US Rates Weekly

Uncomfortably numb

15 April 2016

Rates Research
United States

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Macro/Governments: Uncomfortably numb

Our analysis suggests that the impact of key macroeconomic data on US rates has decreased meaningfully over the last two months. Better US data are necessary but far from sufficient for higher US rates or volatility. Rates have lagged the bounce in risk assets as expected, but prior tantrums suggest that the rates-risk disconnect has room to widen.

– Shyam S. Rajan, Dora Xia

Short Duration: explaining low ON RRP usage

We explore reasons for the limited recent take-up in the Federal Reserve's overnight reverse repo facility (ON RRP). The recent decline in usage likely reflects the higher level of tri-party Treasury GC repo vs the Fed facility, recent declines in money fund balances, limited early-month GSE usage, and increased availability of money fund supply.

– Mark Cabana

TIPS: flow and the front end

We believe the return of risk-parity and the jump in pension and foreign participation are positive long-term signs for real yields. We take a closer look at April 17s vs asset swaps and terminal CPI projections.

– Shyam S. Rajan, Dora Xia

Technicals: TY's and S&P500 test major resistance

Bond prices face major resistance at 131-02. Stock prices test major resistance at 2,085. Relative performance shows bond prices beginning to outperform stock prices, however bonds needs to confirm with a breakout. Their inverse correlation remains negative at -.50.

– Paul Ciana

Recommended Trades

Summary of views

US	Direction	Rationale	Trade
Front end	Richer bill curve vs OIS	Treasury has proceeded with cuts to front end auction sizes and we expect continued bill pay downs over coming weeks. This should richen bills vs OIS, particularly in longer-dated issues, and also cause overnight Treasury GC repo rates to decline.	Tactical long in bills vs OIS
Duration	Neutral nominal rates, long real rates	We believe outright duration views are best expressed through long real rate positions at current levels.	Long 30y real rates
Curve	Structural Steepeners, tactically cautious	Tactically, with the implied timing of the hike pushed out more than 12m away, the bias for the curve is to flatten on risk-off days. Further, unlike late last year, recent data suggests that steepeners are becoming a consensus position. Structurally, we believe the curve will struggle to flatten as much as what is priced into the forwards over a 2-3y horizon.	3y forward 10s-30s bear steepeners
Swap spreads vs Treasuries	Biased wider	With March supply behind us, the main tightening pressure for spreads is past. We are biased towards wider spreads given that central bank selling and corporate supply appear to be subsiding.	Long 5y spreads
Agency spread to Treasuries	Wider	We think Fannie/Freddie recapitalization risk is higher for 2016. We think the front end of the Agency curve could cheapen the most versus Treasuries if this materializes.	Overweight 7y-10y vs 2y
SSA spread to Treasuries	Wider	The lower overall liquidity of the SSA space we think will become more penalized by investors as regulatory constraints continue to build and market liquidity declines. More liquid core SSA should outperform less liquid non-core as liquidity premia becomes more tiered.	Overweight liquid vs less liquid
TIPS breakevens	Bullish real yield	For medium term investors, we are bullish TIPS on a real yield basis and prefer the 30y sector. For real money investors, we recommend owning 2y TIPS on asset swaps.	Long 30y real yields Long 2y TIPS on ASW
Gamma	Neutral	Despite attractive valuations, we are neutral on Gamma. Our analysis suggests that recent key macroeconomic data surprises have had limited impact on US rates, making it harder to justify a long Gamma position.	
Vega	Neutral	Very long expiries are likely to be highly directional with rates in the near-term due to dvega/drate flows.	

Macro/Governments

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Uncomfortably numb

- Our analysis suggests that the impact of key macroeconomic data on US rates has decreased meaningfully over the last two months. Better US data are a necessary but far from sufficient condition for higher US rates or volatility.
- While rates have expectedly lagged the bounce in risk assets, we take a closer look at how far the disconnect can go. Positioning and price action heading into prior tantrums suggest that the rates-risk disconnect has further room to widen.

Quick update on curve

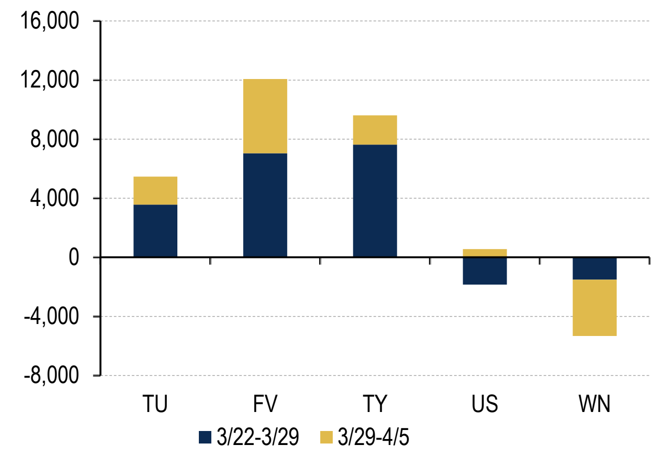
This week's consistent flattening makes us more confident that steepeners got too crowded post the Fed. The update to the CFTC data from April 5 suggests that asset managers purchased nearly $21bn 10y equivalents of FV+TY contracts vs. selling $6bn 10y equivalents of the long end of the curve (Chart 1). The near term crowded nature of the reflationary trade is apparent – both in the consistent flattening of the curve this week and the struggles for the breakeven market to keep pace with oil.

Not really data dependent

Rates remain range bound and largely muted in reaction to economic data. While the chart of data surprises vs. 10y rates has been well advertised, the even more surprising trend recently is the lack of movement on days of important macro data. To measure market indifference to US recent data surprises, we analyze five key macro variables released monthly: payrolls, ISM manufacturing PMI, retail sales ex autos, core CPI and core PCE. We calculate how much 10y yields moved on these days and normalize the change by the z-score of data surprises in Chart 2. Clearly, the sensitivity of 10y rates to US data declined meaningfully in the last two months.

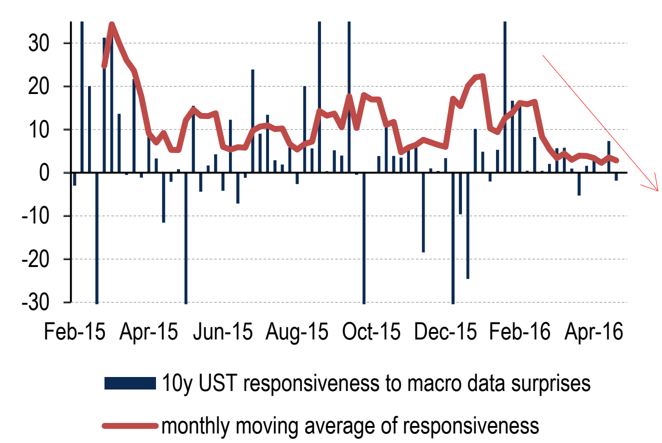
This implies that better US data are a necessary but far from a sufficient condition to move rates higher, at least in the near term. It also explains why it is hard to be long rates vol despite attractive valuations. Current breakevens for 1m10y imply a market move of about ~4.3bp a day – their lowest level in four months. But this can be largely justified given that the realized daily vol, even on these largest event days this year (five key data days), has barely been 4bp

Chart 1: Asset managers piled on to steepeners post the Fed



Asset manager flow in the 2 weeks since Yellen. Source: CFTC

Chart 2: The impact of key macro-economic data on 10y rates has declined



Source: BofA Merrill Lynch Global Research

Rates vs. risk assets – how far can the disconnect go?

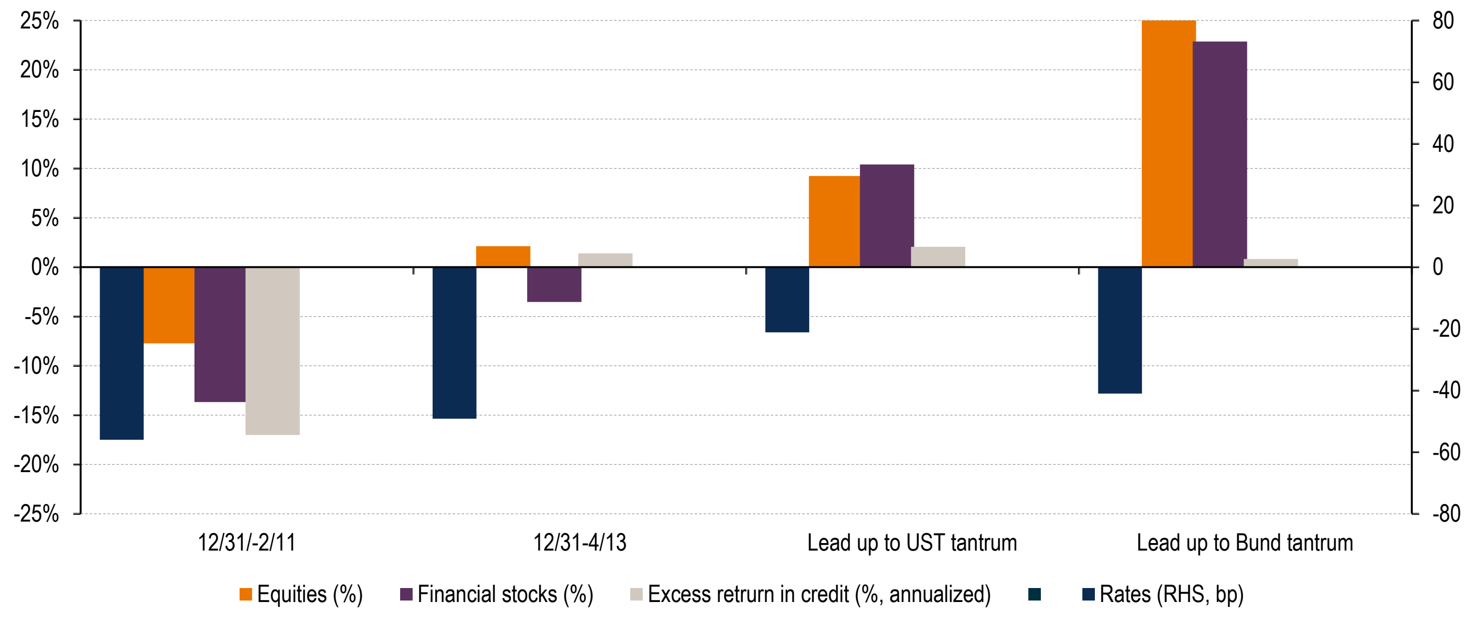
Two months ago, we noted that even if equities were to bounce from correction levels, history suggested that rates would be slow to catch up. But at what point is this disconnect wide enough where a rate tantrum becomes imminent? 10y rates are at the same levels they were on February 12 – since then the S&P500 is up 11%, credit spreads are tighter by 60bp, 10y breakevens are up 30bp, and oil is up 40%.

To answer we this we look at rates vs. other asset classes and compare to prior episodes in Chart 3. Clearly, from February 11 to today, rates have remained rich while all other asset classes have bounced back. But larger disconnects preceded the two prior tantrums,.

- In 2013, in the US, rates were 20bp richer on the year, with stocks up 9% and credit spreads tighter by 85bp on the year before the tantrum.
- In the 2015 lead up to the bund tantrum, euro stocks were up 26% and credit was tighter by 30bp, with rates about 40bp lower.

Clearly the disconnect has room to develop before the tail risk of a tantrum increases substantially.

Chart 3: While a disconnect between rates and risky assets has developed since February 11, larger disconnects preceded prior tantrums



Source: BofA Merrill Lynch Global Research

Waiting for the lazy long

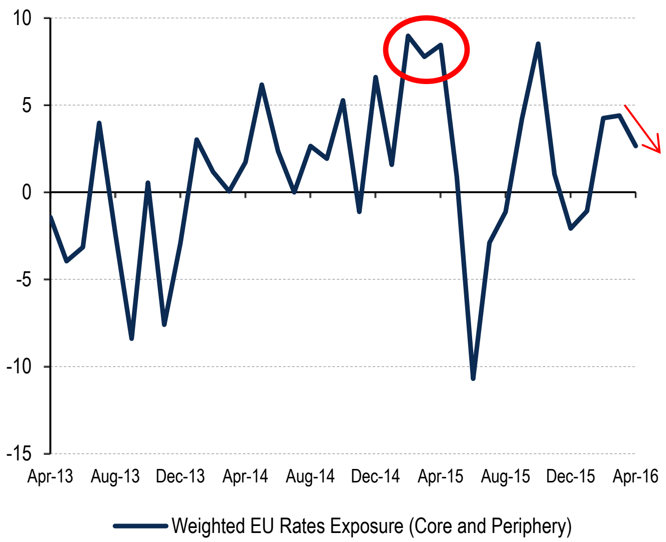
The other major impediment to a tantrum trade is positioning – investors are not nearly as long duration as in the prior episodes.

- As our European counterparts have noted, duration positioning is nowhere near as long as it was in April last year for core duration. This is despite the fact that negative net issuance this April is twice as negative as last year, and the carry dynamics are better (given the rate cuts).
- In the US, nearly every conversation continues to be about how attractive front-end shorts are relative to the Fed dots or hiking projections as opposed to the QE infinity talk in mid 2013. Asset managers have flipped from being long 400,000 contracts in Eurodollars in mid 2013 to being short about 1 million contracts consistently over the last year. Note that the front end of the curve re-pricing hike

expectations ahead by 1.5 years was a large part of the tantrum trade in 2013. Such a re-pricing would be rather unlikely given the extent of short positioning now.

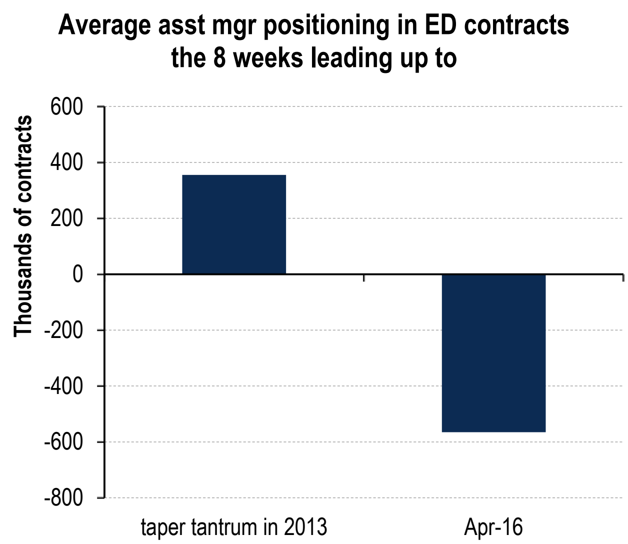
So while we would all like more volatility and higher rates, it is hard to get either when US data are not in the driver's seat and positioning is not stretched relative to history.

Chart 4: Weighted EU rates exposure



Source: BofA Merrill Lynch Global Research

Chart 5: Front end asset manager positioning in the US



Source: BofA Merrill Lynch Global Research

Short Duration

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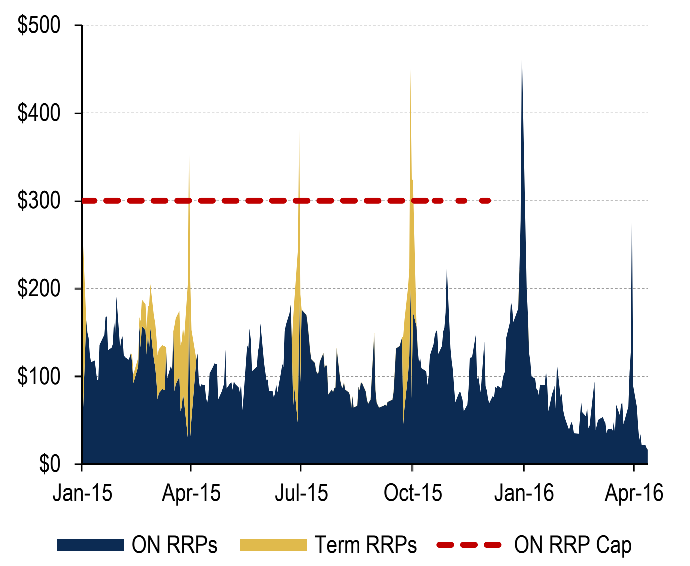
- **Explaining low usage in the Fed's overnight reverse repo facility:** We explore reasons for the very limited recent take-up in the Federal Reserve's overnight reverse repo facility. The recent decline in ON RRP usage likely reflects the higher level of tri-party Treasury GC repo vs the Fed facility, recent declines in money fund balances, limited early-month GSE usage, and increased availability of money fund supply.

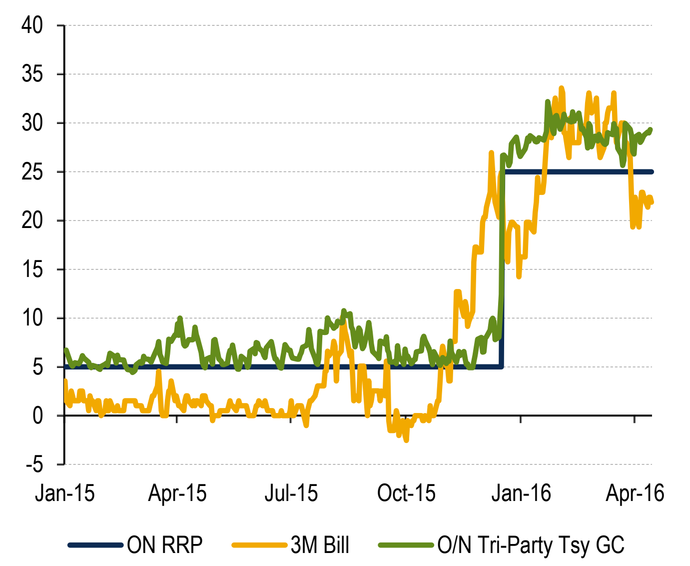
This week usage in the Federal Reserve's overnight reverse repo (ON RRP) facility reached its lowest level since the start of 2014, with usage on Wednesday totaling a mere $16.6 billion. This level is roughly 25% of the average facility utilization year to date and nearly $50 lower since the start of last week (Chart 6). We believe the low usage reflects a variety of factors including: the higher level of overnight tri-party Treasury GC repo vs the Fed facility, recent declines in money fund balances, limited early-month GSE usage, and changes in investable money fund supply. As a more marginal consideration, money funds may have kept cash levels elevated ahead of potential outflows associated with the mid-April tax date.

Chart 6: Usage at the Fed's ON RRP recently declined ($bn)



Source: BofML Global Research, Federal Reserve Bank of New York

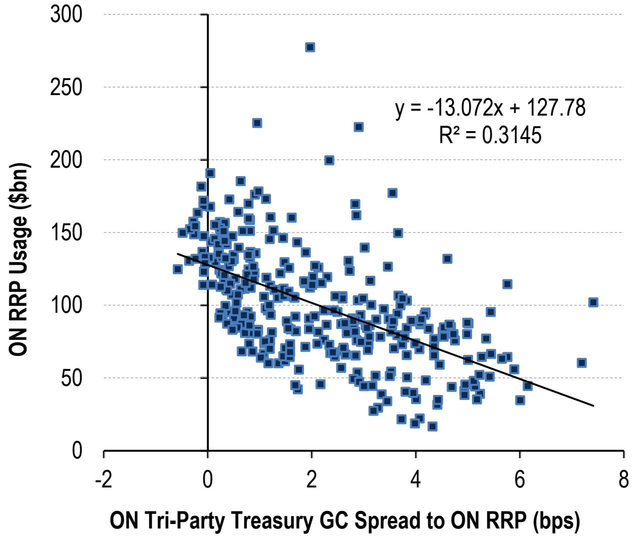
Chart 7: O/N Tsy GC still above ON RRP, 3 month bills below (bps)



Source: BofML Global Research, Federal Reserve Bank of New York, BNY Mellon, Bloomberg

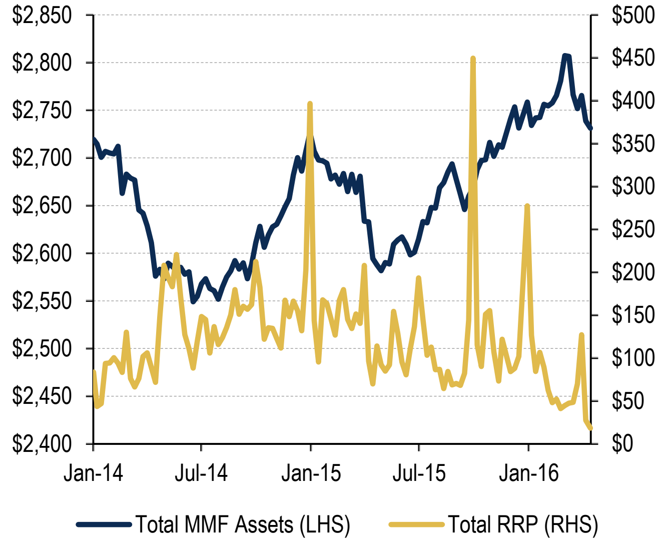
The reduction in ON RRP usage occurred amidst a mixed backdrop for secondary market rates, where bill rates have declined but overnight tri-party Treasury GC repo remained near recent levels. The 3-month bill has recently traded below the ON RRP rate due to the decline in bill supply outstanding. However, overnight tri-party Treasury GC repo has remained comfortably above the ON RRP rate and facility usage has exhibited a negative relationship with the overnight tri-party Treasury GC repo rate in the past (Chart 7, Chart 8). The fact that overnight tri-party Treasury GC is around 4 basis points above the facility indicates that money funds can still invest in repo at a relatively attractive yield pickup to the ON RRP.

Chart 8: ON RRP usage negatively related to overnight tri-party GC rate



Note: excludes quarter end dates; data since the start of 2015
Source: BofML Global Research, Federal Reserve Bank of New York, BNY Mellon, Bloomberg

Chart 9: ON RRP usage declined along with money fund balances ($bn)



Source: BofML Global Research, Federal Reserve Bank of New York, ICI, Bloomberg

Other factors contributing to a decline in ON RRP usage include:

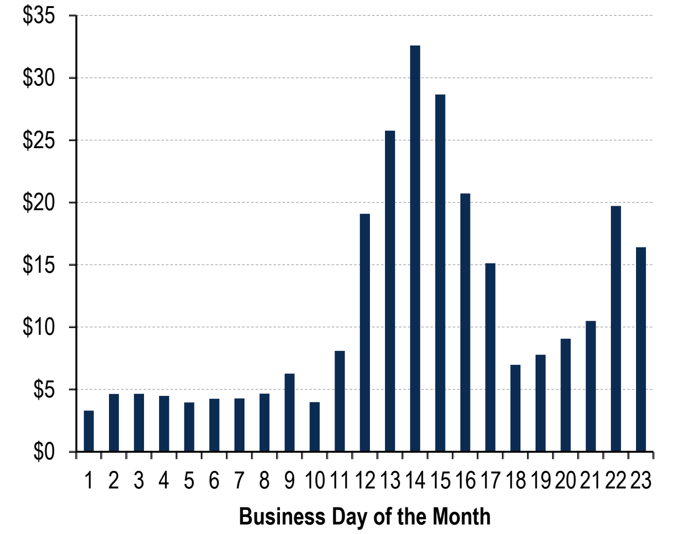
Reduction in money fund balances and limited usage from the GSEs: Recall, money funds and GSEs are the predominate users of the ON RRP; on average over the course of 2015, money funds accounted for 90 percent of total ON RRP usage while the GSEs accounted for 9 percent.

- Total money fund balances declined $75 billion since early March while the ON RRP has declined over a similar period (Chart 9).
- GSE usage of the ON RRP has averaged only $4 billion during the first 10 business days of the month and we guess that their usage over the past week has also been limited (Chart 10). As GSEs build cash for their monthly principal and interest payments they become more active in money markets and invest a larger amount in the ON RRP.

Increased amounts of money fund supply: Supply has come through greater availability of Treasury repo, more outstanding commercial paper (CP), and increased amount of short-dated government securities (excluding recent bill pay downs).

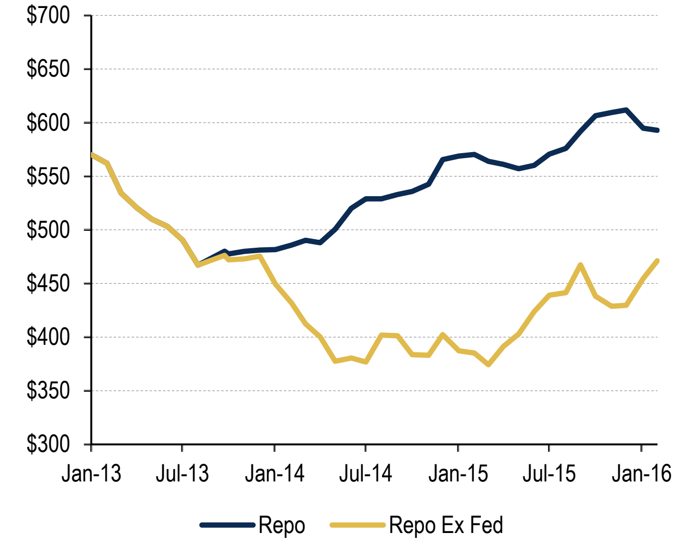
- Money funds have reported increased usage of repo excluding the Fed since early 2015 (Chart 11). In addition, primary dealer Treasury financing including TIPS has increased by over $70 billion since the start of the year and over $150 billion since last summer (Chart 12). Crane's monthly money fund portfolio holdings support the increase in repo availability and indicate that the amount of Treasury, agency, and "other" repo money funds have utilized at month ends excluding the Fed has been increasing (Chart 13). The increase in dealer repo availability for money funds may be due to more efficient usage of balance sheet after a period of significant regulatory adjustment. While repo availability may have also increased from smaller dealers who are not subject to the supplementary leverage ratio or through bi-lateral repo arrangements, we find limited evidence of this in the money fund monthly portfolio data.
    - Reduced specials activity may have also contributed to greater Treasury GC repo availability over recent weeks. Recall, lower specials activity increases the amount of Treasury securities that are considered GC and makes this repo pool larger than it otherwise would have been.

Chart 10: GSE use of Fed ON RRP builds in 3rd week of month ($bn)



Note: average usage across business days in 2015
Source: BofML Global Research, Federal Reserve Bank of New York

Chart 11: Money fund usage of repo has recently increased ($bn)

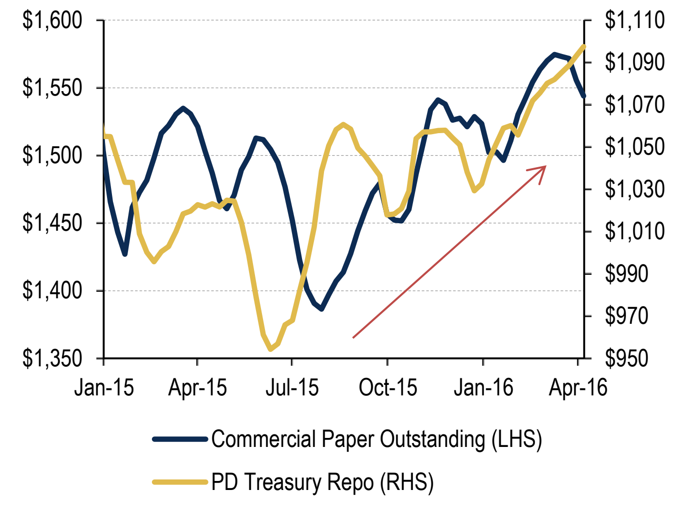


Source: BofML Global Research, Federal Reserve Bank of New York, ICI, Haver

- Recent increase in commercial paper outstanding. The amount of commercial paper outstanding recently reached its largest amount since the beginning of 2013 (Chart 12).

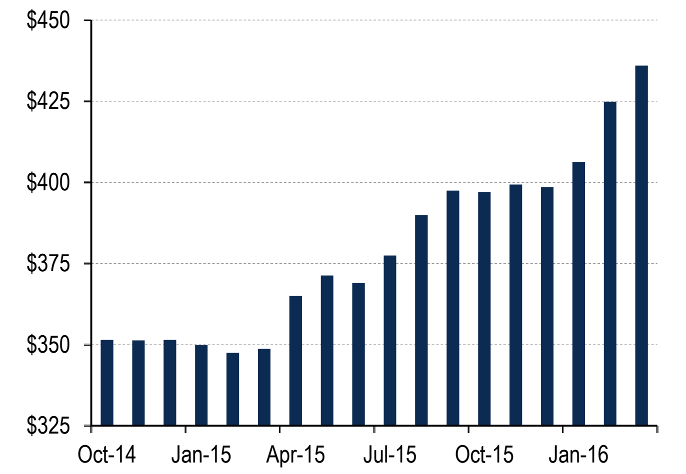
- The total amount of short-dated government securities offered through bills, Treasury coupons, FRNs and agency discos has increased over recent years (Chart 14). Of course, money funds would only find paper that is yielding above 25 basis points an attractive substitute for the Fed facility.

Chart 12: Primary dealer Treasury repo and CP have increased ($bn)



Note: 4 week moving average
Source: BofAML Global Research, Federal Reserve, Bloomberg

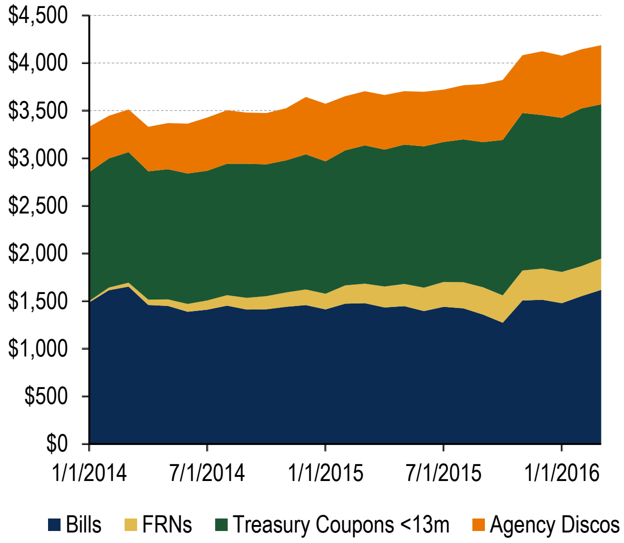
Chart 13: Money fund repo allocation has increased recently ($bn)



Note: Reported figures are rolling 3-month average of month end data
Source: BofAML Global Research, Crane data

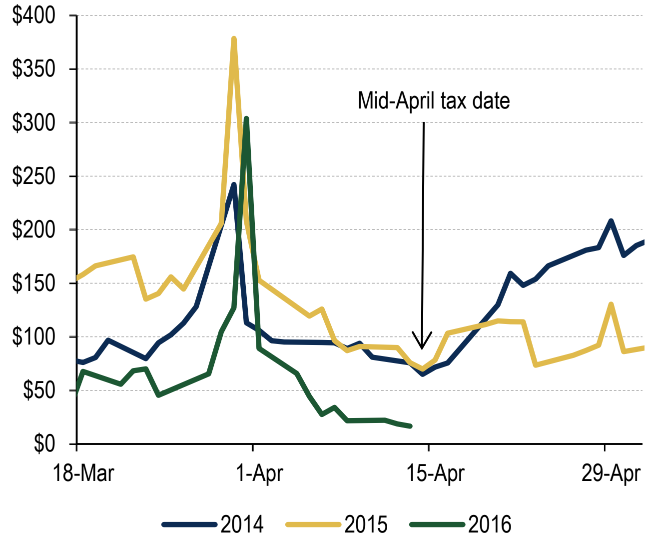
Liquidity considerations ahead of the mid-April tax date: Some retail funds may have kept cash balances slightly higher amidst the potential for late day tax-related withdrawals. In past years, there has been a slight decline in total RRP usage around the April 15 tax date and there may be similar dynamics contributing to the recent ON RRP declines this year (Chart 15).

Chart 14: Amount of short-dated gov't supply has increased ($bn)



Source: BofAML Global Research, Treasury, FNMA, FHLMC, FHLB, Bloomberg

Chart 15: ON RRP usage has declined around mid-April in past ($bn)



Source: BofAML Global Research, Federal Reserve Bank of New York, Bloomberg

Going forward, we would not be surprised to see ON RRP increase next week and later this year. Next week, GSE cash should return to the market and may pressure overnight Treasury GC repo lower while their usage of the ON RRP will likely increase. Later this year, ON RRP usage will likely increase amidst increased inflows into government funds ahead of the full money fund reform implementation date in October. However, as long as front-end supply remains plentiful and secondary market rates remain competitive relative to the ON RRP offer rate, ON RRP take-up may be more subdued than we previously thought.

More broadly, some clients have asked if low utilization of the ON RRP means that the Fed no longer needs the facility in order to maintain control over short-term interest rates. We believe that the ON RRP facility is very important to the Fed's ability to control short-term interest rates as it increases the bargaining power of cash providers. If the ON RRP did not exist, it is possible that cash-rich investors would find that front-end rates might trade lower in the absence of a credible investment alternative and thus reduce the Fed's ability to effectively tighten policy. While the recent limited usage of the facility might make some at the Fed increasingly comfortable with re-instating a cap on the ON RRP in the near term, we believe the Fed will be best served by waiting to re-apply the cap after full implementation of money fund reform in October.

TIPS

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This is an excerpt from our Inflation Strategist: TIPS and Oil 13 April 2016.

"Real"ly reassuring

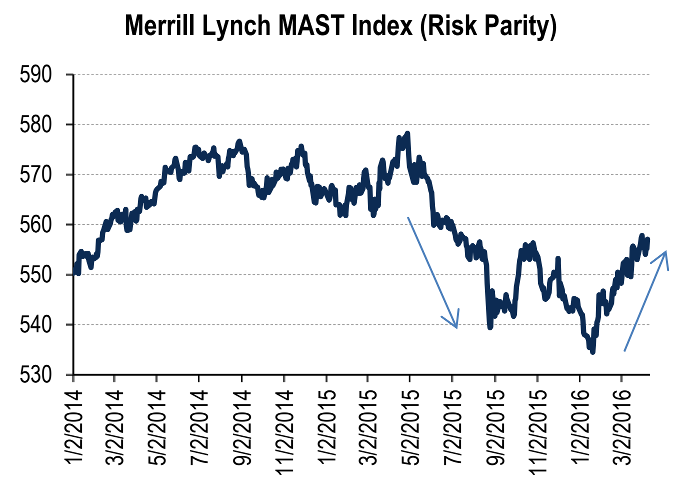
The March FOMC's welcome reassurance was followed by Fed Chair JYellen's strong pat on the back for our core rates views (long real rates and curve steepeners). 30y real rates are now 40bp lower, and the 5s-30s nominal curve is 20bp steeper since the first hike. To put the "real" move into context, the entire decline in rates year-to-date has been in real rates, with breakevens unchanged. This validates our stance that the real rate long is more comfortable and less prone to shocks than the breakeven long. We maintain this stance while acknowledging that breakevens remain dramatically cheap to every valuation metric (front end vs. oil, medium run vs CPI forecasts and long run vs. the Fed's target).

To us, the recent breakeven bounce does one critical thing for the TIPS product – it creates confidence that rationality exists at some price (although really low), which is likely to makes investors more confident about buying dips. Two months ago, there was a serious crisis of confidence in the market, making investors skeptical of being first to catch a falling knife.

Attracting new buyers

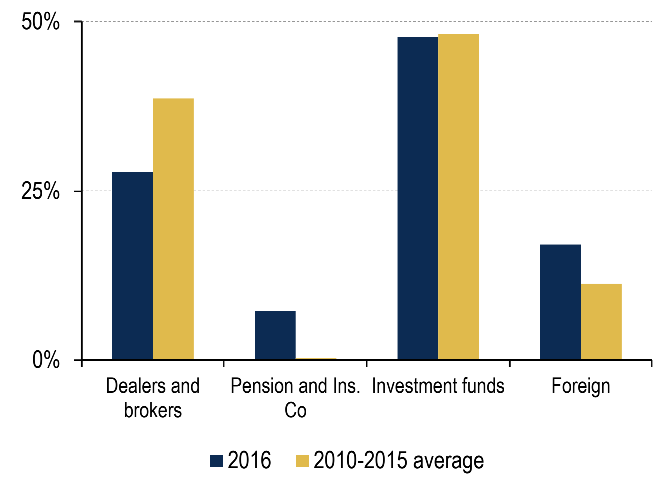
We believe the flow angle for TIPS also has turned meaningfully. As we expected (See China, risk-parity and real yields), unlike in 3Q14, the return in correlation between equities and rates has meant strong performance by risk-parity funds in 1Q16 (Chart 16). Given that linkers are a substantial portion of risk parity portfolios, we would expect renewed sponsorship for the product from this community. Second, the 30y TIPS auction allotment showed a surprising allocation to US pension funds and also a notable increase in foreign allotment – both positive long-term signs for the product (Chart 17).

Chart 16: The bounce back in risk-parity performance should be a positive for TIPS demand



Note: MAST refers to the Merrill Lynch Multi Asset Strategy Index.
Source: BofA Merrill Lynch Global Research

Chart 17: There was a surprising increase in pension and foreign allotment at the recent 30y TIPS auction



Source: BofA Merrill Lynch Global Research, US Treasury

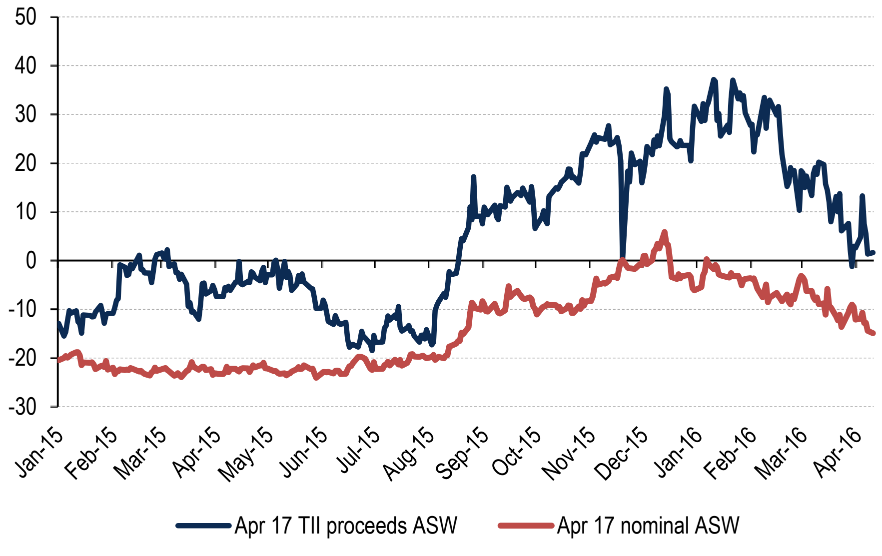
Our favorite April front end-trade and the mix with asset swaps

In our 2016 year ahead, we noted that we would switch front-end TIPS longs vs oil into asset swap trades. We thought a large part of the cheapness of front-end cash TIPS came from its cheapness to swaps as opposed to cheapness to terminal CPI forecasts. With asset swaps richening significantly, especially in the front end of the curve, we would now switch our loyalties on the front end trade again – we would recommend buying them vs oil as opposed to inflation swaps. Given that it is April, we are compelled to pick the April 17 as an example so that we can satisfy the crowd that is eagerly awaiting the index fallout. As a reminder, April 17s – a $44bn issue – will fall out of the index at month end. Because TIPS have a much larger mutual fund/retail ownership than their nominal counterparts and the support of money funds for <1y paper is absent, they usually tend to cheapen as the indexed investors sell out of them.

Looking at April 17s cheapness: April 17s imply a terminal CPI of 240.5, or roughly 1.47% headline CPI inflation from Feb 15 2016 to Feb 15 2017. The oil futures curve has about 7% appreciation priced in – assuming a 3% weight for energy commodities and 90% pass-through of Brent into retail gasoline deducts about 19bp from headline CPI inflation, leaving ex-energy CPI at 1.31%. The CPI-PCE wedge is 55bp, and assuming it tightens to 45bp (on an unexpected slowdown in OER), would leave core PCE (assuming food inflation at zero) at 0.95%. The 1.31% core CPI pricing stands about 80bp lower than our economists forecast of 2.1%.

Looking at it vs Libor, April 17s went from asset swapping Libor +23bp to now close to Libor +3bp. About 60% of the tightening was driven by front-end nominals also richening on asset swaps, while the remainder was compression in the iota spread. So the most noticeable change in this relationship is that not only are front TIPS cheaper to terminal CPI projections, but now all of the cheapness can be attributed to a mispricing of terminal CPI and not purely an asset swap trade. We recommend scaling into April 17 longs hedged for oil on any index-related cheapening this month.

Chart 18: Front end TIPS have richened significantly on asset swaps



Source: BofA Merrill Lynch Global Research

Technicals

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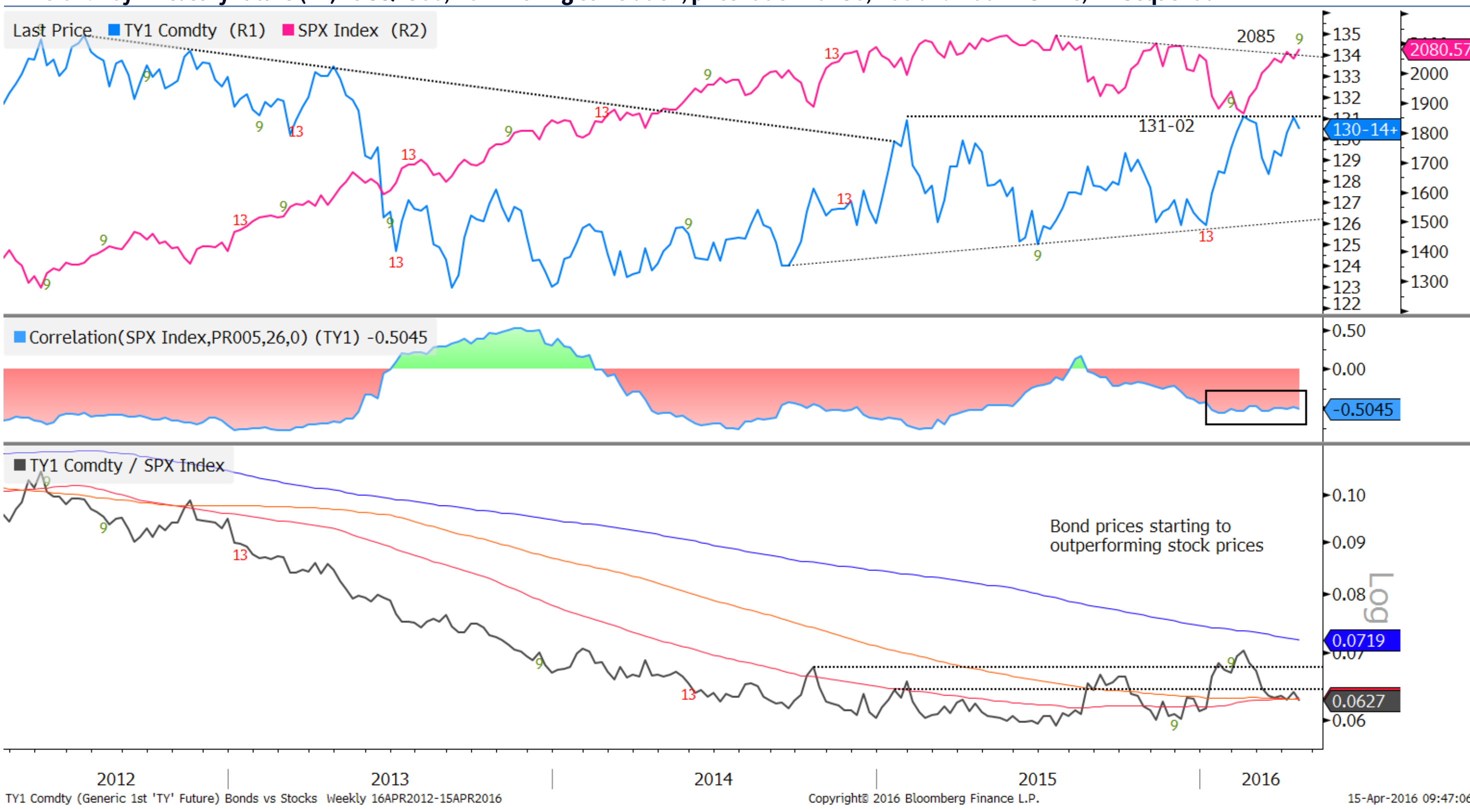
TY's and SPX test major resistance

Bond prices are attempting to follow through on a bullish breakout from earlier this year. In Q1, bonds closed at a new weekly high (131-02) and are retesting that level as resistance. The relative performance of bond prices to stock prices also broke out to a new high in Q1 suggesting bond prices may be entering a period of outperforming stocks. However bond price needs to confirm by breaking through resistance. Stock prices have rallied to reach the target from the Q1 double bottom at 2,085 and now face that level as resistance. Many bearish divergences still remain however a close above this level suggests the S&P500 will test and possibly make new all-time highs. For more on this and the SPX, please see this report Chart Blast. The rolling 26wk correlation remains negative at -.50 suggesting bonds and stocks remain decoupled. We are inclined to follow the market that breaks resistance.

Exhibit 1: 10yr Treasury future (TY) vs S&P500, 26wk rolling correlation, price ratio with 50, 100 and 200wk SMAs, TD Sequential



Source: BofA Merrill Lynch Global Research, Bloomberg

Summary of open trades as of 04/14/2016

Trade	Initiation date	Initiation level	Target	Stop loss	Current level
Buy 6m2y 1x2 payer ladders financed with OTM 6m2y receiver	12/2/2015	0	40	-20	-1.6
Long 30y real yields	11/23/2015	1.20%	0.70%	1.55%	0.88%
Buy 6m5y GBP straddles vs 6m5y USD straddles	11/20/2015	0	450	-225	12
Buy 1y2y receiver ladders	10/1/2015	0	700K	-350K	154
1x2 1y 10s30s floor spreads	3/20/2015	0	400	-200	10
Long 30y TIPS BE vs 30y RRB BE	12/5/2014	16.3bp	30bp	9bp	15

Summary of trades closed over the last 52 weeks as of 04/14/2016

Trade	Initiation date	Initiation level	Termination date	Level closed
Long 2y2y inflation swap BE vs ED12	11/23/2015	1.92% on EDU8 vs 177 2y2y	1/20/2016	1.48% on EdU8 vs. 150 on 2y2y
Long 10y TIPS breakevens	2/3/2015	171.25	1/20/2016	140
March to December 2016 FOMC OIS steepener	12/5/2015	43 bp	60 bp	32 bp
Long EUR 1y2y receiver spreads vs USD 1y2y receivers	6/25/2015	0	12/18/2015	165
Long BNG vs FHLMC	12/5/2014	15.5	12/18/2015	22
Long 12 month bill vs OIS	11/23/2015	1	12/8/2015	11
Long 5y spreads	6/17/2015	13	9/1/2015	8
Aug-Oct 2015 forward OIS curve steepener	5/7/2015	8.5	8/31/2015	8.5
3m10y receiver spreads	5/13/2015	460	8/13/2015	870
1y1y payer ladders	7/22/2014	0	7/22/2015	0
Long 3m3y payer spreads vs 3m2y payers	4/21/2015	0	7/21/2015	256
Long 3y spreads	7/31/2014	13.5	6-Jul	26
3y 10s30s bear steepeners	12/5/2014	0	7/2/2015	285
5s-30s flatteners	5/28/2015	136.2	6/17/2015	146.8
1m 2s5s10s receiver flies	5/12/2015	0	6/12/2015	-30
SPX put spread contingent on swap 10y >3%	12/5/2014	0	6/5/2015	-232.5
Buy 2.625 08/20 vs T 1.625 08/22	12/5/2014	26.5	6/5/2015	37
Long TY invoice spreads (LCH levels)	5/15/2015	3.9	6/1/2015	6
Agency spread curve steepener	12/4/2014	33.5	5/11/2015	50
EDZ5 - EDZ6 steepener	4/29/2015	74	6-May	90
6m2y receiver ladder	12/4/2014	0	5/5/2015	300
Long 10y spreads	3/19/2015	7.8	4/23/2015	5

Bid/offer spreads accounted for in initiation and closing levels. Does not reflect tax withholdings or any investment advisory fees. Past performance is no guarantee of future results. A complete performance record is available on request. Inception date - 6/18/2010.
Trade initiation and termination prices are determined at the time we publish the initiation and termination of the trade. Prices used to mark current levels of open trades in our model portfolio are taken at the time the *US Rates Weekly* is published. Source: BofA Merrill Lynch Global Research

Forecasts, Issuance

Interest rate forecast summary

(% EOP)	2Q14	3Q14	4Q14	1Q15	2Q15	3Q15	4Q15	1Q16	2Q16	3Q16	4Q16	1Q17	2013	2014	2015	2016
Fed Funds	0-0.25	0-0.25	0-0.25	0-0.25	0-0.25	0-0.25	0.25-0.50	0.25-0.50	0.50-0.75	0.50-0.75	0.75-1.00	0.75-1.00	0-0.25	0-0.25	0.25-0.50	0.75-1.00
Fed effective	0.09	0.07	0.06	0.06	0.08	0.07	0.20	0.25	0.62	0.62	0.87	0.87	0.07	0.06	0.20	0.87
3-Month T-Bill	0.02	0.02	0.04	0.02	0.01	-0.02	0.16	0.20	0.40	0.50	0.55	0.70	0.07	0.04	0.16	0.55
3-Month LIBOR	0.23	0.24	0.26	0.27	0.28	0.33	0.61	0.63	0.73	0.83	0.93	1.03	0.25	0.26	0.61	0.93
2-Year T-Note	0.46	0.57	0.66	0.56	0.64	0.63	1.05	0.72	0.90	1.00	1.00	1.20	0.38	0.66	1.05	1.00
5-Year T-Note	1.63	1.76	1.65	1.37	1.65	1.36	1.76	1.20	1.40	1.45	1.50	1.70	1.74	1.65	1.76	1.50
10-Year T-Note	2.53	2.49	2.17	1.92	2.35	2.04	2.27	1.77	1.90	2.00	2.00	2.30	3.03	2.17	2.27	2.00
30-Year T-Bond	3.36	3.20	2.75	2.54	3.12	2.85	3.02	2.61	2.80	2.85	2.85	3.10	3.97	2.75	3.02	2.85
2-Year swap	0.58	0.82	0.90	0.81	0.90	0.75	1.18	0.84	0.98	1.10	1.12	1.35	0.49	0.90	1.18	1.12
5-year swap	1.70	1.93	1.77	1.53	1.79	1.38	1.74	1.17	1.35	1.42	1.49	1.73	1.79	1.77	1.74	1.49
10-year swap	2.63	2.64	2.28	2.02	2.46	2.00	2.19	1.64	1.78	1.90	1.92	2.25	3.09	2.28	2.19	1.92
30-year swap	3.33	3.19	2.70	2.39	2.94	2.52	2.62	2.14	2.33	2.40	2.42	2.70	3.93	2.70	2.62	2.42

Shaded regions represent BofA Merrill Lynch US Rates Research forecast.
Source: BofA Merrill Lynch US Rates Research

Monthly CPI forecast update

	Total CPI					Core CPI			
	(nsa)			(sa)		(nsa)		(sa)	
	Level	mom	yoy	mom	yoy	mom	yoy	mom	yoy
2014: Jul	238.25	-0.04	2.0	0.10	1.9	-0.01	1.9	0.11	1.9
2014: Aug	237.85	-0.17	1.7	-0.04	1.7	0.07	1.7	0.08	1.7
2014: Sep	238.03	0.08	1.7	0.15	1.7	0.23	1.7	0.14	1.7
2014: Oct	237.43	-0.25	1.7	0.06	1.6	0.24	1.8	0.18	1.8
2014: Nov	236.15	-0.54	1.3	-0.16	1.3	-0.07	1.7	0.07	1.7
2014: Dec	234.81	-0.57	0.8	-0.34	0.7	-0.20	1.6	0.08	1.6
2015: Jan	233.71	-0.47	-0.1	-0.64	-0.2	0.20	1.6	0.17	1.6
2015: Feb	234.72	0.43	0.0	0.20	-0.1	0.35	1.7	0.16	1.7
2015: Mar	236.12	0.60	-0.1	0.19	0.0	0.41	1.8	0.21	1.8
2015: Apr	236.60	0.20	-0.2	0.14	-0.1	0.30	1.8	0.25	1.8
2015: May	237.81	0.51	0.0	0.29	0.0	0.13	1.7	0.12	1.7
2015: Jun	238.64	0.35	0.1	0.23	0.2	0.10	1.8	0.17	1.8
2015: Jul	238.65	0.01	0.2	0.13	0.2	0.03	1.8	0.15	1.8
2015: Aug	238.32	-0.14	0.2	-0.01	0.2	0.09	1.8	0.12	1.8
2015: Sep	237.95	-0.16	0.0	-0.09	0.0	0.29	1.9	0.19	1.9
2015: Oct	237.84	-0.04	0.2	0.19	0.1	0.26	1.9	0.20	1.9
2015: Nov	237.34	-0.21	0.5	0.15	0.4	0.04	2.0	0.18	2.0
2015: Dec	236.53	-0.34	0.7	-0.11	0.7	-0.12	2.1	0.15	2.1
2016: Jan	236.92	0.17	1.4	0.03	1.3	0.31	2.2	0.29	2.2
2016: Feb	237.11	0.08	1.0	-0.17	1.0	0.47	2.3	0.28	2.3
2016: Mar	238.13	0.43	0.9	0.09	0.9	0.28	2.2	0.07	2.2
2016: Apr	239.20	0.45	1.1	0.32	1.1	0.24	2.1	0.18	2.1
2016: May	239.86	0.27	0.9	0.11	0.9	0.20	2.2	0.19	2.2
2016: Jun	240.28	0.18	0.7	0.13	0.8	0.11	2.2	0.18	2.2
2016: Jul	240.45	0.07	0.8	0.19	0.8	0.06	2.2	0.18	2.2
2016: Aug	240.81	0.15	1.0	0.24	1.1	0.17	2.3	0.18	2.3
2016: Sep	241.08	0.11	1.3	0.14	1.3	0.27	2.3	0.18	2.3
2016: Oct	241.17	0.04	1.4	0.26	1.4	0.24	2.3	0.18	2.3
2016: Nov	241.16	-0.01	1.6	0.34	1.6	0.04	2.3	0.18	2.3
2016: Dec	240.93	-0.10	1.9	0.16	1.9	-0.10	2.3	0.18	2.3

NSA: Not seasonally adjusted, SA: seasonally adjusted. MoM is monthly percent change; YoY is year-over-year percent change.
Source: BofA Merrill Lynch Global Research

Economic projections

Real Economic Activity, % SAAR	2Q 14	3Q 14	4Q 14	1Q 15	2Q 15	3Q 15	4Q 15	1Q 16	2Q 16	3Q 16	4Q 16	2014	2015	2016	2017
Real GDP	4.6	4.3	2.1	0.6	3.9	2.0	1.4	0.6	2.0	2.3	2.2	2.4	2.4	1.7	2.1
% Change, Year Ago	2.6	2.9	2.5	2.9	2.7	2.1	2.0	2.0	1.5	1.6	1.8				
Final Sales	3.5	4.3	2.1	-0.2	3.9	2.7	1.6	0.6	2.1	2.4	2.3	2.4	2.3	1.9	2.1
Domestic Demand	3.6	3.9	3.0	1.7	3.7	3.0	1.8	1.2	2.7	2.7	2.5	2.5	2.8	2.2	2.4
Consumer Spending	3.8	3.5	4.3	1.7	3.6	3.0	2.4	1.5	2.6	2.6	2.5	2.7	3.1	2.4	2.4
Residential Investment	10.4	3.4	9.9	10.1	9.4	8.2	10.1	8.0	9.0	7.0	6.0	1.8	8.9	8.4	5.8
Nonresidential Investment	4.4	9.0	0.7	1.6	4.1	2.6	-2.1	-1.6	2.9	3.6	3.3	6.2	2.8	1.0	3.1
Government	1.2	1.8	-1.4	-0.1	2.6	1.8	0.1	0.4	1.2	1.1	1.1	-0.6	0.7	0.9	0.7
Net Exports (Bil 09$)	-443	-429	-464	-541	-535	-546	-552	-579	-603	-616	-630	-443	-543	-607	-666
Inventory Accumulation (Bil 09$)	77.1	79.9	78.2	112.8	113.5	85.5	78.3	80.3	75.3	70.3	65.3	68.0	97.5	72.8	62.8
Nominal GDP (Bil $, SAAR)	17270	17522	17616	17649	17914	18060	18165	18256	18428	18614	18802	17348	17947	18525	19260
% SAAR	6.9	6.0	2.2	0.8	6.1	3.3	2.3	2.0	3.8	4.1	4.1	4.1	3.5	3.2	4.0
Key Indicators															
Industrial Production (% SAAR)	5.4	2.6	3.6	-1.7	-2.7	1.5	-3.2	-0.8	0.3	1.6	1.8	2.9	0.3	-0.4	1.8
Capacity Utilization (%)	78.3	78.4	78.6	77.7	76.7	76.6	75.8	75.6	75.6	75.8	76.0	78.2	76.7	75.7	76.7
Nonfarm Payrolls (Avg mom change, 000s)	276	245	274	190	251	192	282	209	170	165	165	251	229	177	131
Civilian Unemployment Rate (%)	6.2	6.1	5.7	5.5	5.4	5.1	5.0	4.9	4.9	4.8	4.6	6.2	5.3	4.8	4.5
Civilian Participation Rate (%)	62.8	62.9	62.8	62.8	62.7	62.5	62.5	62.9	63.0	63.0	63.0	62.9	62.7	63.0	62.9
Productivity (% SAAR)	2.4	3.1	-1.7	-0.8	3.1	2.0	-2.2	-2.0	0.2	0.3	0.0	0.8	0.7	-0.4	0.1
Housing Starts (Thous. SAAR)	984	1029	1055	978	1158	1158	1135	1166	1258	1323	1352	1001	1107	1275	1400
Current Account (% of GDP)												-2.2	-2.7	-2.9	-3.0
US Budget Balance ($bn, Fiscal Year)												-483	-439	-520	-530
Inflation															
GDP Price Index (% SAAR)	2.2	1.6	0.1	0.1	2.1	1.3	0.9	1.4	1.8	1.8	1.9	1.6	1.0	1.5	1.8
% Change, Year Ago	1.9	1.8	1.4	1.0	1.0	0.9	1.1	1.4	1.3	1.5	1.7				
PCE Chain Prices (% SAAR)	2.1	1.2	-0.4	-1.9	2.2	1.3	0.3	0.3	1.6	1.7	2.0	1.4	0.3	1.1	1.8
% Change, Year Ago	1.7	1.6	1.1	0.2	0.3	0.3	0.5	1.0	0.9	1.0	1.4				
Core PCE Chain Prices (% SAAR)	2.0	1.4	1.0	1.0	1.9	1.4	1.3	1.9	1.7	1.6	1.6	1.5	1.3	1.6	1.8
% Change, Year Ago	1.6	1.6	1.4	1.3	1.3	1.3	1.4	1.6	1.6	1.6	1.7				
CPI, Consumer Prices (% SAAR)	1.9	0.9	-0.3	-2.9	2.4	1.4	0.8	-0.3	1.8	2.1	2.9	1.6	0.1	1.2	2.1
% Change, Year Ago	2.0	1.8	1.2	-0.1	0.0	0.1	0.4	1.1	0.9	1.1	1.6				
CPI ex Food & Energy (% SAAR)	2.1	1.5	1.5	1.7	2.3	1.8	2.2	2.7	2.0	2.2	2.2	1.7	1.8	2.2	2.1
% Change, Year Ago	1.9	1.8	1.7	1.7	1.8	1.8	2.0	2.3	2.2	2.3	2.3				

Shaded regions represent BofA Merrill Lynch US Economics Research forecast
Source: BofA Merrill Lynch US Economics Research

Debt issuance

Treasury financing (billions of $)

Coupon auctions:

Announcement	Auction	Settlement	Issue	Size
14-Apr	21-Apr	29-Apr	5-yr TIPS	16
21-Apr	28-Apr	2-May	2-yr FRN	15
21-Apr	25-Apr	2-May	2-yr note	26
21-Apr	26-Apr	2-May	5-yr note	34
21-Apr	28-Apr	2-May	7-yr note	28

*Announced (actual) values. ( ) = Paydown. (R) = Reopening
Source: BofA Merrill Lynch Global Research, Bloomberg, U.S. Treasury

US Rates Research

Publications

Date	Publication	Headline
Weekly – Weekly publication expressing views and ideas across the rates spectrum – Macro, Technicals, Treasuries, Short rates, TIPS, Swaps, Agencies, Derivatives		
08-Apr-2016	US Rates Weekly	Curve caution
01-Apr- 2016	US Rates Weekly	Land of the rising bond buyers
18-Mar- 2016	US Rates Weekly	A welcome reassurance
11-Mar- 2016	US Rates Weekly	Off the beaten path
04-Mar-2016	US Rates Weekly	Looking across the pond
Viewpoint – Publication that addresses a topic in greater detail than provided in the Rates Focus or Rates Weekly		
25-Feb-2016	US MBS/Rates Viewpoint	Negative rates: implications for mortgages
04-Feb-2016	US Rates Viewpoint	Negative rates in the US
03-Feb-2016	US Rates Viewpoint	Recession risks: don't wait for the curve to invert
26-Jan-2016	US Rates Viewpoint	Fed reinvestments: implications for repo and issuance
16-Jun-2015	US Rates Viewpoint	Regulatory cost of futures and cleared swaps
Alpha – Intra-week publication with Trade ideas and portfolio updates		
08-Dec-2015	US Rates Alpha	Trade update: stop triggered on long bill vs OIS position
01-Oct-2015	US Rates Alpha	Trade Idea: buy 1y2y receiver ladders
01-Sep-2015	US Rates Alpha	Trade update: closing 5y spread long
31-Aug-2015	US Rates Alpha	Trade update: Closing Aug-Oct OIS steepener
13-Aug-2015	US Rates Alpha	Trade Update: expired 3m10y receiver spreads
Vol Trader – Weekly report highlighting opportunities in volatilities and the most efficient ways to express directional rate views using options		
18-Feb-2016	Global Rates Vol Trader	Fade aggressive depo cuts
11-Feb- 2016	US Rates Vol Trader	Negative rates-implications for rates
28-Jan-2016	Global Rates Vol Trader	Position for carry
21-Jan -2016	US Rates Vol Trader	Positioning for dovish risks
14-Jan-2016	US Rates Vol Trader	Value in receiver ladders and forward vol
07-Jan-2016	US Rates Vol Trader	Fade the flat skew
Primer– Shelf piece describing a product, strategy or data report in greater detail		
01-Apr-2015	Global Banks and Brokers	The global bank regulation handbook
13-Nov-2014	US Rates Primer	VXTYN volatility futures
10-Dec-2012	US Rates Primer	Swap futures primer
21-Sep-2012	US Rates Primer	Supranational & Agency Issuer Handbook
16-Aug-2012	US Rates Primer	BofAML MODES: systematic approach to duration trading
Year Ahead		
04-Dec-2015	US Rates 2015 Year Ahead	Fundamentals vs. flows

Data reports

Date	Report	Headline
CFTC Futures Positioning Report – Weekly report summarizing futures positioning by investor class released by the CFTC		
26-Feb-2016	US Rates Data	BofAML CFTC Treasury Futures Flow Report
19-Feb-2016	US Rates Data	BofAML CFTC Treasury Futures Flow Report
Treasury RV Report – Daily report with rich/cheap valuation, asset swap levels, SOMA holdings etc		
29-Feb-2016	US Rates Data	Treasury RV Report
26-Feb-2016	US Rates Data	Treasury RV Report

To subscribe to any of the aforementioned publications or data reports, please contact your sales representative or the US Rates Research Team at +1 646 855 8846.

US Rates Trades

We track all trades recommended by the BofA Merrill Lynch Rates Research team. The team recommends directional, curve, spread, inflation, relative value and volatility views in US rates market. Cross-product and cross country views in the rates space are also recommended at times. These views are then reflected in our recommended positions using one or several instruments.

Trade Methodology

Given a combination of changes to team structure, client feedback and consistency within the global rates research franchise at BofA Merrill Lynch, we make some changes to our existing methodology. All US Rates trades will now be recommended, tracked and reported using the following methodology:

Trade recommendation

- Trade recommendations presented in any BofA Merrill Lynch Global Research report published by a rates analyst will consistently be tracked (earlier tracking was limited to trades recommended in a "US Rates Alpha" note). Any report containing a trade recommendation will include the rationale for the trade, any analysis and views that motivated the recommendation, recommended entry level, the target and stop loss levels and a discussion of the relevant risks. Entry, target and stop-loss levels are chosen independently for each trade depending on what the analyst believes will provide a suitable risk-reward given market conditions.

- Trade sizes will no longer be suggested to avoid conveying varying conviction levels within the rates analyst team. For hedge illustrations, sizes will be provided on arbitrary notional amounts and will be indicated as "size provided for illustration" only.

- No aggregated performance metric will be provided. The US Rates Weekly will continue to have a table of open and closed trades, with recommended opening level, closing date and closing levels so that investors can continue to monitor our trade recommendations.

Trade closing

- Any recommendation to close a trade is published in a BofA Merrill Lynch Research publication note. The note will contain the rationale behind closing the trade and the levels at which the trade was closed.

- **Stop loss:** Stop-loss" levels are determined to be reached if the trade recommendation has reached the market level or dollar loss amount described in the original trading note during New York trading hours (8am-4pm) and is a level or a dollar amount which sustains for at least 30 minutes of trading. Any trades that reach their stop loss level as mentioned above will be closed and a note documenting the closing of the trade will be published.

- **Target:** Target levels are determined to be reached if the trade recommendation has reached the market level or dollar amount described in the original trading note during New York trading hours (8am-4pm) and is a level or a dollar amount which sustains for at least 30 minutes of trading. Trades that reach their target level may or may not be closed. If the trade is closed a note documenting the closing of the trade will be published.

- **Other:** Trades may also be closed before hitting stop loss or target levels due to a change in the analyst's view or market conditions. In such a scenario a note documenting the closing of the trade will be published.

Past performance does not guarantee future returns

The performance results of investors following the these trades will differ from the performance contained in this report for a variety of reasons, including differences related to transaction costs and of the fees incurred, as well as the time and price that trades were entered or closed for trades. The performance results of investors following the these trades will also differ based on differences in the timing of payment and receipt of cash flows, which are not the same as the trade date. In addition, no assurance can be given about the future performance of these trades based on historical performance.

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