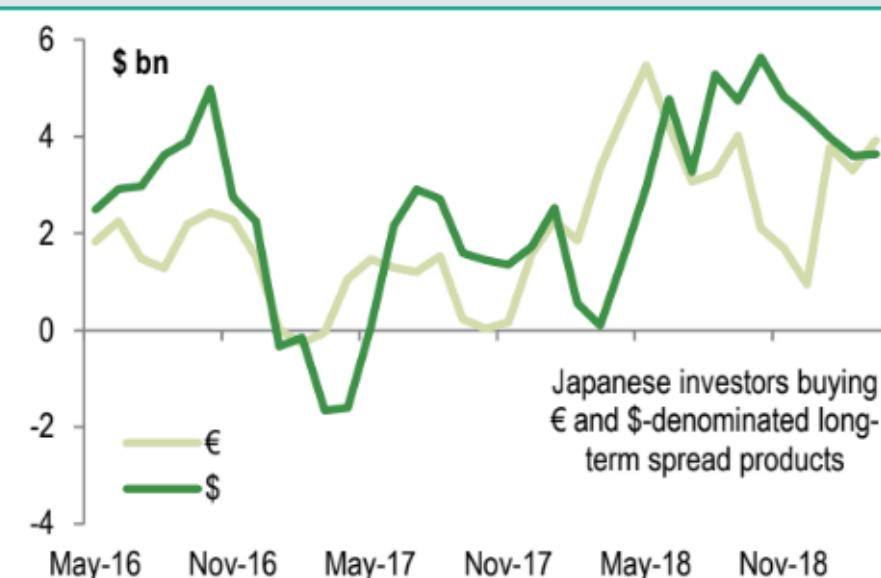
Source: Bloomberg

## Asian demand: positive but moderating

### Japanese investors: positive

Japanese flows into foreign markets have been positive in 2019. Flows into \$ Credit slowed towards the end of last year – affected by the Japanese bank regulator's review of banks' foreign CLO investments - but have stabilised in recent months. Flows into € Credit also stalled last year, but have been very strong this year.

**Chart 9: Japanese demand: positive for both € and \$ spread products**



Source: Bank of Japan, BNP Paribas

Note: data is 3m average and spread product is defined as the difference between Japanese flows into the currency and the amount bought in government bonds in that currency

Those flows are driven partly by a need for asset growth and partly by the relative yields on offer. The first part is relatively

Source: Bloomberg, BNP Paribas. Note: Chart shows yields net of hedging cost computed using annualised 3m forward.

**Conclusion:** Japanese flows should continue to support both \$ and € credit markets, but the \$ flows may now be quite a bit more sensitive to FX-volatility events than in the past (e.g. an escalation of the global trade conflict).

### Taiwan/Korean flow: neutral

Taiwanese and Korean flows, primarily into \$ bonds, have rebounded this year after last year's slowdown (Chart 11). In the near-term these flows are likely to remain positive reflecting (1) the Fed's pause which lowers hedging costs and raises the demand for yield, and (2) the continued growth in foreign-bond ETFs.

**Chart 11: Taiwan, S.Korean buying of \$ Corp bonds has increased**



Source: US Treasury data, BNP Paribas. Note: Data shows 12mma.

## Diverging risk/reward for JPY and equities

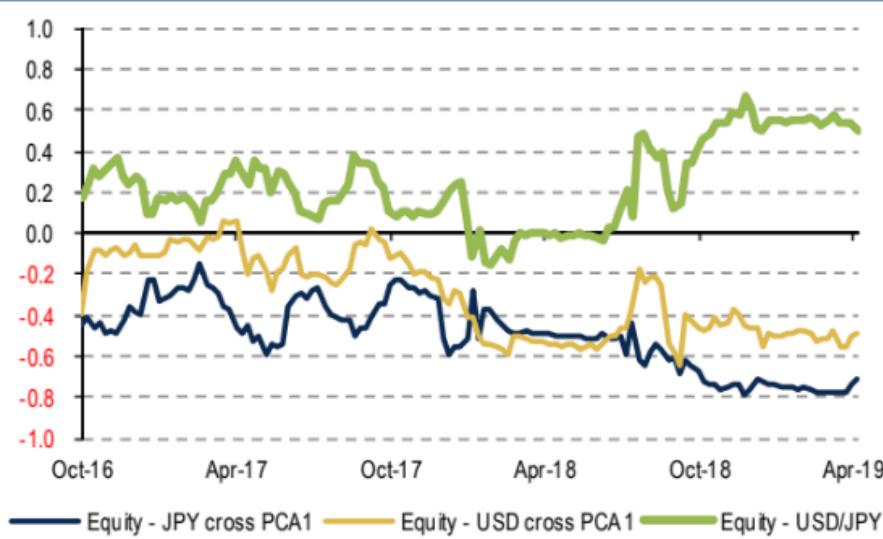
A combination of the flow and policy dynamics prefer JPY's upside at a time of risk off and Japan equities' upside at a time of risk-on ([A recipe for Japan equity's catch-up 09 May 2019](#)). With the US-China trade war intensifying, we remain short EUR/JPY.

**Chart 3: USD/JPY cumulative % change in different market hours**



Source: BofA Merrill Lynch Global Research, Bloomberg

**Chart 4: JPY, USD, and USD/JPY correlation to global equity (rolling 26 weeks)**



Source: BofA Merrill Lynch Global Research, Bloomberg

JPY cross PCA1 = First principal component of JPY cross against G10 excluding USD and EUR  
USD cross PCA1 = First principal component of USD cross against G10 excluding JPY and EUR  
PCA run from end 2015 through May 6, 2019 on daily price levels. Correlation taken by weekly change against MSCI ACWI index.

## Credit Flows: Moderating but still not Fading

- **Demand for Credit is still moderately positive.** The narrative for Credit flows this year has been about significant fund inflows meeting only moderate net supply volumes. That demand-supply trend has lost momentum but remains positive for now.
- **Credit demand is about more things than fund flows.** In this commentary we review the broad range of investor trends concluding that (1) in the US pension and life-insurer flows are likely to be positive with Asset Managers flows neutral; (2) in Europe insurance and repatriation flows are likely to be positive, with Asset Managers flows neutral, and (3) Asian demand for both US and European Credit will remain positive, for now.
- **This flow-outlook supports a range-bound market view** which is also our base case outlook now. We would note, however, that this kind of support may no longer be enough to buy-the-dip in the event of a more material change in growth outlook, for instance as a result of a trade-conflict escalation.

Our Credit market outlook is for a broadly range-bound market between now and year-end, following a bullish view since the start of the year (see [Outlook 2019: Keep Calm, Carry on](#), 10 December 2018, and [This Credit Cycle has Longer to Run](#), 31 January 2019). We continue to view 2019 as a 'mini-2016' with Credit markets supported by (1) more supportive monetary conditions, and (2) corporate deleveraging (see [Credit Fundamentals: Deleveraging is the](#)

### Fund flow support is moderating but not fading.

The narrative about Credit flows this year has been significant fund inflows meeting only moderate net supply volumes, creating a powerful market support. The charts below illustrate this through our high-frequency Credit-Flow indicator, which combines fund-flows and net-supply (see note Chart 2): a very negative trend throughout most of 2018, turned sharply positive in early January as outflows turned into inflows across all Credit markets. Net supply meanwhile has been manageable as corporates have been defensive, M&A volumes muted and many focused on deleveraging.

**Chart 1: US Credit-Flow indicator: moderately positive**



Note: the BNPP Credit-Flow indicator is a composite based on the difference between the Z-scores of average corporate bond net supply (8 wks) and fund flows (8 wks). Positive = the inflow trend exceeds the net-supply trend and vice versa. Source all charts: EPFR, Dealogic, BNP Paribas

## European Daily: EURIBOR is Dead. Long Live EURIBOR! (Durré)

- The European Money Markets Institute (EMMI) has decided to keep EURIBOR as the reference rate for Euro unsecured money market transactions. To make EURIBOR compliant with the new EU regulations on benchmarks, the Institute changed the calculation methodology and submitted it to the regulatory authorities for approval earlier this month (May 6).
- Instead of reporting the rate at which interbank deposits are offered, banks in the EURIBOR panel will report in the future their funding costs in the wholesale unsecured market based on effective transactions. We think this new EURIBOR methodology will be accepted by regulatory authorities, allowing EURIBOR to remain a reference rate in the Euro area, given that the EU authorities are keen to limit legal and operational risks related to a change of the reference rate. The new EURIBOR methodology would then be fully implemented shortly after the summer.

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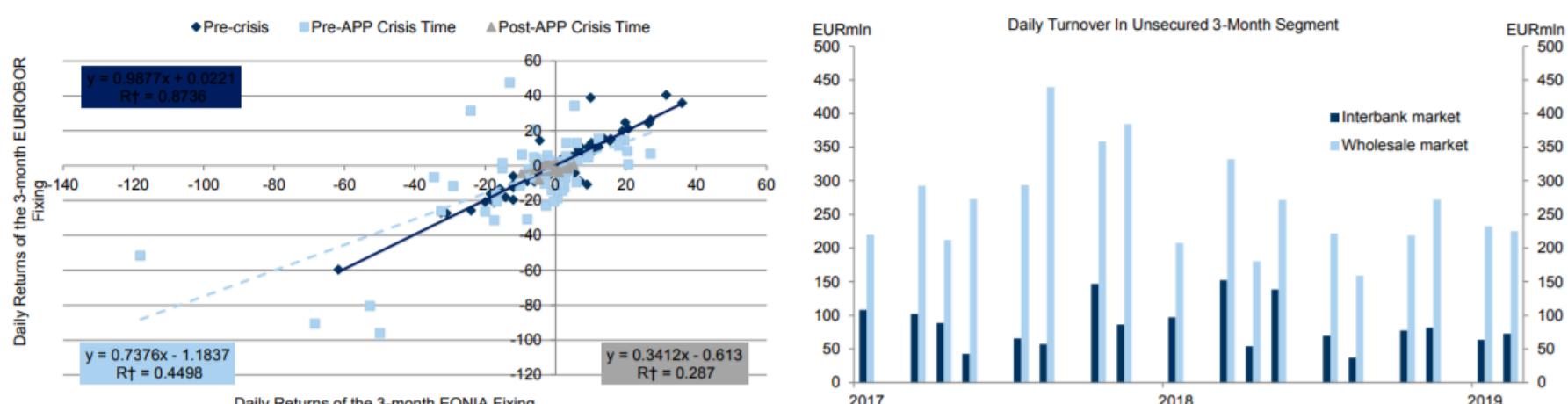
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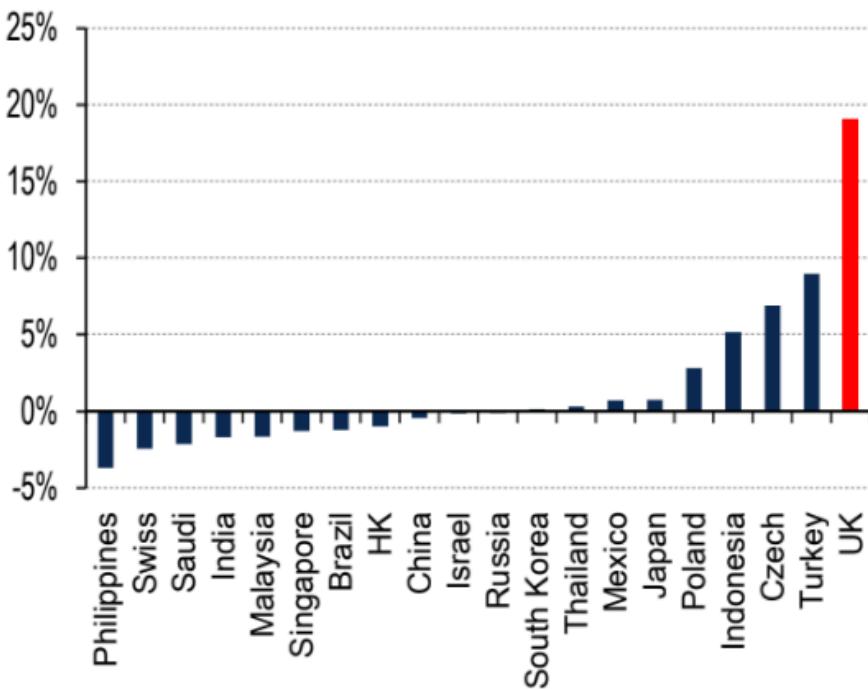
lend unsecured money (especially beyond overnight horizon, Exhibit 1).<sup>2</sup> But, the disconnect between the EURIBOR and OIS segments also reflected a decreasing dispersion in EURIBOR quotes from panel banks.<sup>3</sup> The latter development was made possible to a large extent as fewer transactions relied on a smaller numbers of stakeholders, which implied increasing stickiness of EURIBOR quotes (especially in recent years). The absence of effective transactions behind the fixing has led to a decreasing reliability on, and credibility of, EURIBOR as a reference rate over time (similar to EONIA).<sup>4</sup>

**Exhibit 1: Three-Month Unsecured Interbank Transactions Have Decreased Over Time**



Source: ECB, Thomson Reuters, Goldman Sachs Global Investment Research

**Chart 7: FX Reserves Growth in 4Q (%Q/Q)**



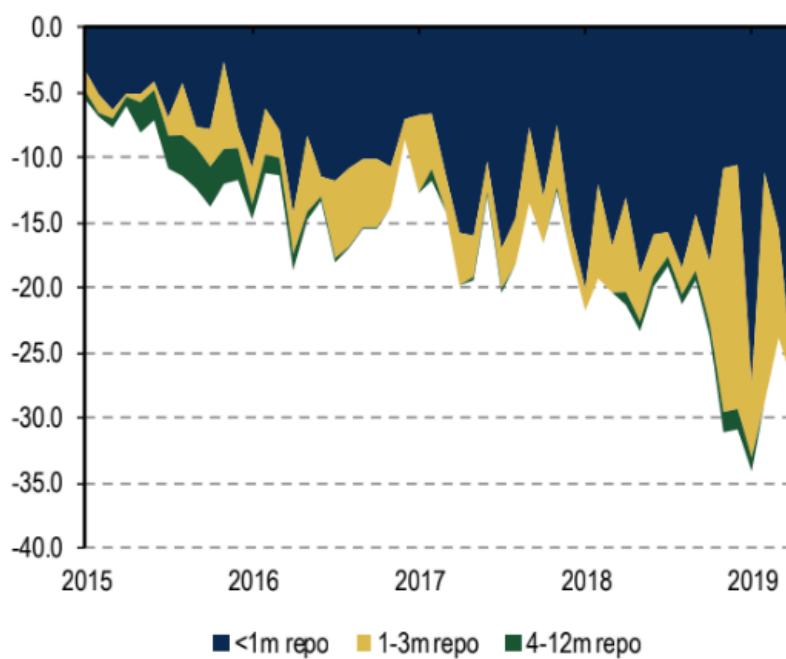
Source: BofA Merrill Lynch Global Research, Quick, Haver Analytics, IMF COFER

**Chart 8: UK FX Reserves Spiked in 4Q 2018 (\$bn)**



Source: BofA Merrill Lynch Global Research, Quick, Haver Analytics, IMF COFER

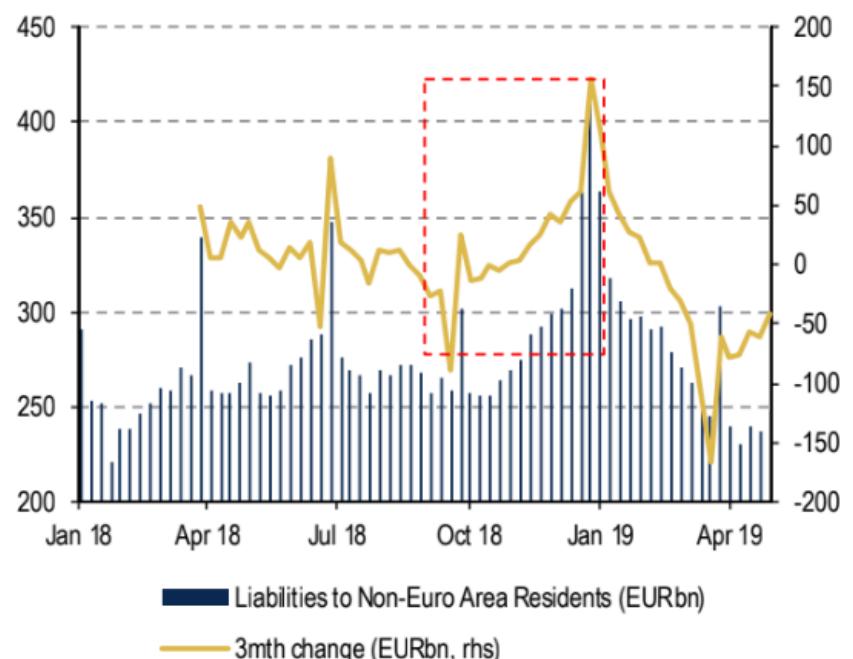
**Chart 11: Maturity breakdown of UK securities lent on Repo (\$bn)**



Source: BofA Merrill Lynch Global Research, Haver Analytics

Our view is supported by analysis of the breakdown of the maturity structure of the securities lent on Repo. Chart 5 flags the bulk of the securities lent on repo through year-end were in the 1-3 month maturity bucket. This is unusual as the majority of repo lending in the past has been in the 1-month maturity sector. In 4Q, the 1-3mth maturity window would have taken us close to the 29 March deadline and to us this infers the Bank of England/HMT were cognizant of the rising risks of no-deal and the need to build a larger liquidity buffer.

**Chart 12: Non-Euro Area Residents Liabilities**



Source: BofA Merrill Lynch Global Research, Bloomberg, ECB

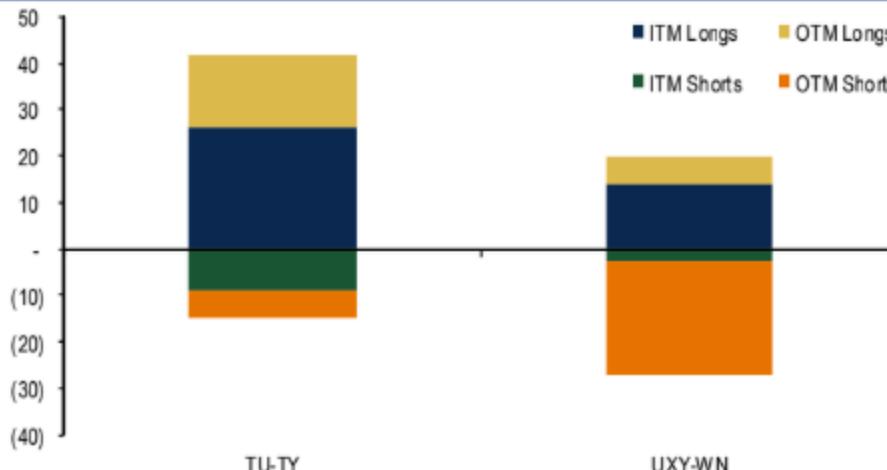
## Gauging positioning in Treasury Futures

Understanding positioning in futures is relevant to gauge the market long/short duration bias and how it is expressed across the yield curve. Available data is released only at a weekly frequency, however, which justifies attempting to extract positioning information from "live" market data.

Here we infer the duration bias across the Treasury futures curve from price and open interest data. We start by constructing stacks of long and short positions acquired over a given historical window. Where the futures contracts trade relative to the stacks defines the portions of the stacks (both long and short) that are in-the-money (ITM) and out-of-the-money (OTM). The relative importance of these ITM and OTM portions of the long and short stacks define the long/short bias for the different Treasury futures contracts.

We can aggregate ITM and OTM positions (expressed in \$m of '01) between frontend and belly (TU, FV and TY contracts) vs. belly and backend (UXY, US and WN contracts) to understand the implications of position for the curve dynamic.

**ITM/OTM longs and shorts between the frontend and backend of the curve (\$m '01)**



Source: BofA Merrill Lynch Global Research

Although we expect this to be a second order effect relative to the expression of conviction trades on the curve, these results imply a flattening bias from a positioning perspective. The excess of OTM longs between the frontend and the backend of the curve indicates some propensity for bear flattening on positive data surprises, whereas the excess of OTM shorts at the backend of the curve vs. the frontend indicates a propensity for bull flattening on negative data surprises.

This analysis can also be extended beyond futures data, and particularly to ETFs to gauge positioning bias in that segment of the market.

## Gauging positioning in Treasury Futures

Understanding positioning in futures is relevant to gauge the market long/short duration bias and how it is expressed across the yield curve. Available data is released only at a weekly frequency, however, which justifies attempting to extract positioning information from "live" market data.

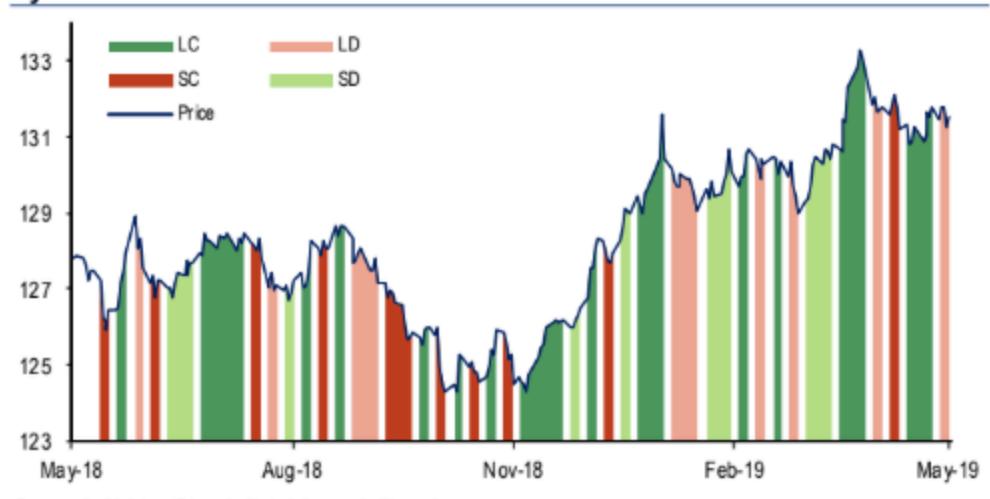
In this note, we use a somewhat intuitive set of simple assumptions to infer the duration bias in Treasury futures. The assumptions, shown in Table 1, are based on daily (or weekly) changes of open interest (OI) and prices for each Treasury futures contract. In Chart 1, we show how in this analysis the different regimes rotate as prevailing drivers of the UXY price dynamic over the last year.

**Table 1: Set of base assumptions for the analysis of Treasury futures positioning**

		Price changes	
		>0	<0
OI change	>0	ΔOI longs created @ closing price (LC)	ΔOI shorts created @ closing price (SC)
	<0	ΔOI shorts destroyed (SD)	ΔOI longs destroyed (LD)

Source: BofA Merrill Lynch Global Research

**Chart 1: Illustration of base assumptions (on a weekly frequency) for the UXY price dynamic**



Source: BofA Merrill Lynch Global Research, Bloomberg

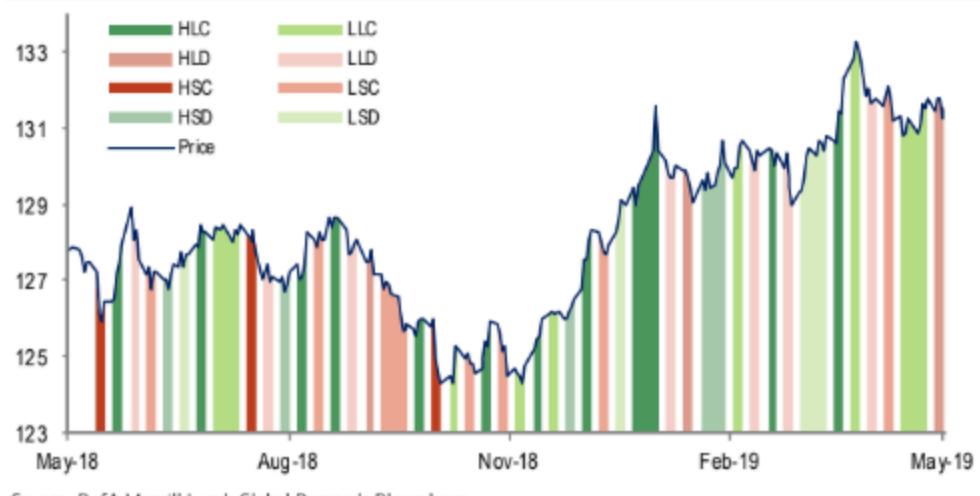
In this analysis, we create long and short position stacks by aggregating daily moves over a two month window. The destruction of positions in the stacks may be driven by profit taking or stopping losses. The decision is based on the closing price of the day relative to the average weighted price of the stack. For example, if the change in open interest is 100 contracts, the closing price of the day is 105, and the average weighted price of the stack is 102, then we assume the positions are destroyed on profit taking, and therefore from the top of the stack as in Table 2.

**Table 2: Example of destruction of positions from the long stack on profit taking**

price	contracts	price	contracts
105	45	104	15
104	70	103	65
103	65	102	55
102	55	102	55
101	40	101	40
100	90	100	90
99	40	99	40
<b>Weighted avg.</b>	<b>102.0</b>	<b>Total: 405</b>	
		101.2	<b>Total: 305</b>

Source: BofA Merrill Lynch Global Research

**Chart 2: Illustration of base assumptions (on a weekly frequency with volume information) for the UXY price dynamic**



Source: BofA Merrill Lynch Global Research, Bloomberg

On a side note, although these charts may look impressive with all the red and green in the right places, this is so by construction (that is how we classified the regimes). Also, we can add an additional layer of classification to our base assumptions by looking at the change in volume (defining therefore high and low volume regimes), for a more nuanced view of the price dynamic (see Chart 2), but we do not see a meaningful impact on the results.

Given the current long and short stacks and current prices, we can calculate in-the-money (ITM) longs as the elements of the stack above current prices, and out-of-the-money (OTM) longs as the elements below current prices (conversely for shorts).

We can extract the long/ short duration bias for the market based on this data by taking the difference between ITM and OTM longs plus the difference between OTM and ITM shorts, both as a percentage of volumes (see Chart 3 for UXY), and expressing the results as a z-score. The series we obtain is well correlated with the price dynamic, which gives us some confidence that the base assumptions above are not unreasonable. The results obtained for different contracts are shown in Table 3.

**Chart 3: Long/short bias for UXY vs. UXY prices**



Source: BofA Merrill Lynch Global Research, Bloomberg

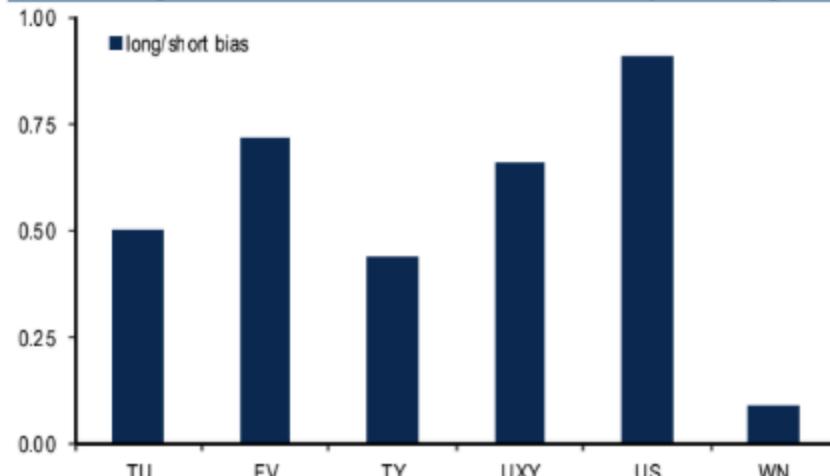
**Table 3: Results for ITM and OTM longs and shorts (expressed in \$m of '01) along with long/short bias for different Treasury futures contracts the TLF ETF**

	OTM Longs	OTM Longs	OTM Longs	OTM Longs	long/short bias
TU	7.94	13.25	-7.49	-5.68	0.50
FV	4.61	6.92	-3.95	-0.01	0.72
TY	3.12	5.80	-7.54	-3.45	0.44
UXY	0.51	3.95	-3.89	-1.42	0.66
US	0.00	5.56	-0.76	0.00	0.91
WN	5.32	4.46	-1.23	-0.96	0.09
TLT	0.00	5.74	-1.46	0.00	2.22

Source: BofA Merrill Lynch Global Research

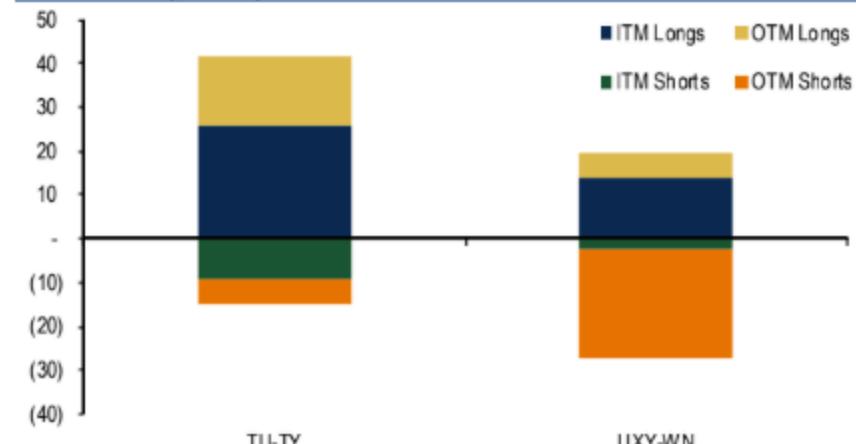
The results obtained for the long/short bias signal for different contracts are also shown graphically in Chart 4. They reveal a long bias across the curve, but little conviction on the shape of the curve.

**Chart 4: Long/short bias across the curve from futures positioning**



Source: BofA Merrill Lynch Global Research

**Chart 5: ITM/OTM longs and shorts between the frontend and backend of the curve (\$m '01)**



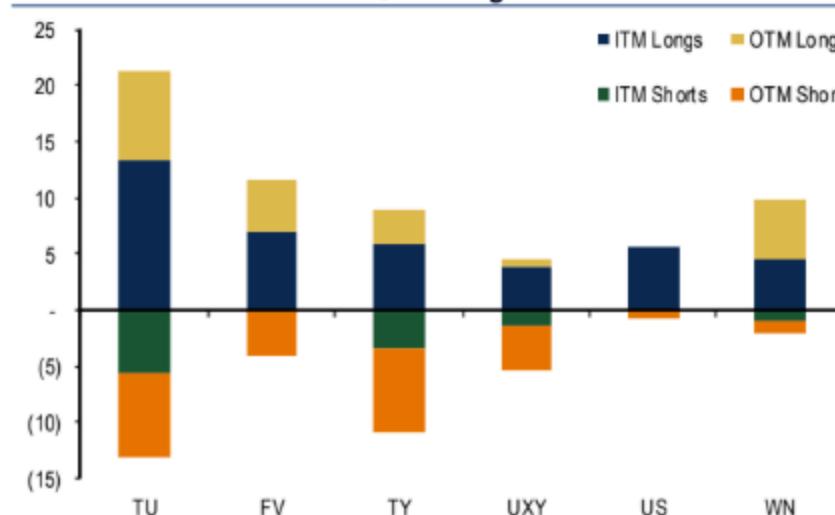
Source: BofA Merrill Lynch Global Research

The Table 3 also shows current ITM/OTM longs and shorts expressed in \$m of '01 for the different Treasury futures contracts. We find it useful to aggregate the results between frontend and belly (TU, FV and TY contracts) vs. belly and backend (UXY, US and WN contracts) to understand the implications of position for the curve dynamic – see Chart 5.

The results imply a curve flattening bias from a positioning perspective. The excess of OTM longs between the frontend and the backend of the curve indicates some propensity for bear flattening on positive surprises on data, whereas the excess of OTM shorts at the backend of the curve vs. the frontend indicates a propensity for bull flattening on negative data surprises.

One can also display the full distribution of ITM/OTM longs and shorts across the curve for a more granular view on the positioning pressures – see Chart 6. The chart confirms the bear flattening argument on the 2s/10s sector of the curve on positive data surprises. The case for a bull flattening bias in this sector on negative surprises is less compelling there, and one likely needs to extend out to the 30y sector.

**Chart 6: Full distribution of ITM/OTM longs and shorts across the curve**



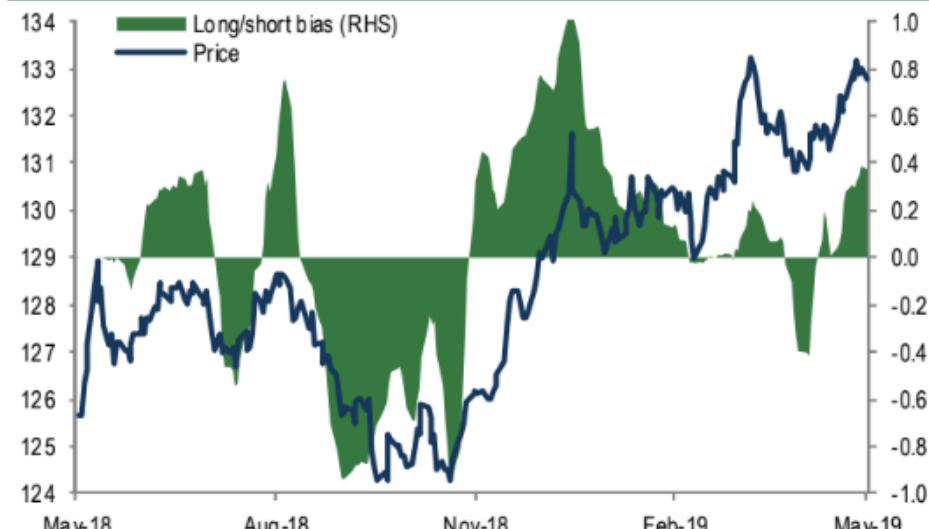
Source: BofA Merrill Lynch Global Research

In Table 3, we also extend this analysis to the TLT ETF, using changes of outstanding shares in place of OI. The results for ITM/OTM longs and shorts in '01 terms are in line with the results obtained for the US contract. The long/short bias is more significant for the TLT ETF, but that is a reflection of the much lower volatility of the series.

Given the current long and short stacks and futures prices, we can calculate in-the-money (ITM) longs as the elements of the stack above current prices, and out-of-the-money (OTM) longs as the elements below current prices (conversely for shorts).

We can extract the long/short duration bias for the market based on this data by taking the difference between ITM and OTM longs plus the difference between OTM and ITM shorts, both as a percentage of volumes (see Chart 1 for UXY), and expressing the results as a three-month z-score. The series we obtain is well correlated with the price dynamic, which gives us some confidence that the base assumptions above are not unreasonable. The results obtained for different contracts are shown in Table 3.

**Chart 1: Long/short bias for UXY vs. UXY prices**



Source: BofA Merrill Lynch Global Research, Bloomberg

**Table 3: Results for ITM and OTM longs and shorts (expressed in \$m of '01) along with long/short bias for different Treasury futures contracts the TLF ETF**

	OTM Longs	ITM Longs	OTM Shorts	ITM Shorts	long/short bias (3m z-score)
TU	0.0	2.0	-8.5	-1.9	1.9
FV	2.5	0.9	-2.1	0.0	1.6
TY	4.5	3.3	-10.7	0.0	1.6
UXY	0.9	2.7	-5.0	-0.2	2.1
US	1.3	4.0	-0.5	0.0	1.8
WN	1.8	1.7	0.0	0.0	0.6
TLT	0.1	2.6	-1.6	0.13	1.8

Source: BofA Merrill Lynch Global Research

### Gauging positioning in Treasury Futures

Understanding positioning in Treasury futures is relevant to gauge the market long/short duration bias and how it is expressed across the yield curve. Available data are released only at a weekly frequency, however, which justifies attempting to extract positioning information from 'live' market data.

In a recent note (see [here](#)), we use a somewhat intuitive set of simple assumptions to infer the duration bias in Treasury futures. These assumptions, shown in Table 1, are based on daily changes of open interest (OI) and prices for each Treasury futures contract. In this analysis, we create long and short position stacks by aggregating daily moves over a three-month window. The destruction of positions in the stacks may be driven by profit taking or stopping losses. The decision is based on the closing price of the day relative to the average weighted price of the stack. For example, if the change in open interest is 100 contracts, the closing price of the day is 105, and the average weighted price of the stack is 102, then we assume the positions are destroyed on profit taking, and are therefore removed from the top of the stack as in Table 2.

**Table 1: Set of base assumptions for the analysis of Treasury futures positioning**

OI change	Price changes	
	>0	<0
	ΔOI longs created @ closing price (LC)	ΔOI shorts created @ closing price (SC)
<0	ΔOI shorts destroyed (SD)	ΔOI longs destroyed (LD)

Source: BofA Merrill Lynch Global Research

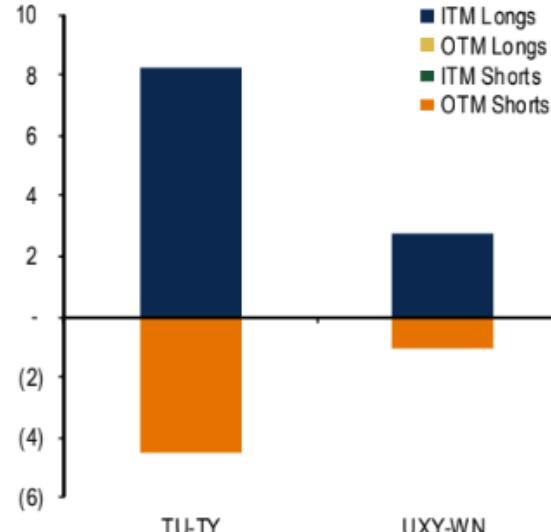
**Table 2: Example of destruction of positions from the long stack on profit taking**

	price	contracts		price	contracts
	105	45			
	104	70		104	15
	103	65		103	65
	102	55	=>	102	55
	101	40		101	40
	100	90		100	90
	99	40		99	40
Weighted avg.	102	Total: 405		101.2	Total: 305

Source: BofA Merrill Lynch Global Research

#### Chart 4: Dealers

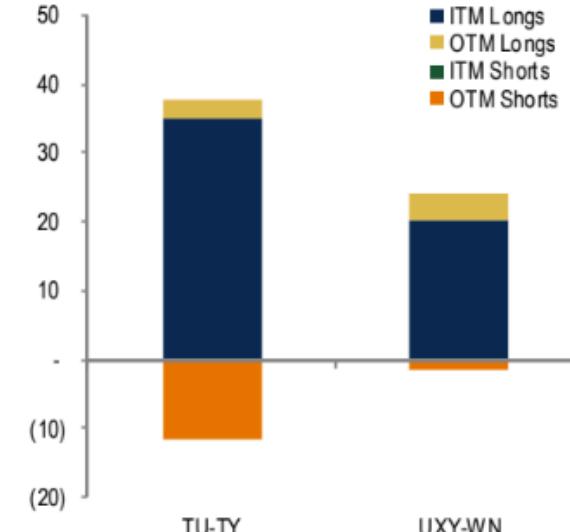
Split of ITM/OTM longs and shorts between the frontend and backend of the curve (\$m '01)



Source: BofA Merrill Lynch Global Research

#### Chart 5: Asset Managers

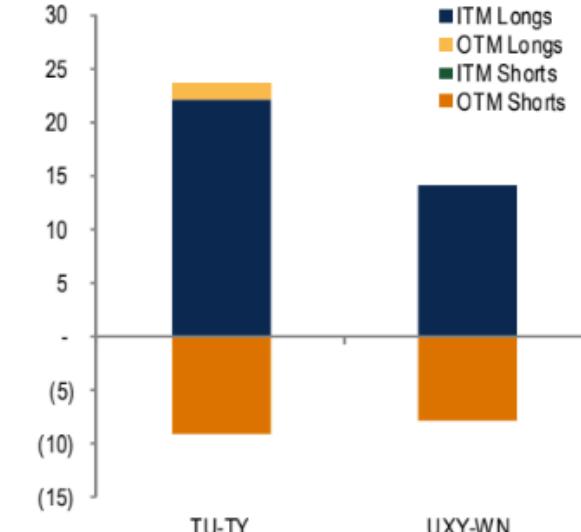
Split of ITM/OTM longs and shorts between the frontend and backend of the curve (\$m '01)



Source: BofA Merrill Lynch Global Research

#### Chart 6: Leveraged funds

Split of ITM/OTM longs and shorts between the frontend and backend of the curve (\$m '01)



Source: BofA Merrill Lynch Global Research

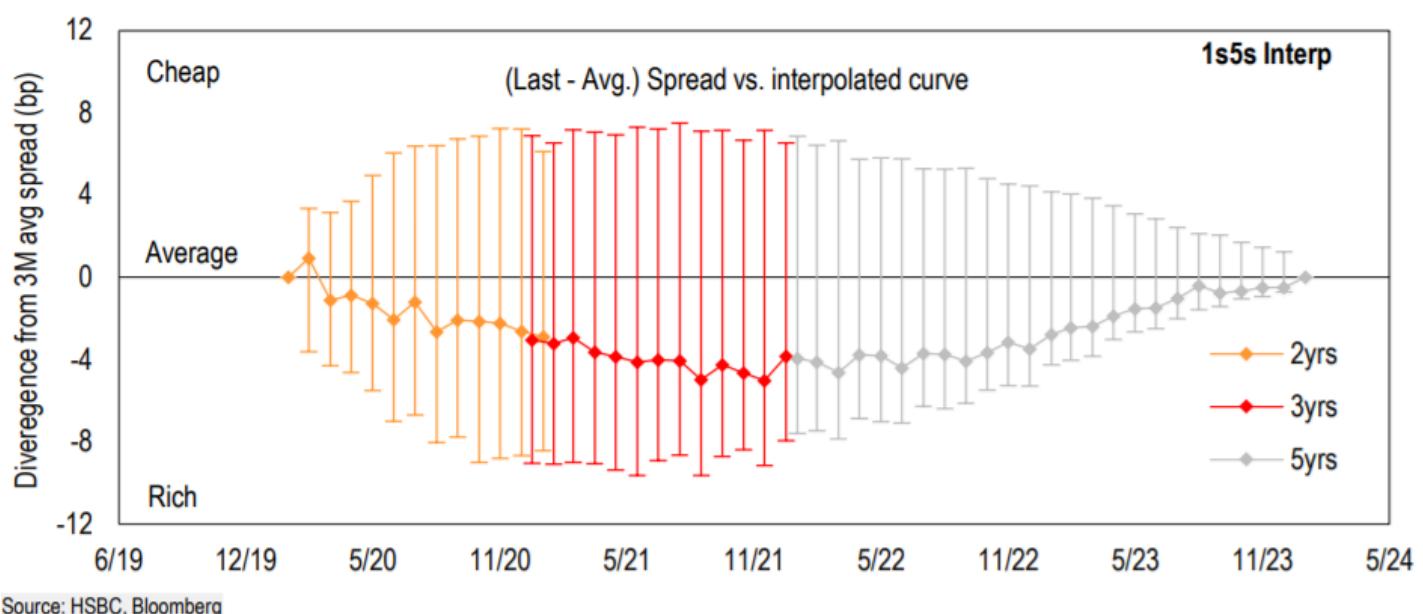
#### Cross asset extension of the analysis

We applied this analysis to TLT data (20+ year Treasury Bond ETF - see also on Table 3) using changes of outstanding shares in place of OI. The results for ITM/OTM longs and shorts in '01 terms are roughly in line with the results obtained for the US contract.

We can go one step further therefore, and look at broader long/short bias across asset classes using the most liquid ETFs as representative of these asset classes. In Chart 7- Chart 8, we show the evolution of the long/short bias across asset classes between 7 May and the present, a period when we have seen a meaningful exacerbation of the trade war newsflow. The changes are quite telling:

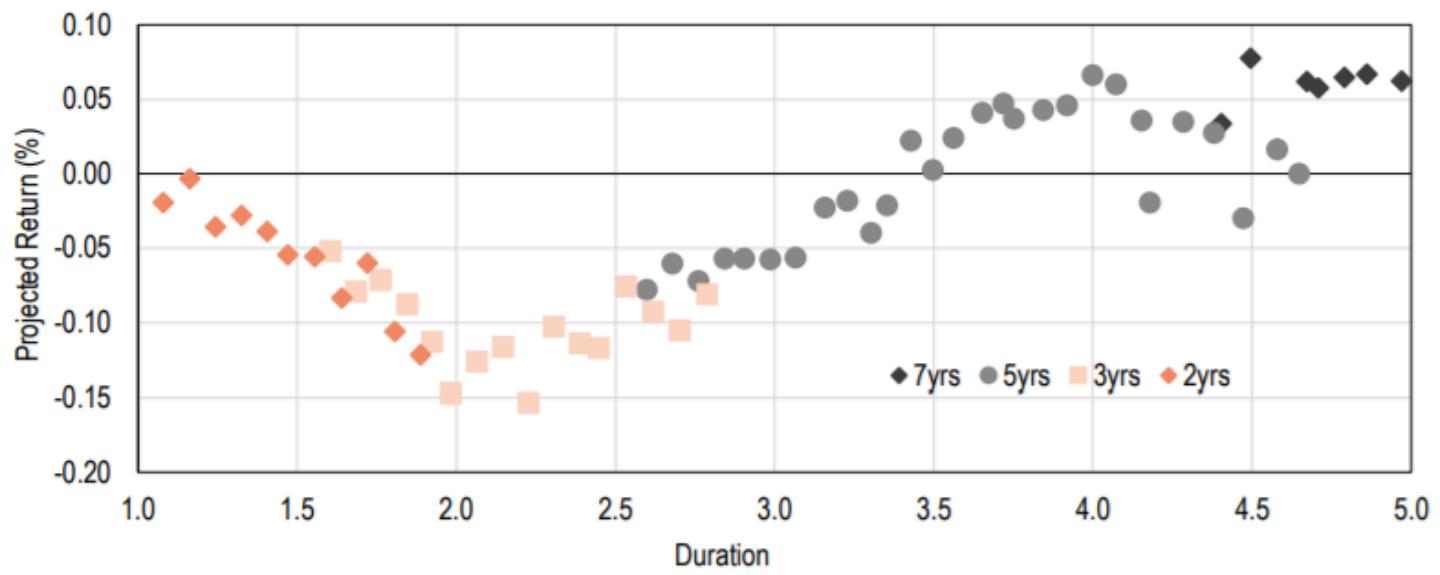
Divergence vs 3m average spread to interpolated 1s5s curve shows the mid- to late-2021 sector is rich vs nearby issues

**Figure 1. Mid- to late-2021 sector appears rich on our historical performance metric**



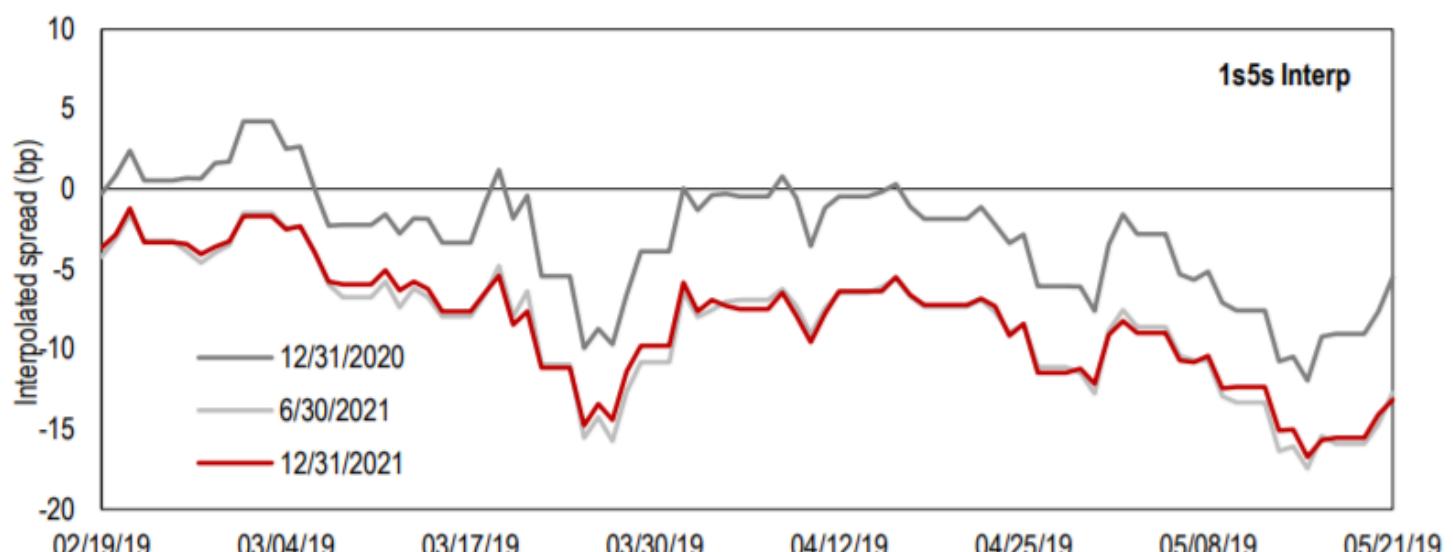
The sector is structurally rich and offers positive roll up the curve

**Figure 2. 6m projected returns show positive roll up the curve from this sector**



Interpolated spread has tended to mean by 5bp versus current rich level

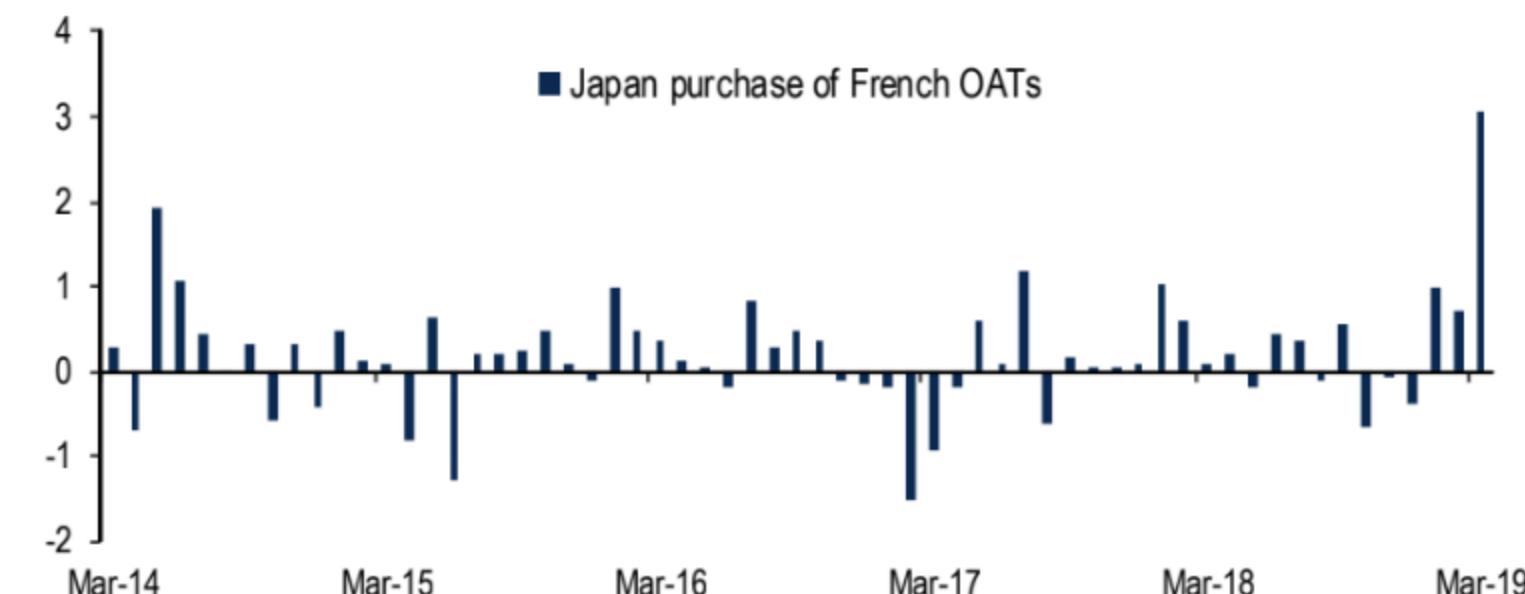
**Figure 3. 2021 sector has tended to mean 4-5bp once it has bottomed**



## Record-high purchases of OATs in March

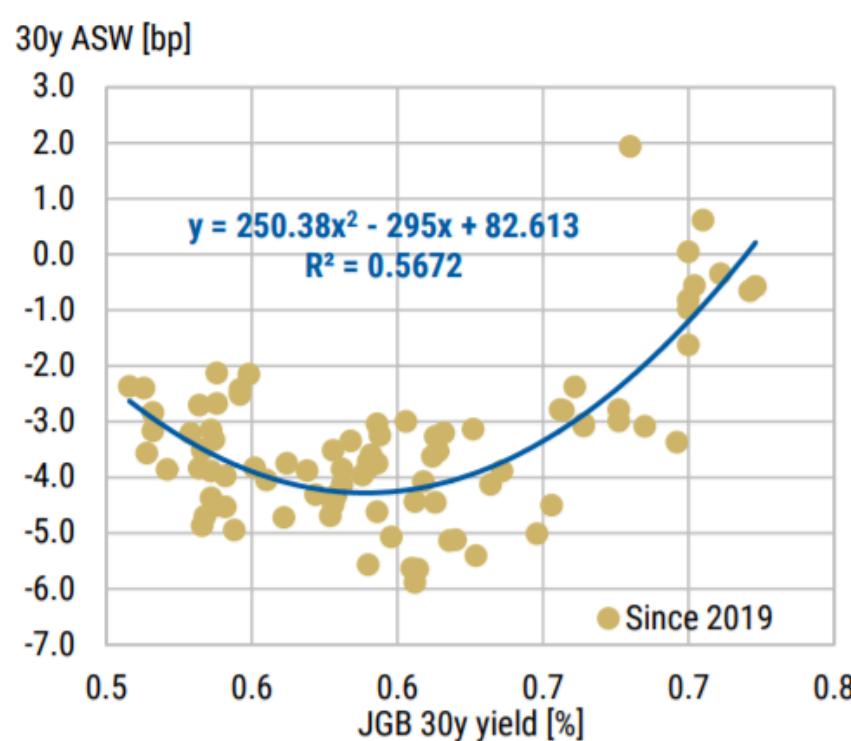
The details of March data show Japanese investors net bought ¥3.05tn of OATs, one of the most favored bond markets among Japanese investors, in March, for the biggest monthly purchase on record (Chart 1). The ECB's extended forward guidance enhanced the attractiveness of OAT carry for Japanese investors even further by reducing the risk of a rates sell off and funding cost increase. As Japanese investors bought OATs, they sold bonds in the US and most other sovereign markets in March (Table 1). The demand for credit bonds remained solid in March with the US credit market attracting ¥469bn of inflow from Japan.

Chart 1: Japan monthly net purchase of French OATs (¥tn)



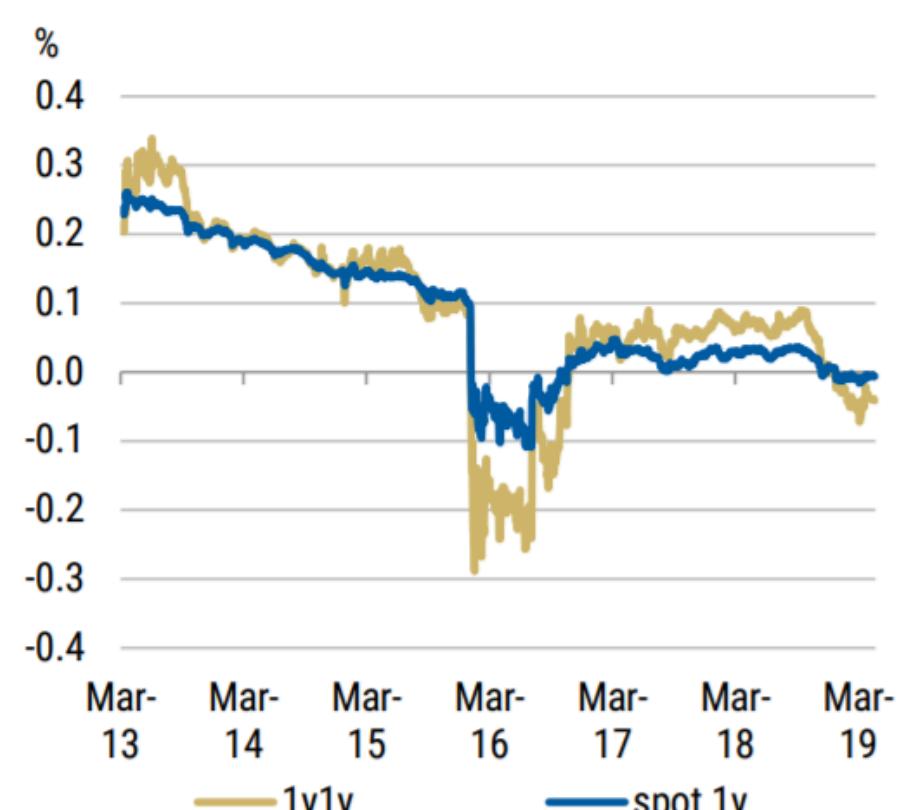
Source: BofA Merrill Lynch Global Research, Haver, MoF

Exhibit 26: JGB 30y ASW vs JGB 30y yield



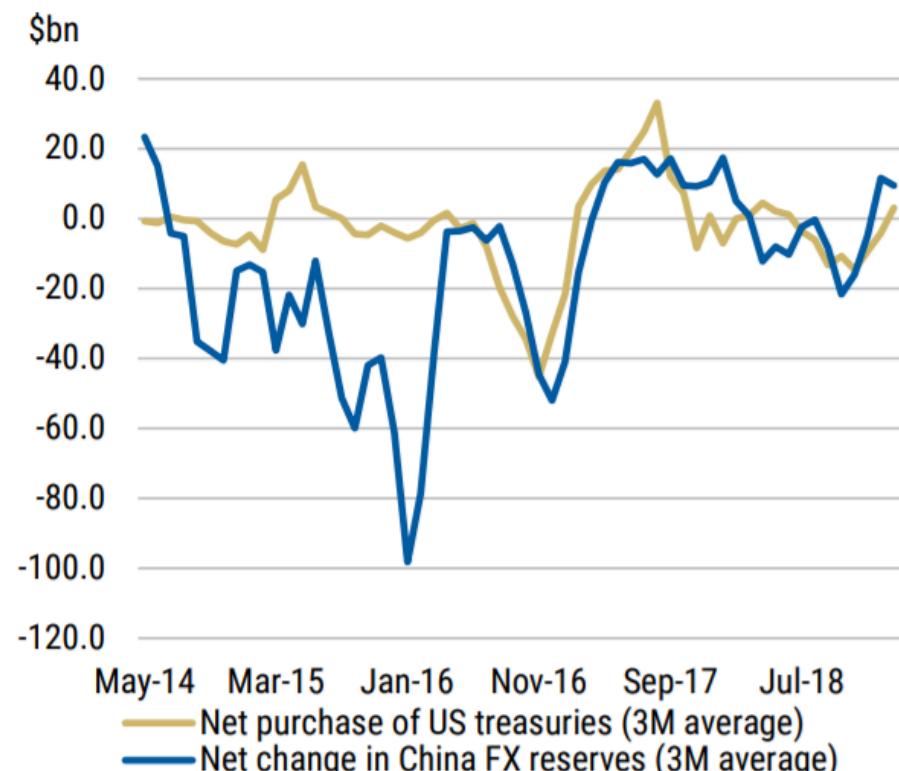
Source: Morgan Stanley Research, Bloomberg

Exhibit 27: JPY swap 1y and 1y1y rate



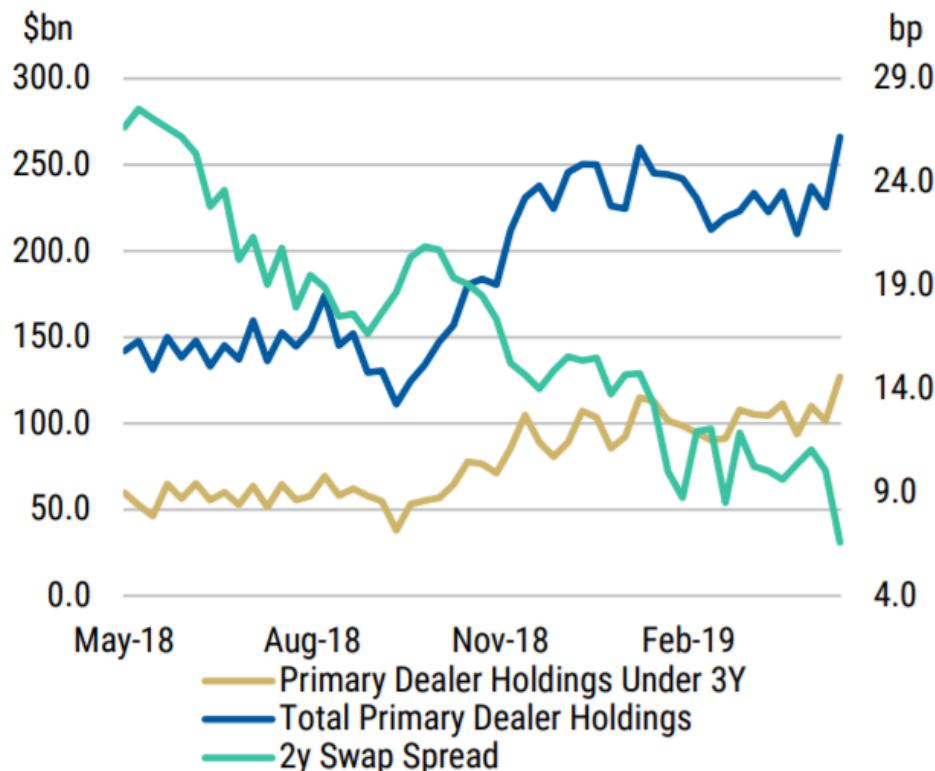
Source: Morgan Stanley Research, Bloomberg

**Exhibit 47:** China's net purchase of US Treasuries versus net capital inflow



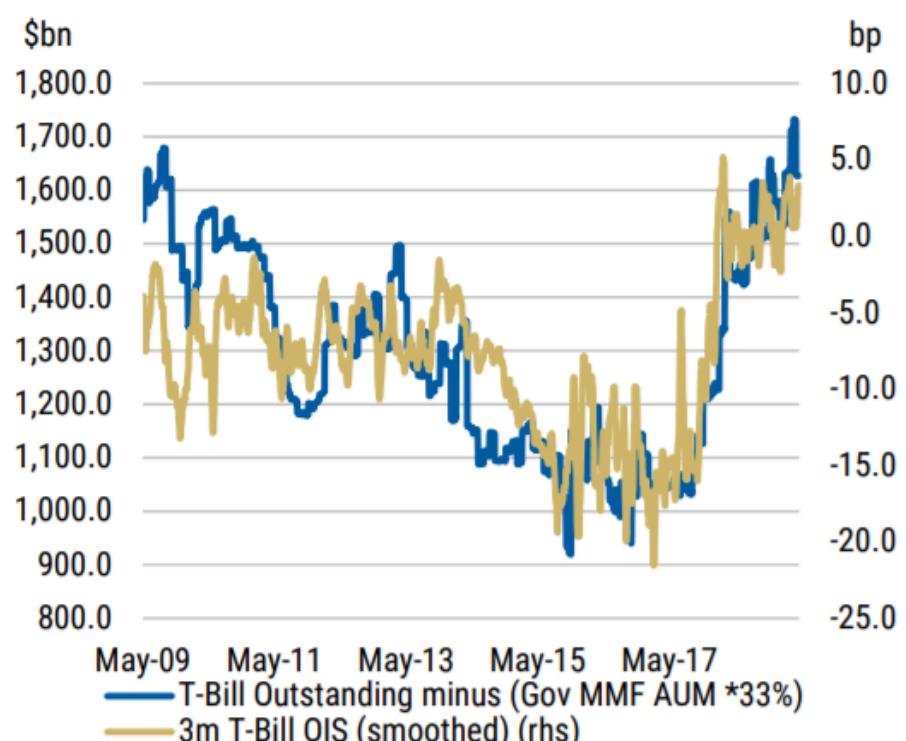
Source: Morgan Stanley Research, US Treasury, PBOC

**Exhibit 48:** Primary dealer holdings of US Treasuries versus 2y swap spreads



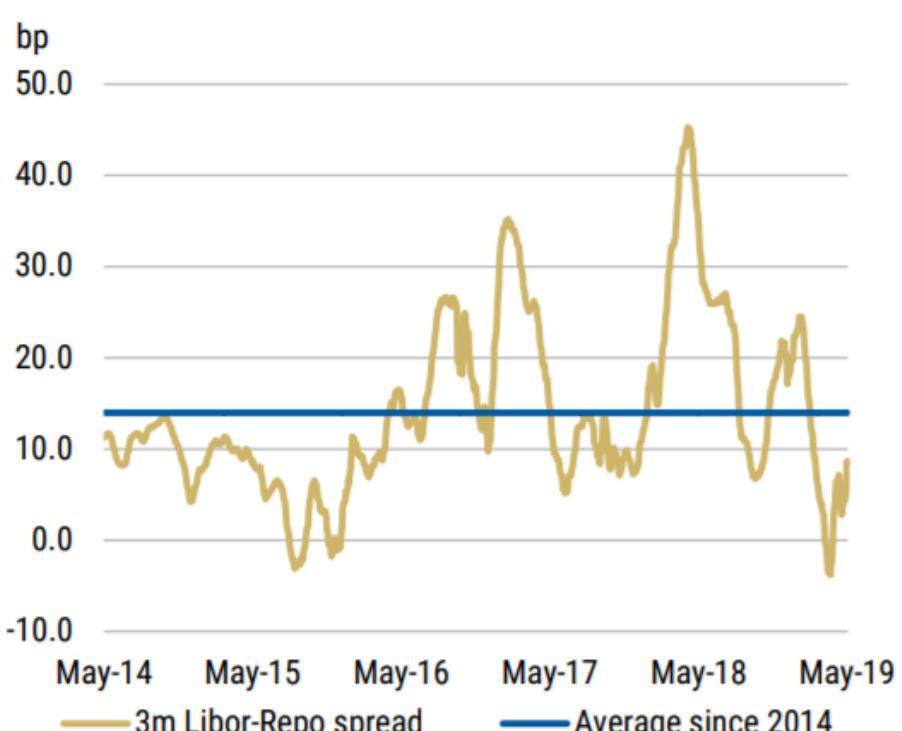
Source: Morgan Stanley Research, Bloomberg

**Exhibit 51:** 3m T-bill OIS spread vs T-bill supply/demand proxy: T-bills outstanding - Gov MMF AUM



Source: Morgan Stanley Research, Bloomberg, Treasury Department, ICI

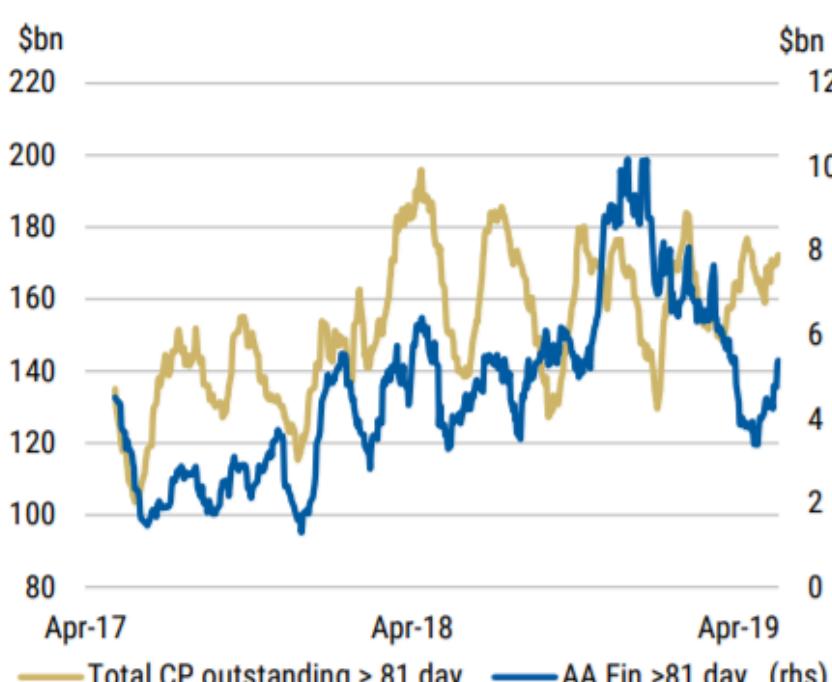
**Exhibit 52:** 3m Libor - 3m term repo spread



Source: Morgan Stanley Research

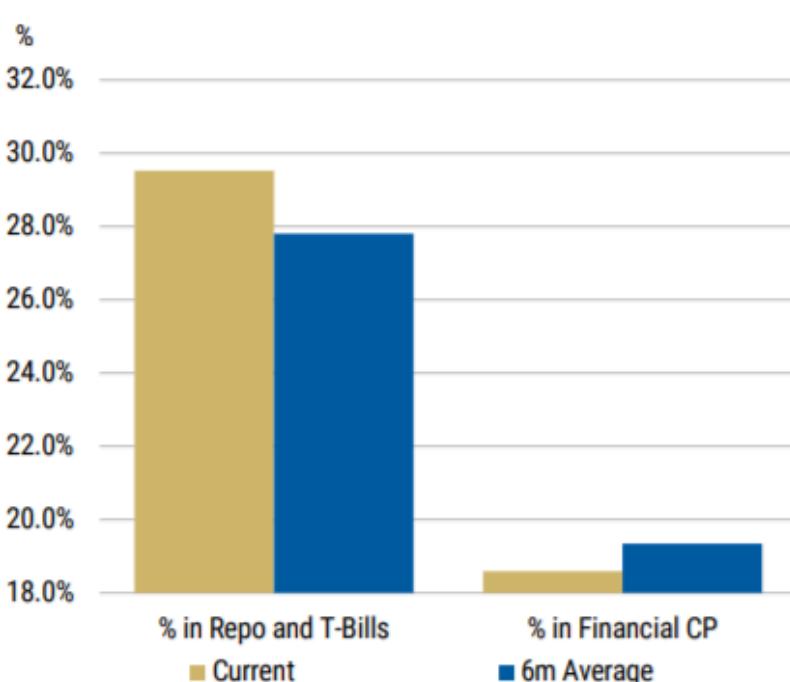
- Foreign banks will increase issuance in the CP market rather than funding through the repo market - a trend that we have seen over the last month and expect to continue. Over the last month, CP issuance with maturity greater than 81 days has increased, of which a growing proportion was from AA financials (see [Exhibit 53](#)).

**Exhibit 53:** Total outstanding CP and AA fin CP of maturity greater than 81 days



Source: Morgan Stanley Research

**Exhibit 54:** Allocation of prime MMF AUM in repo and in financial CP



Source: Morgan Stanley Research

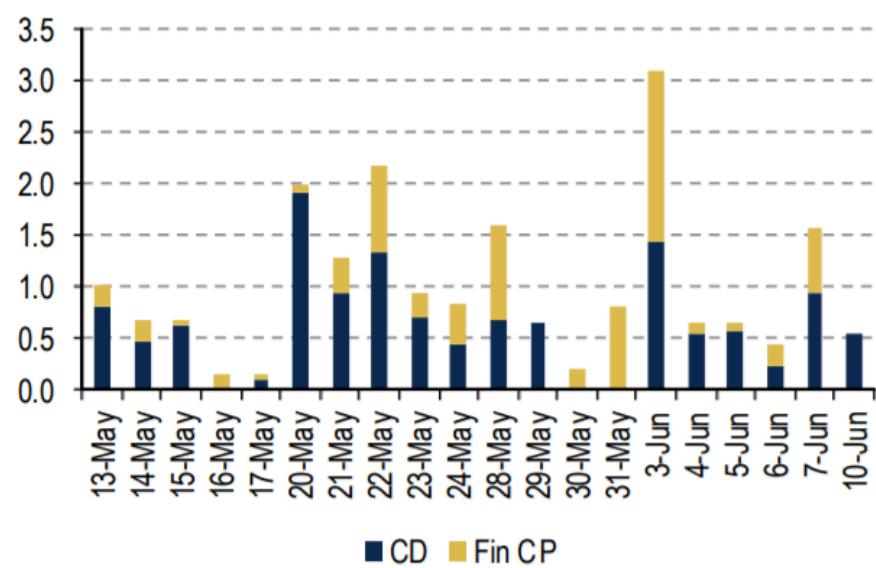


## Update on CP/CD maturing and FICC

We update on two continued topics of interest: CP/CD of USD Libor submitting banks and FICC activity. As we noted previously, lower 3m LIBOR sets on May 8-10 were [likely linked to LCR roll periods for USD LIBOR submitters](#) and there is another large maturity pool on May 20-22 (Chart 18). We are less convinced these maturities will be rolled at the 3m tenor but continue to expect [FRA-OIS tightening into June](#).

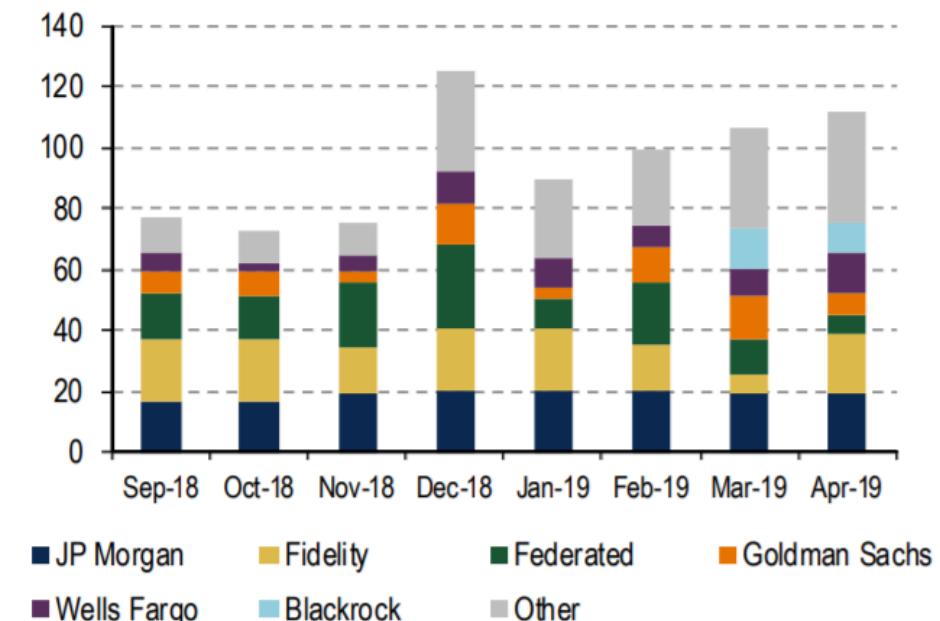
MMF repo activity with the FICC was modestly higher, increasing from \$107bn at end March to \$112bn at end April. Fidelity funds saw \$20bn in Treasury repo activity after two months of decline, and JP Morgan funds continue to see just under \$20bn (Chart 19).

**Chart 18: Maturing Fin CP & CD of USD LIBOR banks (based on MMF holdings as of April 30), \$bn**



Source: Crane Data, BofA Merrill Lynch Global Research

**Chart 19: MMF Treasury repo activity with the FICC (\$bn)**



Source: Crane Data, OFR, BofA Merrill Lynch Global Research

**Table 6: Fed arguments against narrow banks and BofAML comments**

Fed Argument	Perceived Strength of Argument	BofAML Comments
1 Attract large quantities of deposits at a near-IOER rate	Weak	We argue the Fed could limit PTIE's reach, while still allowing them to exist.
2 Complicate the implementation of monetary policy	Weak	We believe PTIEs could actually improve the implementation of monetary policy.
3 Disrupt financial intermediation	Strong	We agree with the Fed's concern around deposit instability, which could be disruptive.
4 Negatively impact financial stability	Strong	We agree with the Fed's concern, but we note that the Fed's ON RRP facility was not used during times of stress.

Source: Federal Reserve, BofA Merrill Lynch Global Research

## Fed has a narrow view of “narrow banks”

The Fed’s proposal suggests paying zero interest on reserves to “narrow banks” on the grounds that they could (1) attract very large quantities of deposits at a near-IOER rate (2) complicate the implementation of monetary policy (3) disrupt financial intermediation (4) negatively impact financial stability. As [previously discussed](#), we see rationale for concern over potential “narrow bank” deposit variability and possible negative financial stability impacts in times of stress. However, not all of the Fed’s arguments have the same merit in our view (Table 6).

## Negative impact on financial stability

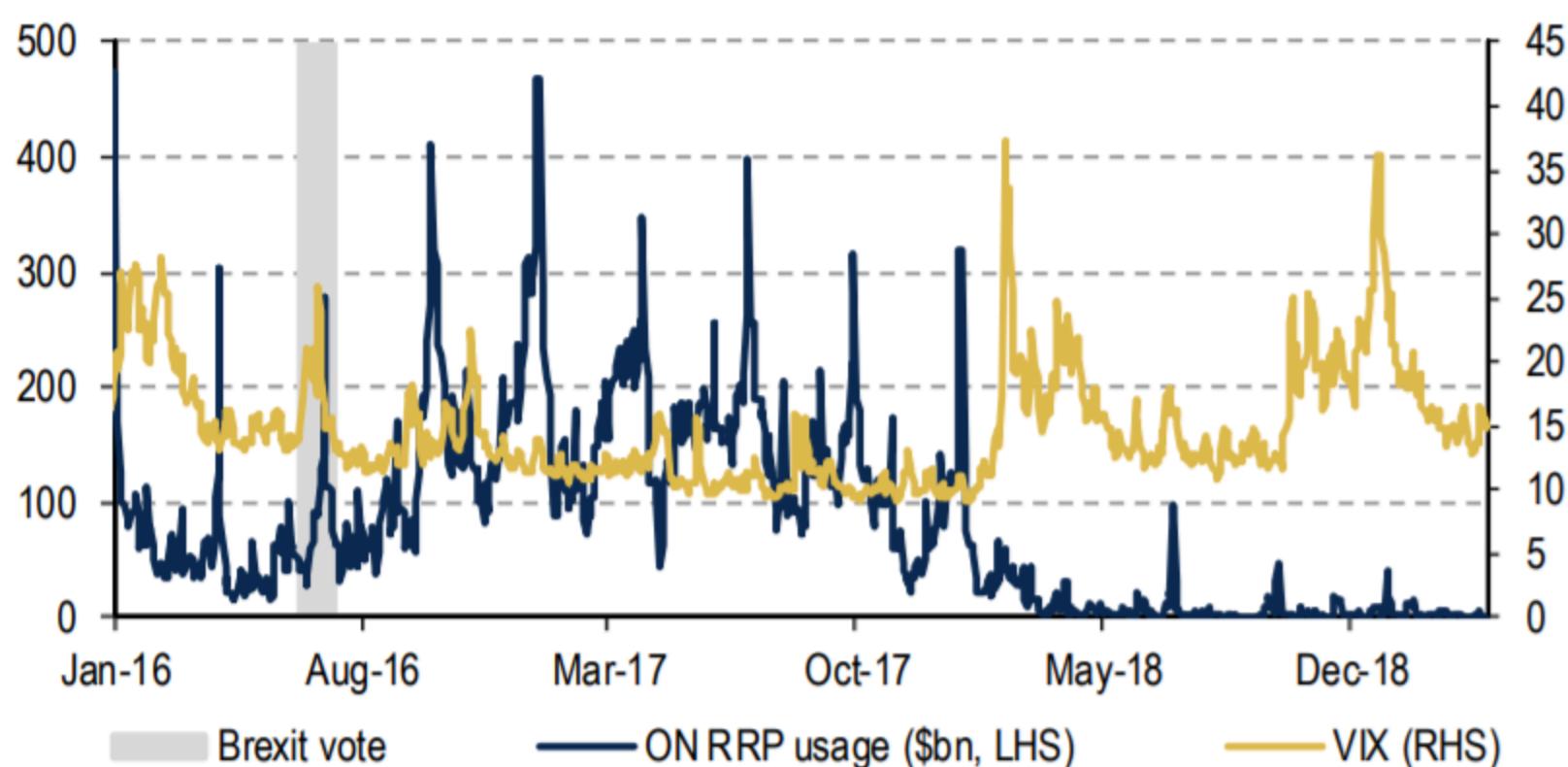
In times of stress, the Fed believes that the existence of PTIEs could worsen funding conditions rather than improving them. This is because PTIEs could potentially provide large amounts of ultra-safe deposits kept at the Fed in times of financial stress. If

investors were concerned about bank credit risk and moved funding to PTIEs, the sudden withdrawal from other institutions could increase financial market stress overall.

However, we note that similar criticisms existed for the Fed's ON RRP facility and this has not seen materially increased usage during short periods of market stress. For example, around the June 2016 Brexit vote there was an increase in market volatility but use of the Fed's ON RRP facility was relatively muted (Chart 20; the temporary usage spike in mid '16 was more due to quarter end window dressing). During other recent short periods of market stress (ex Feb & Dec '18) there was also not a material increase in ON RRP usage.

The Fed could mitigate these financial stability concerns by limiting the size of PTIEs in their early stages and seeing if there was increased deposit migration to these entities during stressed market conditions.

**Chart 20: Usage of Fed ON RRP facility during times of market stress**



Source: BofA Merrill Lynch Global Research, Bloomberg

**Table 2: GSIB scores, with current stock value adjustment**

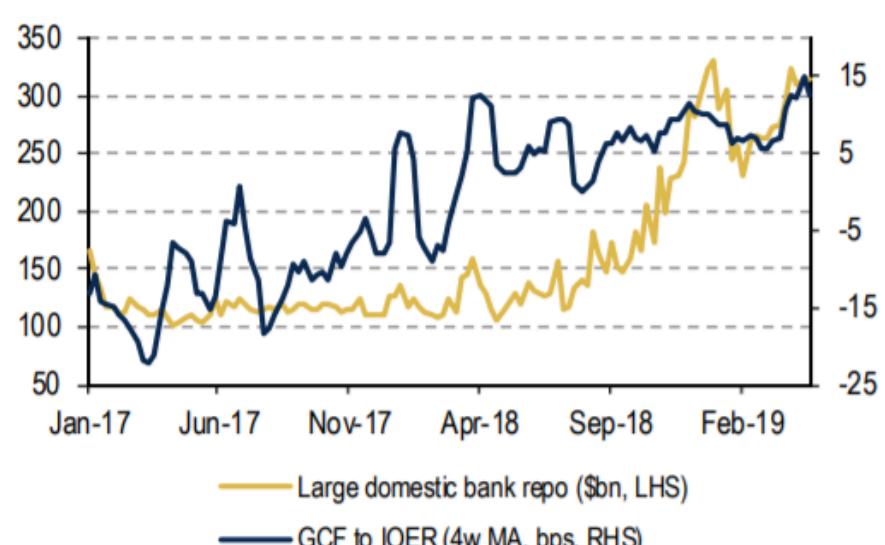
	JPM	C	WFC	BAC	GS	MS	BK	STT
4Q 18	Score (bp)	690	601	362	502	509	569	270
	Surcharge	3.5%	3.0%	2.0%	2.5%	2.5%	3.0%	1.5%
Current Stock Value	Score (bp)	694	604	363	507	510	570	270
	Surcharge	3.5%	3.0%	2.0%	2.5%	2.5%	3.0%	1.5%
Score change, current vs. 4Q '18		4	3	0	5	1	1	0
Score	130 - 229	230 - 329	330 - 429	430 - 529	530 - 629	630 - 729	730 - 829	830 - 929
Surcharge	1.0%	1.5%	2.0%	2.5%	3.0%	3.5%	4.0%	4.5%
								930 - 1029
								5.0%

Source: BofA Merrill Lynch Global Research, company FR Y-15 reports

### Fed may need to expand its balance sheet to absorb 4Q funding pressure

The Fed will likely need to expand its balance sheet to absorb some of the elevated funding pressures we anticipate in 4Q. Large domestic banks were able to step in and backstop the repo market during 4Q last year, but they were less willing to do so in April (Chart 7). It is unclear why banks did not allocate more to repo over recent weeks, but it may be they are running low on “excess reserves”. If banks are less willing to backstop repo, the Fed is the only entity left that can contain funding pressures.

**Chart 7: Large domestic banks have not meaningfully increased repo**



Source: BofA Merrill Lynch Global Research, Bloomberg, Federal Reserve

**Chart 8: History of FRA-OIS spread curves**



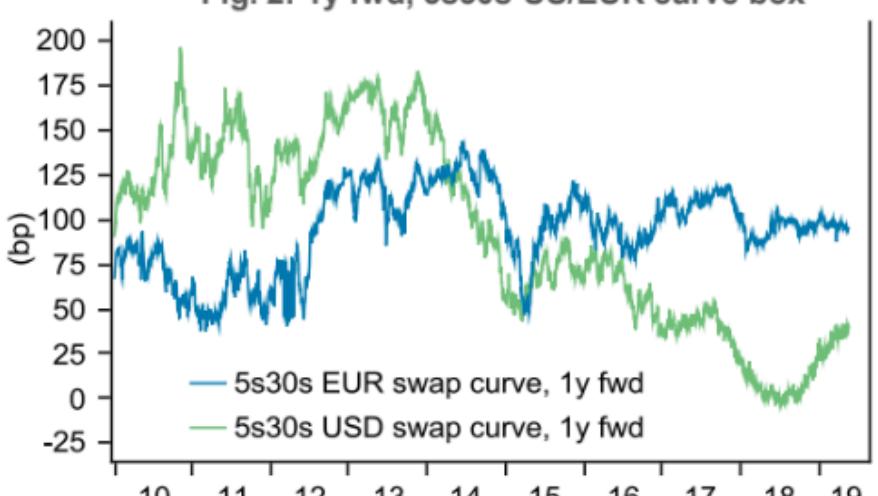
Source: BofA Merrill Lynch Global Research, Bloomberg

**Fig. 1: Long 10y US TIPS breakevens**



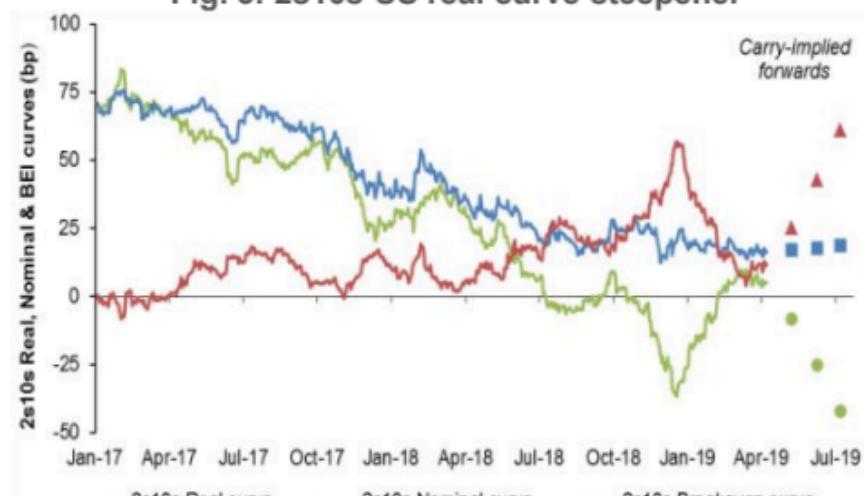
Sources: BNP Paribas, Bloomberg, Macrobond

**Fig. 2: 1y fwd, 5s30s US/EUR curve box**



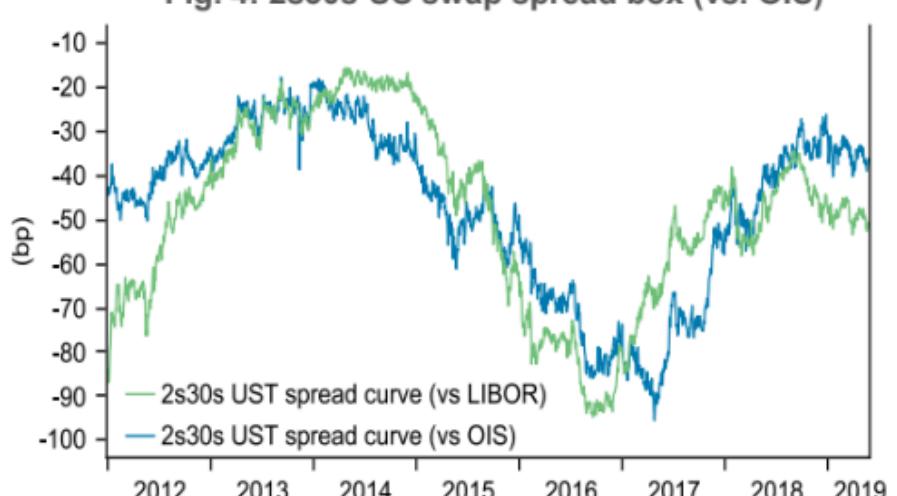
Sources: BNP Paribas, Bloomberg, Macrobond

**Fig. 3: 2s10s US real curve steepener**



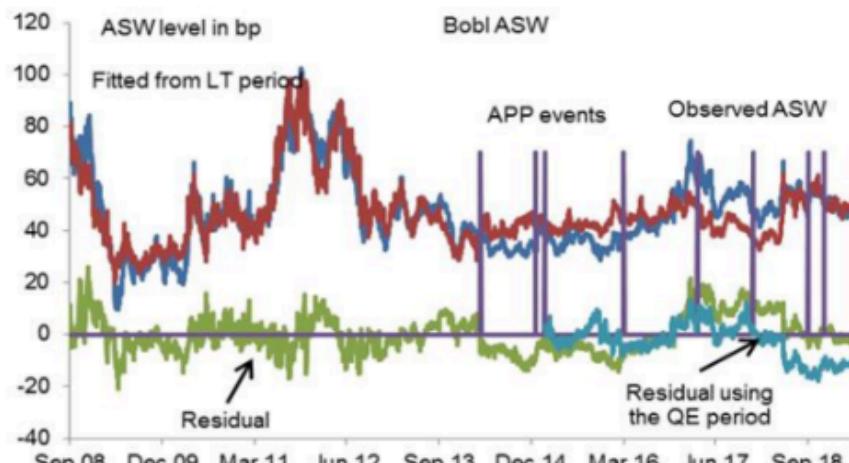
Sources: BNP Paribas, Bloomberg, Macrobond

**Fig. 4: 2s30s US swap spread box (vs. OIS)**



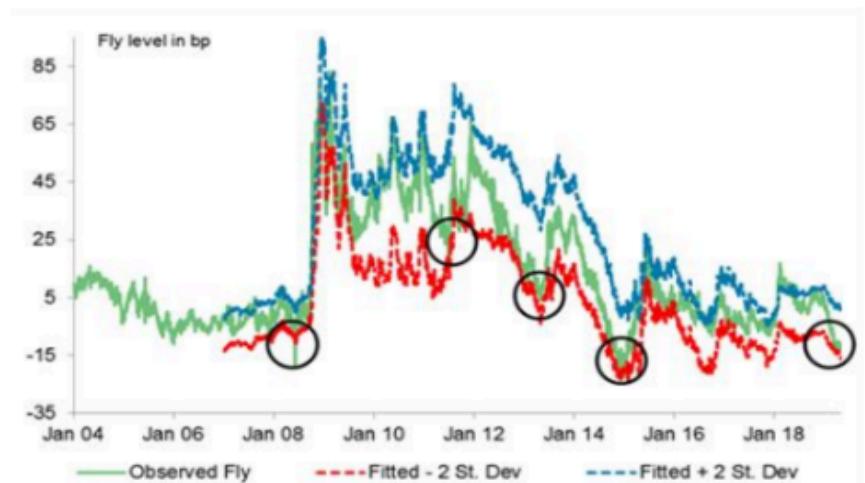
Sources: BNP Paribas, Bloomberg, Macrobond

**Fig. 1: German 5y ASW back to cheap levels**



Sources: BNP Paribas, Bloomberg

**Fig. 2: Swap and core 10y reached extreme levels on the 5s10s30s**



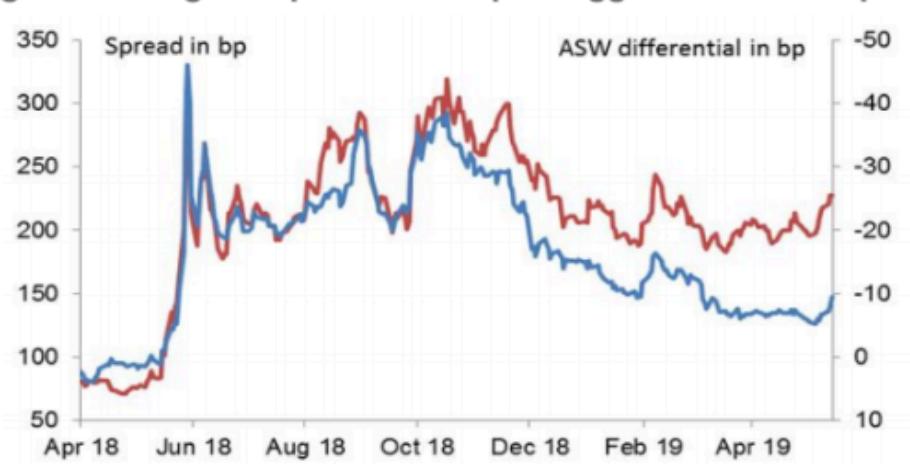
Sources: BNP Paribas, Bloomberg

**Fig. 3: Inflation curve has started to flatten**



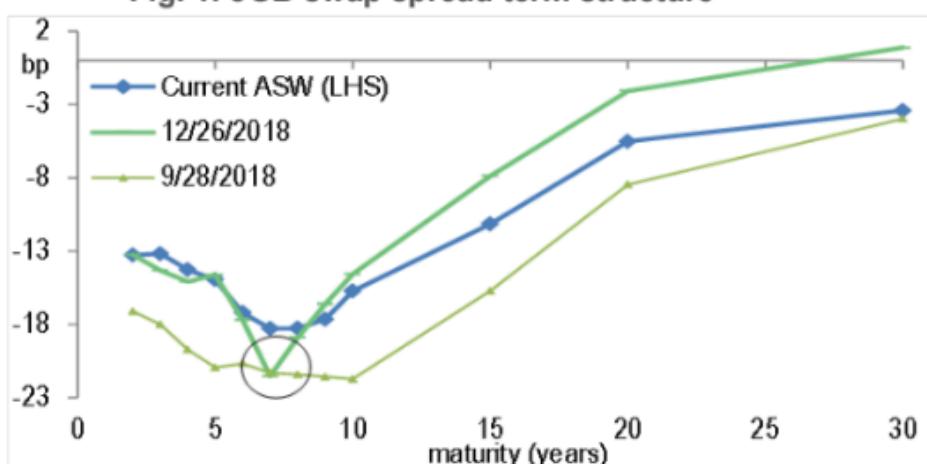
Sources: BNP Paribas, Macrobond

**Fig. 4: BTP High coupon/Low coupon lagged BTP/Bund spread**



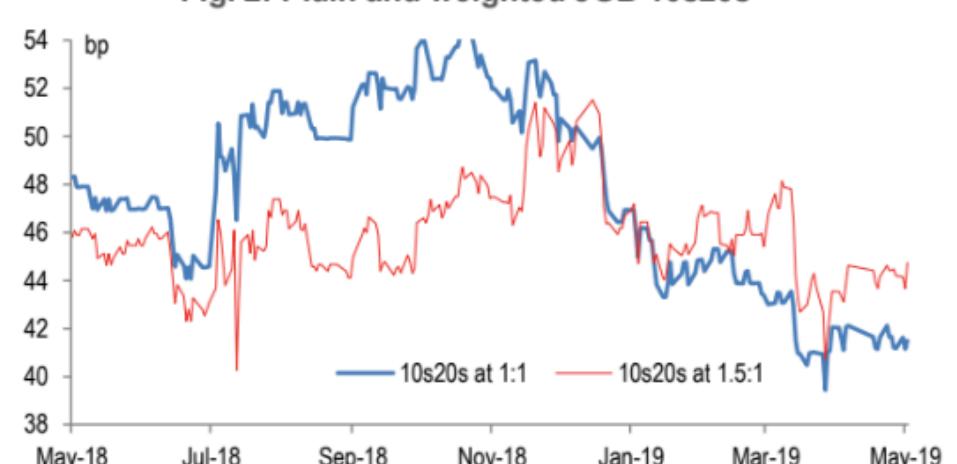
Sources: BNP Paribas, Bloomberg

**Fig. 1: JGB swap spread term structure**



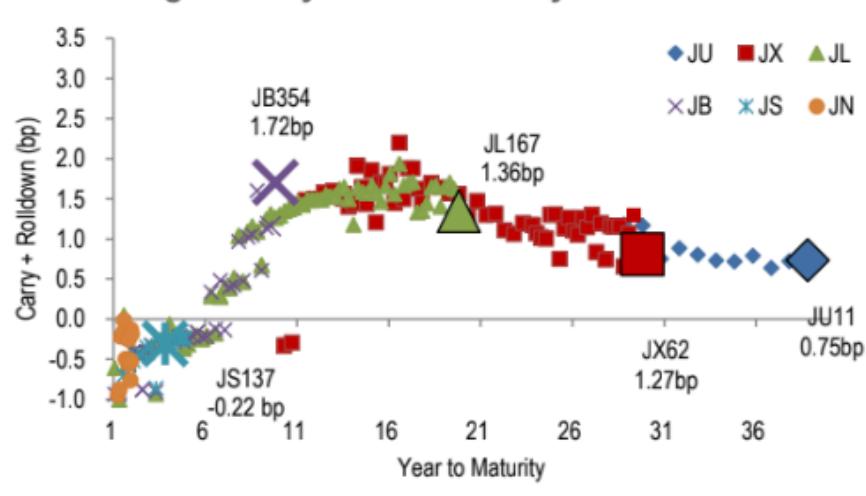
Source: BNP Paribas

**Fig. 2: Plain and weighted JGB 10s20s**



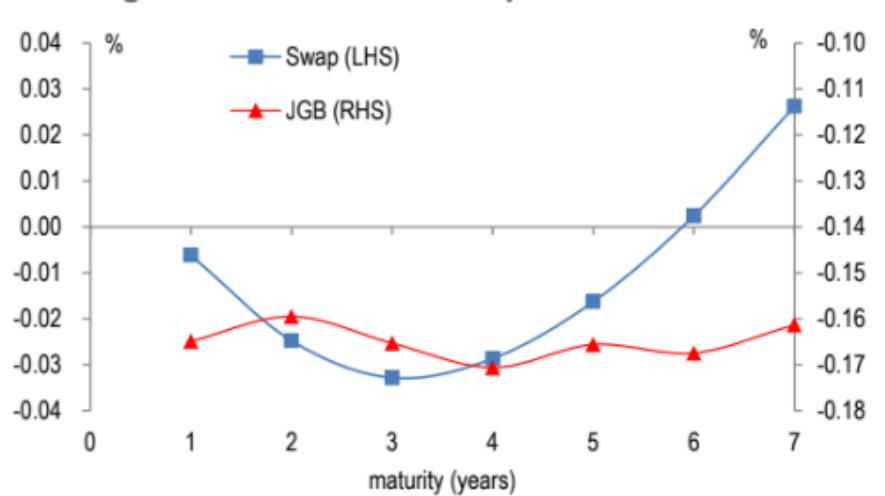
Source: BNP Paribas

**Fig. 3: Carry and rolldown by JGB issues**



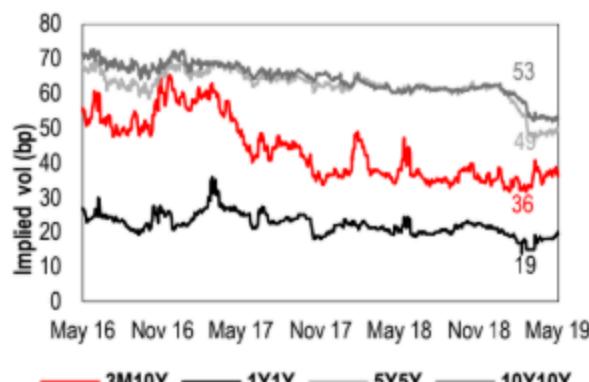
Source: BNP Paribas

**Fig. 4: JGB is flat while swap curve is inverted**



Source: BNP Paribas

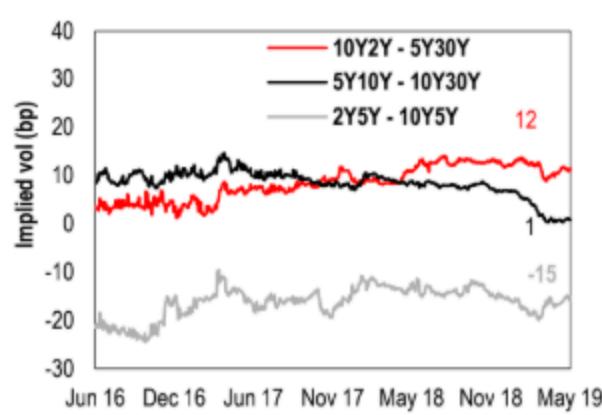
**Figure V1: Swaption implied volatility (EUR)**



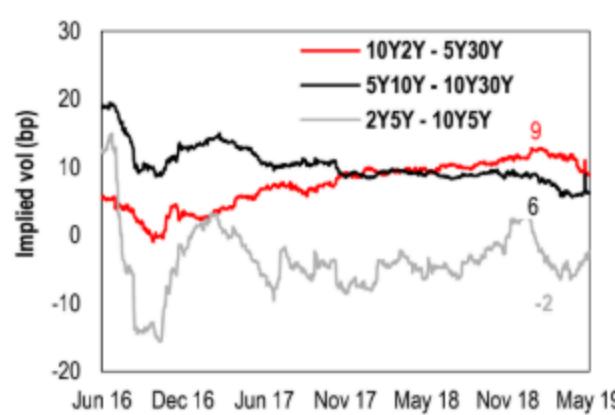
**Figure V2: Swaption implied volatility (GBP)**



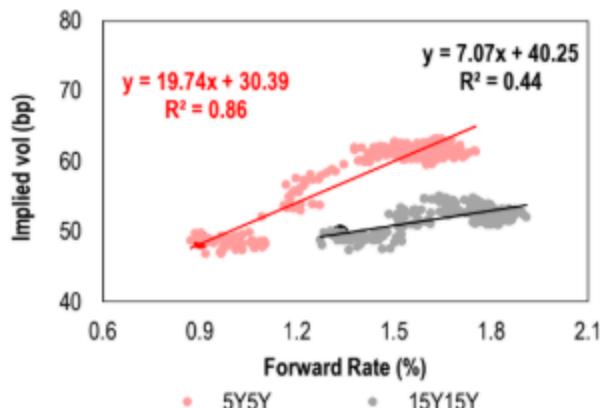
**Figure V3: Vega spreads (EUR)**



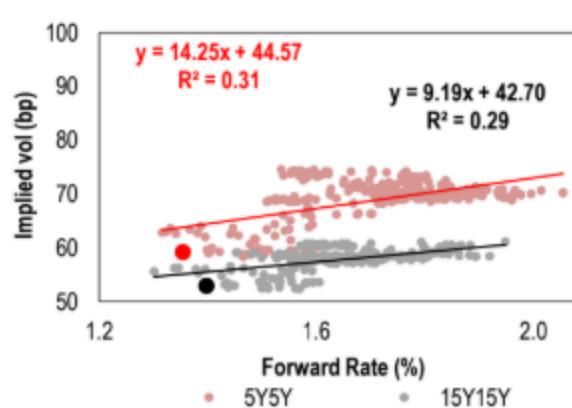
**Figure V4: Vega spreads (GBP)**



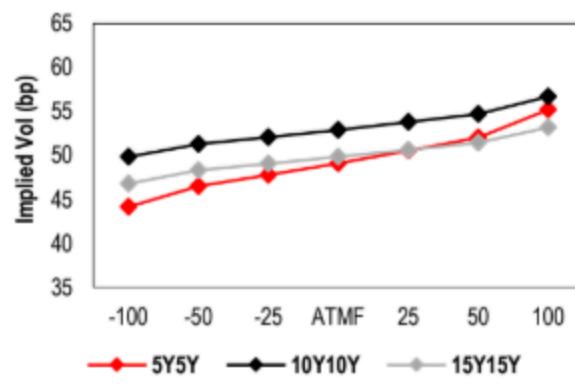
**Figure V5: Regressed implied volatility versus forward rate (EUR)**



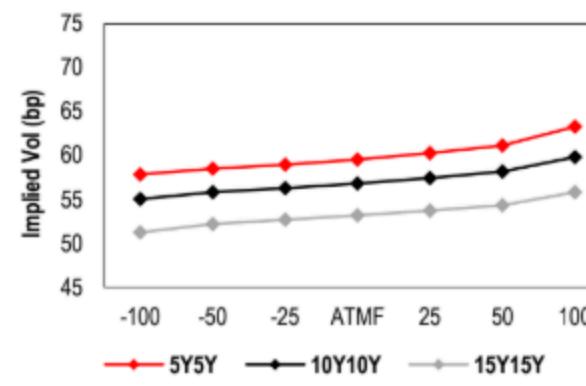
**Figure V6: Regressed implied volatility versus forward rate (GBP)**



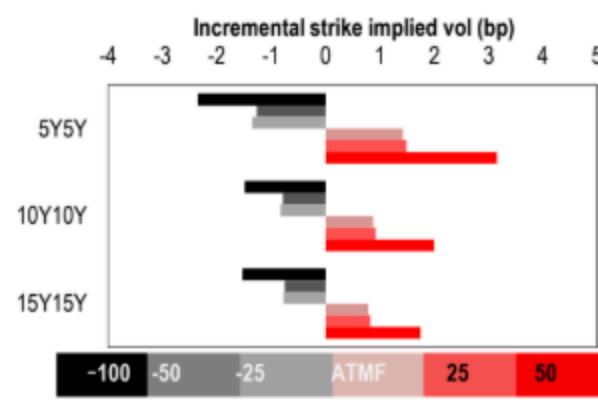
**Figure V7: Vega skew snapshot (EUR)**



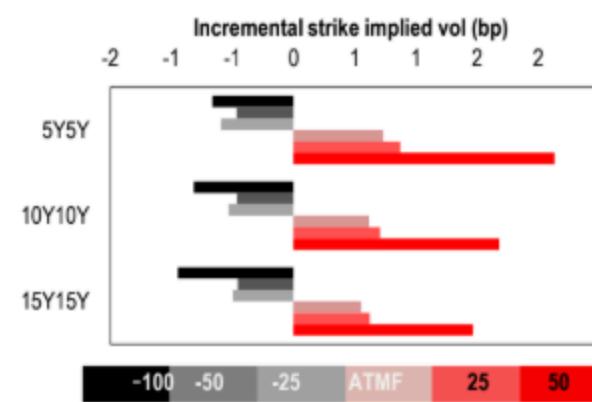
**Figure V8: Vega skew snapshot (GBP)**



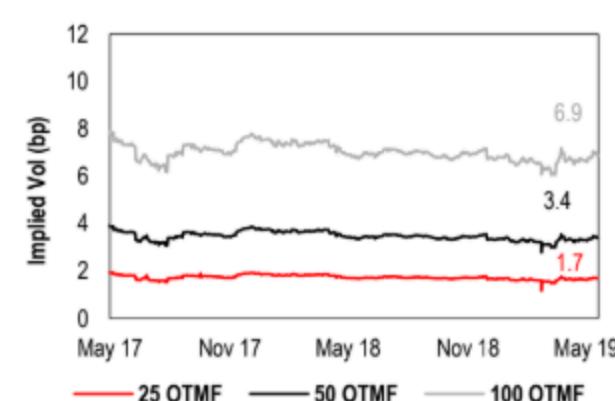
**Figure V9: Vega skew ladder (EUR)**



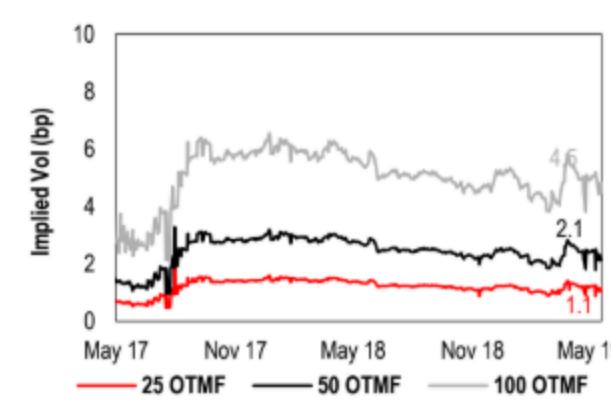
**Figure V10: Vega skew ladder (GBP)**



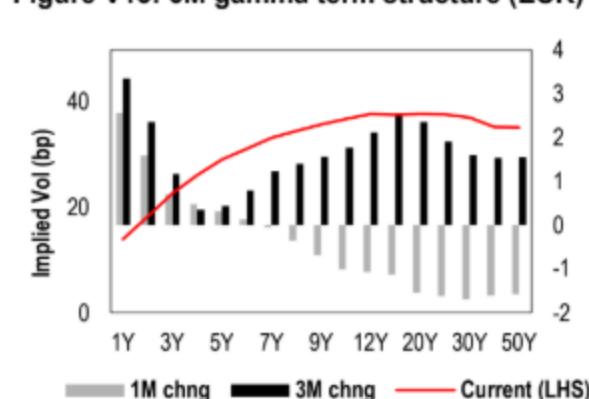
**Figure V11: 10Y10Y Risk reversal (EUR)**



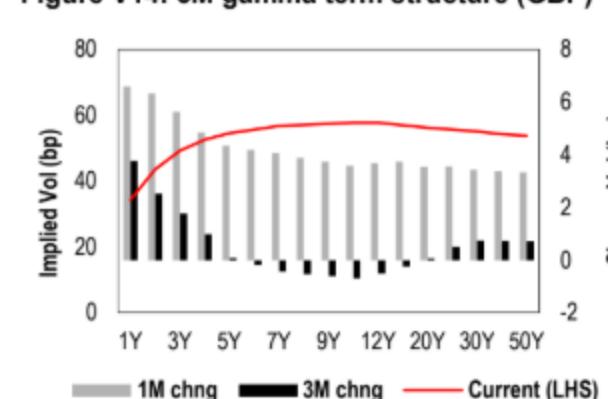
**Figure V12: 10Y10Y Risk reversal GBP**



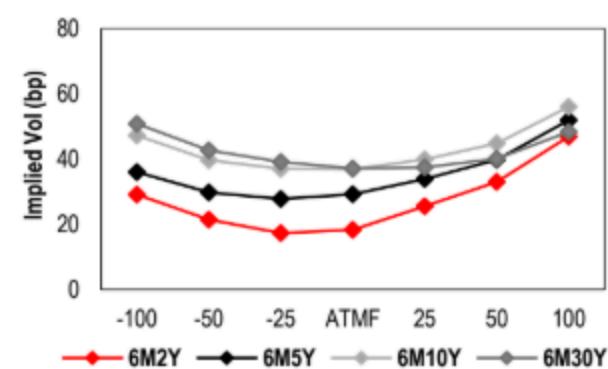
**Figure V13: 6M gamma term structure (EUR)**



**Figure V14: 6M gamma term structure (GBP)**

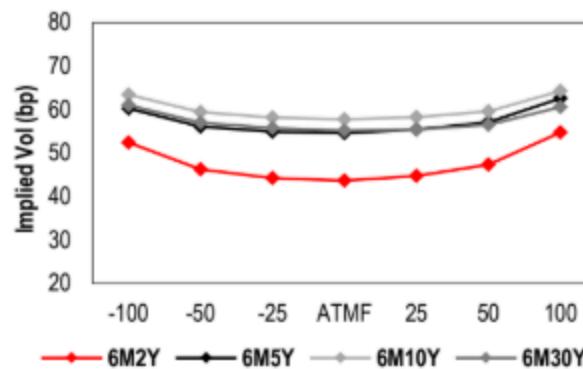


**Figure V15: Gamma skew snapshot (EUR)**



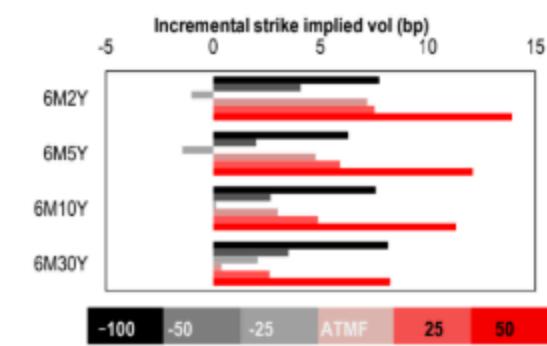
Source: HSBC

**Figure V16: Gamma skew snapshot (GBP)**



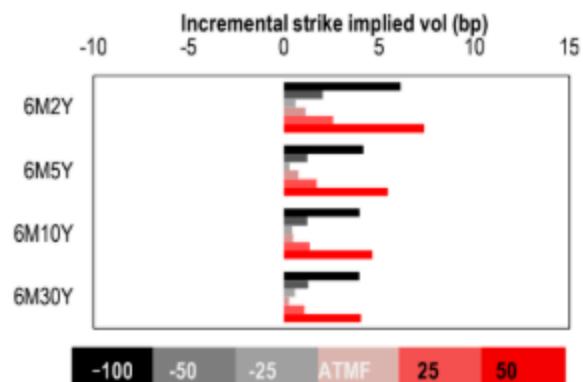
Source: HSBC

**Figure V17: Gamma skew ladder (EUR)**



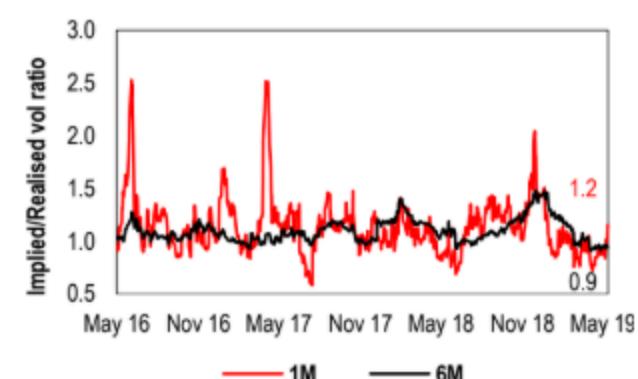
Source: HSBC

**Figure V18: Gamma skew ladder (GBP)**



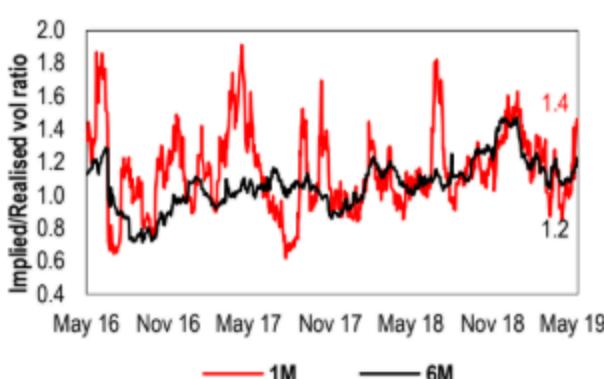
Source: HSBC

**Figure V19: Vol ratio on 10Yswaption (EUR)**



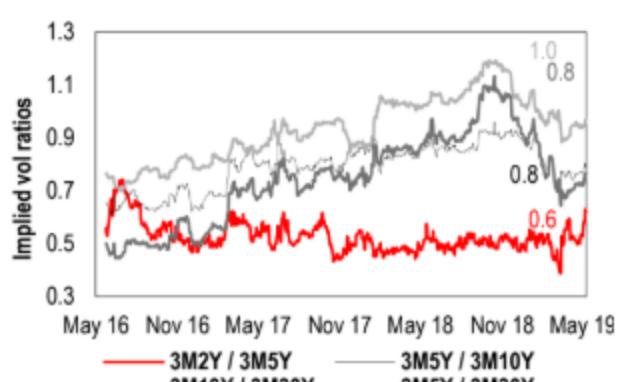
Source: HSBC

**Figure V20: Vol ratio on 10Y swaption (GBP)**



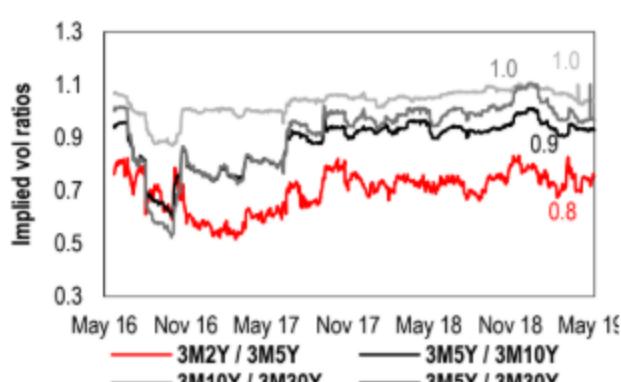
Source: HSBC

**Figure V21: Implied volatility ratios (EUR)**



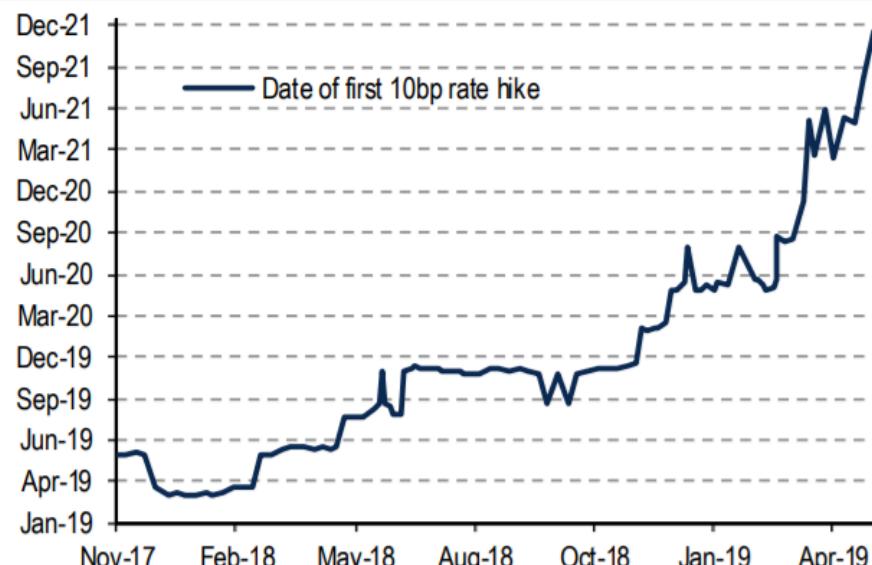
Source: HSBC

**Figure V22: Implied volatility ratios (GBP)**



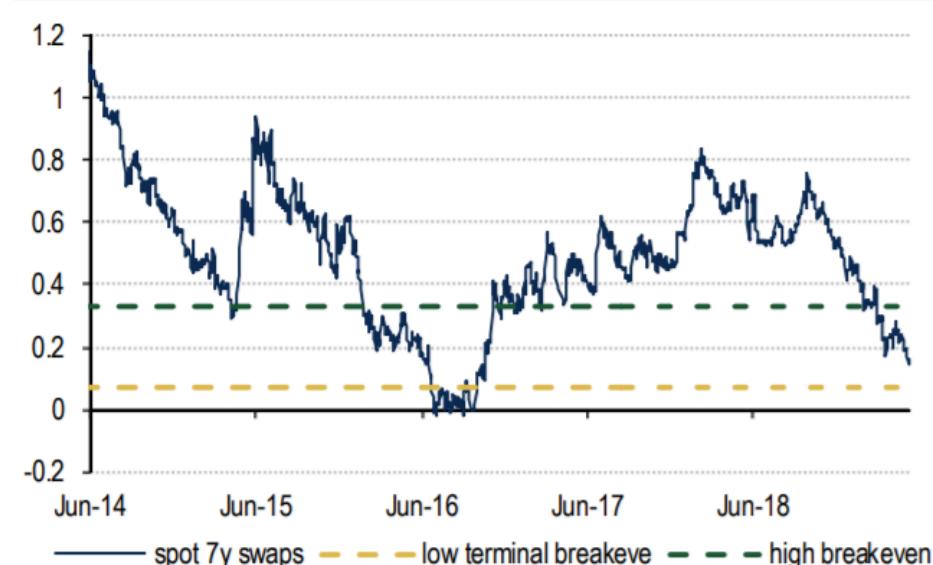
Source: HSBC

### Chart 5: Timing of first hike has been pushed to Dec-2021



Source: BofA Merrill Lynch Global Research

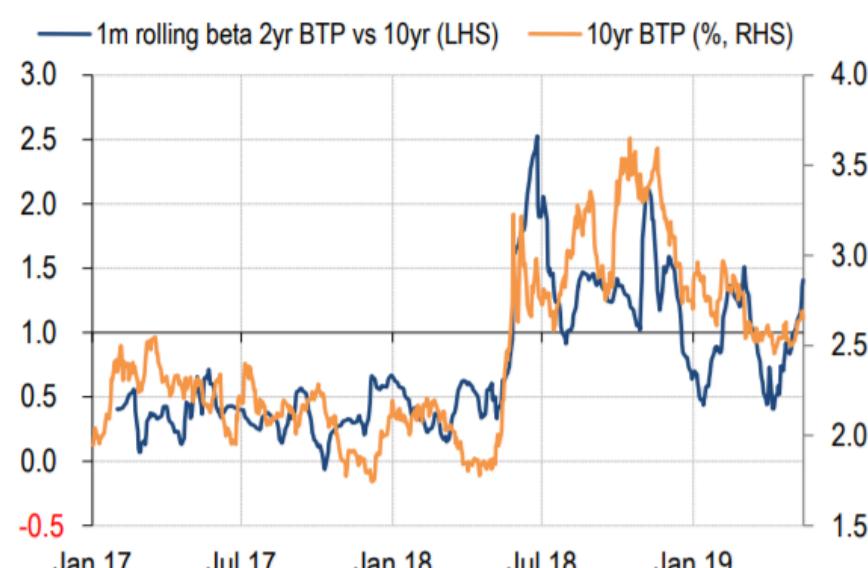
### Chart 6: History of 7y EUR swaps vs current b/e range of 3m7y straddle



Source: BofA Merrill Lynch Global Research

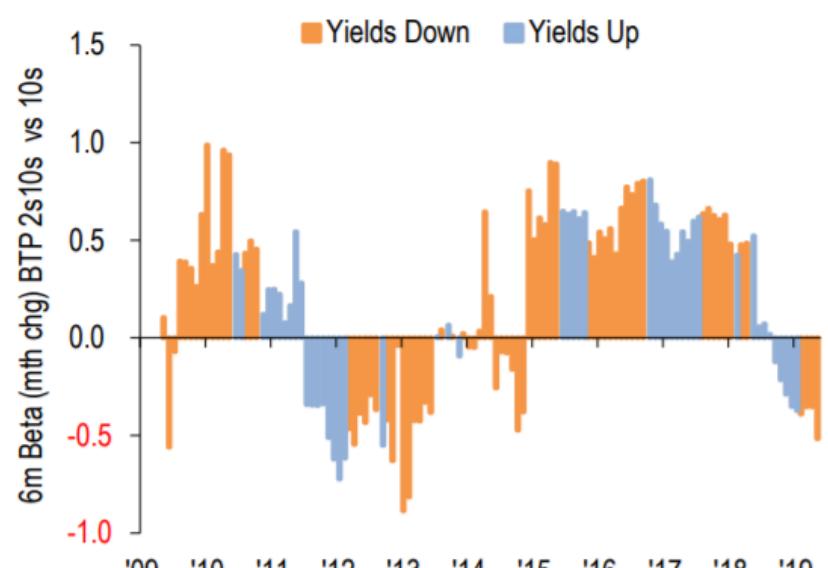
**We recommend buying €100mln 3m7y ATM straddle**, paying €900K (or 12.8bp). We target a Pnl of €800K, with a stop loss at -€400K. The breakeven range is in Chart 6.

Figure 1. Beta of 2s vs 10s pick-up in sell-offs and falls in rallies



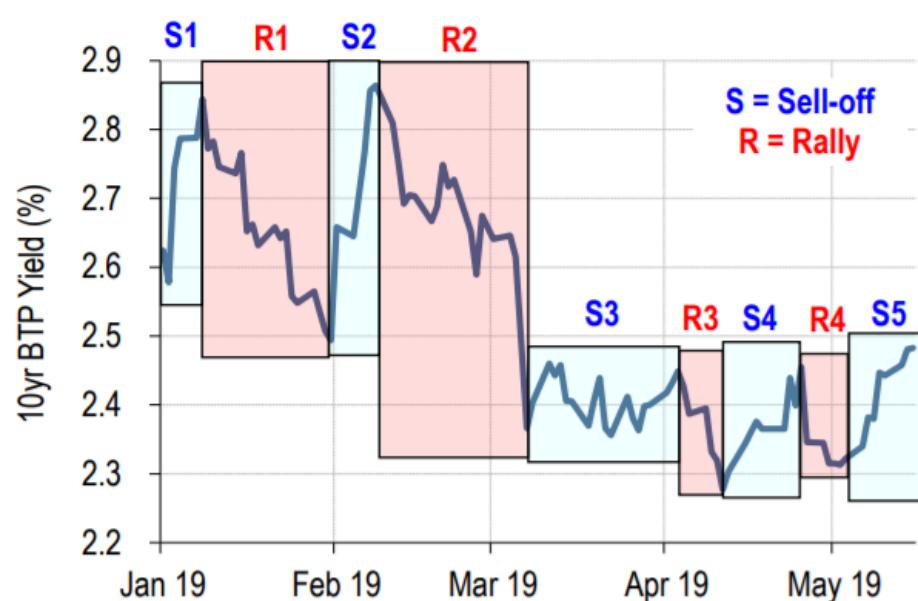
Source: Citi Research, Bloomberg. As of close 16May19.

Figure 2. BTP 2s10s beta dynamics similar to the crisis years



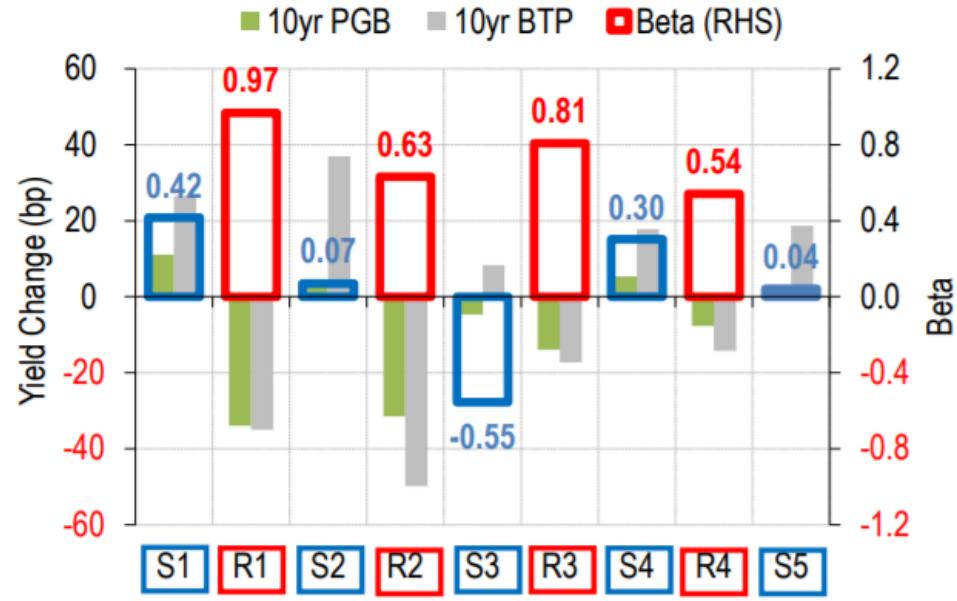
Source: Citi Research, Bloomberg. As of close 16May19.

Figure 3. Defining the BTP sell-offs and rallies in 2019



Source: Citi Research, Bloomberg. As of close 16May19.

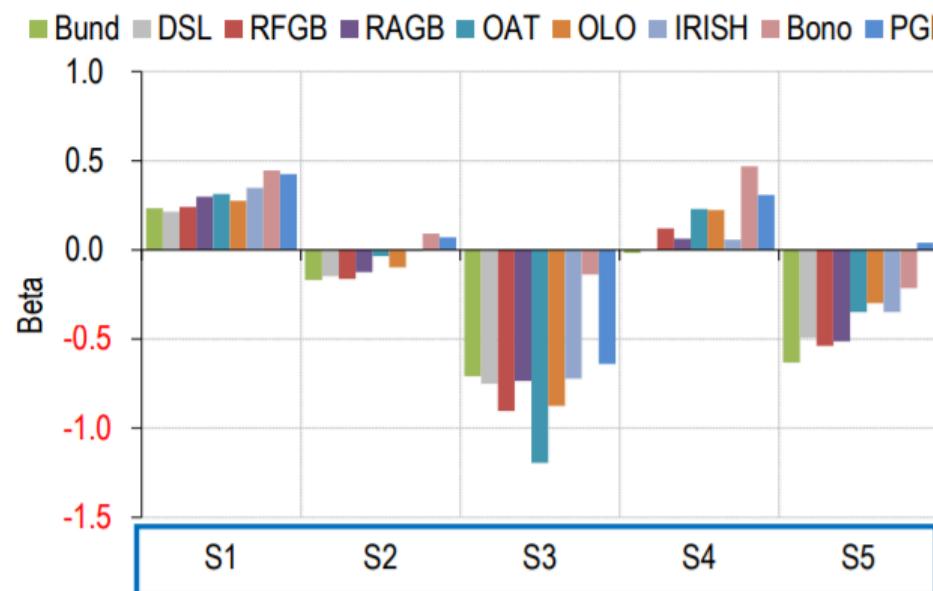
Figure 4. PGB beta to BTPs low in the sell-offs, high in the rallies



Source: Citi Research, Bloomberg. As of close 16May19.

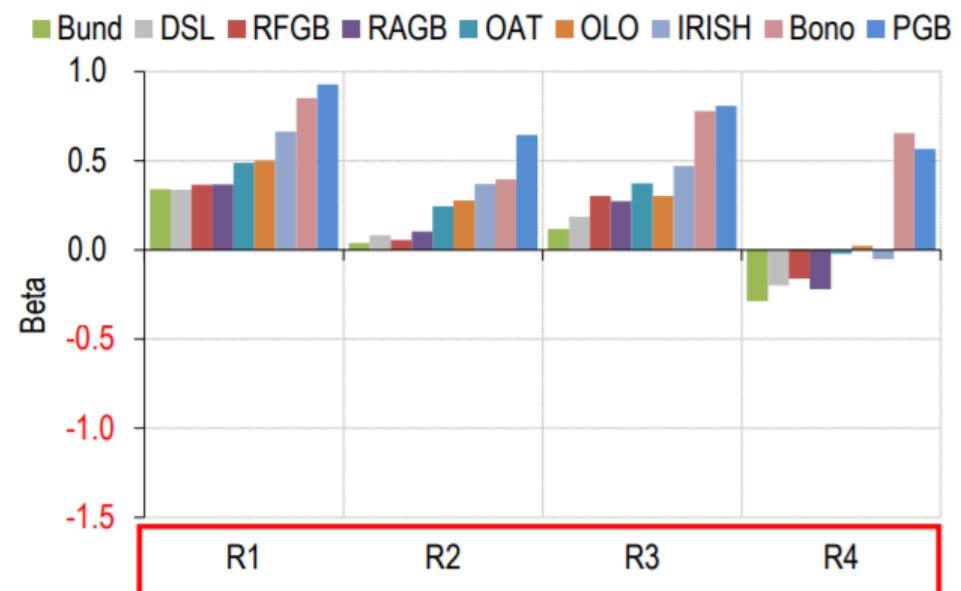
0.5 and for the periphery 0.7.

Figure 5. Country betas vs 10yr BTPs in the sell-offs



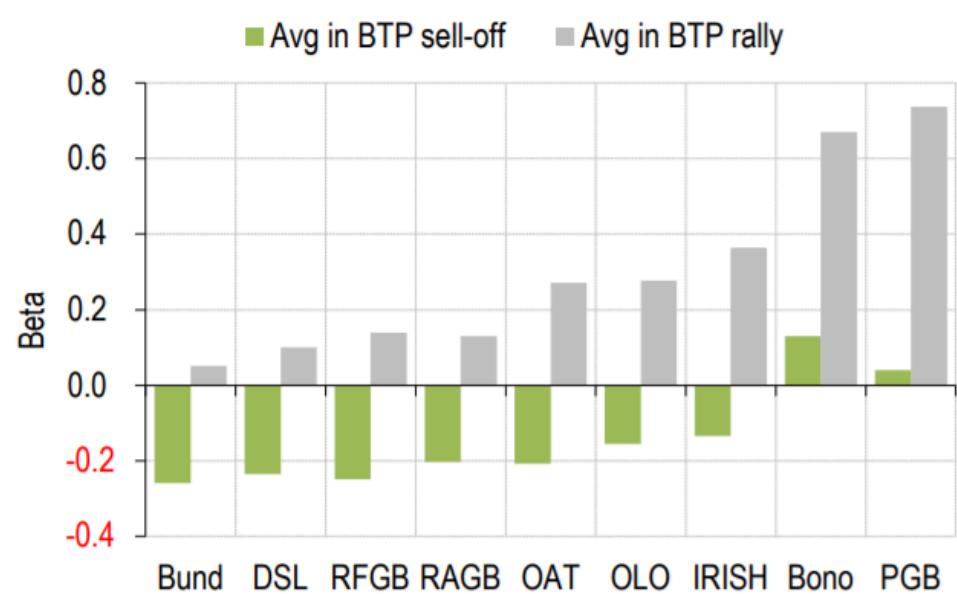
Source: Citi Research, Bloomberg. As of close 16May19.

Figure 6. Country betas vs 10yr BTPs in the rallies



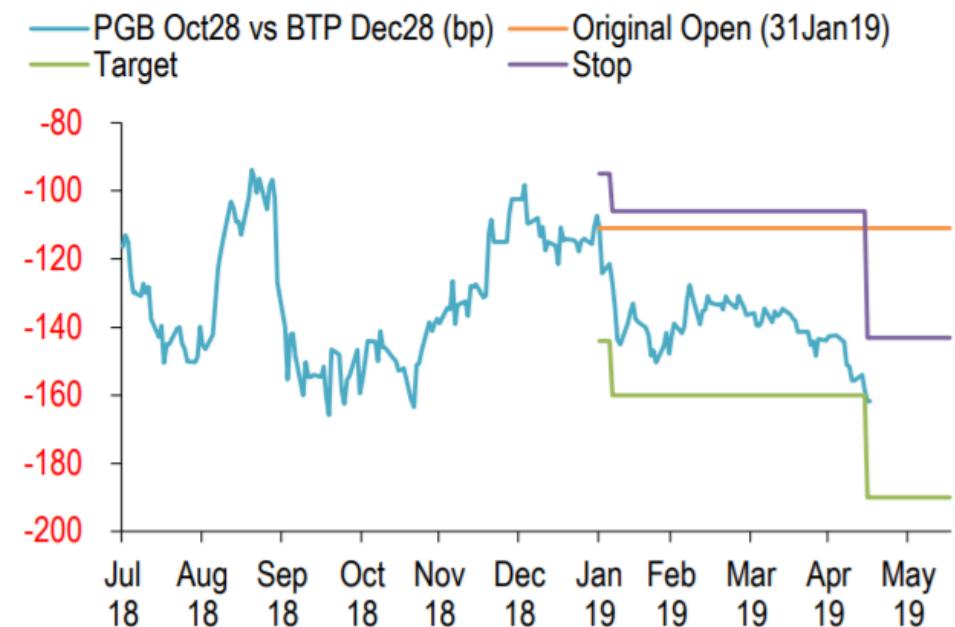
Source: Citi Research, Bloomberg. As of close 16May19.

**Figure 7. Average beta to 10yr BTPs in the sell-off and rallies**



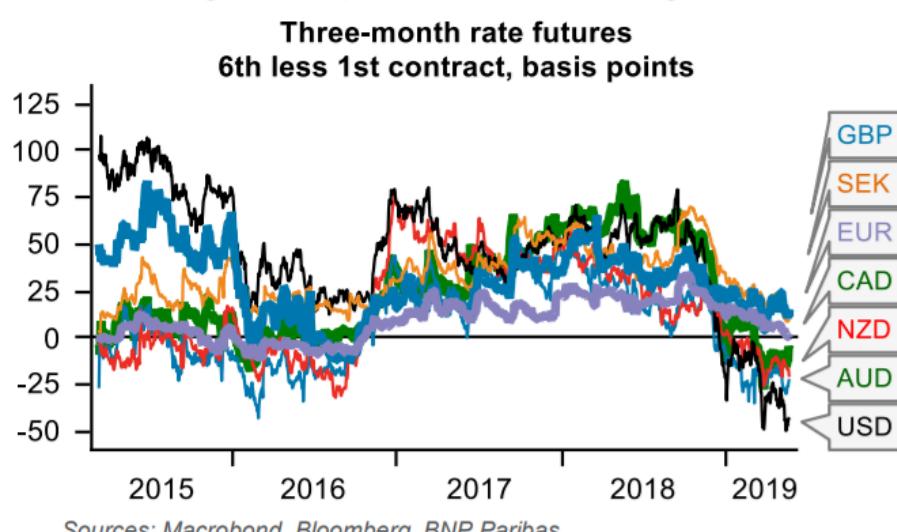
Source: Citi Research, Bloomberg. As of close 16May19.

**Figure 8. Extending the target (again) on 10yr PGB-BTP**



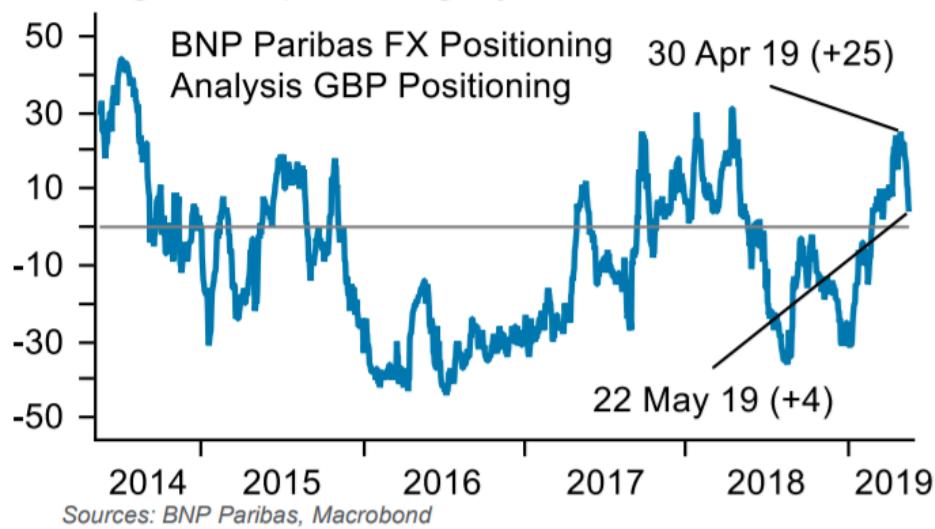
Source: Citi Research, Bloomberg. As of close 16May19.

**Fig. 3: Fed priced for most easing in the G10**



3. Short EURJPY. We project below consensus and trend eurozone growth this year and next. The trade idea also reflects our structurally bullish view on the JPY, due to the stock of Japanese investor positioning in overseas markets (concentrated in the US). Short EURJPY also offers an attractive hedge against an escalation of eurozone political risk. We are long a 120 digital put (1-Aug-19) expiry in our idea portfolio.

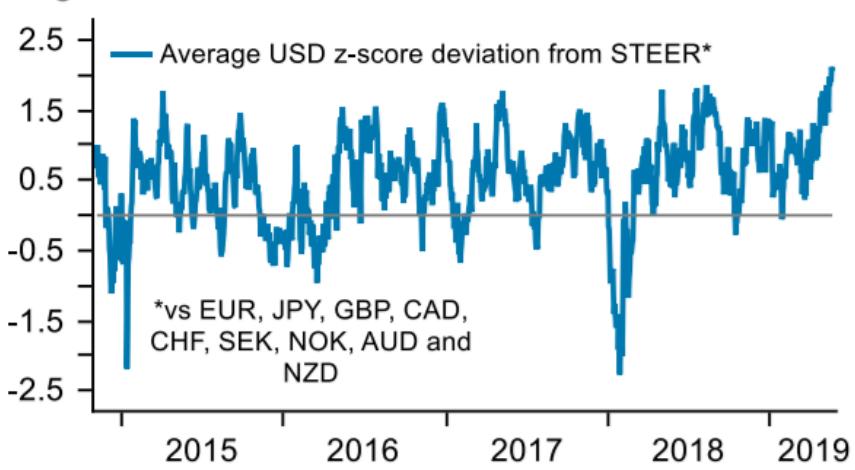
**Fig. 4: GBP positioning adjustment could continue**



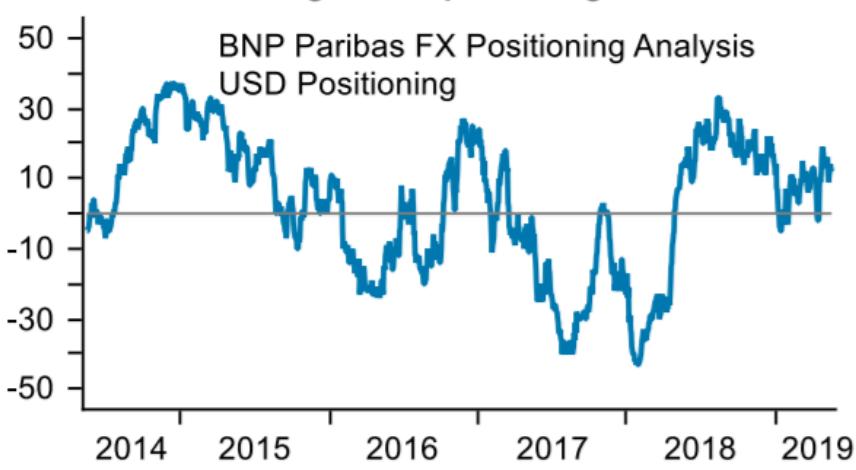
**Fig. 5: EURNOK short exposure has reduced**



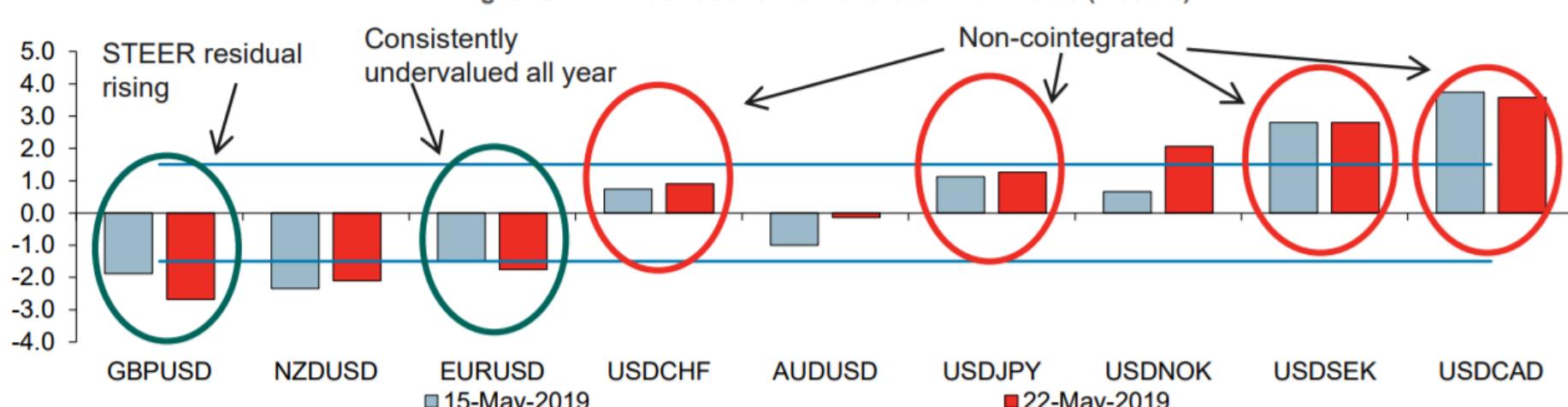
**Fig. 6: USD short-term valuation versus G10 at extremes**



**Fig. 7: USD positioning**



**Fig. 8: STEER - deviations from short-term fair value (z-score)**

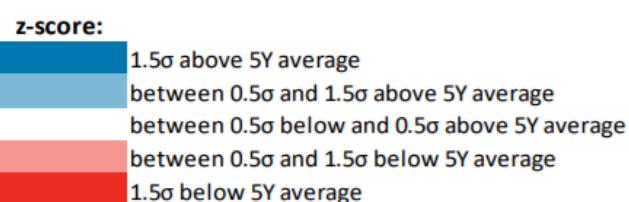


# USD: Correlation breakdown

Fig. 9: M&A announcement heat map\*

	USD	EUR	JPY	GBP	CHF	CAD	AUD	NZD	SEK	NOK
Jan-18	-0.14	-0.69	-0.26	-0.37	-0.28	0.76	3.15	-0.35	0.16	-1.54
Feb-18	-0.43	-0.36	-0.39	-0.53	-0.65	0.90	1.98	-0.46	0.98	-0.52
Mar-18	-0.96	-0.09	0.24	-0.59	0.69	0.61	-1.66	-0.40	1.24	1.49
Apr-18	-1.95	0.47	0.14	0.34	0.03	0.61	-1.67	0.14	1.89	2.32
May-18	-0.49	1.79	-4.90	-0.13	0.26	0.13	0.79	0.54	1.92	2.12
Jun-18	-0.74	2.04	-3.89	-0.70	-0.69	-0.78	0.65	0.76	1.83	0.86
Jul-18	0.70	1.92	-3.69	-1.79	-0.32	-0.66	1.53	0.05	-0.98	-0.16
Aug-18	-0.64	0.32	0.20	-1.09	-0.20	-0.87	-0.07	-0.29	-1.71	-0.98
Sep-18	0.32	0.05	-0.26	-0.44	0.15	-0.53	0.09	-0.61	-1.15	-0.61
Oct-18	0.04	-0.18	-0.22	0.00	0.07	-0.56	-1.20	-0.57	1.14	-0.07
Nov-18	1.36	-0.34	-0.51	0.03	-0.02	-1.20	-0.92	-0.29	0.95	-0.17
Dec-18	1.44	-0.26	-0.47	-0.10	0.21	-0.77	-0.72	1.79	0.67	-0.49
Jan-19	0.69	-0.29	-0.46	-0.11	0.09	0.25	-0.17	1.71	0.33	-0.65
Feb-19	0.19	-0.29	-0.38	-0.12	-0.91	1.02	0.25	1.32	0.30	-0.23
Mar-19	-0.11	-0.26	0.21	0.09	-1.24	0.47	-0.01	-0.41	-0.49	-0.06
Apr-19	0.32	-0.40	0.57	0.12	-1.03	-0.60	-0.46	-0.20	-0.53	-0.60
May-19	0.18	-0.45	0.99	0.11	-0.23	0.35	-2.25	-0.08	-0.51	-0.63

Sources: BNP Paribas, Bloomberg. Data as 14 May.



Z-scores based on the deviation of the three-month sum from the five-year average

\* The M&A announcement heat map measures the three-month sum of the net inbound and outbound cross-border M&A deals announced for each economy and compares it with the five-year average on a z-score basis.

Fig. 10: No significant corporate earnings repatriation since H118

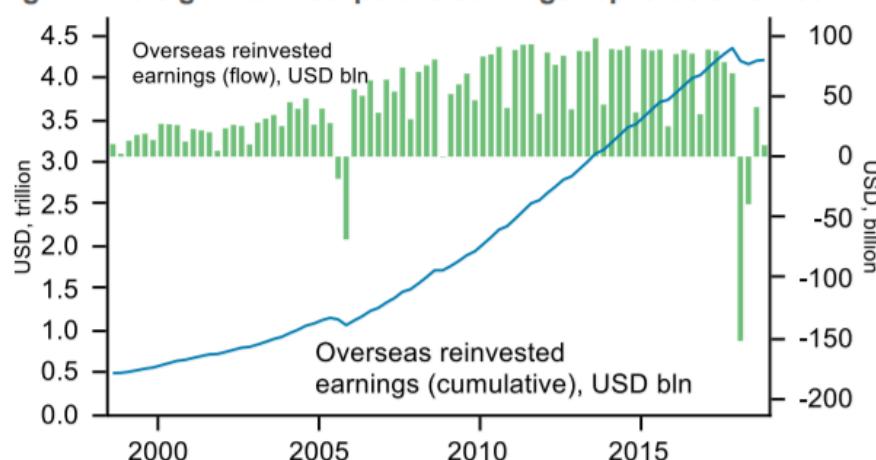
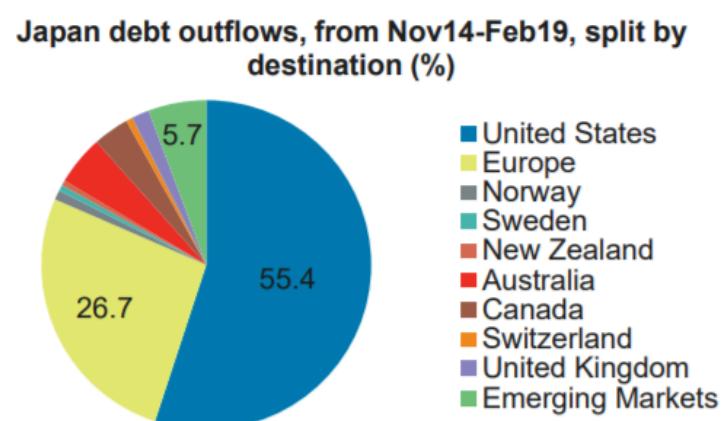


Fig. 11: Japanese investor exposure concentrated in the US



Sources: BNP Paribas, Bloomberg, Macrobond

Sources: BoJ, MoF, Bloomberg, BNP Paribas

## Analysis of recent key drivers

Typically, most of the variation in USD-pairs can be explained by: 1) interest rate differentials, 2) relative interest rate curve steepness, 3) relative equity market performance, 4) global equity market performance and 5) oil. BNP Paribas STEER™ uses these five variables to model short-term FX price movements.

The model indicates that the USD is the most overvalued it has been since 2014 (Figure 6). However, our degree of confidence in the USD weakening to its fair value in the near-term is low, because correlations are breaking down. This is captured by our STEER™ model failing its cointegration test for several major G10 exchange rates (Figure 8), which indicates a low degree of confidence in the likelihood of spot converging towards fair value.

FX correlation breakdowns can be the result of large – likely temporary – FX-market specific flows, potentially related to M&A activity, FX investor positioning shifts or US corporate repatriation. But our metrics do not provide evidence of this.

Our M&A announcement tracker, which looks at the deviation of the three-month sum from the five-year

average of net announced inbound/outbound deals, reveals a relatively neutral for the USD in 2019. In fact, of the G10 currencies, only the AUD and CHF have reported a z-score greater than one in 2019 (Figure 9).

BNP Paribas FX Positioning Analysis, which is our measure of FX investor positioning, also does not indicate that there has been a significant change in USD FX investor exposure recently (Figure 7).

And, when we look at the recent trends in US corporate overseas reinvested income, there is nothing to suggest a repeat of the significant repatriation seen in Q1 and Q2 2018 (Figure 10).

In our view, the failure of M&A announcements, FX investor positioning or US corporate repatriation to explain the USD's resilience so far in 2019 gives us greater confidence that the currency's attractive carry metrics, at a time of declining volatility, are the key drivers instead. As we expect the market environment to be less friendly to carry trade performance in H2, the USD is likely to be exposed to structural vulnerabilities.

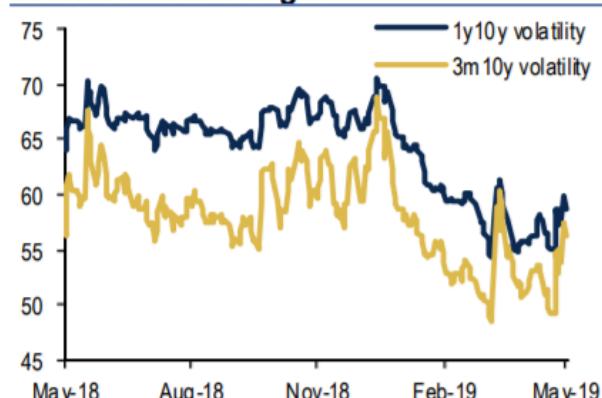
The latter supports volatility across the grid. Indeed, in recent publications we noted how the change in Fed stance, from on hold to easing, is generally associated with a pickup of volatility across asset classes (see [Low for longer volatility](#)). The left side of the grid is likely to continue to outperform on this move. In a context where the curve is dominated by a bull steepening dynamic we expect the left side of the grid to continue to be supported relative to the right (see Chart 4). In skew, receivers are likely to continue to trade rich relative to payers. This is the normal state of the volatility cube in the late stages of the cycle, but this is exacerbated currently by the risk that trade war poses for the frontloading of the first rate cut.

**Table 1: Implied volatility moves since the 5<sup>th</sup> of May Trump tweets on tariffs escalation**

	1Y	2Y	3Y	5Y	7Y	10Y	30Y
1M	17.8	15.4	11.3	9.5	8.9	8.3	7.1
3M	14.1	13.5	9.8	8.3	7.7	7.1	6.2
6M	12.4	11.5	7.9	6.4	5.8	5.3	4.6
1Y	8.5	7.1	6.0	4.4	4.1	3.6	3.2
2Y	4.0	4.0	3.7	2.9	2.6	2.2	1.8
3Y	2.7	2.7	2.6	2.3	2.1	1.8	1.4
4Y	2.1	2.0	2.0	1.9	1.8	1.6	1.2
5Y	1.7	1.7	1.6	1.6	1.5	1.4	0.9
10Y	1.3	1.3	1.3	1.2	1.2	1.2	0.9
30Y	1.2	1.2	1.2	1.2	1.2	1.1	0.9

Source: BofA Merrill Lynch Global Research

**Chart 3: 1y10y and 3m 10y volatility still in the context of recent ranges**



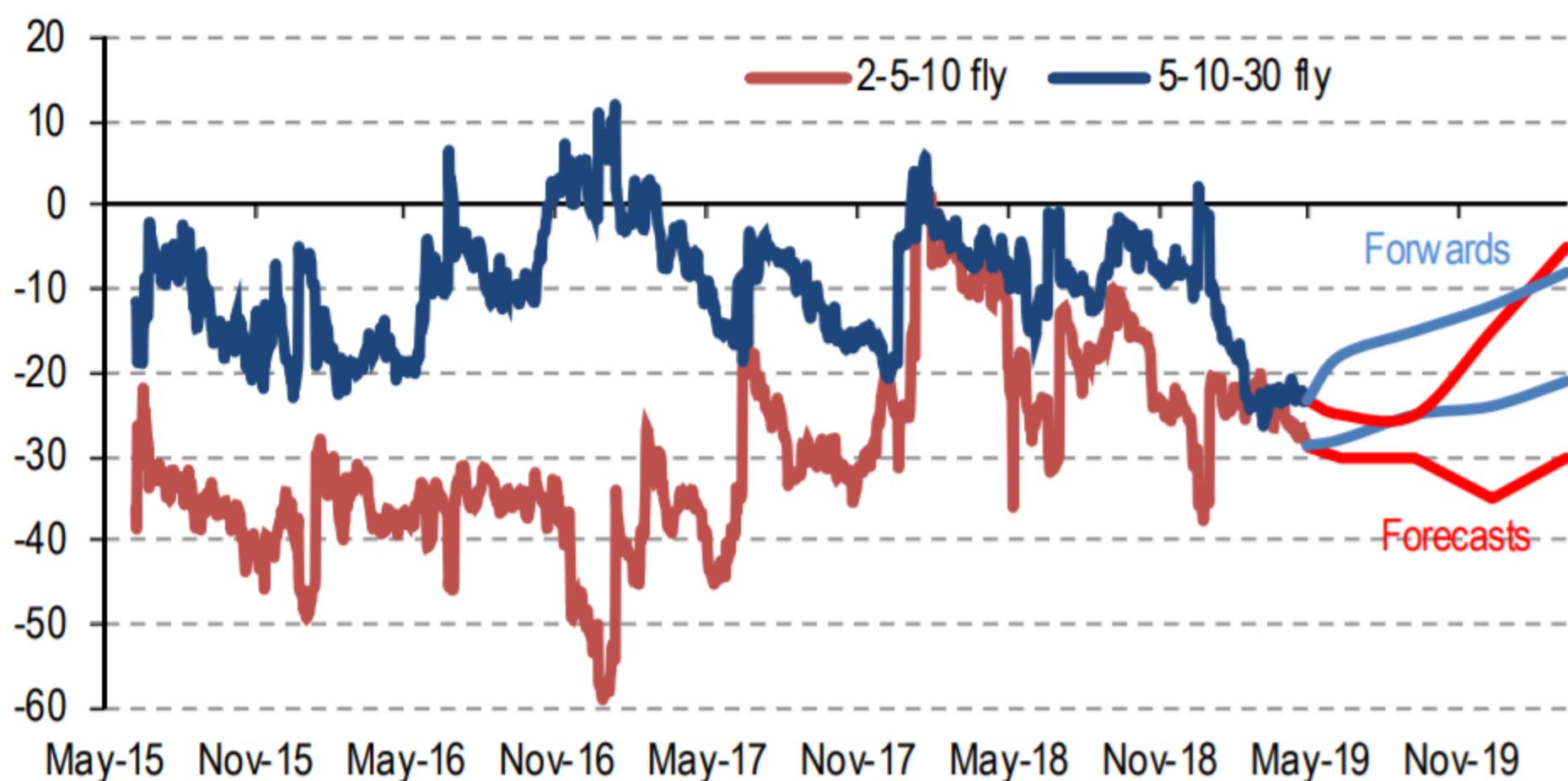
Source: BofA Merrill Lynch Global Research, Bloomberg

**Chart 4: Outperformance of the left side of the grid (3m2y) vs. the right side (3m10y)**



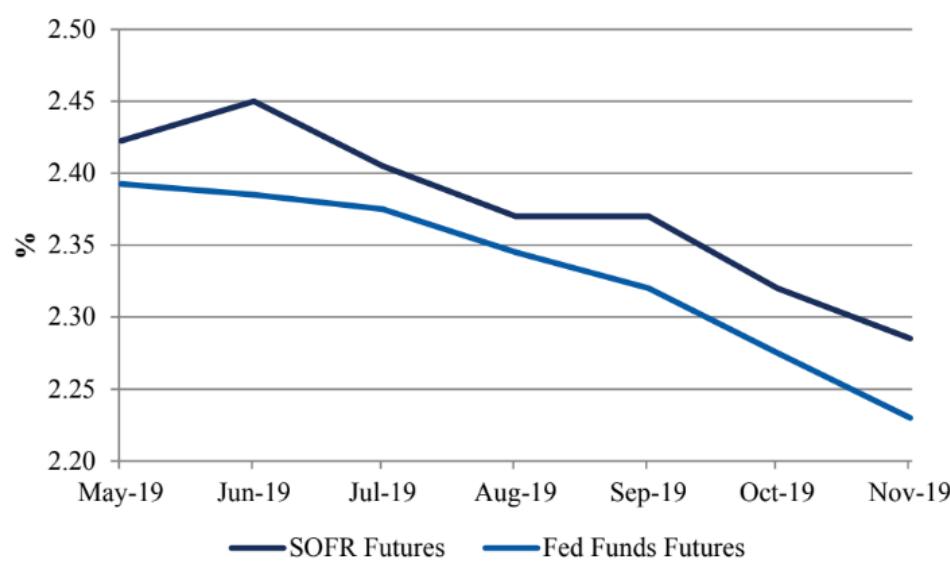
Source: BofA Merrill Lynch Global Research, Bloomberg

## Chart 7: Curve bellies expected to stay rich



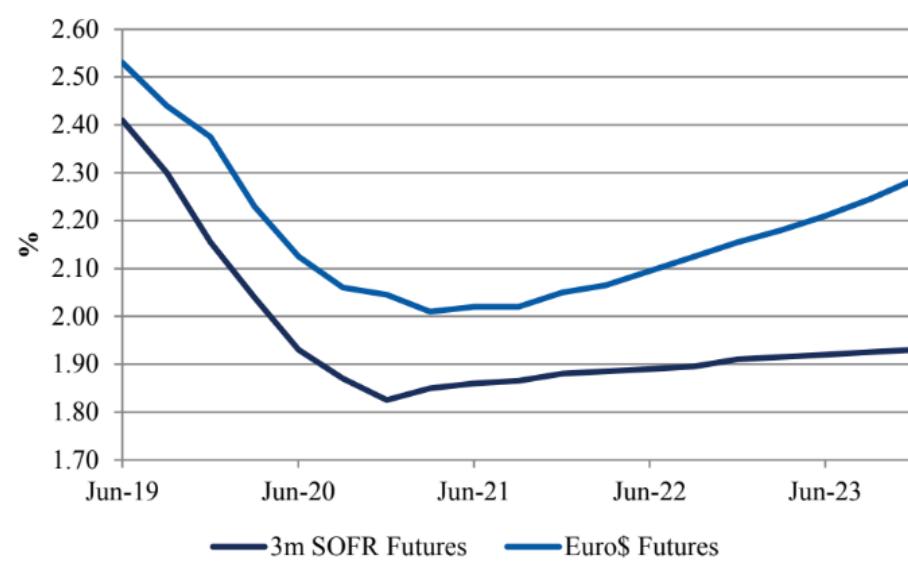
Source: BofA Merrill Lynch Global Research

**Figure 9: 1m Fed Funds vs. SOFR Futures**



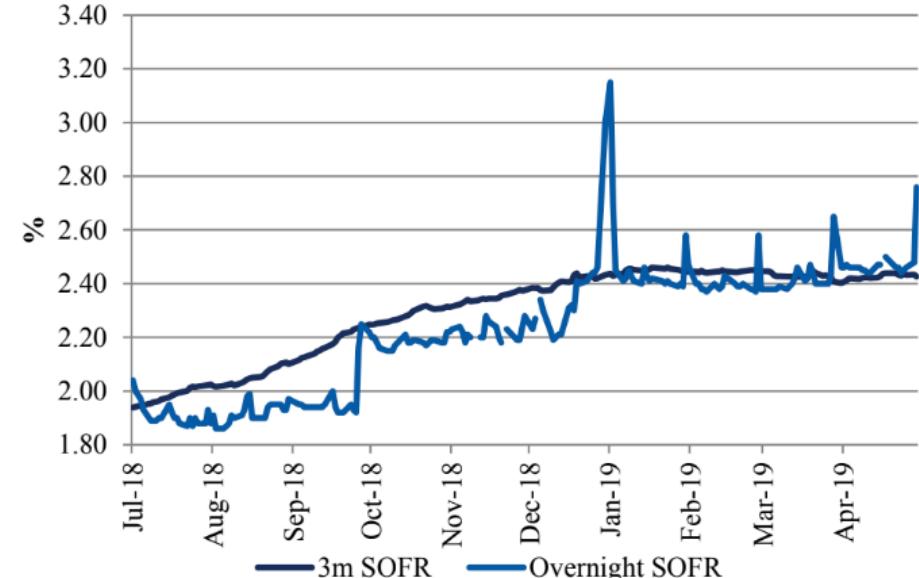
Source: BMO CM, Bloomberg

**Figure 10: 90d Euro\$ vs SOFR Futures**



Source: BMO CM, Bloomberg

**Figure 11: 3m Term SOFR vs Overnight SOFR**



Source: BMO CM, Bloomberg

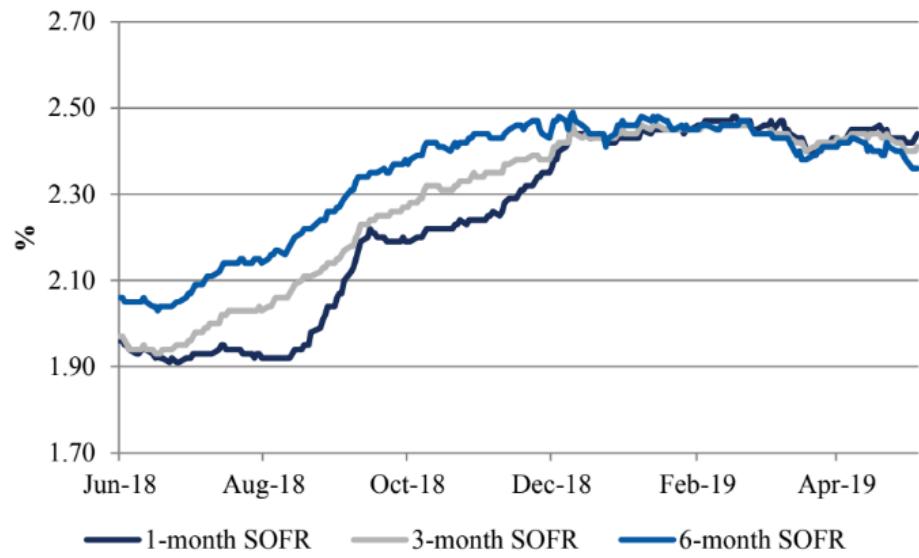
Note: BMO estimates of term SOFR based on proposed methodology by ARRC

**Figure 12: 3m Term SOFR – 3m OIS**



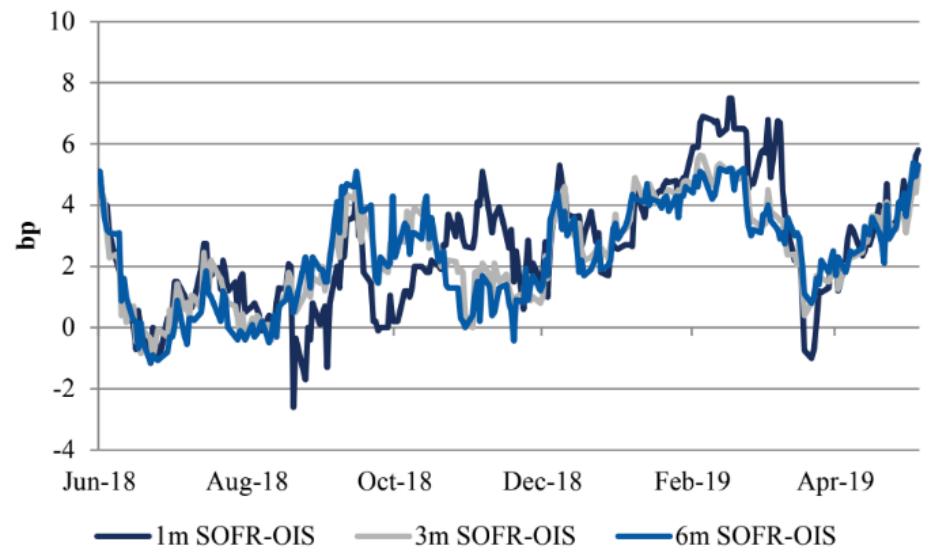
Source: BMO CM, Bloomberg

**Figure 3: Term SOFR Rates**



Source: BMO CM, Federal Reserve Board

**Chart 4: Term SOFR-OIS Spreads**

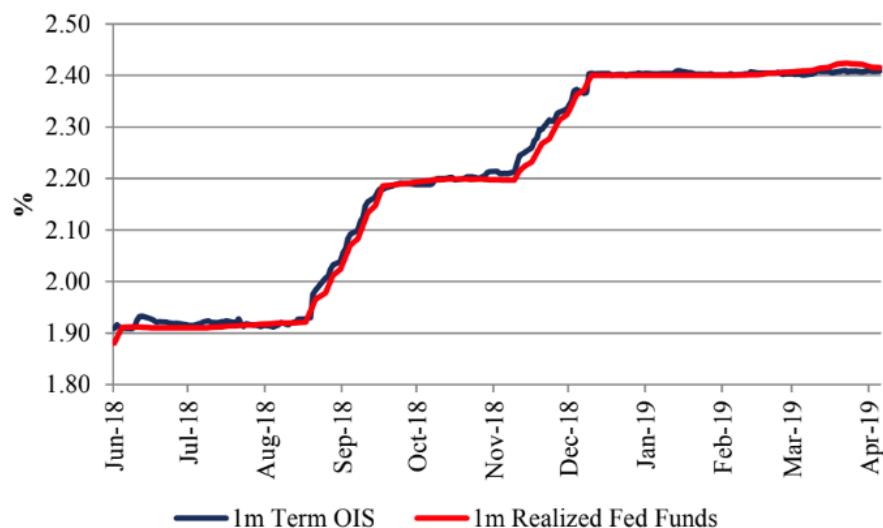


Source: BMO CM, Federal Reserve Board, Bloomberg

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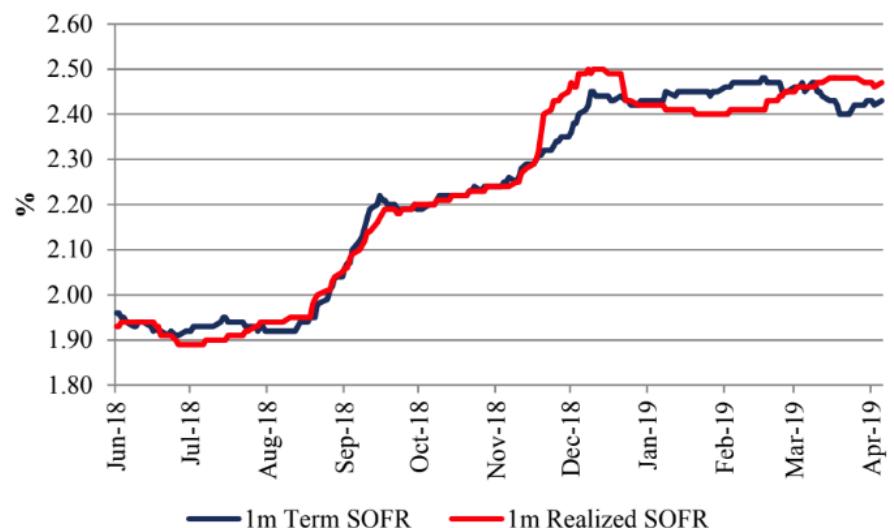
May 22, 2019

**Figure 5: 1m OIS vs Realized Fed Funds**



Source: BMO CM, Bloomberg

**Figure 6: 1m Term SOFR vs Realized**



Source: BMO CM, Bloomberg

# SOFR Market Update

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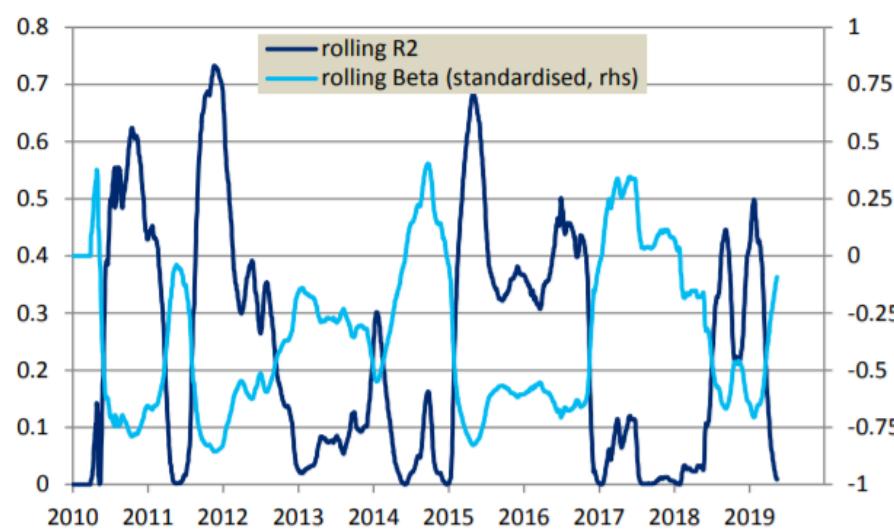
**Figure 13: SOFR Issuance**

Ticker	Announce	Maturity	Month	Year	Issuer Type	Term	Size (MM)	IPTs	SOFR +/- (bps)	3m\$L +/- (bps)
GS	5/21/2019	5/26/2020	May	2019	Financial	1yr	150		+28.0	+14
MET	5/21/2019	5/28/2021	May	2019	Financial	2yr	300		+50.0	+36
GS	5/20/2019	5/24/2021	May	2019	Financial	2yr	1,000		+60.0	+47
FHLB	5/17/2019	2/21/2020	May	2019	Agency	9-month	2,750		+2.0	-8
FHLMC	5/16/2019	2/21/2020	May	2019	Agency	9-month	1,030		+1.0	-8
FHLMC	5/16/2019	8/21/2020	May	2019	Agency	1.25yr	1,050		+3.0	-6
KNFP	5/16/2019	9/16/2019	May	2019	Financial	3-month	30		+11.0	+2
FHLMC	5/15/2019	11/22/2019	May	2019	Agency	6-month	100		+0.0	-5
FHLMC	5/15/2019	5/22/2020	May	2019	Agency	1yr	1,030		+2.5	-2
BMO	5/9/2019	2/7/2020	May	2019	Financial	9-month	240		+17.0	+4
BMO	5/8/2019	5/8/2020	May	2019	Financial	1yr	780		+23.0	+11
FFCB	5/8/2019	5/16/2022	May	2019	Agency	3yr	154		+17.0	+5
FHLB	5/6/2019	5/8/2020	May	2019	Agency	1yr	2,000		+3.5	
FHLMC	5/3/2019	5/8/2020	May	2019	Agency	1yr	1,200		+3.0	-10
RY	5/3/2019	5/5/2020	May	2019	Financial	1yr	100		+23.0	+10
FFCB	5/2/2019	5/7/2021	May	2019	Agency	2yr	500		+10.0	+3
CS	5/1/2019	5/22/2020	May	2019	Financial	1yr	450		+37.0	+33
FAMCA	4/30/2019	4/30/2020	Apr	2019	Agency	1yr	25		+7.0	+25
FNMA	4/29/2019	10/30/2020	Apr	2019	Agency	1.5yr	2,500		+7.5	-2
FHLMC	4/26/2019	5/6/2020	Apr	2019	Agency	1yr	2,250		+4.0	-8
FHLMC	4/26/2019	2/6/2020	Apr	2019	Agency	9-month	1,000		+2.0	-10
FHLMC	4/26/2019	11/1/2019	Apr	2019	Agency	6-month	1,025		+1.0	-11
FHLB	4/26/2019	8/30/2019	Apr	2019	Agency	3-month	1,250		+1.0	-11
FHLMC	4/25/2019	4/29/2020	Apr	2019	Agency	1yr	2,250		+4.0	-9

Valuation of Bund swap spreads has been challenging over the last few years. The duration beta – capturing the directionality of underlying cash bond – has varied markedly over time (Figure 9).

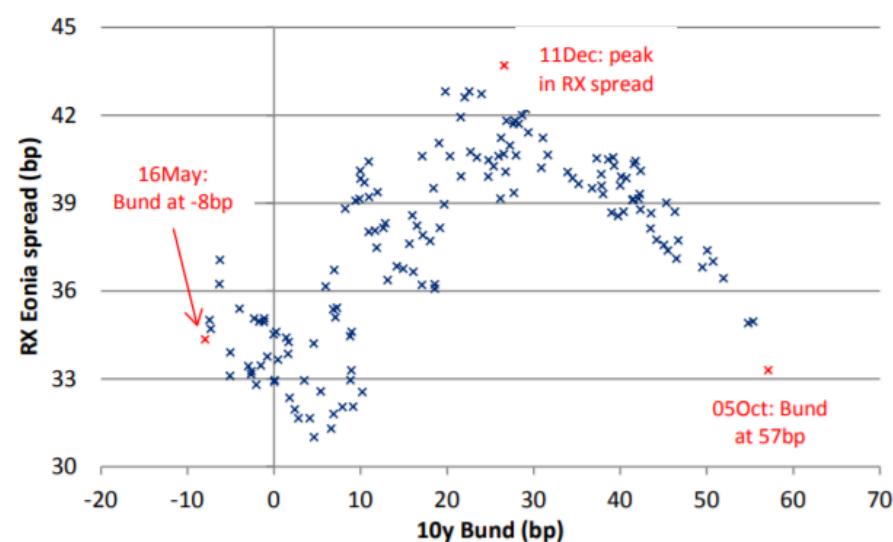
The relationship has been particularly unstable during the ongoing rally in € core rates, which has taken 10-year Bund down some 65bp since early October (as of 16 May 2019, 14:00 BST). During the same time spreads widened by 10bp through to mid-December – and have partially come back since (Figure 10)

**Figure 9. The changing fortunes of duration beta on RX spread**



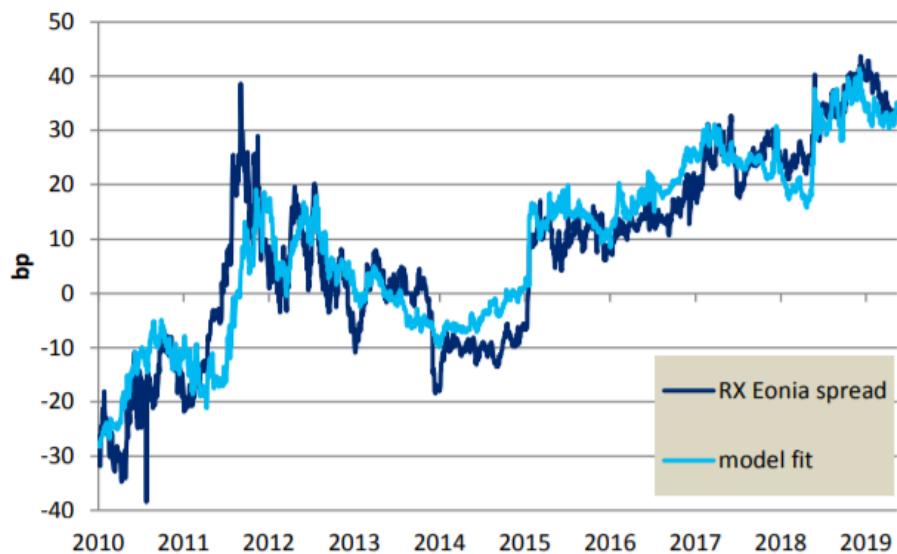
Source: Bloomberg, Citi Research. Sample: daily observations, 04-January-2019 to 16-May-2019. Exponentially-weighted square correlation between RX spread and yield on the 10y Bund (fitted constant maturity rate). Half-life: 63 days.

**Figure 10. Bund's rally since October has not been directional for ASW**



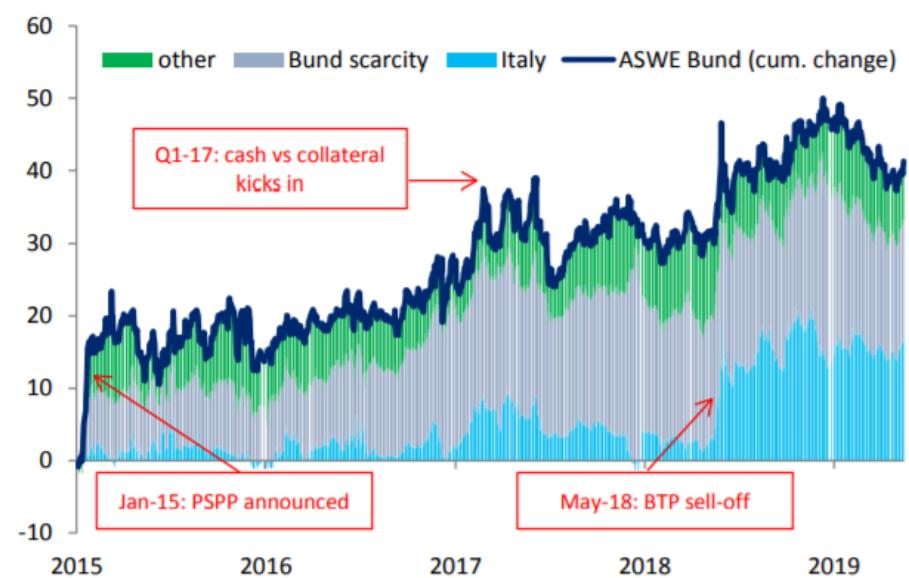
Source: Citi Research. Sample: daily observations, 05-October-2018 to 16-May-2019. The yield on the 10y Bund is the fitted constant maturity rate.

Figure 11. Bund swap spread have closed the valuation gap



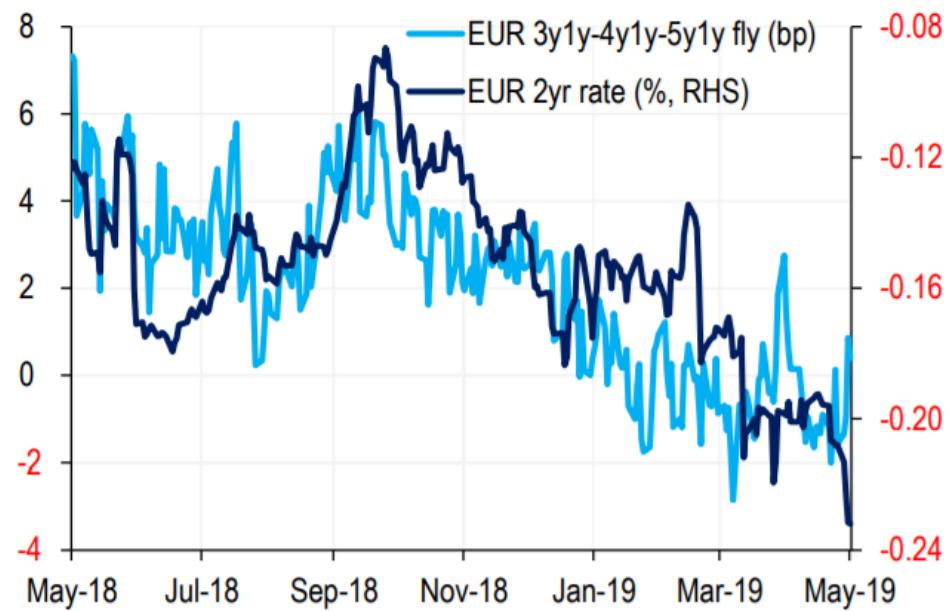
Source: Citi Research. Model parameters estimated on month-end observations from January 2010 to May 2019.

Figure 12. Alleviation of scarcity pressures the main story behind tighter Bund spreads



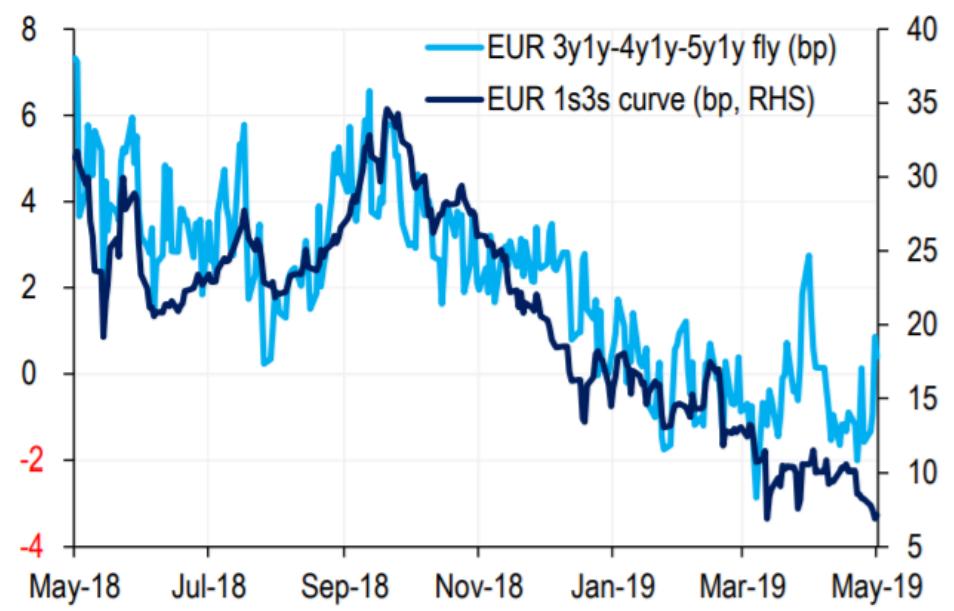
Source: Citi Research

Figure 33. €3y1y-4y1y-5y1y fly vs 2yr



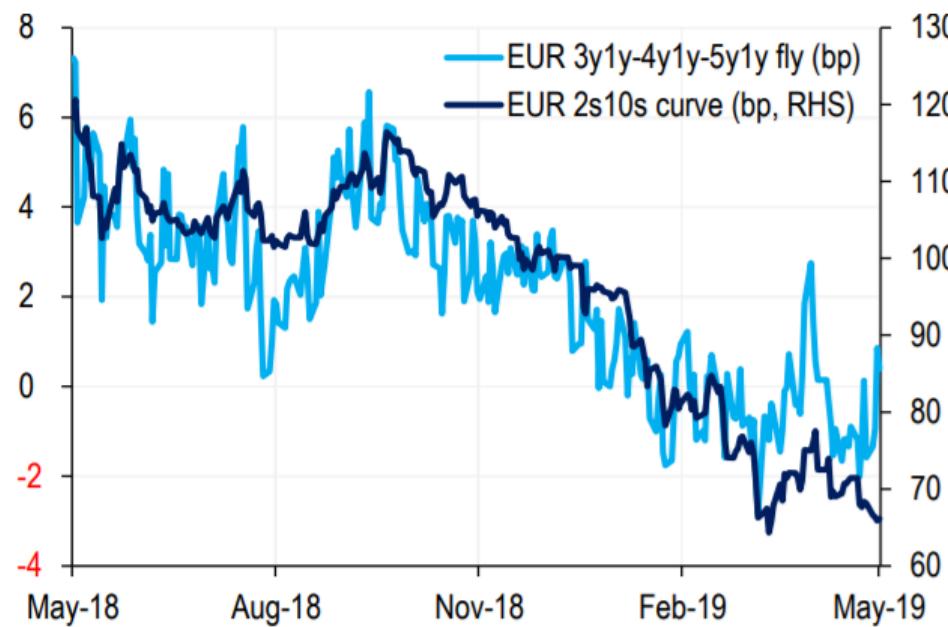
Source: Citi Research. As at 15:00 London time 16<sup>th</sup> May 2019.

Figure 34. €3y1y-4y1y-5y1y fly vs 1s3s curve



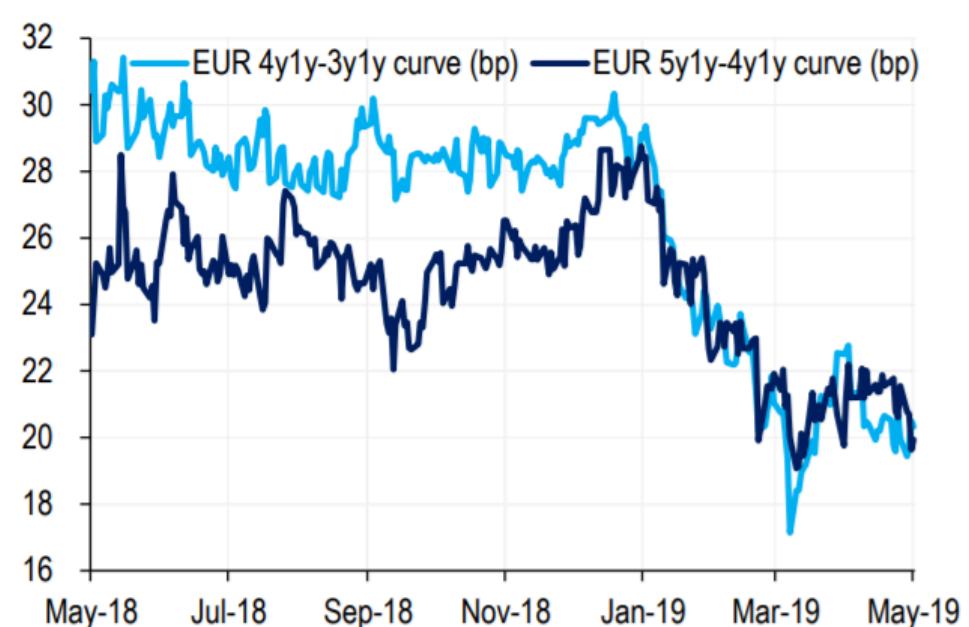
Source: Citi Research. As at 15:00 London time 16<sup>th</sup> May 2019.

Figure 35. €3y1y-4y1y-5y1y fly vs 2s10s curve



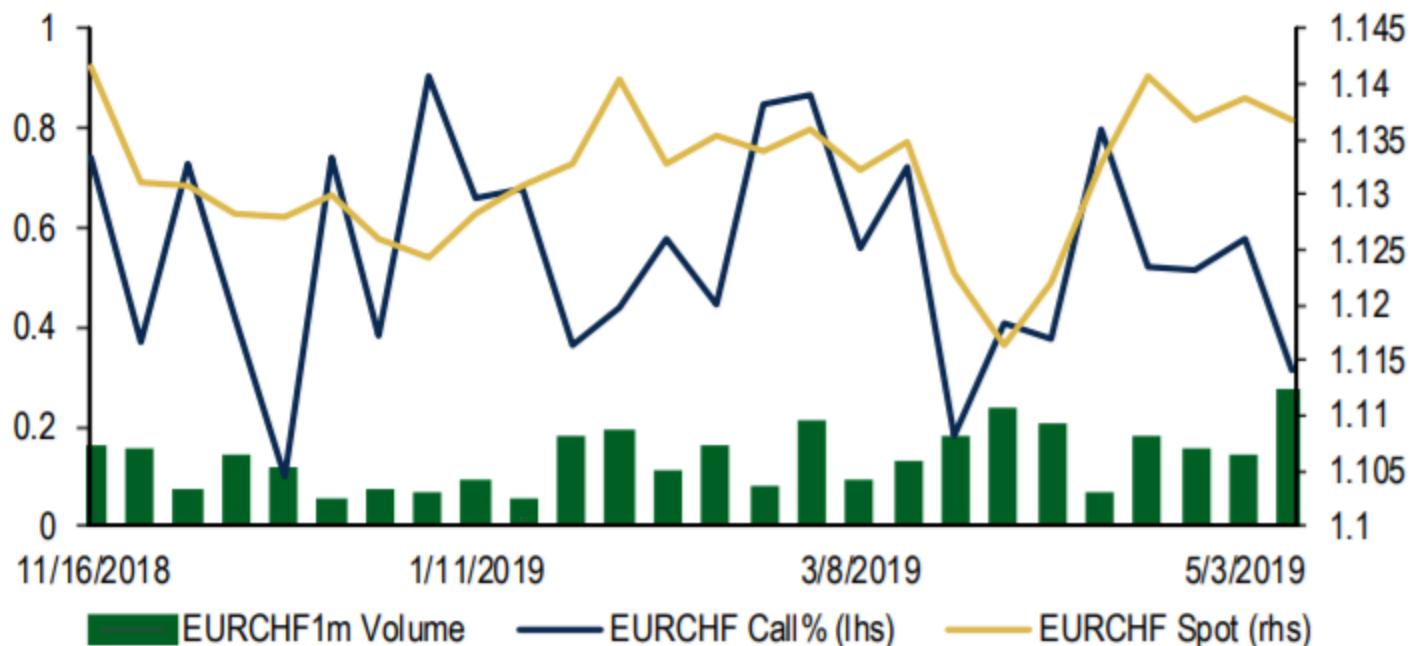
Source: Citi Research. As at 15:00 London time 16<sup>th</sup> May 2019.

Figure 36. €5y1y-4y1y curve has sharply flattened recently



Source: Citi Research. As at 15:00 London time 16<sup>th</sup> May 2019.

**Chart 19: Options flows in <1m EURCHF calls last week**



Source: BofA Merrill Lynch Global Research, DTCC

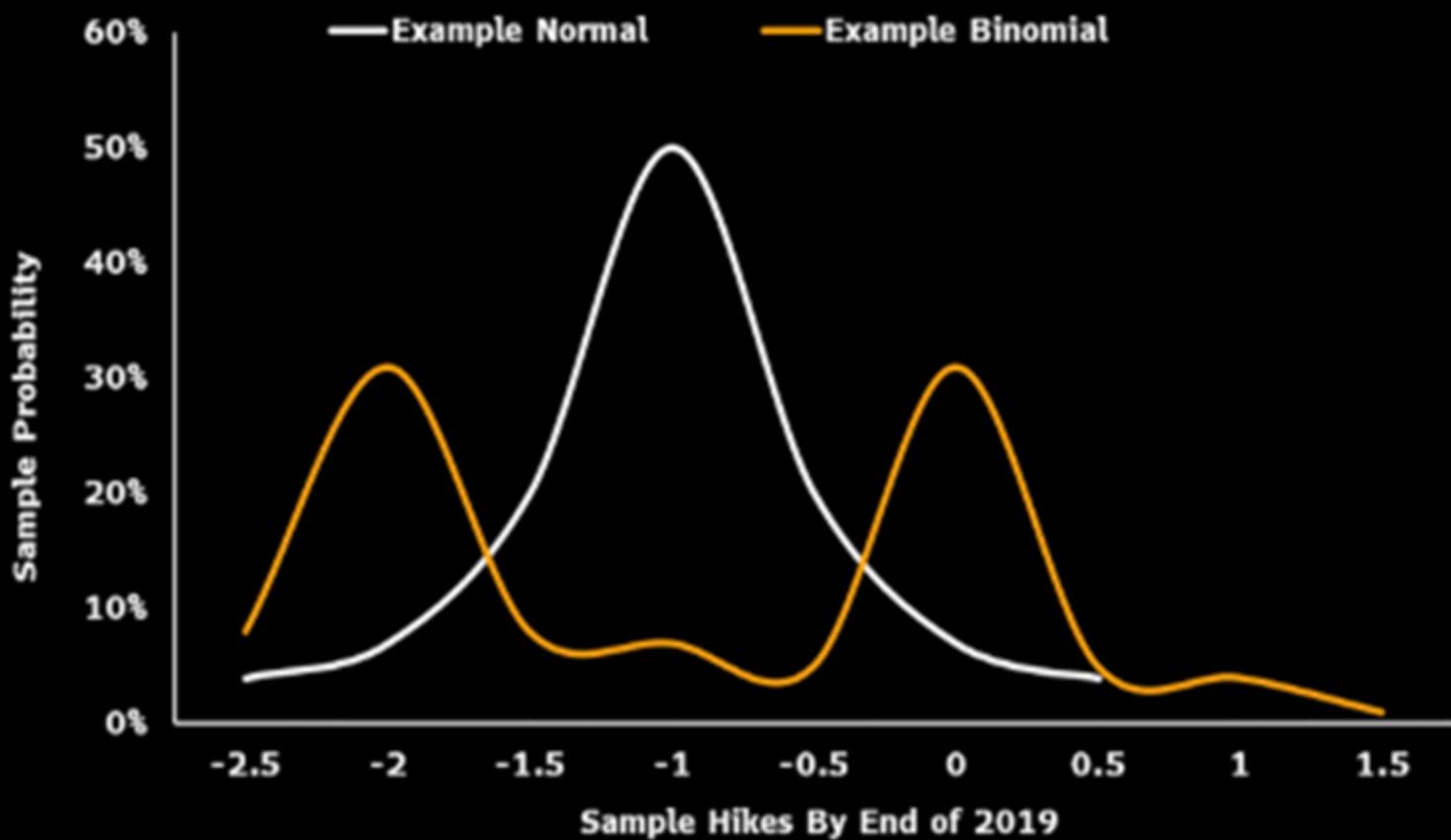
### JPY outperformed, GBP sold in UK hours

After trade war risks have risen, USD breadth has improved (Chart 2). Despite a strong USD trend, USD/JPY has descended into a downtrend with falling MAA. Plus, investors sold GBP in London hours, coinciding with a pullback in US hours.

**Chart 20: Short-term USD breadth has widened recently**



## Stylized Example: Bimodel & Log Normal Distribution



Source: Bloomberg Intelligence