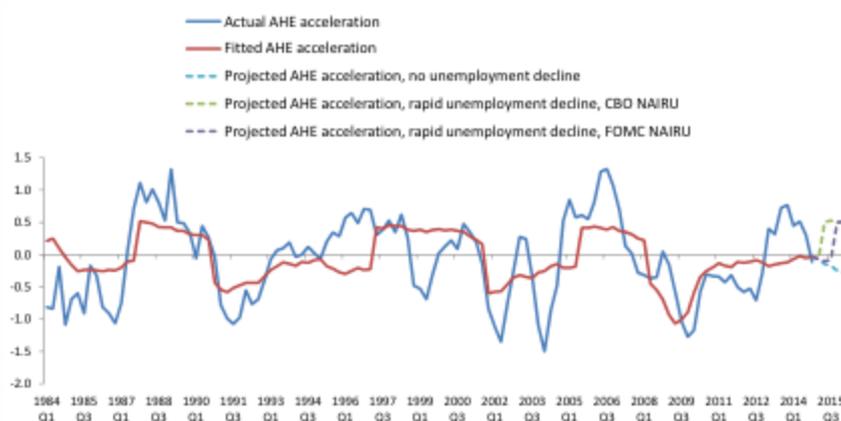




US Fixed Income Weekly

- There are plenty of minefields out there but none are likely to dominate what we still think for now is a powerful rationale that warrants the current term structure. Long rates are well defined by low to negative term premium and a low terminal Funds rate. While we still see plenty of reasons why the Fed struggles to lift off making it as hard as it always has been to make money on shorting front rates to say a 3M forward horizon.
- There are reasonable risk reward trades that we like including using bullish rate views to buy cheap risk on protection e.g. on SPX. We also for choice rather receive the market than pay it based on term premium staying very negative (Europe) but also the risk of some softer US data. This would favor curve caps and some relief steepening. Volatility should be higher in the front end relative to the back end.
- The round out for 2014 GDP data was fascinating because like Rip Van Winkle after 5 years of would be accelerating recovery, we realize that there has been no acceleration - for five years! A rock solid dullness of sub 4 percent nominal growth. And everyone is so afraid of inflation! More importantly it clearly justifies the low terminal funds rate that the market is pricing as it leaves as many questions unanswered in terms of productivity and profits especially.
- We look at the potential for Japanese financial sector demand for overseas securities to pick up in 2015 and conclude there is up to \$200 billion to come based on dollar yen moving to 130 and recent sensitivities of asset allocation decisions as well as pre-announced pension asset reallocations.

Actual, fitted, and projected wage acceleration



Source: Haver Analytics and Deutsche Bank

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2015 Outlook Recommendations

	Trade Detail	Rationale	Risks	Opened	Entry	Current	P/L
Option	Sell FVH5 puts versus buy like structured swaption for zero premium	Overly aggressive Fed could produce a "tightening tantrum" which is negative for risk asset valuations, likely producing hedging flows in swap spreads that push spreads wider.	Spreads tighten in a sell-off beyond the strikes	12/19/14	FVH5 +10.bp Swaption +9bp		
Option	Buy 1x1, 1y1y receiver spreads with strikes ATMF and ATMS	The post-Fed sell-off has left the spot/forward spread near multi-year post-crisis highs.	Maximum total loss is the premium outlay	12/19/14	29c		
Swaps RV	Pay 3y1y versus 2y1y	This curve segment might be expected to steepen if, for example, higher inflation produces greater pricing power, or if the long-absent cyclical increase in productivity finally materializes.	Curve flattens	12/19/14	40		
Option	1X2 receiver spreads: Buy \$100mn 3M10Y ATMF vs sell \$200mn 3M10Y 19bp OTM receivers at zero net cost	This a positive carry trade that captures the central path for the 10Y sector during Q1.	Vulnerable to rally below the breakevens with potentially unlimited downside.	12/19/14			
Option	Sell 1X2 payer spreads at the short end: Sell \$100mn 6M3Y ATMF vs. buy \$200mn 34.5bp OTM payers at zero net cost	The repricing of Fed hikes could begin in Q2 with the short end rebounding sharply after initial rally.	Vulnerable to rally below the breakevens, with potentially unlimited downside.	12/19/14			
Option	Sell \$100mn 6M10Y straddles vs. buy \$300mn 6M3Y straddles for a net premium of 175K	With expectations of Fed hikes, volatility should move to the front end of the curve, while the back end movements remains	Unilateral spike in backend vol.	12/19/14			
Option	Quiet flatteners: sell \$1bn 6M 5s/10s 9.5bp OTM curve cap vs. buy \$1bn 6M 5s/10s atmf/9.5 curve floor spread at zero cost	Potential for considerable bear flattening should the market reprice the Fed hikes.	Curve steepens.	12/19/14			
Option	Quiet bulls: Sell \$100mn 1Y10Y 50bp OTM payers vs. buy \$100mn 1Y10Y ATMF/33 receiver spreads costless	This captures the risk of bullish flattening of the curve where growth is unable to take off either due to fundamental weakness or in response to a policy mistake of premature hikes.	Sell-off beyond 3.10%.	12/19/14			
Option	Buy \$100mn 1Y30Y receivers, struck at spot, at 1270c	Bull/flatteners at the back end.	Loss equal to the options premium	12/19/14			
Option	6M dual digital: 2s > F+10bp & 10s < F-10bp offer 11.5%	This is a leveraged expression of a policy-mistake trade where premature hikes cause a rally at the back end.	Loss equal to the options premium	12/19/14			
Option	Equity/rates hybrids: Buy 19-Jan-2015 SPX 100/90 put spreads subject to 5s > Fwd+25bp, offer	Given the impressive run equities have had on the back of both normalization of the markets as well as the accommodation. Fed exit is likely to be disruptive for their short-term performance.	Limited downside with maximum loss equal to the options premium.	12/19/14			

Source: Deutsche Bank



2015 Outlook Recommendations

	Trade Detail	Rationale	Risks	Opened	Entry	Current	P/L
Treasury RV	Sell rich bond futures against cheap off-the-run bonds	The classic bond futures look rich in the long end	Further outperformance of the 6.25s of 5/2030 in the long end	12/19/14	+21 bp	+5 bp (Closed on 2/25)	+1,249k
Inflation Swaps	Buy 2yr2yr forward breakevens	The 2yr2yr inflation appears attractive on a long-term history	Further decline in medium-term inflation expectations	12/19/14	1.95%	2.03%	+329k
Inflation	Buy long end inflation	The long end inflation market looks undervalued on a long-term perspective, with the 30-year TIPS breakevens trading below 2.00%.	Inflation markets further underperform.	12/19/14	1.92%	1.91%	-1,305
Inflation	Buy 5yr5yr forward breakevens as a hedge to high rates	The 5yr5yr forward breakevens have dropped to their multi-year lows.	Decline in energy prices and a stronger dollar	12/19/14	2.18%	2.06%	-206k
Agencies	Buy 3nc1y and 5nc6m callables vs. matched-maturity bullets	With the Fed moving closer to its first rate hike in a low-inflation, moderate-growth environment, there are few themes as sure as the flattening of the curve, likely going beyond the forwards.	Higher implied vol cheapens callables relative to bullets	12/19/14			
Agencies	2-year vs. 5-year agency spread curve flattener	On the bullet agency curve, spreads are relatively tight to the level of rates volatility, and they risk widening 5-10bp from current levels on our model incorporating forward vols and the projected level of outstanding debt.	Increased GSE risk widens intermediate spreads	12/19/14			
US Credit	US High Yield: Sell covered puts on HY CDX	With CCC energy bonds trading at 60 cents on the dollar, and oil just \$10 away from matching the most severe percentage drop in oil prices over 1997-8, our sense is that we may be reaching the latter stages of a pronounced move lower in a commodities-driven decline in HY credit valuations	Widening of credit spreads beyond the breakeven point as well as a rally in credit beyond the breakeven, with potentially unlimited downside in either scenario	12/19/14			

Source: Deutsche Bank



Other Current Recommendations

	Trade Detail	Rationale	Risks	Opened	Entry	Current	P/L
Treasury RV	Sell rich bond futures against cheap off-the-run bonds	Sell the rich classic bond futures versus off-the-run bonds in the 2026 to 2028 sector	Classic bond futures richen	11/26/14	+21 bp	+12 bp	+337k
Treasury RV	Short ultra long futures vs 30s	Ultra long futures are rich	Ultra continue to richen	6/12/14	+12 bp	+6 bp	+480k
Inflation	Short 1/2026 breakevens vs 5yr and 30yr breakevens	10s look rich; sell the rich 1/2026s	10s richen further	1/23/15	+15 bp	+0 bp	+229k
Inflation	Long 30yr TIPS breakevens versus 10yr TIPS breakevens	10s-30s breakeven curve appears too flat on a long term basis	Long term inflation expectations decline	11/26/14	+16 bp	+6 bp	+389k
Inflation	Long 1/2029 breakevens vs 10yr breakevens	10yr TIPS to 1/2029 breakeven curve is too flat	1/2029 breakeven cheapen further	10/3/14	+2 bp	-2 bp	+206k
Inflation	Long 30yr TIPS breakevens	The long end inflation market looks undervalued; 30yr TIPS breakevens near multi-year lows	Long term inflation expectations decline	12/12/2014	1.91%	1.91%	-862k
Inflation Swaps	Long 2yr2yr inflation swaps	We like being long 2yr2yr or 2yr3yr forward breakevens to take advantage of cheap 5s, while avoiding negative carry in front end TIPS	Medium term inflation expectations decline	12/12/2014	1.77%	2.04%	+2,467k
Agencies	Buy long-dated GSE debt: Buy \$100mm FNMA 6.625 11/30s vs. T 5.325 2/31s	Legislative momentum of Johnson-Crapo on GSE reform is credit bullish for long-dated GSE debt.	Reform bill stalls in Congress or language on government guarantee modified.	3/14/14	+48 bp	+40 bp	+2,039k
Muni	Receive \$100m 3y3y SIFMA ratio at 78.2%. (Sorid)	Attractive roll down profile	Further ratio curve steepening	4/25/13	78.2%	77.8%	+590k
Option	1X2 1Y 5Y5Y ATMF/41 receiver spreads costless	Long-end rallies on premature or fast rate hikes (policy mistake)	Rally below the breakevens; unlimited downside	9/26/14	0¢	-87.8¢	-1,004k
Option	Buy \$100mn 6M 2y1y 25bp OTM MC payers vs. Sell 100mn 1Y 4Y1Y 45bp OTM MC payers at zero net cost	Curve flattens on a hawkish FOMC	Curve bear steepens	9/12/14	0¢	-0.6¢	-5k
Option	Sell \$100mn 6M5Y ATMF vs. buy \$200mn 6M5Y 30bp OTM payers at zero net cost	Skew trades rich in a sell-off	Rates sell off half-way and stay there till the expiry	9/12/14	0 bp	0.0 bp	-2k
Option	Buy \$1bn 6M 5s/10s ATMF/15 curve cap spread vs. sell \$1bn 6M 5s/10s 5bp OTM curve floor at zero net cost	Curve steepens as the market converges to Fed	Curve flattens beyond the floor strike; unlimited downside	9/5/14			

Source: Deutsche Bank



Other Current Recommendations

	Trade Detail	Rationale	Risks	Opened	Entry	Current	P/L
Option	Buy \$100mn 2Y2Y ATMF receivers vs. sell \$22.7mn 2Y10Y ATMF receivers for the net takeout of \$55K	Trend growth and low inflation limit the rise of long rates	Recessionary mode with bull flattening of forwards	10/3/13	-6 bp	-160 bp	-1,538k
Option	Payer spreads: Sell \$500mn 2Y2Y 92bp OTM payers vs. buy \$50mn 2Y30Y 25bp OTM payers at zero net cost	Vol differential is favorable for initiating a positive carry bear steepening trade	The curve bear flattens	1/2/14	+2 bp	-10 bp	-127k
Option	Mid-curve payer: Sell \$100mn 1Y 5Y5Y ATMF mid-curve payers vs. buy \$200mn 1Y2Y ATMF payers for the net takeout of 28c	5Y5Y has a limited upside while 1Y2Y could see significant repricing due to adjustments of monetary policy	The curve bear steepens	3/14/14	-18¢	0.0¢	+184k
Swaps Rv	Receive \$1,023.4mm 2y1y rate versus pay \$1,002.7mm 1y1y rate	Positive carry look at repricing Fed	The curve bear steepens	5/20/14	+95 bp	+78 bp	+1,701k
Swaps Rv	Receive \$1,023.4mm 2y1y rate versus pay \$431.2mm 1y1y rate and \$597mm 3y1y rate	Further rally via Fed delay benefits 2y1y rate	2y1y underperformance	5/20/14	-10 bp	-11 bp	-179k
Swaps Rv	Forward steepener: Receive fixed on \$115.71 mm 1y10, pay fixed on \$54.85 mm 1y30y	Slope of 10s30s too flat given level of 10y Rate	Curve flattens	3/28/14	+45 bp	+34 bp	-2,769k
Swaps Rv	Forward fly: Pay fixed on \$298.6 mm 10y5y versus receive fixed on \$72.9 mm 5y5y and \$257.6 mm 15y5y	5y rate, 10y forward is historically rich versus 5y rate, 5y forward and 5y rate, 15yfoward	Further 10y5y outperformance	4/29/14	+22 bp	+10 bp	-781k
Cross Market	Buy \$10m each of SPNTAB 2.95% 3/16; SPABOL 2.625% 5/16; DNB NOR 2.90% 3/16 on ASW. (Sorid)	Risk-on retightening of covered bonds in stable rates regime	Bank credit underperforms; Eurozone credit crunch; Widening in a rate sell-off	7/25/13	+25 bp +37 bp +31 bp	+9 bp +11 bp +11 bp	-567k
Cross Market	US-Europe spread tightener: Receive fixed in \$244 mm USD 5y5y rate vs. pay fixed on €165.8mm EUR 5y5y rate	US recovery disappoints	Spread widens	1/24/14	+127 bp	+178 bp	-15k

P/L as of 03/26/2015 prices.

We started tracking the performance of our trade recommendations on June 18, 2010. This table shows our current open recommendations; a table of our closed positions is in the back of this publication. Both tables will be a regular feature in the Weekly. Performance numbers are based on trader end-of-day marks, and do not include bid/offer spreads or transaction costs. We consider the relevant benchmark for our trades to be a zero position, given the leveraged or generally market neutral aspects of these trades. Historical performance is not a guarantee of future performance

Source: Deutsche Bank





United States

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US Overview

- There are plenty of minefields out there but none are likely to dominate what we still think for now is a powerful rationale that warrants the current term structure. Long rates are well defined by low to negative term premium and a low terminal Funds rate. While we still see plenty of reasons why the Fed struggles to lift off making it as hard as it always has been to make money on shorting front rates to say a 3 month forward horizon.
- There are reasonable risk reward trades that we like including using bullish rate views to buy cheap risk on protection e.g. on SPX. We also for choice rather receive the market than pay it based on term premium staying very negative (Europe) but also the risk of some softer US data. This would favor curve caps and some relief steepening. Volatility should be higher in the front end relative to the back end.
- The round out for 2014 GDP data was fascinating because like Rip Van Winkle after 5 years of would be accelerating recovery, we realize that there has been no acceleration - for five years! A rock solid dullness of sub 4 percent nominal growth. And everyone is so afraid of inflation! More importantly it clearly justifies the low terminal funds rate that the market is pricing as it leaves as many questions unanswered in terms of productivity and profits especially.
- We look at the potential for Japanese financial sector demand for overseas securities to pick up in 2015 and conclude there is up to \$200 billion to come based on dollar yen moving to 130 and recent sensitivities of asset allocation decisions as well as pre-announced pension asset reallocations.
- Historically, consistent bullish flattening of 10s30s has increased the probability of falling CPI y/y inflation over the subsequent six months. Bull flattening was pervasive enough to suggest an elevated risk of falling inflation following November, December, and January, and the indicator is hovering around "true" levels at present.
- The median bond fund manager will likely finish the first quarter being close to flat to the benchmark. Our excess returns model and SMRA survey responses show that portfolio managers have reduced their exposure to corporate bonds and increased allocation into Treasuries.

Still Play the Range

Markets seem choppy without a lot of direction. Investors in general seem more occupied with long Eurostoxx, Nikkei and the still the dollar although since the Fed, the "handover" of dollar strength from Europe led to Fed led is undermining. In rates while everyone "wants" higher rates, we are of the view that the market isn't going anywhere and the range should continue to be traded. Our bias is still to buy dips rather than sell rallies. We also think investors should be more convinced not to short the front end. It didn't help you in the rally and it probably won't help you in a rangy market. This suggests carry trades and curve caps are more attractive now than before, relative to outright duration plays.



There are some quiet bear trades that we continue to like. More volatility in the front end than back end; accumulator trades that put you into deferred payers conditional on short rates underperforming their forwards. We also still like cheap risk on protection trades that knock out if rates do breach their forwards.

There are lots of issues that will likely roil markets. Greece is unresolved. The US jobs data has been so strong that it could lose a beat. The Fed is entering a decision zone that could rattle risk markets if too aggressive or the back end if too much of a "relent". With falling reserves and the end of bank HQLA purchases, investors are wondering who are the new buyers – especially as fx reserves are now falling, partly China but also petrodollars. Domestic insurance/pensions for now perhaps and maybe Japan again after their year end? While in Europe bonds are hard to come by and the ECB has only just begun!

All said and done though 2 percent 10s seem a very good mid point around which to trade with 5y5y around 2 ½ percent. Daily realized volatility has been as high as 15 bps compared with more like 5 bps last year. So whatever the conviction, make it less so!

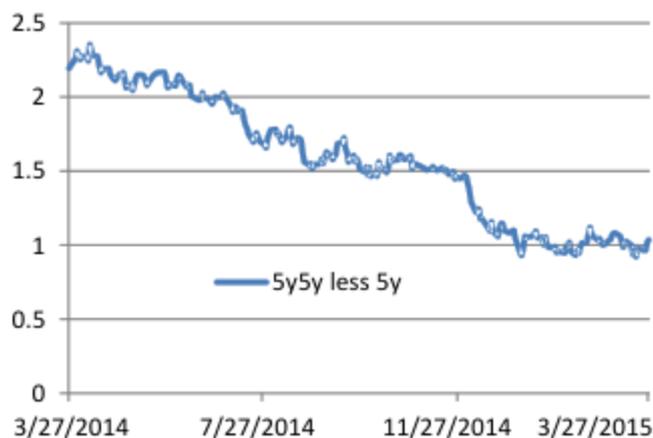
Term Structure

There has been just one day this year when being short the five year rate made money versus the 3 month forward. So for all the focus on "being in flatteners", it is important to appreciate that flatteners have worked to the extent that the long leg has rallied. Pushing the Fed up till now has been a fool's game. Over the past twelve months it is not much better with 5s beating the forward as around 10 percent of the time and that was concentrated in September before the Fed meeting. Note that the forward on March 6th was exceeded by 2.8 bps. It is hard not to take the moral of the story as not to push the Fed and that was before the latest FOMC meeting.

Of course the curve is actually not flattening this year. 5s10s has been impressively stable around 45/50bps. If you can't make money from shorting the front end leg and the curve is stable, by definition this year is being defined by a range and performance is dictated by identifying the limits of that range. The range itself is anchored around a 2 ½ percent 5y5y rate in our view which is consistent with our original outlook for 2015. If 5s gravitate towards their forwards (but not exceeding them!), 10s can budge a little higher to say 2 ¼ percent for a 2 1/2 percent 5y5y rate. 5y5y has already traded close to 2 ¼ and back up towards 3 percent as 10s came close to 1 ½ percent and traded in swaps over 2 ¼ percent. We think what we have seen so far this year remains a good template for trading through q2 and into the second half. Our view remains that we are likely to finish the year when 10s around current levels and 5s still no exceeding their forwards.

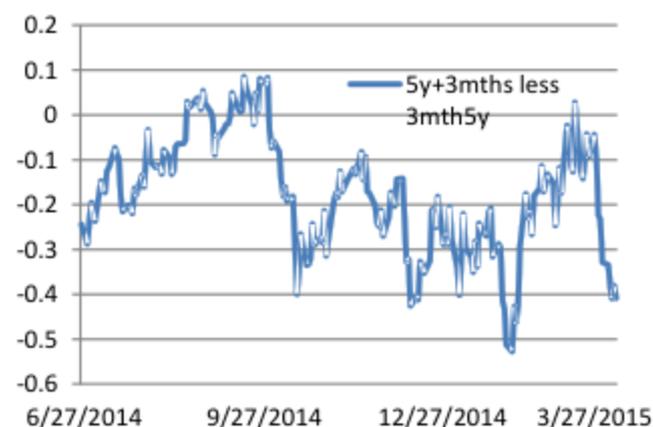


5y5y less 5y



Source: Bloomberg Finance LP and Deutsche Bank

5y realized vs. 3mth forward 5 yr rate



Source: Bloomberg Finance LP and Deutsche Bank

There are three themes that form this outlook and various risk factors that could force a reappraisal and need to be closely monitored. Two, the terminal Funds rate and term premium, relate directly to longer term rates, where we use the 5y5y as a proxy. One, the Fed, relates to the evolution of the front end in terms of the timing and speed of normalization.

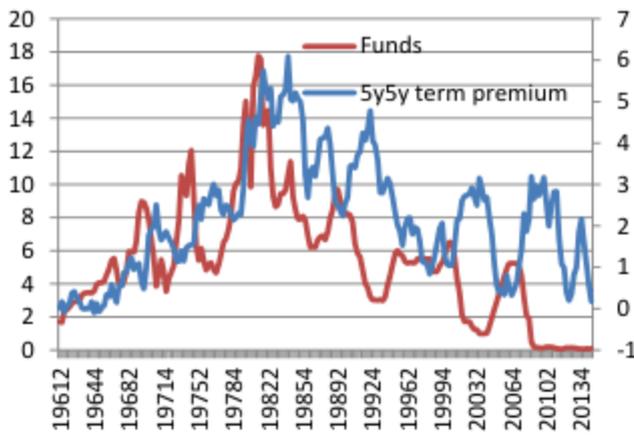
Terminal funds can be viewed as the sustainable terminal rate for the Fed in the sense that it is an equilibrium i.e. the Fed does not have to keep raising rates or reverse course. 5y5y has been a good proxy for the terminal rate in that it pretty much sits on top of Funds at the end of each cycle -- therefore represents an upper ceiling i.e. the fed would not have had to reverse course if funds never reached 5y5y *ex ante*. In the Fed's ACM term premium model 5y5y has averaged in 2015 2.59 percent. This is a little higher than the Treasury 5y5y and about 30 bps higher than the market pricing for 5y5y OIS, currently around 2.3 percent. Whichever way we look at it the market is clearly pricing for a terminal Funds rate somewhere around 2 ½ percent if not a little below. For this rate to be higher we think there would need to be a sustained shock higher in sustainable growth expectations.

With 2014 GDP now in, what is once again so impressive is that GDP has not failed to disappoint. Nominal growth finished the year a paltry 3.66 percent and the year averaged 3.88 percent. This is bang in line with the average of the last 5 years since 2009, of 3.85 percent. You could be forgiven for thinking that we actually were witnessing an accelerated economic recovery in reading the economic consensus. The fact is that this is nonsense. The economic growth has been incredibly stable at a sub 4 percent nominal pace for five years. No acceleration. Just the same. Will 2015 be any different. Best guess, "no". Note that this is why there is no productivity growth to speak of as the labor market recovery that has been impressive has cannibalized productivity. This raises core issues as to the sustainability of labor market strength, profitability and the ability of the economy to withstand any kind of accommodation removal. It also begs the question why have corporates relied so much on labor input to deliver the GDP rather than eking out productivity gains. Is it a technology/innovation constraint, an investment issue or simply using "cheap" labor while it is available. However while these issues are to be resolved, fair to say it is hard to argue that the fair value terminal rate needs to be very different from 2 ½ percent. Note that profits are now lower for 2014 than 2013, the first decline, since 2008.



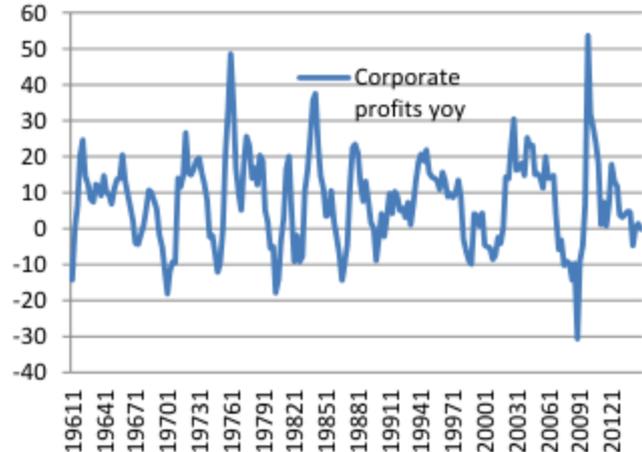
Term premium itself could also adjust even if the terminal funds rate outlook doesn't. In many ways this is probably a bigger risk especially if we link the term premium decline to foreign demand for US rates. We showed the other week the correlation between the decline in the term premium and "overinvestment" by foreign central banks into Treasuries. Note that the term premium enjoyed an accelerated decline in late 2014 but has since been more stable, in line with the collapse in euro yields. Clearly any shift in the Euro outlook could lead to a reversal in the drop in term premium in the US. However in this regard the Fed's own shift in their dot plot should be taken into consideration. The dots have both become less diverse and importantly the lower long term dot outlook – which we think has more to go – serves by definition to reduce market uncertainty around the Fed's normalization process. As such it is not at all clear that term premium should rebound 100 – 150 bps or so i.e. to mid 2014 levels or at least might be confined to a more moderate rise. This is especially likely once normalization begins in that in all the tightening cycles since the late 1980s term premium falls when the Fed tightens.

Funds vs. 5y5y term premium



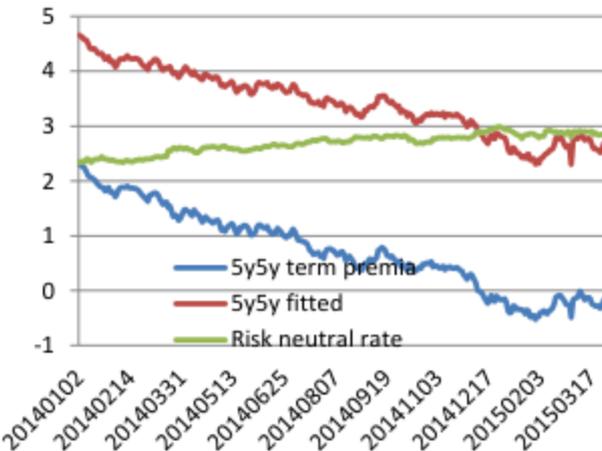
Source: IMF, Bloomberg Finance LP and Deutsche Bank

Corporate Profits yoyo



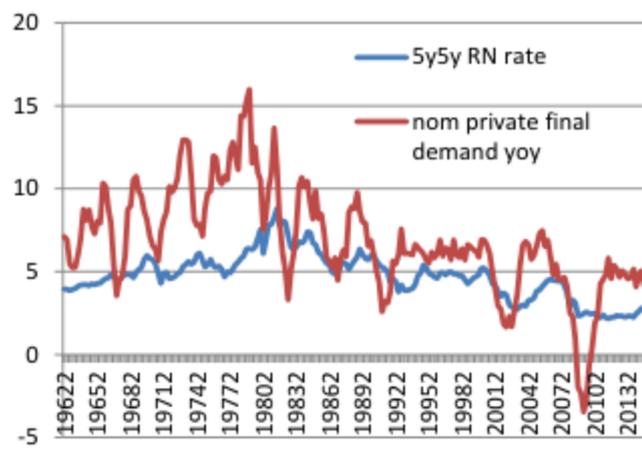
Source: IMF, Bloomberg Finance LP and Deutsche Bank

5y5y term premium, fitted and neutral rate



Source: IMF, Bloomberg Finance LP and Deutsche Bank

Nominal Private final demand vs. 5y5y risk neutral rate



Source: IMF, Bloomberg Finance LP and Deutsche Bank

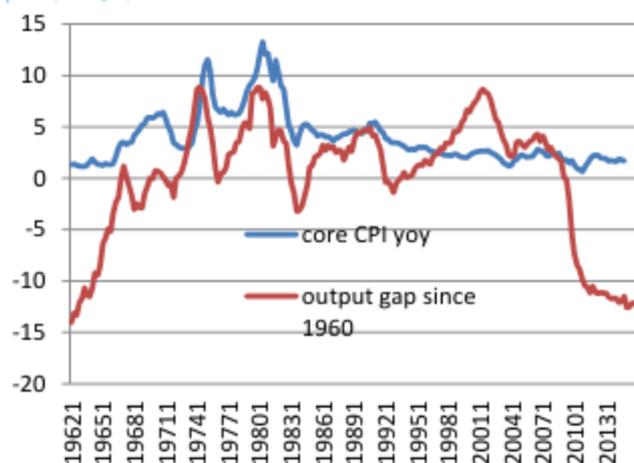


The Front End

The front end is all about the timing and speed of lift off. Speed will probably be more important than even timing in that the market will easily absorb a one and done Fed. Speed can also backfire in that if risk assets behave poorly for any given speed, the Fed won't be making their terminal rate in one swoop. An intra tightening period of stable Funds would allow for a sharp re-rally in short rates at some stage (Note 5s typically converge to Funds at the end of a tightening cycle, so any sense that the Fed would initiate a pause for several quarters would allow substantial spread convergence in our view).

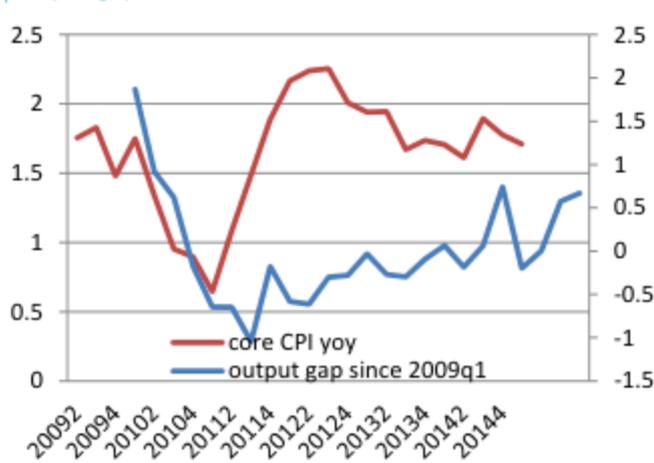
We remain of the view that this Fed does not want to commit the type 2 error and will be hard pressed to even begin raising rates in 2015. The bar is low for them to delay in that if the payroll report is all they have to go on, a soft patch in jobs could easily prompt ongoing delay. Using private final demand the long run output gap has barely improved since the crisis. One has to go the other extreme, to measure the gap from 2009 to argue that the gap has in fact closed. Either way the link with inflation has become tenuous.

Output gap since 1960



Source: IMF, Bloomberg Finance LP and Deutsche Bank

Output gap on trend since 2009



Source: IMF, Bloomberg Finance LP and Deutsche Bank

In terms of wage inflation below we update our wage model to incorporate the Fed's new NAIUR estimates. If unemployment does not continue to fall, there is still no wage acceleration. If it does then with the lower NAIUR estimates wage acceleration is still delayed until late 2015 – all consistent with a Fed struggling to raise rates.

Unemployment Model

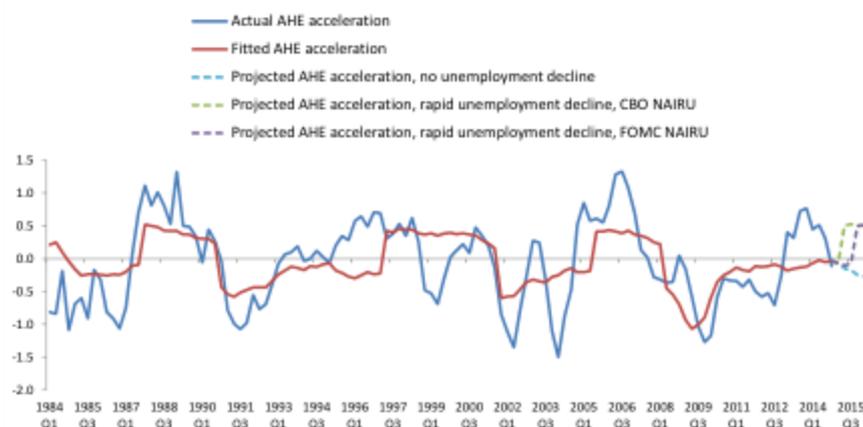
In order to understand the relationship between wage acceleration and unemployment, we first project the year-over-year change in the growth rate of the average hourly earnings of production and nonsupervisory workers (AHE) on two variables. The first is a dummy variable that equals one if the unemployment rate is less than the CBO's estimate of the NAIUR, and equals zero otherwise, and the second is the year-over-year change in the unemployment rate. The thought experiment is that wage inflation should be affected by whether there is slack in the labor market and by the trajectory of job growth. As shown in the chart below, the above-discussed variables are able to explain a fair amount of the variation in wage acceleration: the R-squared of the regression is 33%.



We then project our model to assess the prospects for wage acceleration in the near future. If the unemployment rate remains stagnant at its present level, 5.5%, the NAIRU will not get breached and our model implies that wage inflation will not increase. By contrast, suppose that the unemployment rate continues its rapid decline. In particular, we consider the case in which payrolls grow at a steady pace of 225k per month through the end of Q1 2016, and simulate the path of the unemployment rate using the Atlanta Fed's "Jobs Calculator", under the assumption of an unchanged labor force participation rate.¹ Then our model suggests that wage inflation will pick up because the NAIRU will be breached. The timing of this event, however, depends crucially on the estimate of the NAIRU. In our projection, the unemployment rate will fall below the CBO's estimate of the NAIRU, which is slightly below 5.4%, in Q2 2015. But it will only fall below the FOMC's most recent estimate, 5.0%-5.2%, in Q3 or Q4 2015.²

This highlights the importance of the FOMC's reduction of its NAIRU estimate at the March meeting from a range that was consistent with the CBO's estimate to the above-discussed range. All else being equal, the lower NAIRU estimate implies that the FOMC expects wage acceleration to be delayed by three-to-six months. The likely corollary is that the committee now expects to raise rates a quarter or two later.

Actual, fitted, and projected wage acceleration



Source: FRB Atlanta, Haver Analytics and Deutsche Bank

Japanese Potential Buyers?

Treasury demand ebbs and flows between different investor classes. In 2014h2 foreign FX reserves managers became important but as much as a diversification trade away from Euros. Given the decision by the GPIF to increase their allocation to overseas bonds and equities, there is naturally a lot of interest in the potential for Japanese buying of Treasuries going forward. Here we try and quantify the potential in terms of three specific sectors: pensions; insurance and deposit taking institutions including the banks and post office. Note that we only have data for outward investment so this is not exclusively Treasuries but we can presume that the bulk of any outward investment adjustments will be made via Treasuries, given low Euro yields.

¹ We also assume that the average monthly population growth rate and the average monthly CES/CPS employment ratio remain at their current levels.

² For illustrative purposes, the chart uses the lower bound of the FOMC's estimate, 5.0%, which gets breached in Q4 2015 in our projection.

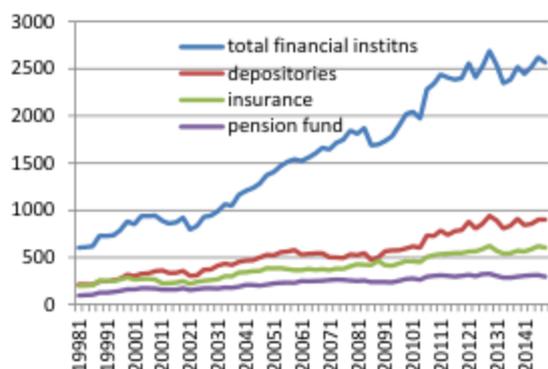


For pensions we simply adopt the GPIF asset allocation decision to raise foreign bond holdings by 4 percent. The allocation for all pensions is higher than GPIF at 23 percent but assuming the 4 percent is applied across all pension assets implies an increase in outward investment of about \$51 billion.

For depositories and insurers we are slightly more empirical and link changes in their allocation to the dollar yen 10 year forward rate. There tends to be a very strong correlation, especially for insurers and especially when JGB yields are very low as one would expect. The link via USJPY suggests that as long as the yen is viewed as been strong but likely to weaken, there is a greater drive for outward investment. This is consistent with a view hedge ratios likely run substantially lower than 100 percent. Based on the betas for each, we estimate that year on year allocations to outward investment can rise by as much as 3 percent for insurers and 0.7 percent for depositories, assuming dollar yen moves towards 130. Our outlook is to 2016q1 which implies by this time outward investment would rise respectively to almost \$700 billion and \$940 billion for insurers and depositories. This represents an increase of almost \$100 and \$40 billion for each.

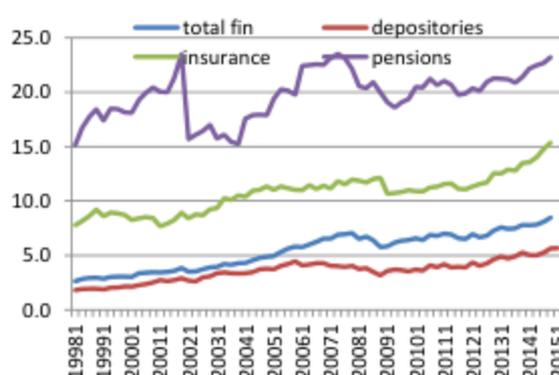
In sum we think Japanese private investors could account for additional overseas (mainly bond and mainly Treasury) purchases of almost \$200 billion. This is not quite as violent a shift as some of the FX reserve manager moves of 2014 but is an important additional source of demand that is likely to keep some downward pressure on yields, all else being equal.

Outward investment stock by sector \$ billion



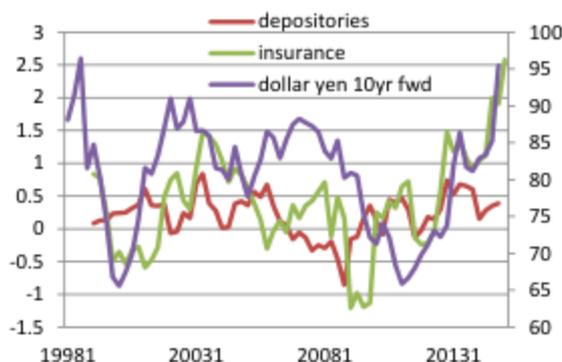
Source: IMF, Bloomberg Finance LP and Deutsche Bank

Allocation as % total assets



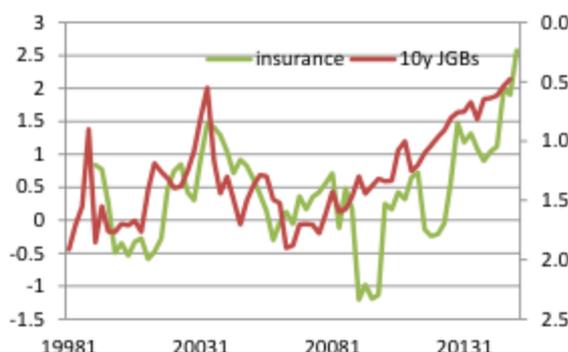
Source: IMF, Bloomberg Finance LP and Deutsche Bank

Insurance/depositories change in allocation vs. 10 yr usdjpy fwd



Source: IMF, Bloomberg Finance LP and Deutsche Bank

Insurance change in allocation vs. JGBs



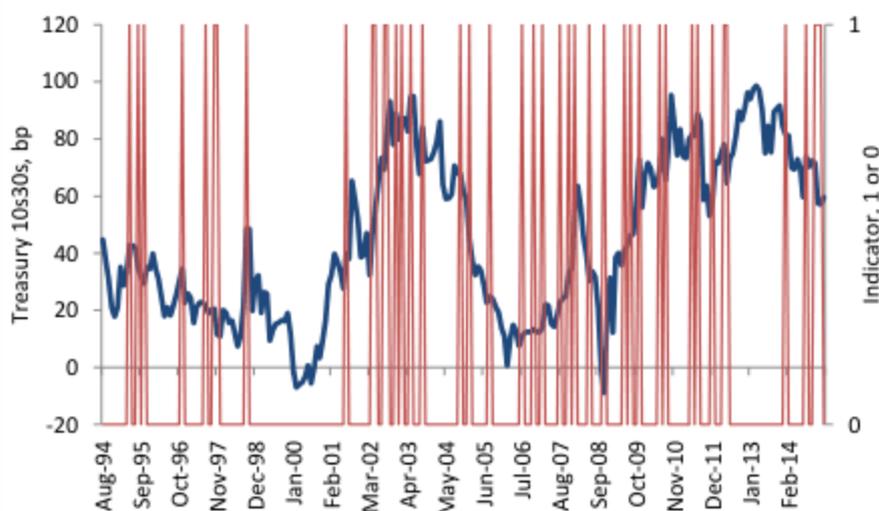
Source: IMF, Bloomberg Finance LP and Deutsche Bank



A note on the cash curve and inflation

Last autumn we noted historical evidence that 10s30s is forward looking with respect to inflation, and developed a simple indicator which illustrated that consistent bullish flattening (10s and 30s fall, 10s30s flattens) tends to presage a higher probability of declining inflation. The indicator is simple enough, we look at a rolling 20 trading day period and calculate the frequency of bullish flattening as a percentage of that 20 day period. Using Treasury data for 10s and 30s, and (month end) data from September 1994 until present, the unconditional probability of inflation declining over a 6m period was 53%. Conditioned upon a month-end bull flattening percentage of at least 60% (36 “events” during the historical period), the probability of CPI y/y falling over the subsequent 6m has historically been 75% (27 instances of falling inflation of the 36 events).

Treasury 10s30s and bull-flattening “events”



Source: Deutsche Bank

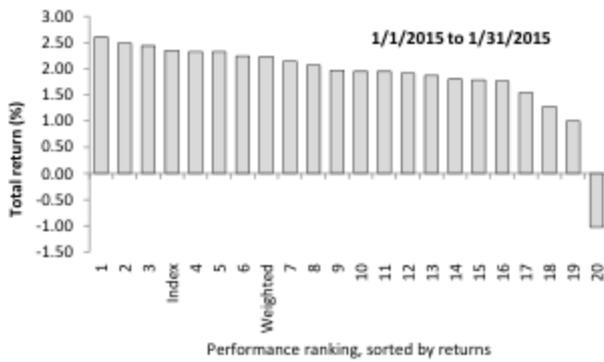
To be fair there is a potential reason to view this result with more caution than usual, and that potential reason is the possibility that the long end slope could be flatter than might otherwise be the case due to capital inflows, particularly from Europe. Indeed, our colleagues in economics currently project that headline CPI y/y will rise to 0.6% in Q3. Additionally conditions in the Middle East are obviously fluid and a deterioration in the security environment could push oil and inflation higher. On the other hand, a more aggressive Fed could lead to further dollar strength and renewed downward pressure on traded goods generally and oil in particular.

Portfolio managers flat in Q1, reduce credit overweight

It's so far been a rollercoaster year for real money investors. After lagging the benchmark for all of January, US bond fund managers reversed their underperformance and built a sizable lead over the benchmark in February through early March, only to see their excess return steadily chipped away in the recent weeks. As it stands, the median bond fund manager will likely finish the first quarter being close to flat to the benchmark. The following charts show the cumulative excess returns from top 20 US bond funds in 2015 and the market performance of 10y yields and credit spreads.

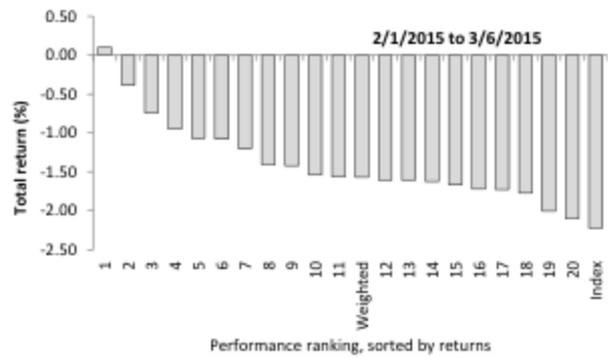


Top 20 bond funds vs. DB benchmark: 1/1/15 – 1/31/15



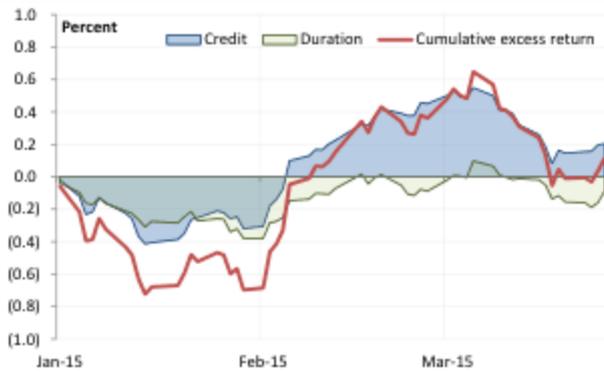
Source: Bloomberg Finance LP and Deutsche Bank

Top 20 bond funds vs. DB benchmark: 2/1/15 – 3/6/15



Source: Bloomberg Finance LP and Deutsche Bank

US bond fund excess returns and contributing factors



Source: Bloomberg Finance LP and Deutsche Bank

10y Treasury yields and IG option-adjusted spreads

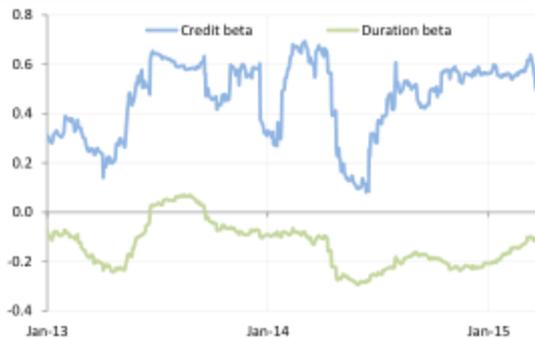


Source: Bloomberg Finance LP and Deutsche Bank

While the broad strategy for generating alpha has been for some time to overweight credit and underweight duration, money managers are showing signs of dialing back their overreliance on corporate debt and they seemed to have tiptoed back into Treasuries.

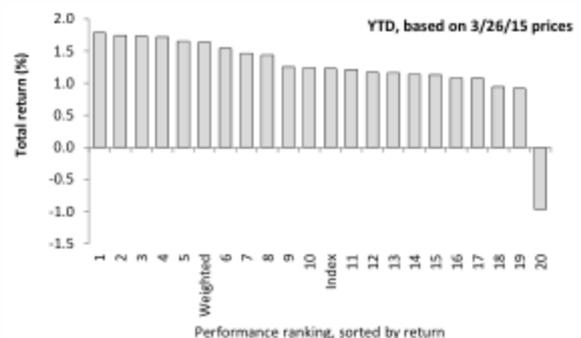
The beta of daily excess returns from our credit index (80/20 IG/HY mix) regressed on bond fund excess returns has dropped to the lowest level of this year, and it's materially lower than the peak reading back in early 2014. The beta of daily Treasury total returns regressed on fund excess returns has decisively climbed higher over the last six months, now reaching the least negative level in more than a year.

Credit and Treasury betas on the first component of bond funds excess return



Source: Bloomberg Finance LP and Deutsche Bank

Top 20 bond funds vs. DB benchmark: YTD 2015



Source: Bloomberg Finance LP and Deutsche Bank



In the portfolio managers survey conducted by Stone McCarthy Research Associates, the systematic reduction in overexposure to credit is even more pronounced. As of last week, portfolio managers have a tactical allocation of 34.7% in corporate bonds versus the 23.7% in the Barclays US Aggregate Index. This 11% deviation from benchmark is the smallest in two years and nearly two percentage points lower compared to a year ago.

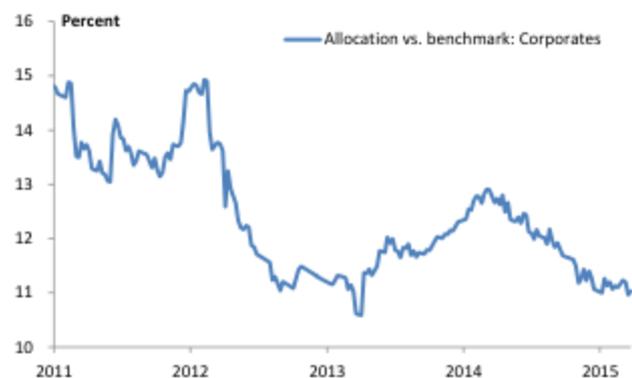
The SMRA surveyed response of allocations to Treasuries also corroborates our excess returns model. Portfolio managers became very underweight in Treasuries in the second quarter of last year but gradually scaled back into this sector toward year end, and they closed the gap even more in January. Although, the SMRA survey showed a sharp drop in portfolio allocations to Treasuries in February that our model has yet to capture.

SMR survey vs. Barclays US Aggregate Index: Portfolio allocation to corporate bonds



Source: Stone McCarthy Research Associates (SMRA), Barclays Indices and Deutsche Bank

Portfolio managers over-allocation in corporate bonds



Source: Stone McCarthy Research Associates (SMRA), Barclays Indices and Deutsche Bank

SMR survey vs. Barclays US Aggregate Index: Portfolio allocation to Treasuries



Source: Stone McCarthy Research Associates (SMRA), Barclays Indices and Deutsche Bank

Portfolio managers under-allocation in Treasuries



Source: Stone McCarthy Research Associates (SMRA), Barclays Indices and Deutsche Bank



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Treasuries

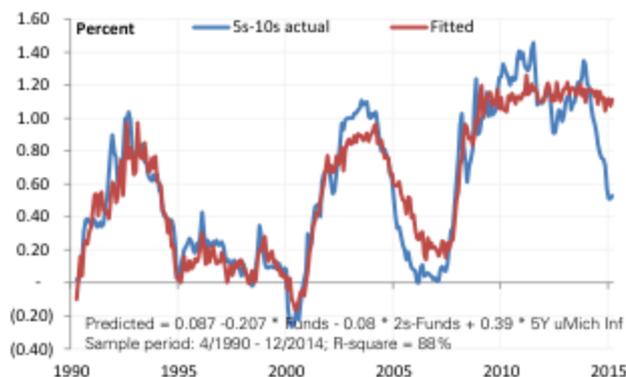
- Our 5s-10s UST model shows the curve is 60 bps (3.9 standard errors) too flat to Fed fund expectations and inflation outlook. We explore some factors that could drive this departure from the model fair value.
- The difference between survey-based and market-based inflation measures could explain for about 35 bps of the deviation in our model. Higher term premium in the 5y sector could also account for another 15 bps. Taken together, it's reasonable to expect that 5s-10s is only 10 bps too flat.
- We still like buying 5s on the curve. The 2s-5s-10s fly spread is 12 bps too high when regressed against the 2y1y rate.

5s-10s UST: a four-sigma event? (or something more prosaic)

If the 5s-10s slope was completely determined by the level of short rates, Fed expectation and medium term inflation outlook, then the current excessively (and well-advertised) flatness of the curve is something of a massive anomaly that should have only 0.01% probability of occurrence.

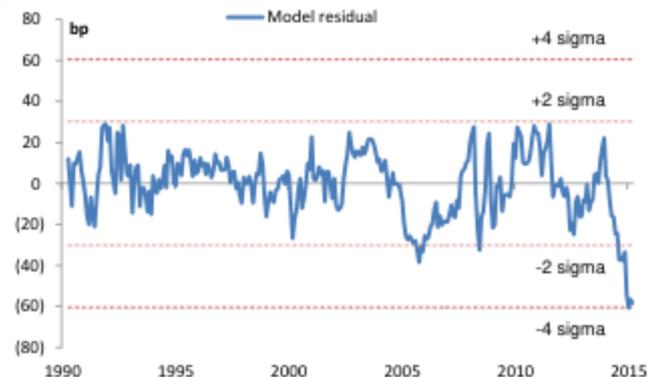
In modeling 5s-10s using observations going back the last 25 years, three variables – Fed funds, 2s-funds and the Michigan 5-10y inflation survey – have explained 88% of the variance in 5s-10s. It is puzzling then why the market has priced in such a flat 5s-10s that's 60 bps (or 3.9 standard errors) below the model's predicted value.

5s-10s UST, actual vs. fitted



Source: Bloomberg Finance LP and Deutsche Bank

Model residual (actual minus fitted)



Source: Bloomberg Finance LP and Deutsche Bank

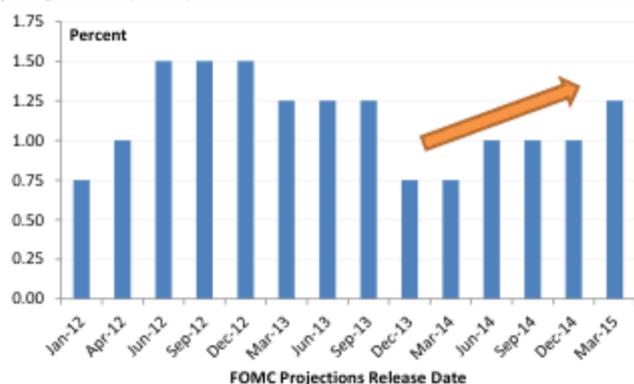
One explanation is the divergence of market-based measures of inflation expectations from survey-based measures that's used in our model. While the median Michigan survey respondent expected 2.80% year-on-year inflation over the next 5-10 years, the 5Y5Y CPI swap has fallen to 2.20% from 2.80% six months ago. The Fed's 5-year forward breakeven inflation measure is even lower at 1.90%. The difference between survey and market inflation measures



explains for about 35 bps of the excessive flatness using the Michigan beta in our model. If we plug in the lower of these two market-based measures, without recalibrating the model, 5s-10s looks 20 bps below fair value.

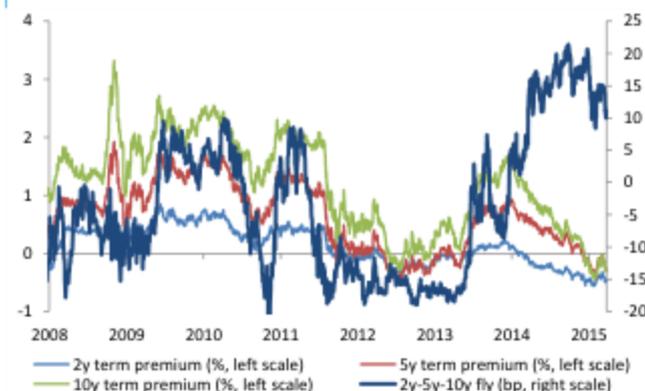
Another explanation could be that there is some upward pressure on the 5y point of the curve. This could be the market pricing in a Fed that seems to be drifting apart rather than coming to consensus on the appropriate terminal Fed funds rate. In the March FOMC projections, the most hawkish and the most dovish members differed on their projection of the long run policy rate by 125 bps. Back in December their difference of opinion was 100 bps. One year ago, that difference was just 75 bps.

Difference between highest and lowest projections of longer run policy rate



Source: Federal Reserve and Deutsche Bank

Fed ACM term premium and 2y-5y-10y term premium fly



Source: Federal Reserve and Deutsche Bank

The second chart on top shows the Fed's ACM Treasury term premium for the post-crisis period. Note that even though term premium on all parts of the curve have declined, only in recent months the 5-year term premium had begun trading on top of 10-year term premium. By the Fed's definition, this means investors are now more anxious about – and thus demanding more compensation for – the risk that short rates do not evolve as expected in 5 year's time than in 10 year's time. The 2y-5y-10y term premium fly also illustrates the point that required compensation for term risk is now the highest in the 5y sector relative to other parts of the curve. The fly residual suggests that this factor accounts for another 10-15 bps of excessive flatness in 5s-10s.

All said, 5s-10s still may be too flat by 5-10 bps to fair value. But the misvaluation probably doesn't look as compelling as originally had seemed. We still like buying 5s on the curve. A regression of 2s5s10s fly versus 2y1y swap rate shows the fly spread is cheap by 12 bps. With this week's surprisingly bad durable goods orders and the potential pressure on economists to take their Q1 GDP forecast lower, the Fed may be just one or two weak payroll reports away from being persuaded into waiting until next year to hike rates. If that happens, expect 5s to outperform and 5s-10s to resteeepen.

Auction recap: 2s, 5s, 7s, and 2-year FRNs

Treasury sold \$90 billion of notional securities through two-, five-, and seven-year note auctions this week. In addition, it also raised \$13 billion cash in two-year floating rate notes (FRN). The two-year note and FRN auctions fared well with a solid customer demand and coverage ratios, whereas the other two auctions were comparatively weaker on both the measures.



2-year floating rate note (FRN)

Indirect bidder participation rose by more than a half to a record high of 75.5% (42.9% average). In contrast, the indirect bidder participation fell to zero for the first time in the auctions held so far. The bid-to-cover ratio of the auction rose to a six-month high of 4.34, and compares with the prior-year average of 4.15.

2-year floating rate note (FRN) auction statistics

	Size (\$bn)	Primary Dealers	Direct Bidders	Indirect Bidders	Cover Ratio	Stop-out Yield
<i>1yr Avg</i>	\$ 13.7	52.3%	4.8%	42.9%	4.15	0.070
Mar-15	\$13.0	24.5%	0.0%	75.5%	4.34	0.085
Feb-15	\$13.0	49.9%	1.9%	48.2%	4.28	0.084
Jan-15	\$15.0	46.0%	6.9%	47.1%	3.72	0.084
Dec-14	\$13.0	70.1%	5.2%	24.7%	2.90	0.110
Nov-14	\$13.0	42.8%	5.4%	51.8%	4.00	0.068
Oct-14	\$15.0	50.1%	3.3%	46.6%	3.58	0.053
Sep-14	\$13.0	41.0%	4.6%	54.4%	4.45	0.041
Aug-14	\$13.0	50.2%	3.3%	46.5%	4.38	0.055
Jul-14	\$15.0	50.0%	3.3%	46.7%	4.09	0.070
Jun-14	\$13.0	54.8%	5.1%	40.1%	4.43	0.069
May-14	\$13.0	48.9%	9.4%	41.7%	4.69	0.063
Apr-14	\$15.0	60.7%	4.8%	34.4%	4.64	0.069

Source: US Treasury and Deutsche Bank

2-year note

Indirect bidder participation was solid for the third straight month in March; though their takedown of 45.7% was slightly lower in comparison with the five-year highs of +48% in the previous two months, but beat its prior-year average of 34.9% nonetheless. Direct bidder takedown rose past the average to 18.3% from 13.3% in February. Consequently, the combined buy-side participation of 64% was the highest since October 2012, and compares to its trailing-year average of 51.6%. The bid-to-cover ratio of the auction was in line to its average 3.4, and the auction stopped through by 0.1bp on its 1pm WI bid.

2-year note auction statistics

	Size (\$bn)	Primary Dealers	Direct Bidders	Indirect Bidders	Cover Ratio	Stop-out Yield	1PM WI Bid	BP Tail
<i>1yr Avg</i>	\$29.0	48.4%	16.7%	34.9%	3.40			-0.2
Mar-15	\$26.0	36.0%	18.3%	45.7%	3.46	0.598	0.599	-0.1
Feb-15	\$26.0	38.5%	13.3%	48.2%	3.45	0.603	0.604	-0.1
Jan-15	\$26.0	42.6%	8.8%	48.6%	3.74	0.540	0.541	-0.1
Dec-14	\$27.0	49.8%	14.5%	35.7%	3.21	0.703	0.708	-0.5
Nov-14	\$28.0	48.0%	16.2%	35.8%	3.71	0.542	0.550	-0.8
Oct-14	\$29.0	47.2%	16.2%	36.7%	3.11	0.425	0.425	0.0
Sep-14	\$ 29.0	43.0%	16.1%	40.9%	3.56	0.589	0.593	-0.4
Aug-14	\$29.0	48.0%	12.1%	39.8%	3.48	0.530	0.530	0.0
Jul-14	\$29.0	58.7%	14.3%	27.0%	3.22	0.544	0.542	0.2
Jun-14	\$30.0	53.6%	23.3%	23.1%	3.23	0.511	0.513	-0.2
May-14	\$31.0	55.9%	25.2%	18.9%	3.52	0.392	0.391	0.1
Apr-14	\$32.0	57.7%	19.0%	23.4%	3.35	0.447	0.448	-0.1

Source: US Treasury and Deutsche Bank



5-year note

Combined customer participation dipped below-average to a six-month low of 60.4% from 67.6% in February. Indirect bidder participation declined to 55.7% from 60.1% in February, though still above its prior-year average 53.7%. The trend of low direct bidder takedown continued in March as the participation fell to 4.7%, the lowest in the auctions since June 2013. The auction generated a soft bid-to-cover ratio of 2.35 in comparison to its prior-year average 2.68, and ended with a tail of 1.2bp.

5-year note auction statistics

	Size (\$bn)	Primary Dealers	Direct Bidders	Indirect Bidders	Cover Ratio	Stop-out Yield	1PM WI Bid	BP Tail
<i>1yr Avg</i>	\$35.0	33.6%	12.6%	53.7%	2.68			0.1
Mar-15	\$35.0	39.6%	4.7%	55.7%	2.35	1.387	1.375	1.2
Feb-15	\$35.0	32.4%	7.5%	60.1%	2.54	1.480	1.477	0.3
Jan-15	\$35.0	27.4%	9.5%	63.1%	2.49	1.288	1.294	-0.6
Dec-14	\$35.0	33.9%	7.3%	58.7%	2.39	1.739	1.735	0.4
Nov-14	\$35.0	25.1%	9.9%	65.0%	2.91	1.595	1.611	-1.6
Oct-14	\$35.0	41.7%	10.5%	47.8%	2.36	1.567	1.550	1.7
Sep-14	\$35.0	41.0%	8.8%	50.3%	2.56	1.800	1.792	0.8
Aug-14	\$35.0	36.4%	10.8%	52.7%	2.81	1.646	1.644	0.2
Jul-14	\$35.0	25.9%	25.9%	48.2%	2.81	1.720	1.729	-0.9
Jun-14	\$35.0	38.2%	9.3%	52.5%	2.74	1.670	1.668	0.2
May-14	\$35.0	39.1%	10.5%	50.4%	2.73	1.513	1.505	0.8
Apr-14	\$35.0	36.5%	18.6%	44.9%	2.79	1.732	1.723	0.9

Source: US Treasury and Deutsche Bank

7-year note

The auction recorded a soft customer participation of 62.8% (vs. 64.7% average) for the second straight month. Indirect bidder takedown declined for the third consecutive month to 50.5% from 52.3% in February though was still above its prior-year average of 48.2%. Direct bidder participation increased to 12.3% from 10.5%, but remained below its average 16.5% for the seventh month in a row. The bid-to-cover ratio of the auction was also weak at 2.32, and compares with its 2.51 trailing-year average; consequently, the auction ended with a tail of 1.1bp.

7-year note auction statistics

	Size (\$bn)	Primary Dealers	Direct Bidders	Indirect Bidders	Cover Ratio	Stop-out Yield	1PM WI Bid	BP Tail
<i>1yr Avg</i>	\$29.0	35.3%	16.5%	48.2%	2.51			0.4
Mar-15	\$29.0	37.2%	12.3%	50.5%	2.32	1.792	1.781	1.1
Feb-15	\$29.0	37.1%	10.5%	52.3%	2.37	1.834	1.828	0.6
Jan-15	\$29.0	29.0%	14.9%	56.1%	2.50	1.590	1.584	0.6
Dec-14	\$29.0	37.6%	5.9%	56.5%	2.39	2.125	2.118	0.7
Nov-14	\$29.0	37.1%	12.8%	50.0%	2.63	1.960	1.957	0.3
Oct-14	\$29.0	38.0%	15.4%	46.6%	2.42	2.018	2.009	0.9
Sep-14	\$29.0	41.7%	10.0%	48.3%	2.48	2.235	2.225	1.0
Aug-14	\$29.0	30.7%	20.4%	48.8%	2.57	2.045	2.047	-0.2
Jul-14	\$29.0	37.4%	15.2%	47.4%	2.58	2.250	2.238	1.2
Jun-14	\$29.0	42.7%	16.7%	40.6%	2.44	2.152	2.139	1.3
May-14	\$29.0	35.6%	24.1%	40.4%	2.60	2.010	2.008	0.2
Apr-14	\$29.0	31.0%	19.1%	49.9%	2.60	2.317	2.321	-0.4

Source: US Treasury and Deutsche Bank



Allotments update

Treasury released the allotments data for the March three- and ten-year notes, and thirty-year bond auction last Monday. The investment funds were allotted 44.8% of the combined fixed coupon supply, the largest allocation since February 2006. Foreign and international investors were allotted 16.2% of the auction, down from 20% in February and below their average 18.4%. The combined share allotted to the two investor classes of 61% was strong for the fourth straight month averaging 59.1% vs. the one-year average of 54.7%.

Three-year note

The investment fund investor allotment share rose to a new record high of 44.5% since at least May 2003, bettering the previous month's record of 40.9%, and compares to the one-year average 28.8%. The allotment share to foreign and international investors of 12.2% remained below average 19.7% for the second straight month. Overall, the combined share allotted to the two investor classes of 56.7% was strong for the third straight month, averaging 56.0% over the period as compared to the one-year average 48.5%.

Ten-year note

The allotment share to investment funds investors rose past the average 38.2% to 41.7% in March from 36.1% in the previous month. Foreign and international investor share dropped to 24.7% from 33.3% in February, but remained solidly above its one-year average 19.8%. The combined share allotted to the two investor classes of 66.4% beat the average of 58.0% for the second straight month.

30-year bond

Investment fund allotment share of 50.3% was close to the previous month allocation and in line with its one-year average 48.7%. Foreign and international investors were allotted 9.7% of the share, down from 11.9% in February, and also below their average share of 12.9% in the last year. The combined share allotted to the two investor classes of 60% compares with their average of 61.7%.



3-year note auction allotments

Settle Date	Total (less Fed)	Federal Reserve		Dealers and Brokers		Investment Funds		Foreign and International		Other	
	\$bn	\$bn	%*	\$bn	%	\$bn	%	\$bn	\$bn	%*	\$bn
<i>1 Yr Avg</i>	27	0	0%	13.6	51%	7.5	28.8%	5.2	19.7%	0.2	0.6%
3/16/2015	24	0.0	0%	10.2	43%	10.7	44.5%	2.9	12.2%	0.1	0.6%
2/17/2015	24	0.0	0%	11.1	46%	9.8	40.9%	2.9	12.0%	0.2	1.0%
1/15/2015	24	0.0	0%	9.9	41%	8.1	33.7%	5.9	24.7%	0.1	0.4%
12/15/2014	25	0.0	0%	13.2	53%	7.1	28.6%	4.5	18.0%	0.2	0.8%
11/17/2014	26	0.0	0%	13.4	51%	6.6	25.5%	5.9	22.6%	0.1	0.4%
10/15/2014	27	0.0	0%	13.9	51%	6.6	24.6%	6.3	23.4%	0.1	0.5%
9/15/2014	27	0.0	0%	14.2	52%	6.0	22.1%	6.8	25.1%	0.1	0.4%
8/15/2014	27	0.0	0%	13.2	49%	6.9	25.4%	6.8	25.1%	0.2	0.7%
7/15/2014	27	0.0	0%	15.4	57%	6.6	24.4%	4.7	17.5%	0.3	1.1%
6/16/2014	28	0.0	0%	16.9	60%	6.2	22.0%	4.8	17.0%	0.2	0.7%
5/15/2014	29	0.0	0%	15.1	52%	7.7	26.7%	6.0	20.7%	0.2	0.6%
4/15/2014	30	0.0	0%	16.3	54%	8.1	27.0%	5.4	18.0%	0.2	0.6%

* Percentage as of total less Fed SOMA
Source: US Treasury and Deutsche Bank

10-year note auction allotments

Settle Date	Total (less Fed)	Federal Reserve		Dealers and Brokers		Investment Funds		Foreign and International		Other	
	\$bn	\$bn	%*	\$bn	%	\$bn	%	\$bn	%	\$bn	%
<i>1 Yr Avg</i>	22	0	0%	9.1	42%	8.4	38.2%	4.4	19.8%	0.1	0.3%
3/16/2015	21	0.0	0%	7.0	34%	8.8	41.7%	5.2	24.7%	0.0	0.1%
2/17/2015	24	0.0	0%	7.3	30%	8.7	36.1%	8.0	33.3%	0.0	0.1%
1/15/2015	21	0.0	0%	9.1	43%	8.6	41.1%	3.2	15.4%	0.0	0.1%
12/15/2014	21	0.0	0%	8.9	42%	8.6	40.9%	3.5	16.7%	0.0	0.2%
11/17/2014	24	0.0	0%	10.8	45%	7.6	31.7%	5.5	22.9%	0.1	0.4%
10/15/2014	21	0.0	0%	11.1	53%	7.0	33.3%	2.6	12.5%	0.3	1.3%
9/15/2014	21	0.0	0%	7.8	37%	8.7	41.6%	4.4	20.9%	0.1	0.3%
8/15/2014	24	0.0	0%	10.1	42%	7.5	31.3%	6.3	26.3%	0.0	0.2%
7/15/2014	21	0.0	0%	10.5	50%	6.4	30.5%	4.0	19.2%	0.0	0.1%
6/16/2014	21	0.0	0%	10.1	48%	7.4	35.1%	3.4	16.2%	0.1	0.6%
5/15/2014	24	0.0	0%	7.7	32%	12.4	51.6%	3.9	16.3%	0.0	0.2%
4/15/2014	21	0.0	0%	9.1	43%	9.2	43.8%	2.7	12.7%	0.0	0.1%

* Percentage as of total less Fed SOMA
Source: US Treasury and Deutsche Bank

30-year bond auction allotments

Settle Date	Total (less Fed)	Federal Reserve		Dealers and Brokers		Investment Funds		Foreign and International		Other	
	\$bn	\$bn	%*	\$bn	%	\$bn	%	\$bn	\$bn	%*	\$bn
<i>1 Yr Avg</i>	14	0	0%	5.4	38%	6.8	48.7%	1.8	12.9%	0.1	0.4%
3/16/2015	13	0.0	0%	5.1	39%	6.5	50.3%	1.3	9.7%	0.1	0.5%
2/17/2015	16	0.0	0%	6.1	38%	8.0	49.9%	1.9	11.9%	0.1	0.3%
1/15/2015	13	0.0	0%	5.1	39%	5.0	38.7%	2.8	21.6%	0.0	0.3%
12/15/2014	13	0.0	0%	3.6	28%	8.4	64.3%	1.0	7.7%	0.0	0.3%
11/17/2014	16	0.0	0%	7.3	46%	6.4	39.9%	2.3	14.1%	0.1	0.4%
10/15/2014	13	0.0	0%	4.5	35%	6.5	50.1%	1.9	14.8%	0.0	0.3%
9/15/2014	13	0.0	0%	4.6	35%	6.7	51.6%	1.6	12.7%	0.0	0.3%
8/15/2014	16	0.0	0%	5.1	32%	8.5	53.1%	2.4	14.8%	0.1	0.4%
7/15/2014	13	0.0	0%	5.0	39%	6.6	51.0%	1.3	9.7%	0.1	0.5%
6/16/2014	13	0.0	0%	3.6	28%	7.0	54.1%	2.3	17.8%	0.0	0.3%
5/15/2014	16	0.0	0%	8.7	54%	5.9	37.1%	1.3	8.1%	0.1	0.4%
4/15/2014	13	0.0	0%	5.6	43%	5.8	44.6%	1.6	12.3%	0.0	0.3%

* Percentage as of total less Fed SOMA
Source: US Treasury and Deutsche Bank



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Derivatives

- No directional cues emerged after the last FOMC meeting. The net effect is essentially a distributional modification, a swelling of the tails – the probabilities of rates moving both higher and lower have increased, at the expense of the likelihood of staying within the range. The novelty of the Fed communication this time was the mechanism whereby Fed consensus is converted into the market dissensus. Fed language became a pure volatility effect.
- In this environment any residual overweight in assets for which valuation has been distorted by monetary policy so far is likely to come under scrutiny and possibly be corrected. That should free some maneuvering space for the Fed and make potential hikes less damaging and thus possibly more likely. As far as an attempt to return vol to the markets, this is mission accomplished.
- We are buyers of tail risk at the short end of the curve in the mid-run:
- **Sell \$100mn 6M10Y 8bp wide strangles vs. buy \$325mn 3M3Y straddles costless**
- **Sell \$100mn 6M3Y straddles vs. buy \$200mn 60bp wide 6M3Y strangles costless**
- In our view, risk assets are at a bifurcation point – their future path depends on the way the economy and stimulus unwind interact with one other. We are buyers of hybrid S&P calls and puts conditioned on different rates responses to the Fed. We recommend:
- **18-Dec-2015 SPX 95% put subject to 5s > ATMF + 25 , offer 1.15%, an 73% discount to vanilla at 4.30%**
- **18-Dec-2015 SPX 103% call subject to 10s < fwd-25bp at expiry, offer 1.00%, a 70% discount to vanilla at 3.37%**

From Fed consensus to market dissensus: Volatility could be here to stay

The last FOMC could be seen as a template for what to expect in the near term. Two parts of the statement cause this. The combined statement reflects the divided subject of the future economic path and sets the terrain for a period of elevated volatility across various market sectors. Lowering of the NAIRU, the dovish side, means either we do not have the right model or, if we do, then we do not know how to calibrate it. It is not even clear that the U3 unemployment rate is the relevant statistic in this context. Either way, this means that there is relatively low confidence regarding the point at which the economy will turn around and the Fed would need to consider hikes seriously. The other side of the Fed's statement is the dots. Despite the dovish overtones conveyed by a lower median, the most relevant message is the emergence of a strong consensus, which is in sharp contrast with previous dot plots. As far as the end of 2015 is concerned, there is consensus that there should be two hikes by the end of the year (and four more in 2016).



No directional cue emerged after the FOMC. It is effectively a distributional modification, a swelling of the tails. The probabilities of rates going both higher and lower have increased, at the expense of the likelihood of staying in the range. The novelty of the last FOMC meeting is the mechanism whereby Fed consensus is converted into market dissensus. Fed language became a pure volatility effect. With tails probability higher, confidence regarding a particular directional position is undermined – it is now subject to quick revisions at the slightest market move. Thus any residual overweight in assets for which valuation has been distorted by stimulus is likely to come under scrutiny and possibly be corrected. That should free some maneuvering space for the Fed and make potential hikes less damaging. As far as an attempt to return vol to the markets, this is mission accomplished.

Withdrawal of stimulus, if not carefully executed, has potential to expose the underlying negative convexity of the market created by the monetary policy itself. This can be seen from two complementary angles. Implicit belief in the Fed as a global market stabilizer has made both credit and equities behave like a positively convex asset. Whether the economy was improving or not, there was always stimulus as an alternative support in case economic data disappoints. As a consequence, both asset classes developed additional desirability due to embedded optionality. In that sense, unwind of stimulus is a withdrawal of “free” optimality of risk assets – and vice versa, delayed exit is an extension. Risk of stimulus unwind is all about the speed of events. The mechanics of this can be understood by visualizing its actual realization. In less liquid markets, like credit, this is especially easy to see. If unwind is too fast, the street would not have time to flatten its position in the interdealer market and therefore would be unable to extend liquidity further. This would cause additional spread widening with stop outs and likely panic selling, further undermining already-fragile liquidity. This is why volatility should not be allowed to increase too much too fast. Its return to the market prior to the final stage of Fed exit is essential, and that process has to be fine tuned. In the same way the long period of artificially low volatility led to positioning buildup in carry trade and risk assets, the longer volatility remains elevated the better chances would be for “bad positions” to clear.

We are buyers of tail risk at the short end of the curve in the mid-run. In our view, risk assets are also at a bifurcation point – their future path depends on the way the economy and stimulus unwind cooperate with one other. We are buyers of hybrid S&P calls and puts conditioned on different rates responses to the Fed.

Rates: Straddle/strangle switches

Vol and tail risk are likely to be concentrated at the short end of the curve. To a large extent, vol surface is pricing this in through elevated volatility risk premia. Figs 1 & 2 show the history of realized and implied volatilities for 3Y and 10Y tenors. This rise in vol risk premia in the upper left corner is a relatively recent phenomenon that started in mid-2014. Fed communication at this stage of policy unwind is largely transmitted through the front end of the curve in the sense that most of the play defined by the dots and economic data concerns the timing and magnitude of rate hikes. At the same time, market flows and foreign central banks’ actions are likely to constrain rate movements at the back end of the curve.

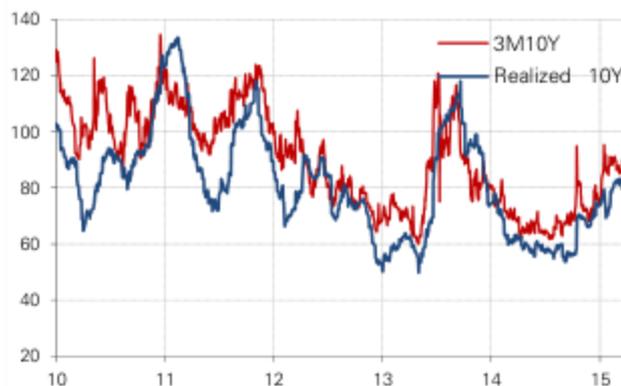


Figure 1: Implied and (3M rolling) realized vol at the short end



Source: Deutsche Bank

Figure 2: Implied and (3M rolling) realized vol at the back end



Source: Deutsche Bank

In the context of latest developments and further injection of uncertainty outlined after the FOMC meeting, we are buyers of tails at the front end of the curve, either outright or financed by selling back-end strangles. We capture this through two different variants of straddle/strangle switches.

- **Sell \$100mn 6M10Y 8bp wide strangles vs. buy \$325mn 3M3Y straddles costless**

The trade is vulnerable to bull flatteners and bear steepeners of the curve at this point with theoretically unlimited downside. We see these two modes as unlikely realization within 2015. Although a massive bull flatten could take place due to prolonged risk-off trade, it is unlikely that expectations of Fed hikes would remain unchanged under these conditions. Similarly, bear steepeners would be consistent with a rapid buildup of inflation and the Fed being caught behind the curve. At this point, there is no indication of the emergence of such a trend; on the contrary, it is difficult to envision the mechanism that could cause a rise in inflation despite seeming improvements in the labor market. Such an outcome is even more difficult to envision in the context of increased foreign demand for US duration. If anything, a rise in rates in the US would make the long-end UST even more attractive in comparison to other European bonds.

An alternative view on the short end of the curve is a possible short-term response to the bimodal market – rates either descend lower to reflect delayed hikes or they align with the consensus reflected in the Fed dots. In this context we recommend 1X2 straddle/strangle switches:

- **Sell \$100mn 6M3Y straddles vs. buy \$200mn 60bp wide 6M3Y strangles costless**

The trade has limited downside with a maximum loss of 30bp running in case of limited rally or selloff, and would benefit from extreme repricing at both sides.

Hybrid strangles

Given the implicit convexity and exposure of risk assets to policy unwind, positioning in US stocks should be conditioned on expected Fed actions. It is conceivable that, if data support Fed hikes, the belly of the curve could sell off



together with equities giving up some of the recent upside. We condition equity puts on a higher 5Y rate:

- **18-Dec-2015 SPX 95% put subject to 5s > ATMF + 25 , offer 1.15%, an 73% discount to vanilla at 4.30%**

Alternatively, delayed hikes mean lower rates. However, unless the Fed abandons hikes in the foreseeable future, risk premia in the belly would remain elevated – 5s might not rally hard as the market remains in a standby position until further notice. In all likelihood, given the favorable rates differential between UST and European sovereign yields, this would be a “buy” signal for foreigners. In that sense, 10s could lead on the way down while risk assets rally. Thus, contingent S&P calls would be conditioned on the 10Y rate:

- **18-Dec-2015 SPX 103% call subject to 10s < fwd-25bp at expiry, offer 1.00%, a 70% discount to vanilla at 3.37%**

When combined, these two trades describe effectively contingent equity strangles, with conditioning reflecting a particular Fed action. At inception, the put side is short S&P and long rates gamma, while the call side is long S&P and short rates gamma. Each leg reflects the doubling up as pressure on S&P is also bullish for gamma and delayed hikes are bullish for stocks and bearish for vol. This doubling up is the source of excess leverage. With both hybrid options at deep discounts in excess of 70%, buying the whole package (as a contingent strangle) is still cheaper than buying single vanilla options. Both trades have limited downside with max loss equal to the option price.



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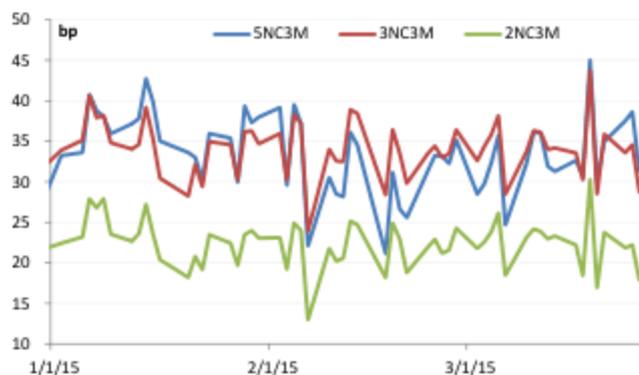
- As volatility has recently declined, yield picks for callables have also fallen. We find the 5yr+ maturities relatively protected with the smallest decrease in picks compared to the recent average.
- The additional yield for buying Berm vs. Euro call has increased. We like the 3NC3M Berm structure, which offers 10.7 bps over a 3NC3M Euro, the highest in a year.

Relative value in callables

Pick in yields for callable agencies over same-maturity bullets has fallen slightly over the past three months. For callable investors, we recommend extending out to 5yr maturities as the picks for various structures still look decent to their recent average. For example, a 5NC3M Berm has a new issue coupon of around 1.91%, a 31.4 bps pick over a par 5y agency. The pick is only about 2 bps lower than its 3m average, whereas for 2NC3M Berm and 3NC3M Berm, the picks are 4 bps and 5 bps lower, respectively.

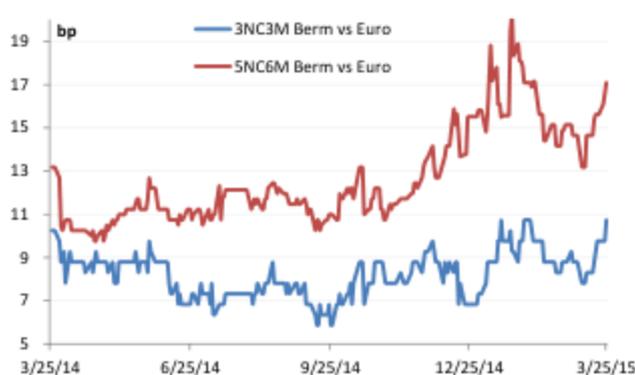
The best relative value play in callables seems to be in Euro vs. Berm switch. For a 3NC3M structure, buying the Berm vs. Euro offers the investor an additional 10.7 bps, the highest in a year. A 5NC6M structure also looks attractive on a 1m Z metric.

Yield picks for callables over same-maturity bullets



Source: Deutsche Bank

Berms vs. Euro calls history



Source: Deutsche Bank

The left table below shows new issue coupons, picks to bullet, and Berms vs. Euros, along with their respective 1m and 3m averages and z-scores. The table on the right shows the 3m z-score for the swaption implied volatility surface. The recent cheapening of vols was mostly concentrated in the upper left.



Relative value in callable agencies

		Berm	2NC3M	2NC6M	2NC1Y	3NC3M	3NC6M	3NC1Y	5NC3M	5NC6M	5NC1Y
Berm vs. Par Agy Bullets		Coupon	0.85	0.81	0.76	1.30	1.25	1.18	1.91	1.86	1.77
Berm vs. Par Agy Bullets	Last	17.9	14.0	9.1	28.7	23.4	16.5	31.4	25.6	16.8	
	1m avg	22.7	18.6	13.3	34.3	28.7	21.9	33.4	28.1	24.3	
	1m z-score	(1.7)	(1.6)	(1.4)	(1.7)	(1.6)	(1.6)	(0.5)	(0.6)	(0.5)	
	3m avg	22.3	18.0	13.0	33.8	28.3	21.8	33.2	28.9	25.8	
	3m z-score	(1.5)	(1.4)	(1.3)	(1.4)	(1.4)	(1.5)	(0.4)	(0.6)	(0.6)	
Berm vs. Euros			2NC3M	2NC6M	2NC1Y	3NC3M	3NC6M	3NC1Y	5NC3M	5NC6M	5NC1Y
Berm vs. Euros	Last	2.9	1.0	0.0	10.7	6.3	2.4	24.3	17.1	10.3	
	1m avg	2.8	0.8	0.0	8.8	5.7	2.1	20.0	14.9	13.7	
	1m z-score	0.3	0.6	0.0	3.0	1.4	1.2	0.4	2.5	(0.3)	
	3m avg	2.8	0.8	0.0	8.9	5.6	2.1	20.4	15.8	14.8	
	3m z-score	0.2	0.3	0.0	1.8	0.9	0.9	0.6	0.8	(0.3)	

Source: Deutsche Bank

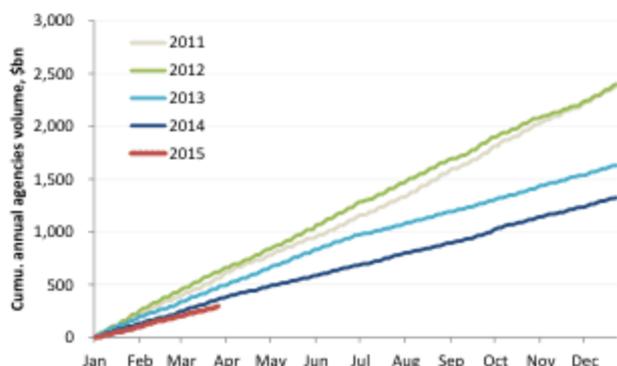
Swaption vol, 3m z-score rich/cheap

		Tenor						
		1Y	2Y	3Y	4Y	5Y	7Y	10Y
Forward	1M	0.32	-0.45	-0.67	-0.99	-1.07	-0.91	-0.53
	3M	0.13	-0.82	-0.44	-0.16	-0.23	0.15	0.28
	6M	0.08	-0.37	-0.28	-0.02	0.04	0.46	0.57
	1Y	-0.42	-0.13	0.22	0.34	0.49	0.92	1.11
	2Y	0.19	-0.03	0.22	0.49	0.71	1.01	1.19
3Y	-0.78	-0.81	-0.21	0.52	0.87	1.19	1.30	
4Y	0.02	0.17	0.57	0.80	0.97	1.23	1.48	
5Y	-0.40	0.38	0.77	0.98	1.16	1.34	1.66	

Source: Deutsche Bank

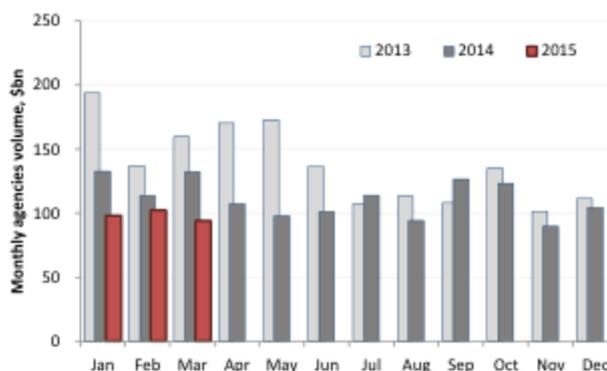
Agency trading volume reported by TRACE is down 18% compared to the same period last year. Through 3/26, \$294bn agency debt had traded, which includes \$88bn FHLBs, \$77bn FNMA and \$78bn FNMA. March failed to see a pickup in volume as seen in the past two years.

Agency trading volume by year



Source: FINRA TRACE and Deutsche Bank

Agency trading volume by month



Source: FINRA TRACE and Deutsche Bank; March figures are through 3/26



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US Credit Strategy

Taking Spread-per-Turn to Sector Level

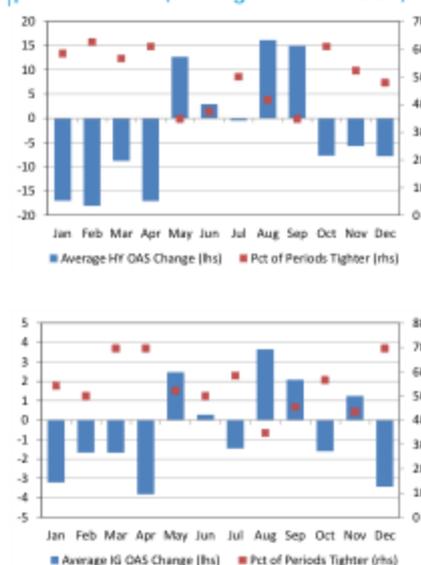
Seasonally-strong issuance period is about to take a break, but not retire

Credit markets remained relatively stable over the past week, even as the equities and 10yr rates fully reversed their post-FOMC moves. HY spreads tightened 6 bps, with CCCs underperforming, and single-Bs showing a slight edge over the index. IG moved a basis point wider. Volatility remained high in FX, where EUR is now on its fourth round of retracing its very wide post-FOMC range of 1.06 to 1.11. Rates volatility, high to begin with, has jumped even further and now exceeds its recent peak level reached on Oct 15th, the day of a 7-sigma move in 10yr Treasuries. HY flows have stabilized in recent sessions, following wild swings between strong inflows in Feb and outflows in early March. Hidden behind this relative stability are continued outflows from HY open-ended funds (-\$1.6bn in the last week), offset by intakes in ETFs. A \$10 move higher in WTI oil since early-last week failed to produce a commensurate move tighter in energy spreads (they widened at first and retraced the move later, netting zero change over the full period). Beta between oil and energy spreads has averaged \$1 move in WTI = 10bps move in our DBHYSEN index, as measured since last June. We highlighted what looked like tactical richness of 50-75bp in HY energy spreads going into [last week](#), and therefore view absence of spread reaction to higher oil as a closing of that valuation gap.

Issuance has been going strong over the past couple of months, setting new YTD record in IG at \$340bn, and matching a previous record of \$85bn in HY (same as 2013). In interpreting and extrapolating from these numbers, our readers should keep in mind that March happens to be the strongest month of issuance activity from seasonal standpoint in both IG and HY (measured on a pct of market size basis since 1998, so normalized for market growth). Naturally, one would expect to see some slowdown in a subsequent period, and our historical data shows exactly that – April averaged the slowest issuance pace of any month in the first half the year in IG, and 2nd-slowest in HY (after February). This technical backdrop may help explain why April is also one of the strongest months from seasonal spread-performance standpoint, averaging a tightening of 17bps in HY and 4bp in IG (Figure 1). April also caps the five-month stretch of seasonally strongest months for credit, with May opening the door to a seasonally weak part of the year.

Macro picture remains weak(ish) as measured by real activity indicators, with the most recent sub-consensus readings coming in from durable goods, existing home sales, and Q4 GDP. These indicators continue to be contradicted by employment trends, such as jobless claims and payrolls, and thus it is becoming increasingly important to determine which side prevails here. We tend to think that real economic activity should hold a sway over employment trends in that such activity ultimately determines the need for labor, and not the other way around. For this reason, we continue to believe that as the US economy loses more momentum over the next few months, the Fed would likely find it difficult to remain on a sustainable rate-hiking path beyond the first few moves, if any at all. Thus we find macro picture to be on the side of credit investors, more so of those seeking safer yields, and not reaching all the way down to riskiest parts of the market. With IG spreads sitting in the middle of our expected range (120-140), and HY at its tight end (475-550), we keep a preference for IG over HY here.

Figure 1: Seasonality in credit spread performance (averages since 1991)

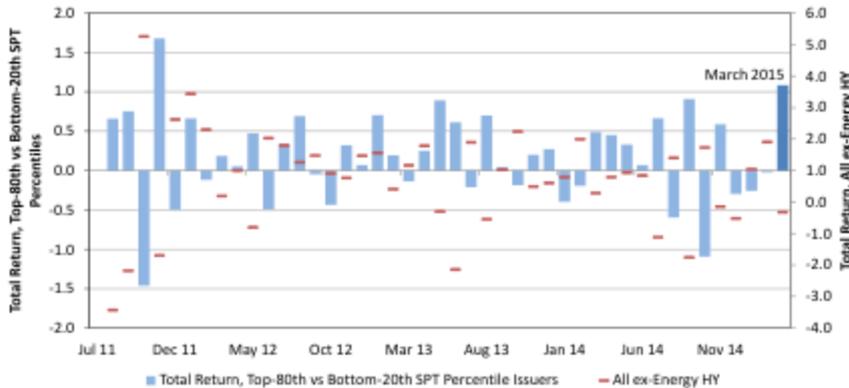


Source: Deutsche Bank



A HY portfolio allocation strategy we introduced [last month](#) has done well in its inaugural live performance period, registering a 1.1% outperformance of top-80th percentile over bottom-20th percentile names, as ranked by spread-per-turn (Figure 2). Another important attribute of this performance differential is that it is not a function of a simple high-beta outperformance, in that overall ex-energy HY index was down 0.3% for the month, and its CCC component was down by 0.7%. We will update our readers on the new composition of both baskets for April in the [chartbook](#) report to be published next week.

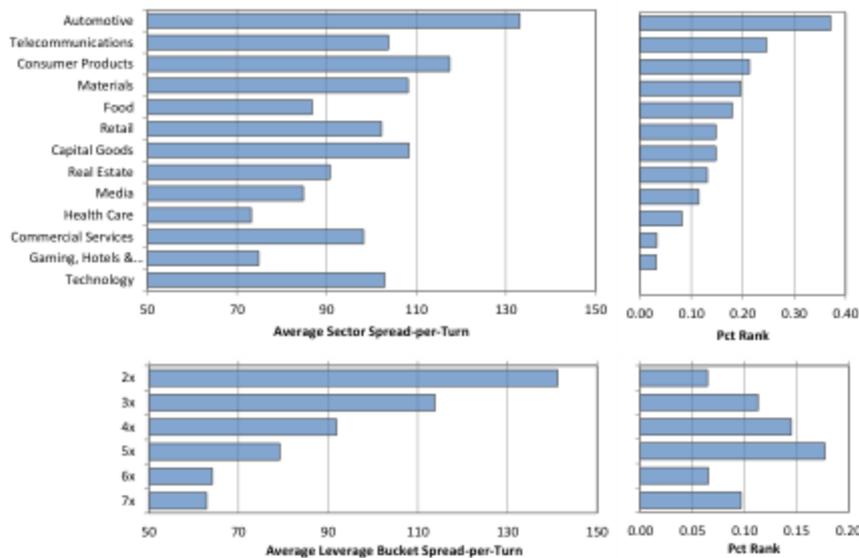
Figure 2: Total return performance of top-80th vs bottom-20th percentile baskets, ranked by ex-ante spread-per-turn (backtested prior to March 2015)



Source: Deutsche Bank

Taking this analysis a step further in this publication, we are introducing sector spread-per-turn readings, averaged on an issuer basis. As a reminder, selection criteria for this exercise includes min 10 names per sector (average count is 20), ex financials, real estate, and energy, max total leverage under 6x in BBs, 8x in Bs, and 10x in CCCs, max spreads under 600bp, 800bp, and 1,000bp in each rating category respectively. Figure 3 below presents the results.

Figure 3: Average spread-per-turn in sectors and leverage buckets



Source: Deutsche Bank



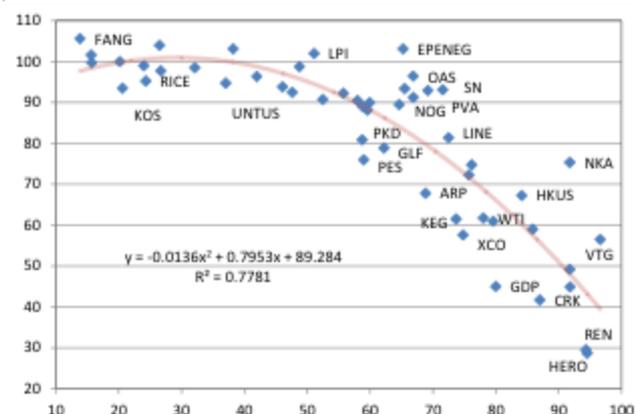
The top portion on the graph reflects industry sectors, and bottom portion shows a breakout by leverage category. Left side displays current average spread-per-turn (SPT) in basis points, while the right-hand side shows percentile ranking score of current SPT vs history since Dec 2009.

On a sector level, the interesting conclusions are: everything is trading to a certain degree of tightness, with an average percentile ranking score of 20%, which perhaps is not an eye opener for most experienced market participants. Specifically on sectors, autos and telecoms look relatively interesting here, while tech and gaming are the most overvalued based on this metric. We note that autos also came out as the most undervalued sector on our [equity-reaction-to-oil](#) screen in January. Auto equities have outperformed S&P 500 by 5.5% since that publication date, and we continue to believe, reinforced by today's findings, that there is more to go in capturing autos outperformance in both equities and credit. The sector that came out most overvalued in equities in January – utilities – has proceeded to underperform S&P 500 by 12.5% since then. It did not make it to our HY SPT screen due to a low issuer count, but the original equity signal pointed towards a 30% overvaluation, so perhaps more to go there too.

We excluded energy from the above SPT sector analysis for the obvious reason that the sector is too distressed at this point to be meaningfully judged against the rest of the market through the lenses of a single valuation framework. Here, we think a better approach would be to look at debt-to-enterprise-values as a factor for bond dollar prices. As a reminder, we have previously shown this indicator to have strong predictive power over future defaults (names trading over 65% D/EV have experienced a 1:3 subsequent default probability).

Here, in Figure 4 we are showing US energy single-Bs and CCCs bond prices (average by ticker, y-axis), plotted against each issuer's total debt/EV. The scatter plot shows a nice and tight fit between the two (78% r-squared), and on Figure 5 we go on to highlight the largest divergences from regression line. Top portion here shows names that are too far below the regression line, i.e. bond dollar prices are too low given where the D/EV ratio stands; the bottom portion shows the opposite extremes.

Figure 4: Energy single-Bs/CCCs
Bond dollar prices (y-axis) vs Debt/EV (x-axis)



Source: Deutsche Bank

Figure 5: Energy single-Bs/CCCs, largest gaps to D/EV

ISIN	Ticker	Cpn	Mty	Rating	Bond Dollar Price			Est-Act
					Debt/EV	Estimate	Actual	
Largest Undervaluation Gaps in Bonds								
US382410AF58	GDP	8.875	2019	CCC2	80	66	45	+21
US427093AE98	HERO	10.25	2019	B3	95	43	30	+13
US205768AJ30	CRK	9.5	2020	B3	87	56	42	+14
US76116AAB44	REN	8.5	2020	CCC2	94	43	30	+14
US049296AC06	ARP	7.75	2021	CCC1	69	80	67	+13
US701081AY70	PKD	7.5	2020	B1	59	89	82	+8
US92922PACD5	WTI	8.5	2019	B3	78	69	62	+7
Average					80	66	51	+13
Largest Overvaluation Gaps in Bonds								
US654677AB94	NKA	6.5	2019	CCC2	92	48	75	-28
US676253AJ67	VTG	7.5	2019	B3	97	39	58	-18
US707882AE64	PVA	8.5	2020	CCC1	69	79	94	-15
US06846NAC83	BBG	7.625	2019	B3	67	82	95	-13
US40537QAB68	HKUS	9.75	2020	CCC2	84	60	68	-8
US536022AJ55	LINE	6.25	2019	B2	72	75	81	-5
US665531AB54	NOG	8	2020	CCC1	65	84	90	-6
Average					78	69	80	-11

Source: Deutsche Bank



We are dealing with mostly deeply distressed names here, with an average dollar price of 50-80pts in between the two baskets. Readers should realize that many of these names are unlikely to survive to pay off these bonds – and therefore this recommendation is not made under assumption of a credit continuing to perform to maturity. Rather, we suggest that divergences from fair value in these cases are too extreme and support a short-term tactical trading opportunity.



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Mortgages

Originally published on March 25 in The Outlook in MBS and Securitized Products.

Slow motion housing

The slow rebound in US housing since the 2008 crisis at some point has to put a limit on MBS supply. Although this year is still likely to put up more net supply than last, it all starts with housing where a lingering overhang of supply, weak demand and tight lending have made it hard to get things started.

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Punching below its weight

The contribution of housing to US GDP continues to run at some of the lowest levels since the end of World War II (Figure 1). New construction of single- and multi-family homes, renovations, broker fees and the like still only make up a bit more than 3% of current GDP, well below the post-war average of 4.7%.

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Not only has the level of lift from housing come in low, but it has bounced out of the last official recession slowly, too. Housing on average has contributed a half a percentage point to GDP a year after the end of every post-war US recession (Figure 2). This time around, housing added only 7 bp. And the contribution of housing in the second and third years after the recent recession also has fallen well below post-war averages.

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Housing supply hangover

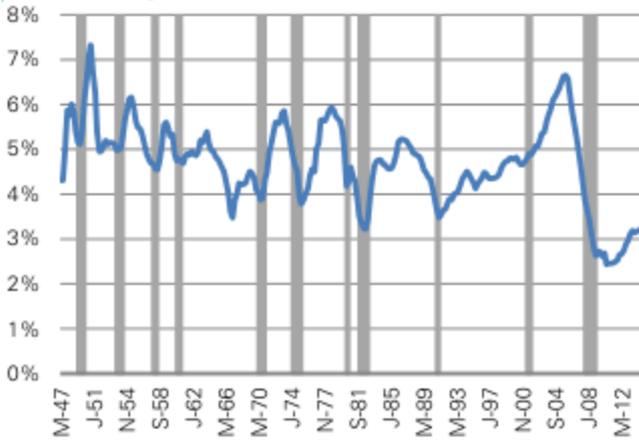
The slow motion in housing has to be due in part to supply. The last decade created a lot of owner-occupied units. US homeownership started the decade at 66.9%, peaked in 2004 at 69.2% and ended at 66.5%. It has since dropped to 64.0%. The exodus of owners initially threatened to leave a lot of extra houses behind and reduce the need to build new ones. But investors have come in to pick up the keys, and many houses have found a new home in the market for single-family rentals. This has helped reduce the supply of distressed homes, although it's still higher than the levels that prevailed in the early 1990s when homeownership last ranged around 64% (Figure 3). The supply hangover isn't done but should be in the next two or three years. And although multi-family housing is booming, it's clearly not enough per unit to replace the building of new single-family detached houses. The single-family market has to clear before housing overall gets back to normal.

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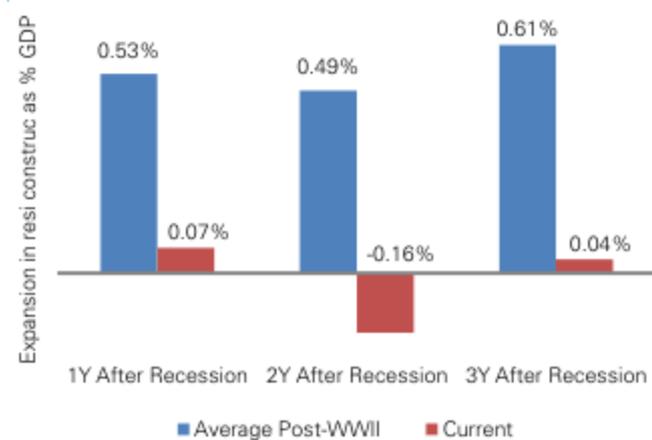


Figure 1: Housing's contribution to GDP still runs well below average



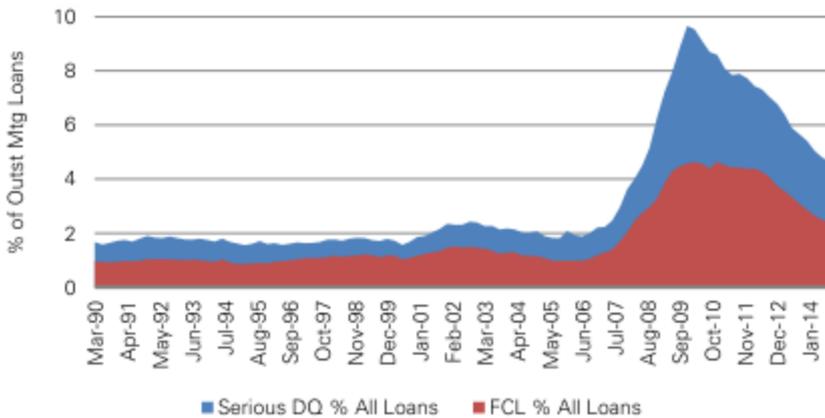
Source: BEA

Figure 2: Housing continues to rebound slowly from the crisis



Source: BEA

Figure 3: Distressed loans still put some supply pressure on housing



Note: serious DQ includes 90-day or longer delinquencies, FCL and REO.
Source: MBA via Bloomberg Finance LP

Housing demand drag

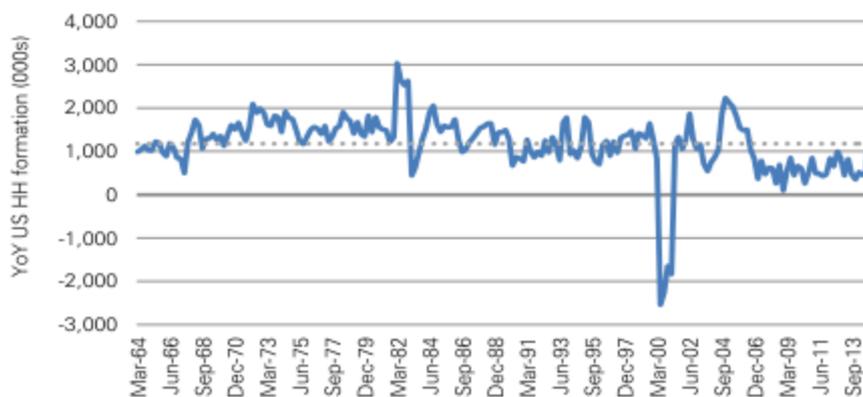
Demand has likely played a part in slow housing, too, starting with owners that bought their homes in the last decade. Thanks to a 38% drop in home prices nationally from 2006 to 2012, according to Case-Shiller, a lot of those owners walked out the front door without any equity and without the ability to reenter the market as buyers. This has almost certainly contributed to the drop in rental unit vacancies from 10.6% in mid-2009 to 7.0% today. As for potential new owners, Americans, even before the crisis, started moving into their own place at a much slower pace than the long-term average of 1.2 million new households a year, that is, until recently (Figure 4). Demand from former and potential new owners has been soft, but that should slowly improve.

Tight credit

And then, after supply and demand, there's credit. Credit has clearly tightened since the crisis, but it's difficult to come up with a precise measure. Nonbank lending to almost any type of borrower outside the agency market has largely disappeared. Bank lending has tightened dramatically starting in 2007, according to the Fed's senior loan officer opinion survey, with only minor correction in the last year or so—although this measure captures the number

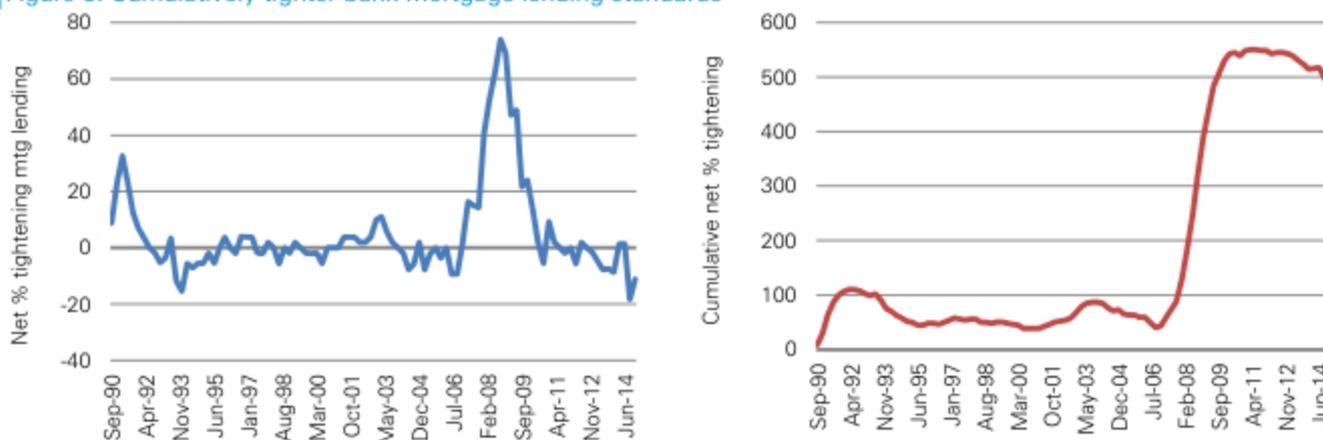


Figure 4: Weak household formation, until recently



Source: US Census Bureau, Bloomberg Finance LP

Figure 5: Cumulatively tighter bank mortgage lending standards



Note: data show standards for all loans to 1Q07 and prime loans after.
Source: Federal Reserve, Deutsche Bank

of surveyed banks tightening but not the precise magnitude (Figure 5). There's also the Qualified Mortgage and Ability to Repay standards introduced last year by the Consumer Financial Protection Bureau. Special questions in the Fed's loan officer survey last July showed that the QM and ATR rules had put a drag on all types of lending at all types of banks. And a review of bank lending released by the OCC in December showed that mortgage lending was the only area last year where more banks tightened than eased. And among banks that tightened in the OCC survey, the main reason was regulatory. Concern about put-backs from Fannie Mae and Freddie Mac and litigation from the FHA under the False Claims act has led banks to limit lending even to agency borrowers.

Although the market seems to be clearing out the lingering housing supply and the economy and the labor market look likely to repair demand, the availability of credit could prove to be the lasting constraint. Today's lending standards reflect limits designed to keep the last decade's boom and bust from happening again. Borrowers today without the ability to repay will not get a loan. But it looks like some borrowers with the ability to repay—but with low FICO scores or with needs that keep them outside the agency or prime jumbo markets—will also not get a loan. The market is reducing risk today to avoid risk tomorrow. But it also is likely reducing housing growth today to avoid a downturn tomorrow. Who should make that tradeoff and how is an open question.



The housing market looks likely to keep improving over the next two or three years while still punching below its historic weight in GDP. Reduction in supply and an increase in household formation look most likely to keep things on the mend. Credit looks less likely to change. And for investors in MBS, that means supply generally running below the pace that built the \$5.4 trillion market outstanding today.

* * *

Ginnie Mae RV revisited

Selling short TBA Ginnie Mae 30-year 4.0% and even 4.5% contracts against Fannie Mae's TBA still looks good more than two months after FHA surprised the market with a change in mortgage insurance premiums. That change reset fair value in Ginnie Mae MBS by scrambling the prepayment relationship to Fannie Mae. In "Adding up to fair value in G2/FN," Ian Carow and Jeana Curro build up the fair value of Ginnie Mae MBS step-by-step: the value of the longer Ginnie Mae delay, its poorer liquidity, its better credit and the new increase in its negative convexity. The result: fair value everywhere except in the 4.0% and 4.5%, where Ginnie Mae looks rich.

* * *

The view in rates

Fed Chair Yellen last week opened the door to a rate hike this year while signaling yet again that a return to neutral policy would take a long time. The most notable change was the move down in the FOMC dots projecting fed funds through 2018 and beyond. The market has consistently made money since at least 2012 by positioning for rates below the ones expected by the Fed, and that still looks like the right trade; the market, in fact, continues to do that. Eurodollar contracts show rates well below the Fed dots through 2018 and beyond. Low growth, low inflation, even a lower NAIRU should keep yields below Fed dots. Against the market's forward rates, the curve looks broadly like fair value. Neutral on rates.

The view in spread markets

No material change in core positions, but the arc of MBS supply is worth some attention. Outstanding agency MBS looks like it is on track to finish the first quarter down \$5 billion, well below Deutsche Bank's forecast of a \$20 billion gain. Supply again is proving difficult to predict.

Broad:

- Neutral the MBS-Treasury basis
- Long 30-year 4.0% MLB and 4.5% LLB, MLB or HLB pools
- Overweight Fannie Mae 30-year 5.0% or other up-in-coupon positions, underweight 30-year 3.5% and 4.0%
- Short Ginnie Mae 30-year 4.0% and 4.5% pass-throughs against long positions in Fannie Mae
- Neutral 15-year against 30-year

Narrow:

- Short 15-year 4.0%/3.5% coupon swap to play the flatter curve and market technicals
- Short FNCL 4.0% against a market value and duration neutral blend of low pay-up seasoned FNCL 3.5% pass-throughs and IOS 3.5% of 2012
- Favor last cash flow PACs and Zs, and CMO floaters over open window structures to benefit from flatter curve and add convexity
- Long IIO backed by MHA95 and MHA100 pools



The view in mortgage credit

Existing home sales skimmed under forecasts on Monday (+1.2% instead of +1.7%) while new home sales jumped that threshold Tuesday (+7.8% instead of -3.5%). The FHFA home price index came in Tuesday up YoY by 5.48%. Housing continued to deliver mixed signals, although generally showing modest growth and decelerating home price appreciation.

Adding up to fair value in G2/FN

With the first month of MIP-induced prepayments behind us and agency MBS prices showing some signs of stability post the March FOMC meeting, now presents a fine time to revisit relative value in agency pass-throughs. Sticking to our fair value formula (first detailed in our special report from January 27, 2015), we find that at current levels:

- GN2/FN 4.5% looks quite rich and we recommend shorting, even though it is negative carry (~1/32 per month)
- GN2/FN 4.0% looks modestly rich, and being short is slight positive carry (<1/32 per month)

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Figure 6: Framework for evaluating fair value in Ginnie Mae II/Fannie Mae swaps

Cpn	FNCL Px	OAS	OAD	Incremental value (discount) of				Total G2/FN FV	G2/FN Act	Act - FV	Net Carry
				Pay Delay	Liquidity	Credit	Prepayment				
2.50	98-31 4	17	6.78	0-00 7	-0-11 4	0-28 1	0-16 1	1-01 6	0-30 0	-0-03 6	0-03 0
3.00	102-07 4	6	5.4	0-00 6	-0-06 2	0-23 2	0-08 6	0-26 4	0-23 4	-0-03 0	0-01 5
3.50	104-30 5	-3	4.14	0-00 7	-0-05 6	0-16 5	-0-07 5	0-04 0	0-03 4	-0-00 4	0-01 4
4.00	106-25 0	-6	2.69	0-00 6	-0-01 4	0-08 3	-1-01 5	-0-26 1	-0-15 0	0-11 1	-0-00 5
4.50	108-18 5	27	3.37	0-00 7	-0-02 2	0-11 7	-2-03 4	-1-25 1	-0-03 0	1-22 1	0-01 2
5.00	111-01 0	10	2.95	0-00 7	-0-08 0	0-09 1	-1-16 0	-1-14 0	-1-16 0	-0-02 0	0-00 1

Note: all levels indicative as of COB 3/23/15. Methodology described below. Carry assumes model hedge ratios. Source: Deutsche Bank

Fair value framework

To estimate fair value, we separate and price out the component risks (pay delay, liquidity, credit and prepayment) and then adjust the FN value to the corresponding GN2 fair value (Figure 6). We begin by running the FNCL at its market price in the DB prepay model to obtain an OAS. To calculate pay delay, we then alter the FNCL in the model to pay five days sooner, matching G2SF, and price at constant OAS. For the liquidity premium FNCL carries over G2SF, we assume current GD/FN swap prices. For value of full faith and credit premium, we tighten the initial FNCL OAS by the interpolated agency debenture spread over Treasuries and then re-price in the same model (Tight OAS Price – Mkt Price = Credit value). Finally, to calculate the prepayment differential, we price FNCL at even OAS but have the prepay model treat the FNCL as G2SF. Here the model assumes an FHA/VA split of 70/30% (based on historical percentage) and assigns corresponding upfront and annual MIPs to FNCL based on WALA.

We can then sum the individual components to arrive at the fair value difference between G2 and FN, which we compare to actual GN2/FN swaps. The biggest discrepancies lie in the 4.0 and 4.5% coupon where GN2 appears overvalued by 11/32s and 1-22/32s, respectively. We note however that hedge adjusted carry for the G2/FN 4.5% short is slightly negative, but is marginally positive for the G2/FN 4.0% short.



A final caveat

One aspect that this framework does not control for (which may impact valuation slightly) is differences in the TBA collateral characteristics between Ginnie Mae II and Fannie Mae, such as WAC, WALA and geographic concentration. For example, the model loads FNCL 4.5% at 4.85 GWAC, and G2SF 4.5% at 4.96 GWAC.

Fair value in spec pools

In specified pools, a careful statistical analysis suggests that 4.5% coupons may be undervalued across loan balance stories, while CR pools may be overvalued across 3.0% through 4.5% coupons (Figure 7). Loan balance and CQ 4.0% also look undervalued in our model—but not to such a significant extent that we can rule out model error. Hedge-adjusted carry over TBA also continues to improve in higher coupons, with 4.5% loan balance and high-LTV pools projecting 4/32s to 6/32s of advantage, and loan balance 4.0% around 1/32 to 2/32s.

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The model fair value for high-LTV pools is the result of a new permutation of our model building on the previous work done on loan balance pay-ups.

Figure 7: Modeling spec pay-ups suggests 4.5% undervalued, CR overvalued

Type	Cpn	Act Px	Mdl Px	Act - Mdl	Z Score	HAC
CQ	3.00	-0-06 0	-0-11 3	0-05 3	0.5	-0-00 4
	3.50	0-28 0	0-17 6	0-10 2	1.2	-0-02 5
	4.00	1-26 0	2-01 1	-0-07 1	-0.6	0-00 1
	4.50	3-00 0	3-02 5	-0-02 5	-0.2	0-05 1
CR	3.00	-0-06 0	-0-28 3	0-22 3	2.3	-0-01 0
	3.50	0-24 0	0-10 3	0-13 5	1.5	-0-03 6
	4.00	1-22 0	1-06 3	0-15 5	1.3	0-00 2
	4.50	3-00 0	2-10 0	0-22 0	2.3	0-06 7
LLB	3.00	0-08 0	0-18 1	-0-10 1	-1.2	-0-01 0
	3.50	1-04 0	1-03 7	0-00 1	0.0	-0-03 6
	4.00	2-04 0	2-10 3	-0-06 3	-0.9	0-00 1
	4.50	3-00 0	5-04 4	-2-04 4	-8.4	0-04 6
MLB	3.00	0-06 0	0-11 0	-0-05 0	-1.0	-0-00 5
	3.50	0-30 0	0-28 6	0-01 2	0.2	-0-02 5
	4.00	1-26 0	2-00 1	-0-06 1	-0.9	0-02 3
	4.50	2-22 0	4-15 6	-1-25 6	-7.3	0-04 2
HLB	3.00	0-04 0	0-06 7	-0-02 7	-0.8	-0-00 0
	3.50	0-18 0	0-18 2	-0-00 2	-0.1	-0-02 4
	4.00	1-10 0	1-15 2	-0-05 2	-0.9	0-01 3
	4.50	2-00 0	3-03 2	-1-03 2	-5.1	0-04 6

Note: as of COB: 03/20/15, all levels indicative. HAC based on Mar/Apr TBA dollar roll, spec pool carry calculated at prior 1M CPR, and hedge ratio based on model effective duration, with "reality check" cap adjustments made for model HRs greater than 150% of TBA.
Source: Deutsche Bank YieldBook



Interpreting tradable implications and qualifications

Our model is based on a regression of high-LTV and loan balance pay-ups on a small set of variables:

- *Refinance incentive*: measured as the gross WAC on the TBA deliverable for a given period less the prevailing mortgage rate. This variable captures the price premium in the corresponding TBA, increased prepay risk in the TBA, and changes in the fair value of the dollar roll. As refi incentive increases, so too should pay-up value
- *Cumulative refinance incentive*: Measures how long a given TBA cohort has been exposed to refi incentive. This variable captures borrower burnout and will interact with the impact of refi incentive. For higher levels of cumulative refi incentive, increases in refi incentive will have less of an impact on pay-up value as prepay sensitivity in the TBA is diminished
- *Month-over month change in primary rate*: Measures the momentum and persistence of rate moves and can also change the impact of refi incentive. Pay-up values should change with a lag to sudden rate moves, as the new level will need to be sustained to translate into a real change in prepays.

In addition to the core set of variables used in the loan balance model, we also found that a measure of national home price appreciation provided additional explanatory power for CQ pools. For that measure we simply used the year-over-year percentage change in the S&P Case-Shiller 20-city home price index. Interestingly, that measure did not improve explanatory ability for CR pools, and is not included in that model. That difference seems reasonable given the minimum 105 LTV on CQ pools versus the 125 LTV minimum on CR pools—home price appreciation is much less likely to spring CR borrowers from negative equity in the near term.

The high-LTV model is a strong fit, explaining nearly 97% of observed variance, similar to the loan balance model. Using these models, loan balance 4.5% look undervalued, while CR pools look overvalued. For instance, in LLB 4.5% the difference between actual pay-up and model pay-up suggests that the story is undervalued by \$2-04+.

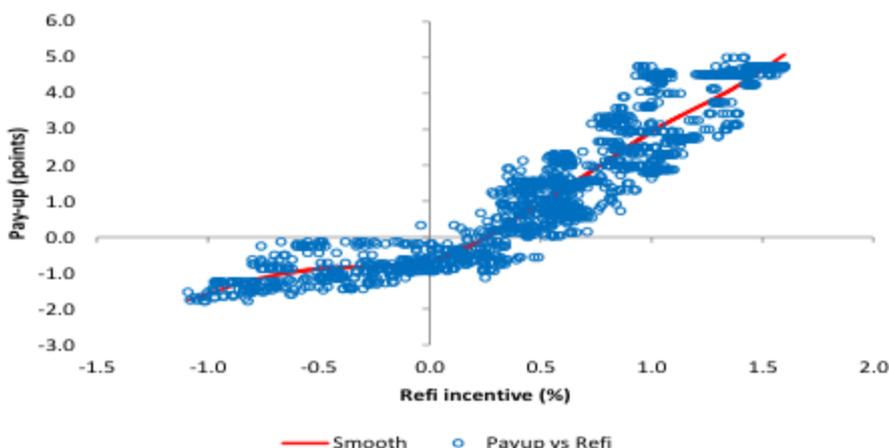
Of course, the model obviously does not fit perfectly—in fact, looking at the historical model predicted value versus actual shows a standard deviation of the error of \$0-08. However, in the case of the LLB 4.5%, the current difference of \$2-04+ is 8.4 times the error standard deviation. Similarly, the actual pay-up on CR 4.5% is \$0-22 higher than the model value, which is 2.3 times the standard deviation of the error.

Constructing a model of high-LTV pay-ups

The most interesting aspect of this exercise is again that the relationship between refi incentive and pay-up is not linear in high-LTV pools, but instead is curved (Figure 8).



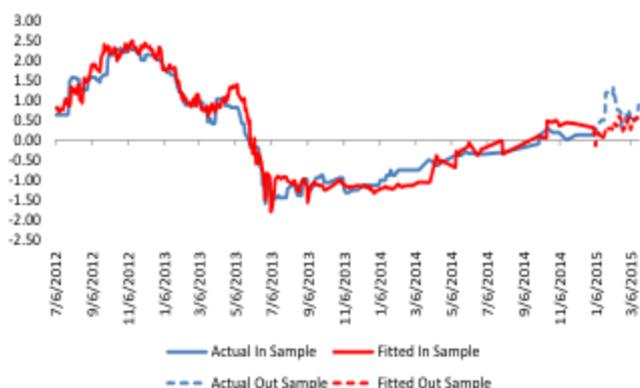
Figure 8: High-LTV pool pay-ups show curved relationship to refi incentive



Note: Refi incentive is measured as the gross WAC on the TBA deliverable for a given period less the prevailing 30-year primary mortgage rate.

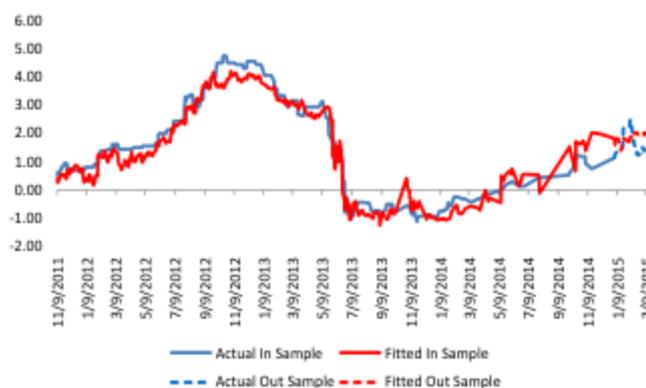
Source: Deutsche Bank

Figure 9: Model fit for CQ 3.5% in and out of sample



Source: Deutsche Bank

Figure 10: Model fit for CQ 4.0% in and out of sample



Source: Deutsche Bank

Given this relationship we chose to use a non-parametric general additive model (GAM) to describe that function. Reassuringly, the core function relating refi incentive to pay-up continues to hold well in out-of-the-money high-LTV pools, which are non-deliverable and so can trade back of TBA.

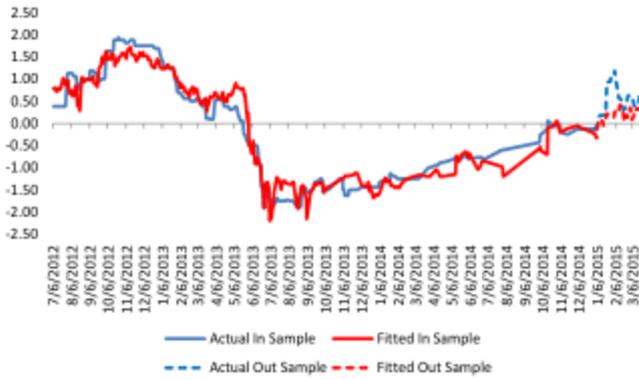
That model produced a fit with nearly a 97% R-squared, and each variable measured as highly significant, to 99.9% confidence. The model fit well on CQ and CR pools across multiple coupons, and appears to continue to track well when predicting out of sample.

One final caveat to the accuracy of the model is our exclusion of any measure of dollar roll specialness. Within our theoretical framework, dollar roll specialness should have a significant inverse relationship with loan balance pay-ups. That is, a highly special dollar roll should reduce or eliminate the carry advantage of slower prepayments in the specified pool collateral. However, calculating a historical measure of roll specialness is inherently subjective, and our simple approach did not return a significant or logical relationship to pay-ups. One explanation may be that pay-ups may react more strongly when the roll is special in both the front and back months, indicating persistent specialness. However, determining back month roll specialness becomes even more complex and subjective than focusing on the front month alone.



For this reason we excluded any such measure from the model. However, a model that did include a measure of specialness should theoretically be more robust.

Figure 11: Model fit for CR 3.5% in and out of sample



Source: Deutsche Bank

Figure 12: Model fit for CR 4.0% in and out of sample



Source: Deutsche Bank



Global

Rates
Credit

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Bond Market Strategy

- The improved growth momentum in Europe remains favourable for reflation trades and peripheral assets. However, the increase in the duration supply in the periphery could be material and is likely to increase market volatility
- We maintain long EUR5Y breakevens, the Bund ASW widener as a hedge, and shorts in the front-end of the eonia curve. We exit the long 30Y BTP and move instead to an optimised 7Y BTP – 30Y OAT cross market steepener. .
- The risk premium priced in the US rates market remains low, especially given the latest increase in oil prices and relative weakness of the USD. We maintain USD2s5s steepeners

Supply Response

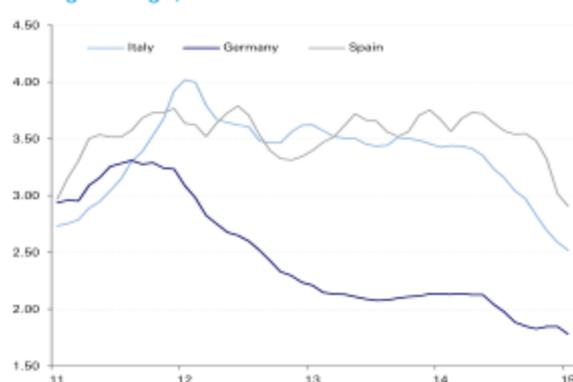
The growth momentum in the euro-area continues to improve. The Eurozone Flash PMIs were above expectations and reached the highest level since May 2011. The details of the composite PMIs were also encouraging, with new orders, employment, input and output prices all up. The credit data is also improving, as the 3-month MFI loans to the private sector is at the highest since August 2011. If these levels of credit growth are maintained next month, the credit impulse should continue to improve. Moreover, as highlighted by Draghi in his recent speeches, the easy monetary policy is increasingly being transmitted to the real economy as the interest rate charged on loans to the private sector in Italy and Spain are converging towards the interest rate charged in core countries. In short, the hard data, business surveys and credit dynamics are all consistent with better growth momentum in the Eurozone in Q1.

Credit dynamics suggest improving growth momentum



Source: Deutsche Bank, ECB, Haver Analytics

Convergence of corporate lending interest rates (3M moving average)



Source: Deutsche Bank, ECB, Haver Analytics

The improved economic outlook should be positive for reflation trades and peripheral bond markets, especially in the context of QE. However, the cash inflation linked and peripheral bond markets have underperformed on a relative basis. This underperformance is to some extent related to quarter-end



dynamics, as investors and dealers reduce risk. More crucially it is likely to be related to the increased supply of duration from peripheral issuers. We had highlighted over the last few weeks that peripheral countries were likely to increase the duration of their new issuance to raise the average maturity of their outstanding debt back to pre-crisis levels. We expected the increase in duration to be a headwind to the spread tightening trend, but not to lead to a spread widening. On closer inspection, the duration supply could actually be quite meaningful. Indeed, Spain and Italy have increased the maturity of their issuance in 2015 by 2.5-3.0 years relative to 2014. If this increase in maturity is maintained for the duration of the QE programme, Spain and Italy would be issuing significant additional duration to the market relative to last year (see the table below and Euroland Strategy for more details). In fact, for Italy, the duration supply could be comparable to the duration taken out by the ECB. Of course, some maturity extension was likely to have been expected and already priced in by the market. Also, the maturity increase from Italy and Spain may be particularly high at the moment and may decelerate. Nonetheless, this simple calculation suggests that the magnitude of the duration supply could be material.

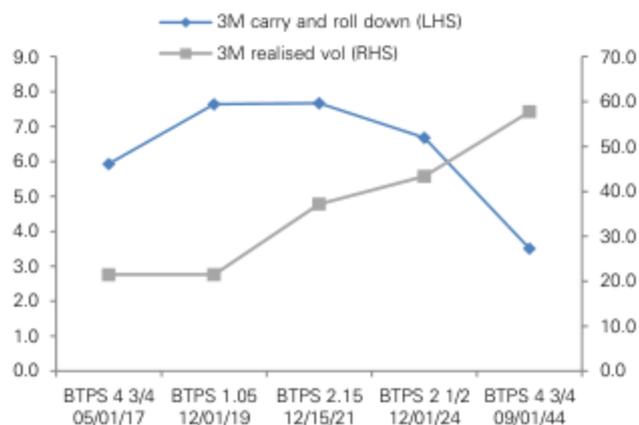
Duration supply in the periphery could be material

	[1]	[2]	[3] = [1] * [2] / 10	
	Estimated Gross Supply Mar-15 Sep-16	Maturity Increase 2015 YTD vs. 2014 (in years)	Approximate Duration Supply in 10Y	Approximate ECB QE in 10Y
Italy	427.5	3.0	135.5	124.1
Spain	142.0	2.4	34.1	86.7
France	345.2	-0.7	-21.1	130.1
Germany	254.9	-0.2	-6.6	146.2

Source: Deutsche Bank, ECB, Ministry of Finances, Bloomberg Finance LP

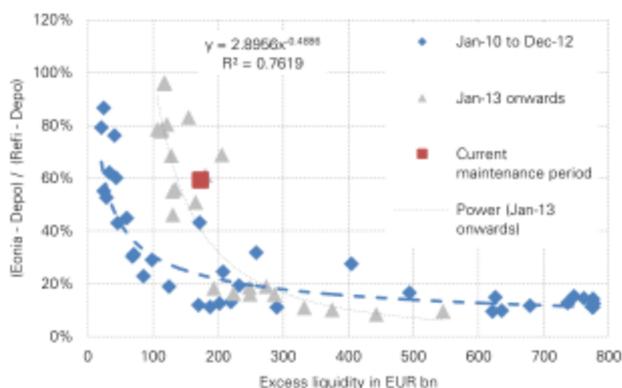
For core countries, there has been no supply response so far. Germany is unlikely to adapt its issuance to market conditions. However, France could prove to be more opportunistic. Net selling could come from non-domestic investors as these are the ones who have increased their ownership of core rates during the crisis. As we discussed last week, there are fewer incentives for Japanese investors to hold EGBs at these relative yield levels. For instance, the France-Japan 10Y spread has tightened from over 200bp in 2011 to less than 15bp today. Japanese investors may thus reduce their current holdings (which consists mostly of France) once the new fiscal year starts next week.

Vol adjusted carry is more attractive in the belly of the Italian curve



Source: Deutsche Bank, Bloomberg Finance LP

Eonia is proving to be relatively sticky given the increase liquidity



Source: Deutsche Bank, ECB, Bloomberg Finance LP



From a trade recommendations perspective, we maintain our long 5Y breakevens as the macro backdrop is increasingly supportive for the trade. Moreover, we see upside risks to the consensus HICP print of next week.

We also shift our short 2Y1Y eonia into a simple short 3y eonia as the curve up to December 16 is now fully pricing the increase in liquidity (forward eonias around -15bp). If anything, there is a risk that because of market frictions, eonia does not trade as low in the corridor. For instance, eonia is proving relatively sticky given the current level of excess liquidity.

We exit the long 30Y BTP and move instead into an optimised cross-market steepener. We enter a long 7Y BTP to protect against the potential impact of the supply response on the long-end. Even if the most recent price action reverses, the volatility of the long-end of the curve makes this sector less compelling from a Sharpe ratio perspective. The 7 year point is the most attractive from a (volatility adjusted) carry and roll down perspective. At the same time, it is attractive to test a short in 30Y core rates given (a) the flatness of core curves, (b) the risk of unwind of Japanese portfolios and/or supply response from France and (c) the upside risks to the next inflation print. We therefore recommend a 7Y BTP – 30Y France cross-market steepener.

Finally, we maintain the Bund ASW widener as a hedge against renewed tensions in Greece.

Still looking for more risk premium in the US

In the US, the hard data continues to disappoint leading tracking GDPs below 1%. On the more positive side, the jobless claims have remained resilient and some of the business surveys have improved. In any case, the Fed and the market have already adjusted for a weak Q1 GDP, and the inflation outlook remains the key driver. From this perspective, the relative weakness of the USD and rise in oil prices should be supportive of a greater risk premium in US rates. For instance, USD 10Y Breakevens are low relative to oil prices, metal prices and DXY (see graph below). From a trade recommendation perspective, we continue to favour USD2s5s steepeners as an attractive way of positioning for steeper money market curves. The trade remains at risk from a renewed USD strength and/or oil price weakness. However, given the flatness of the money market curve (around 50bp priced between dec-16 and dec-17), the downside risks to the trade are limited.

The risk premium remains close to the historical lows



Source: Deutsche Bank, Bloomberg Finance LP

And has room to increase given commodity prices and the USD



Source: Deutsche Bank, Bloomberg Finance LP



Economics

US: Despite Q1 lull and dollar appreciation, trend growth will continue to improve

- The economy is projected to grow 2.4% in Q1 2015, nearly the same pace as the previous quarter. The inability of the economy to sustain a 3%-plus growth rate in the first quarter is due to several transitory factors, which we expect to dissipate in Q2. Consequently, similar to last year, we expect economic activity to rebound over the next couple of quarters. The biggest risk to growth is from an appreciating dollar. However, we believe that most of the dollar strength will be offset by the fall in energy prices, which will significantly boost real income. At the same time, the outlook for interest rates is much more benign, as the timing and glide path of the fed funds rate has been significantly reduced. This, too, will help offset some of the projected weakness in net exports. Therefore, financial conditions have not tightened enough for us to mark down our full-year GDP forecast. Moreover, to the extent that monetary policymakers are projecting less tightening than before, recent dollar appreciation, which has been on a torrid path, is likely to moderate.
- Given the lags between changes in the trade-weighted dollar and net exports, the economy has yet to meaningfully feel the impact of the appreciating dollar. If its current level is maintained or if the dollar appreciates further, net exports are poised to be a significant drag on economy activity. At the same time, the strong dollar will weigh further on import prices and hence consumer goods inflation. Based on the appreciation to date, we estimate the rise in the dollar is worth roughly 50 basis points of monetary tightening. However, overall economic activity may not be meaningfully compromised because a stronger dollar will keep interest rates lower than would otherwise be the case, which should help housing-related spending. Additionally, to the extent that the rising dollar has helped dampen inflation both through lower energy prices and eventually even lower goods prices, real wage growth will be lifted. This is a meaningful tailwind for consumers, who dominate US aggregate demand. Ultimately, the appreciating dollar may simply alter the composition of real GDP growth and not the trajectory of growth. This is why we have not changed our longer-run forecasts for the economy.
- The economy has generated 3.3 million jobs over the past 12 months, the strongest pace since March 2000, when interest rates were much higher. In 2000, the fed funds rate was 6.0% and inflation-adjusted fed funds, using the headline personal consumption expenditures deflator, was 3.13% at that time. Even with a strengthening dollar and the expectation of a rising fed funds rate, monetary policy will remain highly accommodative for the foreseeable future.

Figure 1: Macro-economic activity & inflation forecasts: US

Economic activity (% qoq, saar)	2014				2015				2014 % yoy	2015F % yoy	2016F % yoy
	Q1	Q2	Q3	Q4	Q1F	Q2F	Q3F	Q4F			
GDP	-2.1	4.6	5.0	2.2	2.4	4.0	3.2	3.1	2.4	3.3	3.1
Private consumption	1.2	2.5	3.2	4.4	3.9	3.4	3.3	3.3	2.5	3.6	3.1
Investment (inc. inventories)	-6.9	19.1	7.2	3.7	-5.3	10.2	9.1	8.3	5.8	4.8	7.7
Gov't consumption	-0.8	1.7	4.4	-1.9	2.0	2.6	2.6	3.0	-0.2	1.8	2.9
Exports	-9.2	11.0	4.6	4.5	1.0	0.0	-3.0	-4.0	3.2	1.6	-1.6
Imports	2.2	11.3	-0.9	10.4	-1.0	3.0	4.0	4.0	4.0	3.5	4.6
Contribution (pp): Stocks	-1.2	1.3	-0.1	-0.1	-0.9	0.7	0.2	0.0	0.0	0.0	0.0
Net trade	-1.6	-0.3	0.7	-1.0	0.3	-0.5	-1.0	-1.2	-0.2	-0.3	-0.9
Industrial production	■	■	■	■	■	■	■	■	4.1	4.5	3.9
Unemployment rate, %	6.6	6.2	6.1	5.7	5.5	5.2	4.9	4.7	6.2	5.1	4.5
Prices & wages (% yoy)											
CPI	1.4	2.1	1.8	1.2	0.5	0.1	0.5	1.4	1.6	0.6	2.6
Core CPI	1.6	1.9	1.8	1.7	1.6	1.6	1.8	2.0	1.7	1.7	2.5
Producer prices	1.6	2.8	2.4	0.7	-1.0	-1.8	-1.0	1.3	1.9	-0.6	3.8
Compensation per empl.	3.1	1.8	2.4	2.5	1.6	2.7	2.9	3.4	2.5	2.7	4.2
Productivity	0.6	1.1	1.2	-0.1	1.5	1.1	0.5	1.3	0.7	1.1	1.3

Source: National authorities, Deutsche Bank Research



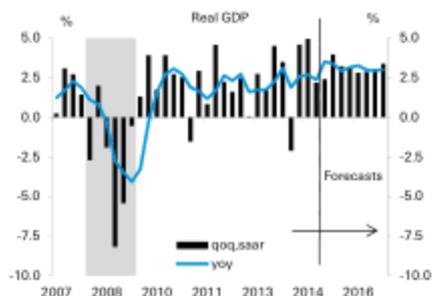
Where are we at the moment? The economy is projected to grow 2.4% in Q1 2015, nearly the same pace as the previous quarter. The inability of the economy to sustain a 3%-plus growth rate in the first quarter is due to several factors. One, the economy faced an unusually brutal winter for the second consecutive year. Temperatures across much of the country were unseasonably low and activity was hampered by numerous winter storms. This likely depressed discretionary purchases and hurt construction activity. Two, a slowdown in West Coast port activity, a function of labor strife, may meaningfully dent Q1 exports. This will likely reverse next quarter as the labor issues have been resolved. Three, the seasonal factors might not be adequately capturing the currently prevailing seasonal pattern. If our quarterly 2015 GDP profile is correct, this would mark the eighth time in the last 13 years in which Q1 turned out to be the weakest quarter of the year. Finally, the collapse in energy prices is causing a sharp pullback in energy-related capital spending at the moment. However, if oil prices stabilize, the drag from diminished oil and gas capital expenditures (capex) should dissipate toward yearend. Based on DB's forecast for West Texas Intermediate oil prices, energy-related capex should show an increase by Q4 of this year.

Baby, it's cold outside. We can measure weather by looking at the number of heating degree-days relative to the average. When the figure is positive, it means that households had to heat their homes more than normal, and vice versa. As we can see in the accompanying chart, there was a large jump in February 2015 heating degree-days. Indeed, it was the largest positive reading since December 2000, and it was one of the coldest Februaries on record. There is little doubt this had a negative impact on discretionary purchases such as motor vehicles. In fact, various reports among dealerships across the country highlighted the unusually harsh weather as a factor depressing sales. The story has been the same for housing. In February, housing starts fell a whopping 17% to 0.897 million annualized, the lowest reading since January 2014. However, housing permits increased 3.0% in the month to 1.092 million annualized. Why does this matter? For a start to be counted, ground needs to be broken. But if the ground is frozen, the start is not captured. This is not the case with a permit. With the spread between starts and permits the widest since January 2007, expect the former to snap back toward the latter as the weather normalizes.

History repeats itself—yet another weak Q1 performance. Over the past several years, we have noticed a tendency for Q1 real GDP to be significantly weak, at least relative to the rest of the year. While this is hardly a large sample, it is possible the seasonal factors are not properly accounting for the currently prevailing seasonal pattern in production and spending. Shifting weather patterns only further complicate the ability of the government to seasonally adjust the data. Of course, the seasonal adjustments net out to zero over the full calendar year.

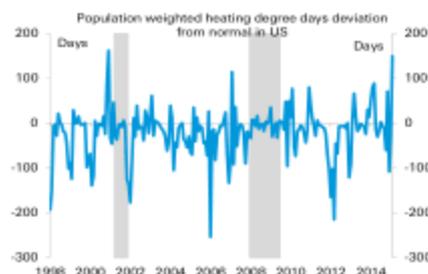
Lower oil prices mean less energy capex. The roughly 60% decline in crude oil prices from last July's high points to significantly less spending within the capital-intensive energy sector. Historically, changes in oil prices lead changes in energy spending by roughly two quarters. Not surprisingly, energy-related capex is poised to decline sharply this quarter, which is another factor weighing on measured economic output. However, when energy prices stabilize and eventually trend higher as oil and gas supply goes offline, the reduction in capex will eventually come to a halt. Given Deutsche Bank's outlook for oil prices, we should see a sequential gain in energy-related spending by Q4 2015. It is also worth highlighting that energy-related capex accounts for only about 10% of total capital outlays or just 1% of GDP. Therefore, we do not believe that economy-wide capital spending will be meaningfully impaired by the decline in energy prices.

Figure 2: Underlying economic growth is poised to accelerate



Source: BEA, Haver Analytics, Deutsche Bank Research

Figure 3: February was extremely cold, thereby depressing economic activity



Source: NOAA, Haver Analytics, Deutsche Bank Research

Figure 4: The trade-weighted dollar has appreciated at a rapid pace



Source: FRB, BLS, Haver Analytics, Deutsche Bank Research



Whither the dollar? The bigger issue for the economy and the financial markets is the dollar. To be sure, the Fed is worried about its recent appreciation, which has been the fifth fastest on record. It has been eclipsed only by the moves in 1981-1982, 1984-1985, 1997 and 2008-2009. In the case of the two 1980s episodes, high real interest rates, which were induced by tight monetary policy, were the root cause of dollar appreciation. In 1997, the surge was due to the abandonment of fixed currencies in the Asian bloc. The most recent previous period of dollar strength occurred during the global financial crisis, which resulted in a massive flight to safety into US Treasury securities. The current period is different: The US economy is arguably the healthiest of the major industrialized economies, and the Fed is still expected to raise interest rates this year. Other central banks such as the BOJ and ECB are at different stages of the business cycle and are both pursuing expansionary monetary policies designed to weaken their exchange rates.

In order to gauge the implications of the strengthening dollar for monetary policy, we simulated a one-time, 14% shock to the trade-weighted dollar (the current move from last summer) in the Federal Reserve Board's macroeconomic model of the US economy, often just referred to as FRB/US. All else being equal, the simulated shock causes real GDP growth to decrease by about -0.5 percentage points (or 50 basis points) and -0.8 percentage points, respectively, one and two years after the shock occurs. This is also broadly consistent with what we found when we estimated the impact of the change in the dollar on the contribution of net exports in the GDP accounts. As we illustrate in the accompanying chart, changes in the trade-weighted dollar tend to impact net exports with a lag of approximately two years. When the dollar strengthens, net exports tend to weaken as US manufacturers' prices become less competitive in the global marketplace and imported goods become relatively cheaper. In the process, domestic production and employment suffers. The opposite is the case when the dollar weakens. Hence, a stronger dollar can effectively act as a monetary tightening. This is partly why the Fed recently "shallowed out" its trajectory for interest rates over the next few years; the other reason being the Fed's lower estimate of the NAIRU.

At the same time, the strengthening dollar will weigh on US inflation: Domestic producers will be forced to keep their prices as internationally competitive as possible as the cost of imported goods declines. We can see in the nearby chart that when the dollar rises, import prices decline, and when import prices fall, consumer goods prices tend to weaken. According to our FRB/US simulations, the recent dollar appreciation could subtract a tenth or more off of core consumer prices over the next couple of years. This may not seem like much, but core inflation has been running significantly below the Fed's 2% target for the past three years. For inflation to rise toward that level, either dollar strength will have to reverse, or services prices will have to rise further, thereby offsetting the former. Given our expectation of a further significant decline in the unemployment rate, services prices, which are dominated by the cost of labor, should increase further, effectively negating dollar strength. Services prices account for roughly 75% of core CPI inflation compared to just 25% for goods.

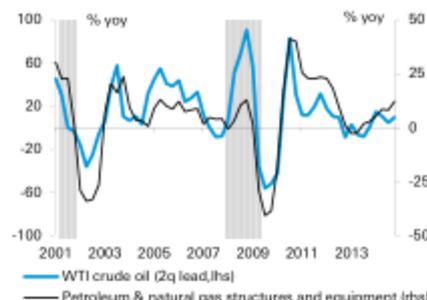
Don't forget oil prices. An important caveat to the above analysis is that the appreciation of the dollar has been accompanied by a collapse in oil prices to below \$50 per barrel, which has been a significant stimulant to US households and non-energy related businesses. We estimate that the decline in energy prices has lifted US household cash flow by approximately \$140 billion. Another way to see this positive effect is to look at real earnings: Over the past 12 months, real earnings are up 2.4%, the largest increase since October 2009. Last quarter, inflation-adjusted consumer spending rose at a robust 4.2% annualize rate — matching its best quarter of the business cycle — and while recent nominal spending figures for the current quarter have been disappointing, we believe this is mainly due more to weather and the seasonal

Figure 5: Dollar strength will weigh on net exports for the foreseeable future



Source: FRB, BEA, Deutsche Bank Research

Figure 6: The collapse in oil prices points to a sharp pullback in energy capex



Source: EIA/WSJ, BEA, Haver Analytics, Deutsche Bank Research

Figure 7: Import prices are likely to weaken further in the months ahead



Source: FRB, BLS, Haver Analytics, Deutsche Bank Research



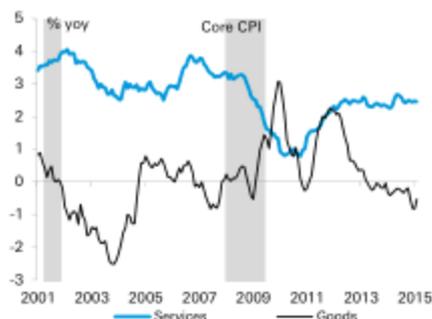
issues discussed earlier. Consequently, even though the stronger dollar will weigh on net exports and help dampen inflation pressures, the drop in energy will ultimately be a boon to consumers. Regarding the negative impact on energy-related spending and hiring, it is worth noting that employment within the transportation sector, arguably the industry best positioned to benefit from lower fuel costs, is more than three times larger than the energy sector as a percentage of total employment (4.6% vs. 1.4%). The reason we have not lowered our GDP forecast for 2015 or beyond is that we believe that dollar appreciation will be offset by the stimulus from lower oil prices. Hence, we are maintaining our top-down forecast from last December, but the mix of underlying output growth has changed—we have factored in a larger drag from international trade, but this is largely offset by stronger domestic spending

If the economy is able grow 3% this year, the unemployment rate is likely to continue declining at its current pace, which is roughly one percentage point per year. Our forecast assumes the unemployment rate will fall to 4.7% by yearend, which is well below the Fed's central tendency of 5.0% to 5.2%. This further expected tightening in the labor market, which will be accompanied by rising hiring and quit rates, should exert upward pressure on labor costs. In turn, this should add to policymakers' confidence that inflation will trend back toward their 2% target, thus allowing the Fed to begin the process of monetary policy normalization at the September 16-17 FOMC meeting. As always, there are risks to the economic and financial outlook.

- With respect to output growth, there is a risk that recent dollar appreciation exerts a larger-than-anticipated drag on the US economy than what we have assumed in our forecast. This would also put further downward pressure on goods inflation and likely stay the commencement of interest rate normalization a bit longer.
- Another downside risk is that the second-order effects of lower energy prices on capital spending and energy-related employment are larger than what we currently anticipate. At the same time, the boost to domestic spending from lower energy prices may not fully come to fruition if households and businesses chose to save a meaningfully greater portion of the energy tax cut.
- In terms of the upside risks to growth, the rapid appreciation of the dollar may already be reflective of divergent central bank policies. In turn, the pace of dollar appreciation may slow significantly over the coming quarters, and could even reverse, resulting in less drag on net exports and domestic production than we currently assume.
- Another upside risk is the labor market. As the job market continues to strengthen and the unemployment rate declines meaningfully further, wage and income growth may rise faster than expected, thus providing households with even more spending power than we envision.
- The final upside risk pertains to inflation. The aforementioned potential for faster wage gains, combined with a more dramatic recovery in energy prices relative to our projection — possibly the result of less dollar appreciation, stronger overseas growth and substantially less oil production — may push headline inflation more quickly back toward the Fed's 2% target. With respect to all of the aforementioned risks, this is perhaps the one that financial markets are least prepared for.

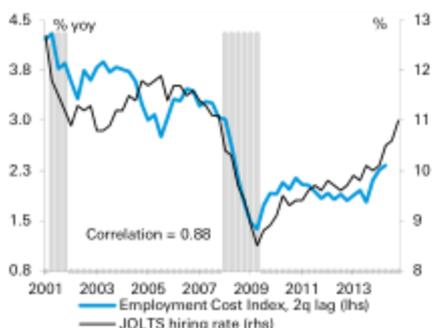
Joseph A. LaVorgna, (1) 212 250 7329
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Figure 8: Goods prices will continue to fall but this should be offset by services



Source: BLS, Haver Analytics, Deutsche Bank Research

Figure 9: A rising hiring rate points to an acceleration in wage costs



Source: BLS, Haver Analytics, Deutsche Bank Research

Figure 10: External balances & financial forecasts

	2013	2014F	2015F	2016F
Fiscal balance, % of GDP	-4.0	-2.9	-2.6	-2.9
Trade balance, USD bn	-476	-532	-596	-778
Trade balance, % of GDP	-2.8	-3.1	-3.3	-4.1
Current account, USD bn	-400	-453	-607	-661
Current account, % of GDP	-2.4	-2.6	-2.8	-3.5
Financial forecasts				
Official	0.12	0.13	0.63	0.88
3M rate	0.26	0.26	0.75	1.18
USD per EUR	1.09	1.04	1.00	0.98
JPY per USD	119	121	125	126
USD per GBP	1.49	1.47	1.36	1.33

Source: National authorities, Deutsche Bank Research, as of March 30



Chart Pack

DB Treasury Yield Forecasts

	2Y	5Y	10Y	30Y
2015 Q1	0.50	1.35	1.85	2.40
2015 Q2	0.95	1.95	2.50	3.05
2015 Q4	1.70	2.35	2.65	3.10

Source: Deutsche Bank
 Note: Forecasts reflect expectations for end-of-period.

2-3-5 butterfly, 50/50 weight, long bullet



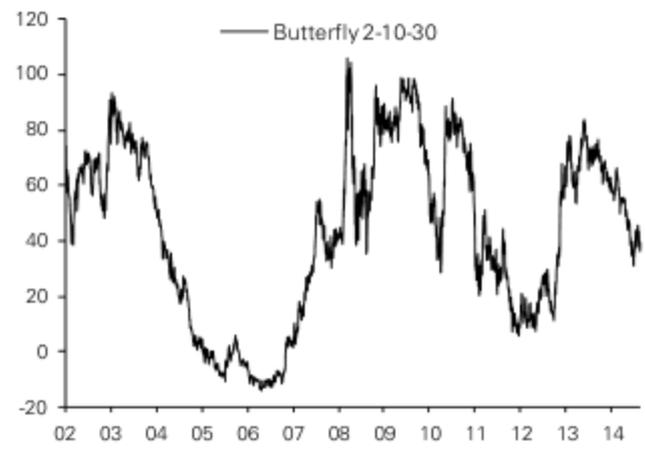
Source: Deutsche Bank

2-5-10 butterfly, 50/50 weight, long bullet



Source: Deutsche Bank

2-10-30 butterfly, 50/50 weight, long bullet



Source: Deutsche Bank

5-10-30 butterfly, 50/50 weight, long bullet



Source: Deutsche Bank

5-7-10 butterfly, 50/50 weight, long bullet



Source: Deutsche Bank

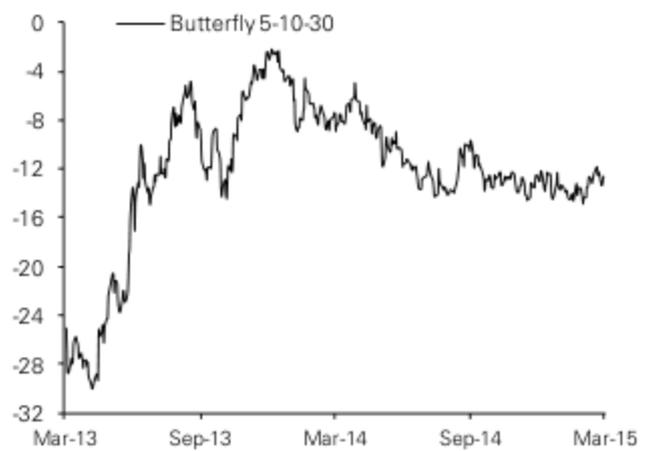


2-5-10 butterfly (PCA 57.40% and 42.60% risk on the wings)



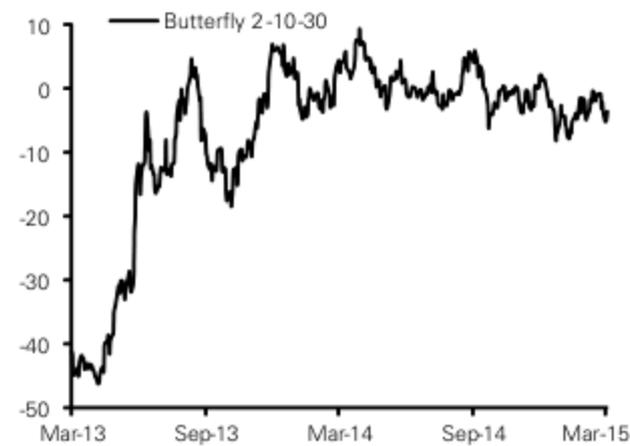
Source: Deutsche Bank

5-10-30 butterfly (PCA 41.38% and 58.62% risk on the wings)



Source: Deutsche Bank

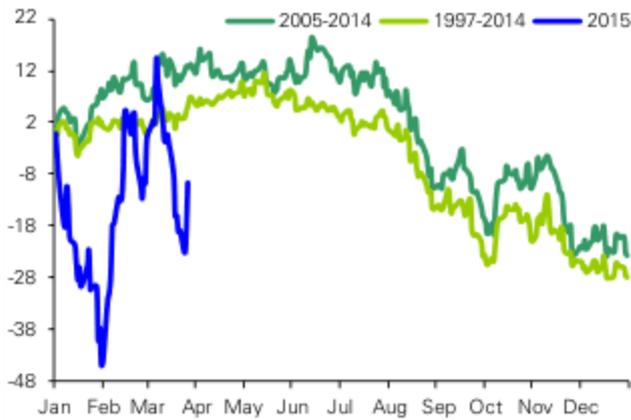
2-10-30 butterfly (PCA 28.20% and 71.80% risk on the wings)



Source: Deutsche Bank

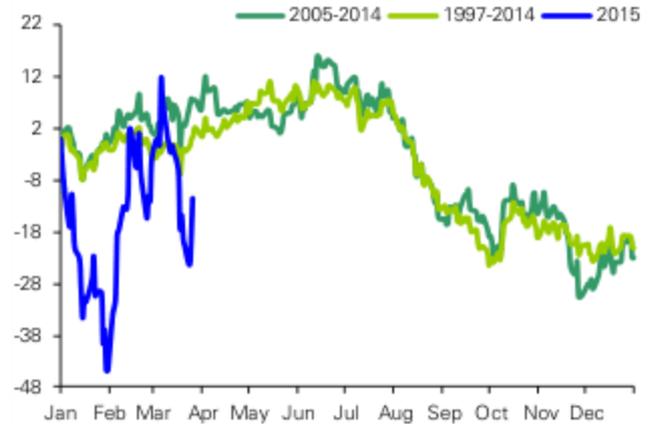


30Y Treasury yield seasonals (Change since Jan-1)



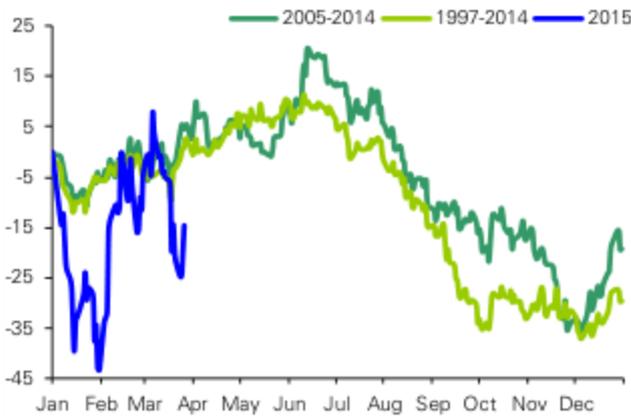
Source: Deutsche Bank

10Y Treasury yield seasonals (Change since Jan-1)



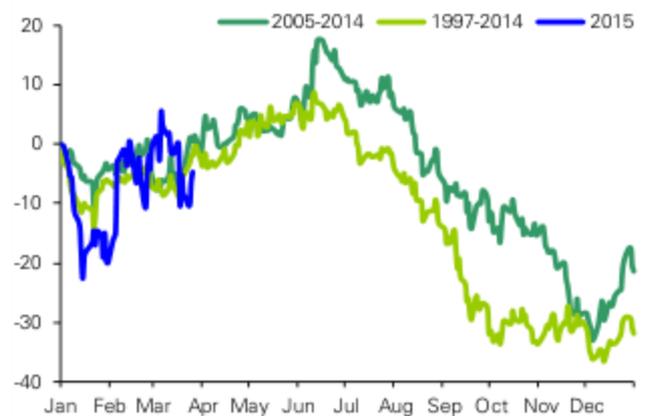
Source: Deutsche Bank

5Y Treasury yield seasonals (Change since Jan-1)



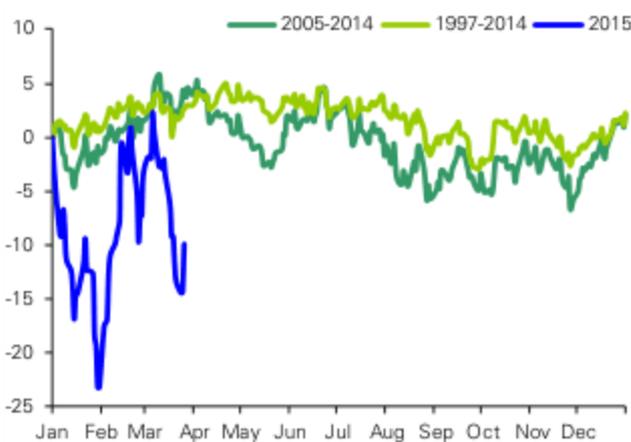
Source: Deutsche Bank

2Y Treasury yield seasonals (Change since Jan-1)



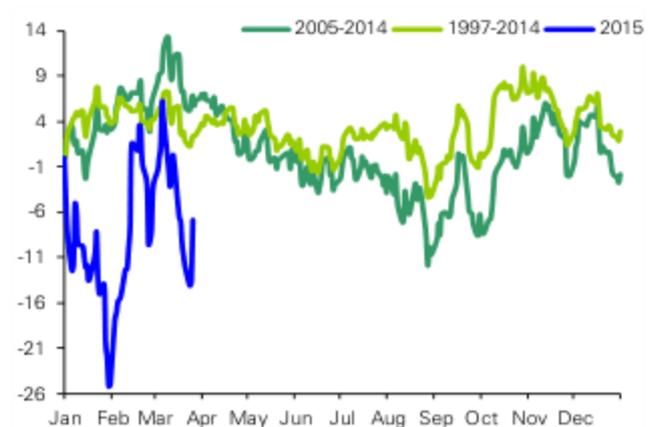
Source: Deutsche Bank

2Y/5Y slope seasonals (Change since Jan-1)



Source: Deutsche Bank

2Y/10Y slope seasonals (Change since Jan-1)



Source: Deutsche Bank



2Y/30Y slope seasonals (Change since Jan-1)



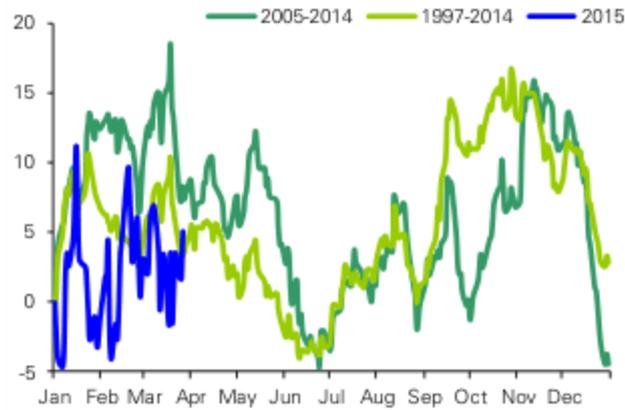
Source: Deutsche Bank

5Y/10Y slope seasonals (Change since Jan-1)



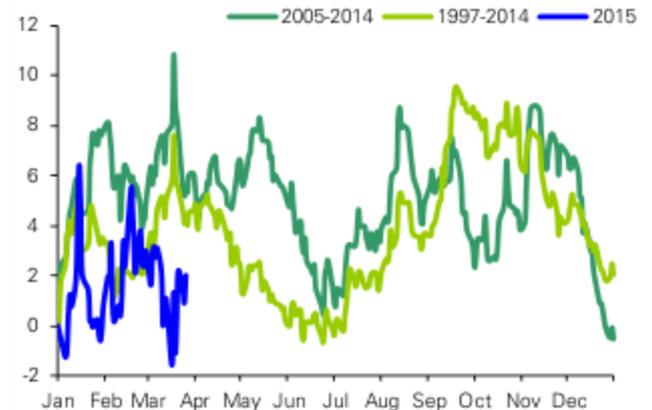
Source: Deutsche Bank

5Y/30Y slope seasonals (Change since Jan-1)



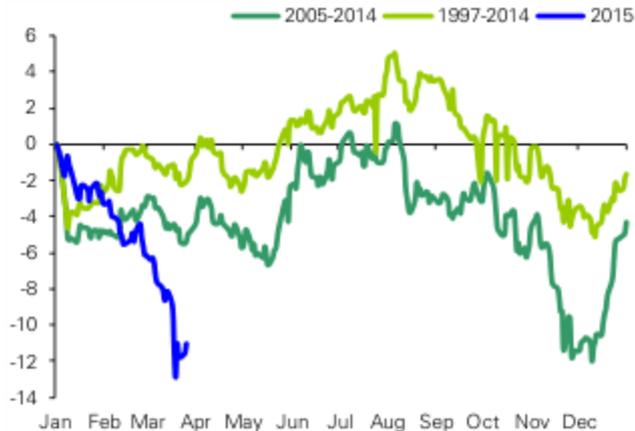
Source: Deutsche Bank

10Y/30Y slope seasonals (Change since Jan-1)



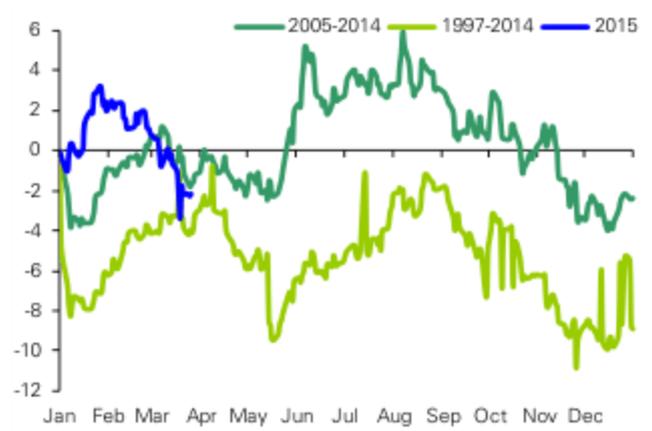
Source: Deutsche Bank

30Y swap spread seasonals (Change since Jan-1)



Source: Deutsche Bank

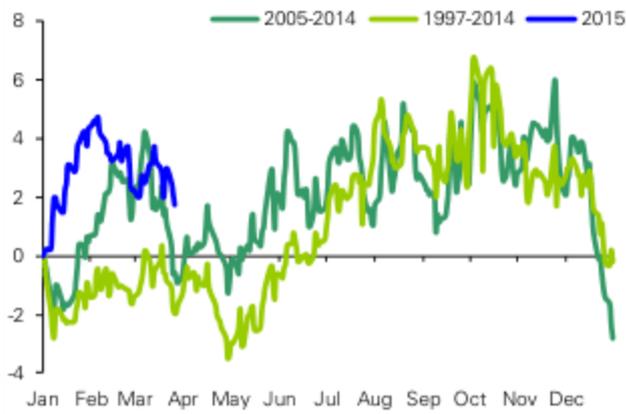
10Y swap spread seasonals (Change since Jan-1)



Source: Deutsche Bank

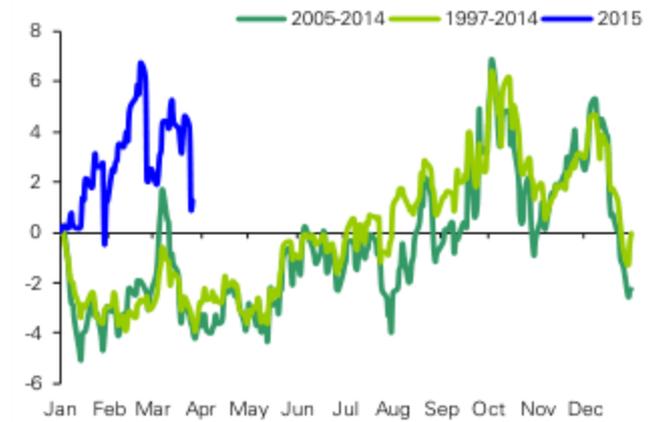


5Y swap spread seasonals (Change since Jan-1)



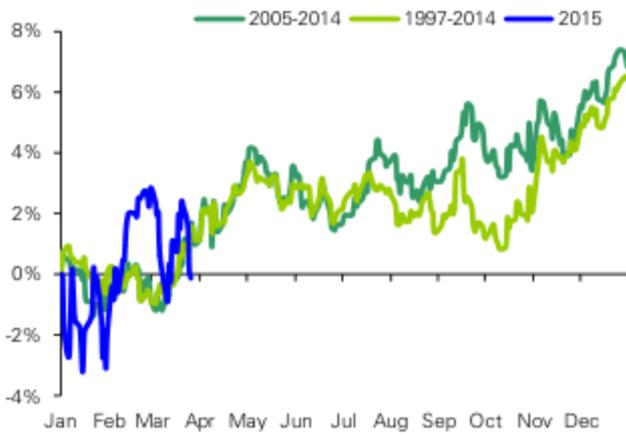
Source: Deutsche Bank

2Y swap spread seasonals (Change since Jan-1)



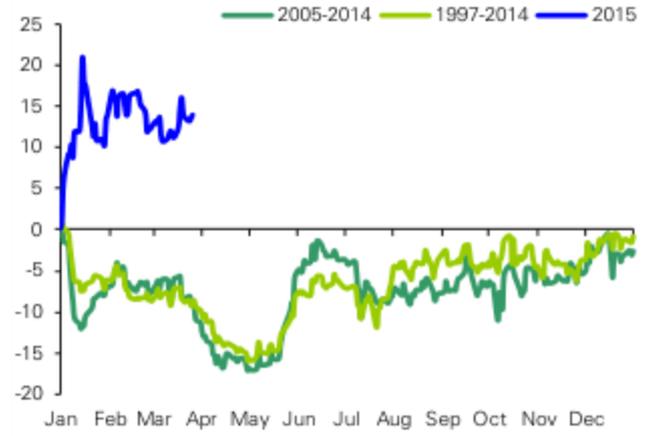
Source: Deutsche Bank

S&P Index seasonals (Change since Dec-31)



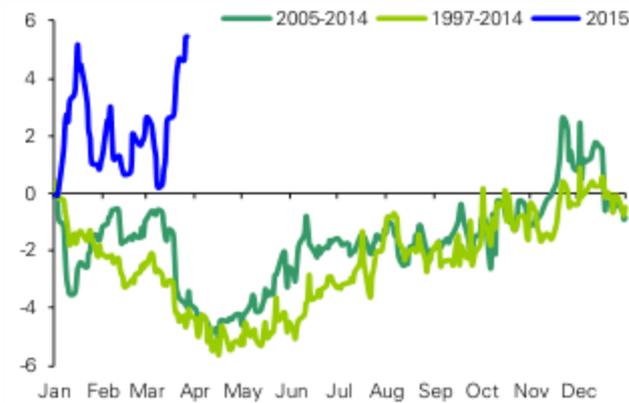
Source: Deutsche Bank

3M10Y Implied vol seasonals (Change since Dec-31)



Source: Deutsche Bank

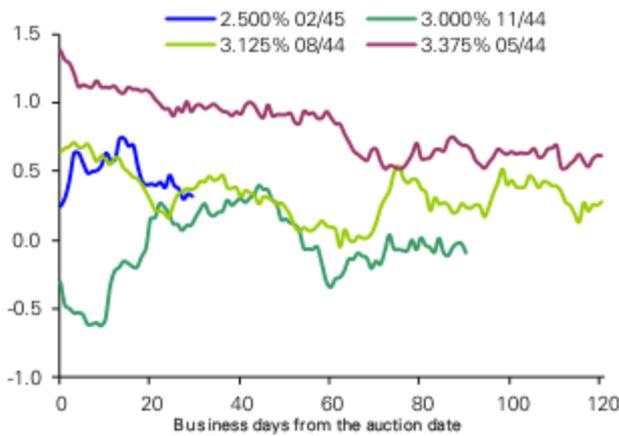
5Y10Y Implied vol seasonals (Change since Dec-31)



Source: Deutsche Bank

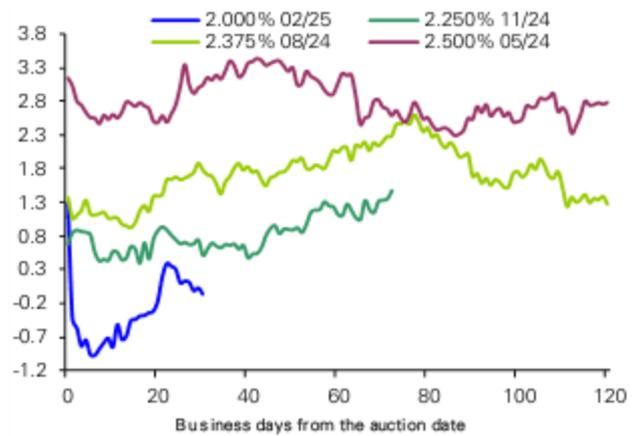


30Y Treasury roll business days from auction



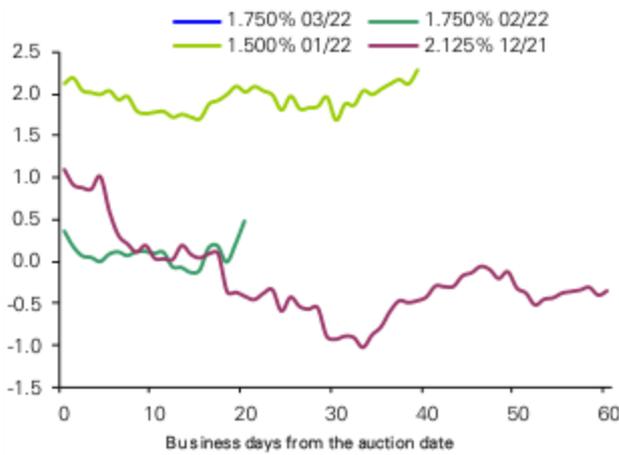
Source: Deutsche Bank

10Y Treasury roll business days from auction



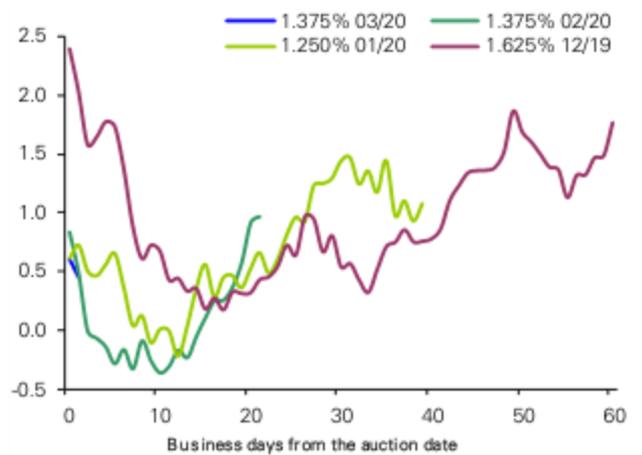
Source: Deutsche Bank

7Y Treasury roll business days from auction



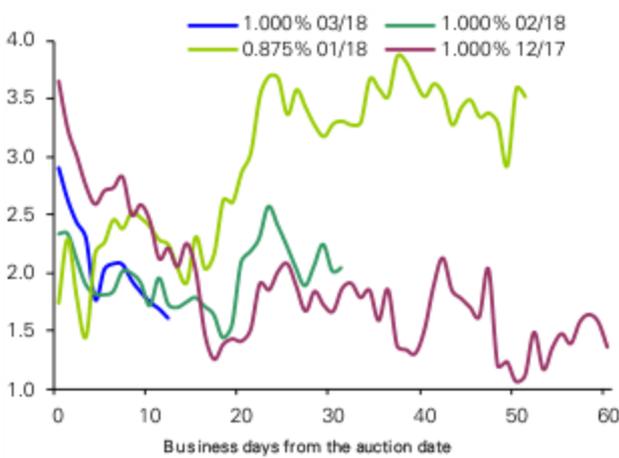
Source: Deutsche Bank

5Y Treasury roll business days from auction



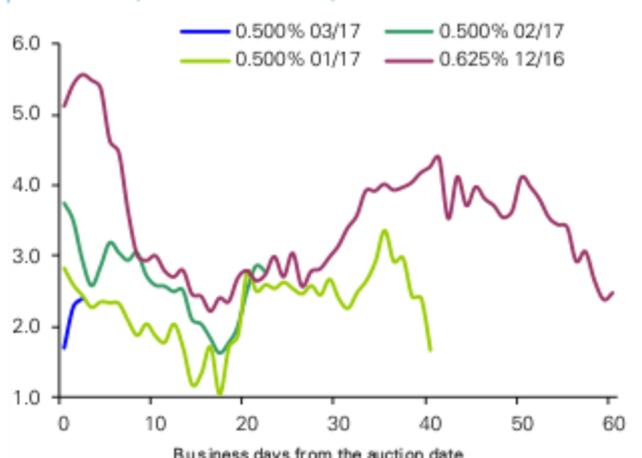
Source: Deutsche Bank

3Y Treasury roll business days from auction



Source: Deutsche Bank

2Y Treasury roll business days from auction



Source: Deutsche Bank



Top 15 USD Flatteners

Rank	Trade	1y Carry	Imp. Vol	Ratio	Percentile	Min	25th	Median	75th	Max
1	3M 1Y2Y	6.6	23.1	0.3	28	-2.9	0.2	0.7	1.1	4.2
2	3M 1Y3Y	-0.6	39.8	0.0	18	-1.9	0.2	0.5	0.9	3.9
3	6M 1Y2Y	-0.5	20.6	0.0	14	-2.8	0.3	0.6	1.1	4.5
4	3M 1Y5Y	-10.8	52.4	-0.2	20	-1.7	-0.1	0.4	0.8	4.2
5	6M 1Y3Y	-9.8	32.7	-0.3	12	-2.0	0.1	0.5	0.9	4.0
6	3M 1Y7Y	-18.2	57.6	-0.3	21	-1.8	-0.2	0.2	0.6	4.3
7	3M 1Y10Y	-24.6	61.9	-0.4	21	-1.9	-0.3	0.1	0.4	4.2
8	3M 2Y3Y	-7.2	17.7	-0.4	19	-1.9	-0.3	0.3	0.8	3.0
9	1Y 1Y2Y	-6.8	16.8	-0.4	9	-1.7	0.2	0.6	1.0	4.6
10	1Y 20Y25Y	-2.0	5.0	-0.4	57	-1.5	-0.7	-0.5	-0.2	0.4
11	3M 20Y25Y	-1.7	4.2	-0.4	50	-2.5	-0.7	-0.4	-0.1	1.7
12	6M 20Y25Y	-2.0	4.9	-0.4	55	-1.6	-0.7	-0.5	-0.1	0.7
13	3M 10Y12Y	-2.2	5.0	-0.4	62	-4.8	-0.8	-0.6	-0.1	3.9
14	1Y 15Y25Y	-5.6	11.8	-0.5	57	-1.8	-0.7	-0.6	-0.2	0.4
15	1Y 20Y30Y	-3.6	7.5	-0.5	53	-1.6	-0.7	-0.5	-0.2	0.3

Source: Deutsche Bank

Top 15 USD Steepeners

Rank	Trade	1y Carry	Imp. Vol	Ratio	Percentile	Min	25th	Median	75th	Max
1	3M 25Y30Y	2.3	2.4	1.0	85	-3.2	0.2	0.5	0.8	4.5
2	6M 2Y20Y	49.4	60.5	0.8	79	-2.0	0.0	0.3	0.7	1.8
3	6M 2Y30Y	53.3	65.4	0.8	78	-1.9	0.0	0.3	0.7	1.8
4	6M 2Y15Y	45.7	56.3	0.8	81	-2.1	-0.1	0.2	0.7	1.7
5	6M 2Y25Y	51.4	63.6	0.8	79	-1.9	0.0	0.3	0.7	1.9
6	1Y 2Y5Y	24.5	30.6	0.8	81	-1.5	-0.5	-0.1	0.6	1.3
7	6M 2Y10Y	38.8	48.6	0.8	85	-2.4	-0.2	0.1	0.6	1.5
8	6M 2Y12Y	41.8	52.4	0.8	81	-2.3	-0.2	0.1	0.7	1.6
9	6M 2Y7Y	31.3	39.5	0.8	86	-2.6	-0.4	0.0	0.5	1.5
10	1Y 1Y10Y	47.4	59.9	0.8	86	-1.9	-0.3	0.0	0.5	1.4
11	1Y 1Y7Y	40.1	50.9	0.8	87	-2.2	-0.5	-0.2	0.4	1.4
12	1Y 2Y7Y	33.2	42.3	0.8	78	-1.3	-0.3	0.1	0.7	1.3
13	1Y 3Y5Y	14.5	18.5	0.8	79	-0.9	-0.3	0.1	0.7	1.4
14	3M 12Y15Y	4.3	5.5	0.8	65	-1.2	0.2	0.6	0.9	1.9
15	1Y 2Y20Y	50.9	66.1	0.8	70	-0.9	0.0	0.4	0.9	1.5

Source: Deutsche Bank

Top 15 EUR Flatteners

Rank	Trade	1y Carry	Imp. Vol	Ratio	Percentile	Min	25th	Median	75th	Max
1	6M 2Y3Y	3.8	8.1	0.5	65	-1.7	-0.3	0.2	0.7	2.4
2	1Y 2Y3Y	3.1	7.1	0.4	70	-1.2	-0.3	0.2	0.5	1.5
3	3M 2Y3Y	4.2	9.8	0.4	62	-2.0	-0.3	0.2	0.7	3.7
4	3M 2Y5Y	7.7	19.5	0.4	66	-1.8	-0.4	0.1	0.6	3.0
5	6M 2Y5Y	7.0	18.7	0.4	67	-1.5	-0.3	0.1	0.5	1.8
6	1Y 2Y5Y	5.6	17.4	0.3	68	-1.1	-0.4	0.1	0.4	1.3
7	3M 3Y5Y	3.5	11.4	0.3	68	-1.3	-0.4	0.0	0.4	1.4
8	6M 3Y5Y	3.2	11.2	0.3	68	-1.2	-0.3	0.0	0.4	1.2
9	3M 2Y7Y	8.5	30.1	0.3	65	-1.8	-0.4	0.1	0.5	2.9
10	6M 2Y7Y	7.7	29.5	0.3	66	-1.4	-0.4	0.1	0.4	1.6
11	3M 1Y5Y	12.1	51.2	0.2	55	-2.6	-0.5	0.2	0.7	3.9
12	1Y 3Y5Y	2.5	11.1	0.2	71	-1.0	-0.4	0.0	0.3	1.0
13	3M 1Y7Y	12.9	57.7	0.2	57	-2.6	-0.5	0.1	0.6	4.0
14	1Y 2Y7Y	5.8	29.8	0.2	66	-1.0	-0.4	0.1	0.3	1.1
15	3M 3Y7Y	4.3	22.1	0.2	67	-1.4	-0.4	0.0	0.3	1.4

Source: Deutsche Bank

Top 15 EUR Steepeners

Rank	Trade	1y Carry	Imp. Vol	Ratio	Percentile	Min	25th	Median	75th	Max
1	6M 15Y25Y	3.2	13.6	0.2	15	0.0	0.3	0.5	0.7	1.1
2	1Y 15Y20Y	2.1	8.9	0.2	12	0.0	0.3	0.5	0.6	0.9
3	6M 15Y20Y	2.1	9.1	0.2	16	0.0	0.3	0.5	0.6	1.1
4	1Y 10Y25Y	6.3	27.7	0.2	14	-0.1	0.3	0.5	0.7	1.0
5	1Y 10Y20Y	5.2	23.1	0.2	19	-0.1	0.3	0.5	0.8	1.1
6	1Y 10Y30Y	7.0	30.9	0.2	14	-0.1	0.3	0.5	0.7	1.0
7	1Y 15Y25Y	3.2	14.1	0.2	11	0.0	0.3	0.5	0.6	0.8
8	6M 15Y30Y	3.8	17.3	0.2	17	0.0	0.3	0.4	0.6	1.0
9	6M 10Y25Y	6.2	28.7	0.2	17	0.0	0.3	0.5	0.7	1.2
10	6M 10Y30Y	6.9	31.8	0.2	17	-0.1	0.3	0.5	0.7	1.1
11	1Y 15Y30Y	3.8	17.8	0.2	12	0.0	0.3	0.4	0.6	0.9
12	1Y 10Y15Y	3.2	14.9	0.2	21	-0.2	0.2	0.5	0.8	1.1
13	1Y 7Y30Y	9.0	43.4	0.2	25	-0.2	0.2	0.5	0.7	1.0
14	6M 10Y20Y	5.1	24.7	0.2	18	0.0	0.3	0.5	0.8	1.2
15	1Y 7Y25Y	8.4	40.7	0.2	25	-0.2	0.2	0.5	0.8	1.0

Source: Deutsche Bank

Top 15 JPY Flatteners

Rank	Trade	1y Carry	Imp. Vol	Ratio	Percent	Min	25th	Median	75th	Max
1	1Y 2Y3Y	2.0	5.0	0.4	42	-1.4	0.1	0.5	0.6	1.0
2	1Y 2Y5Y	4.8	12.3	0.4	41	-1.6	0.1	0.5	0.6	1.2
3	6M 3Y5Y	3.0	8.4	0.4	41	-1.5	0.1	0.4	0.6	1.8
4	6M 2Y5Y	4.9	13.8	0.4	35	-1.8	0.1	0.5	0.7	1.6
5	1Y 3Y5Y	2.8	8.3	0.3	41	-1.4	0.0	0.4	0.6	1.2
6	3M 3Y5Y	3.1	9.5	0.3	38	-1.5	0.0	0.4	0.6	3.0
7	1Y 2Y7Y	6.1	19.7	0.3	39	-1.6	0.1	0.4	0.6	1.1
8	6M 2Y3Y	1.9	6.0	0.3	32	-1.7	0.2	0.5	0.7	1.7
9	6M 2Y7Y	6.4	21.6	0.3	34	-1.8	0.1	0.4	0.6	1.5
10	6M 1Y5Y	5.9	20.2	0.3	27	-2.0	0.3	0.6	0.7	1.9
11	1Y 1Y5Y	6.1	21.2	0.3	25	-1.8	0.3	0.5	0.7	1.4
12	3M 2Y5Y	4.8	16.6	0.3	32	-1.5	0.1	0.5	0.7	2.4
13	6M 1Y7Y	7.4	27.2	0.3	26	-2.1	0.3	0.5	0.7	1.8
14	1Y 2Y10Y	7.3	26.9	0.3	47	-1.6	0.0	0.3	0.5	1.0
15	6M 3Y7Y	4.5	16.7	0.3	38	-1.7	0.0	0.4	0.6	1.6

Source: Deutsche Bank

Top 15 JPY Steepeners

Rank	Trade	1y Carry	Imp. Vol	Ratio	Percent	Min	25th	Median	75th	Max
1	1Y 15Y20Y	2.3	11.2	0.2	1	-0.3	0.5	0.7	0.9	1.6
2	6M 15Y20Y	2.3	12.0	0.2	4	-1.3	0.5	0.7	0.9	1.8
3	3M 15Y20Y	2.1	11.9	0.2	6	-3.8	0.4	0.7	0.9	2.4
4	1Y 10Y20Y	1.3	23.2	0.1	1	-0.3	0.3	0.7	0.8	1.5
5	6M 15Y30Y	5.3	99.6	0.1	1	-0.5	0.1	0.3	0.8	1.7
6	1Y 15Y30Y	5.4	116.5	0.0	1	-0.3	0.1	0.3	0.8	1.2
7	3M 15Y30Y	5.2	119.0	0.0	2	-1.3	0.1	0.2	0.8	2.4
8	6M 10Y20Y	1.1	25.5	0.0	2	-0.6	0.3	0.6	0.9	1.9
9	6M 10Y30Y	4.1	110.9	0.0	1	-0.6	0.1	0.4	0.8	1.7
10	1Y 10Y30Y	4.4	126.2	0.0	1	-0.4	0.1	0.3	0.8	1.2
11	3M 10Y20Y	0.9	25.6	0.0	4	-1.2	0.3	0.6	0.8	2.7
12	6M 20Y30Y	3.1	90.4	0.0	3	-0.5	0.1	0.2	0.7	1.4
13	3M 10Y30Y	3.9	129.7	0.0	2	-0.9	0.1	0.3	0.8	2.4
14	1Y 20Y30Y	3.0	107.8	0.0	2	-0.3	0.1	0.2	0.7	1.3
15	3M 20Y30Y	3.1	110.2	0.0	3	-2.4	0.0	0.1	0.7	2.1

Source: Deutsche Bank

Carry is calculated for next 3 months and shown in annualized form.

Volatility is calculated as 1m realized for CAD and extracted from swaptions prices for other currencies.

Percentile statistics are calculated from a 10 year history.



Top 15 CAD Flatteners

Rank	Trade	1y Carry	Rlzd. Vol	Ratio	Percentile	Min	25th	Median	75th	Max
1	1Y 1Y2Y	17.1	27.7	0.6	70	-4.7	-0.1	0.3	0.7	3.5
2	1Y 1Y3Y	21.5	39.1	0.6	78	-3.4	-0.2	0.2	0.5	2.5
3	1Y 1Y5Y	26.8	53.0	0.5	82	-2.4	-0.2	0.1	0.4	1.7
4	6M 1Y3Y	16.9	33.7	0.5	58	-8.8	-0.3	0.3	1.1	6.7
5	1Y 1Y7Y	28.6	58.2	0.5	85	-2.2	-0.3	0.1	0.3	1.5
6	6M 1Y2Y	9.8	21.8	0.4	49	-12.5	-0.2	0.5	1.6	9.0
7	6M 1Y5Y	23.9	53.6	0.4	63	-5.1	-0.4	0.2	0.7	4.3
8	6M 1Y7Y	26.6	59.8	0.4	66	-4.1	-0.4	0.2	0.6	3.5
9	3M 2Y3Y	7.7	17.4	0.4	72	-2.3	-0.4	0.1	0.5	1.5
10	1Y 1Y10Y	27.4	65.6	0.4	87	-1.9	-0.3	0.0	0.2	1.1
11	6M 2Y3Y	7.2	17.8	0.4	75	-2.5	-0.4	0.1	0.4	1.3
12	6M 1Y10Y	26.2	70.3	0.4	68	-3.3	-0.4	0.1	0.5	2.7
13	6M 2Y7Y	16.8	47.6	0.4	84	-2.5	-0.3	0.0	0.2	1.1
14	6M 2Y5Y	14.2	41.1	0.3	80	-2.5	-0.3	0.0	0.3	1.2
15	3M 2Y5Y	14.0	41.8	0.3	76	-2.6	-0.3	0.1	0.3	1.3

Source: Deutsche Bank

Top 15 CAD Steepeners

Rank	Trade	1y Carry	Rlzd. Vol	Ratio	Percentile	Min	25th	Median	75th	Max
1	3M 1Y2Y	20.0	15.3	1.3	88	-12.8	-1.5	-0.5	0.4	18.5
2	1Y 10Y20Y	10.9	17.2	0.6	54	-0.5	0.3	0.6	0.8	1.5
3	3M 10Y20Y	10.1	17.7	0.6	41	-2.1	0.3	0.6	1.0	2.3
4	3M 15Y20Y	4.4	7.8	0.6	54	-0.5	0.3	0.5	0.8	4.1
5	1Y 10Y15Y	6.6	11.7	0.6	60	-1.0	0.3	0.5	0.7	1.3
6	6M 10Y20Y	10.3	18.7	0.6	40	-1.0	0.3	0.6	0.9	1.7
7	1Y 15Y20Y	4.4	8.0	0.5	55	0.0	0.3	0.5	0.7	1.4
8	1Y 7Y20Y	12.0	23.1	0.5	50	-0.2	0.2	0.5	0.8	1.7
9	1Y 10Y25Y	12.6	24.2	0.5	46	-0.4	0.3	0.6	0.8	1.3
10	3M 10Y25Y	12.0	24.4	0.5	40	-1.7	0.3	0.6	0.8	2.1
11	3M 10Y15Y	5.7	12.3	0.5	44	-2.7	0.2	0.5	0.8	3.1
12	6M 10Y25Y	12.1	25.9	0.5	37	-0.8	0.3	0.6	0.8	1.5
13	1Y 7Y25Y	13.7	29.6	0.5	45	-0.2	0.3	0.5	0.8	1.4
14	1Y 10Y30Y	13.9	31.2	0.4	43	-0.3	0.3	0.5	0.7	1.1
15	3M 15Y25Y	6.2	14.6	0.4	45	-0.6	0.3	0.5	0.7	3.1

Source: Deutsche Bank

Top 15 AUD Flatteners

Rank	Trade	1y Carry	Imp. Vol	Ratio	Percent	Min	25th	Median	75th	Max
1	3M 2Y5Y	58.9	79.7	0.7	89	-1.2	-0.4	0.3	0.5	1.4
2	3M 1Y5Y	78.2	118.8	0.7	71	-1.3	-0.2	0.5	0.7	1.4
3	6M 2Y3Y	22.8	37.2	0.6	68	-1.0	0.2	0.5	0.7	1.5
4	3M 1Y7Y	77.2	144.7	0.5	67	-1.2	-0.2	0.4	0.6	1.3
5	3M 2Y7Y	57.8	109.7	0.5	90	-0.9	-0.3	0.1	0.4	1.0
6	3M 1Y3Y	41.5	85.1	0.5	61	-1.0	0.1	0.4	0.6	1.5
7	3M 2Y3Y	22.2	49.3	0.5	67	-0.9	0.1	0.3	0.5	1.3
8	6M 1Y5Y	51.0	115.8	0.4	65	-1.1	-0.2	0.3	0.5	1.0
9	1Y 1Y3Y	28.4	66.5	0.4	71	-0.9	0.0	0.3	0.5	1.0
10	3M 3Y5Y	36.6	86.1	0.4	74	-1.4	-0.7	-0.1	0.5	1.8
11	3M 1Y10Y	70.0	167.4	0.4	65	-1.1	-0.2	0.3	0.5	1.1
12	6M 2Y5Y	36.2	88.4	0.4	80	-1.1	-0.2	0.2	0.4	0.9
13	6M 1Y3Y	37.6	92.9	0.4	58	-1.0	0.0	0.4	0.5	1.2
14	1Y 2Y3Y	17.8	44.7	0.4	50	-1.3	0.1	0.4	0.6	1.1
15	3M 2Y10Y	50.6	136.4	0.4	88	-0.7	-0.3	0.1	0.3	0.9

Source: Deutsche Bank

Top 15 AUD Steepeners

Rank	Trade	1y Carry	Imp. Vol	Ratio	Percent	Min	25th	Median	75th	Max
1	1Y 7Y10Y	3.8	21.6	0.2	56	-0.1	0.1	0.2	0.3	0.5
2	6M 7Y10Y	4.7	30.8	0.2	56	-0.2	0.1	0.1	0.2	0.7
3	1Y 5Y10Y	6.5	55.3	0.1	33	-0.1	0.1	0.2	0.2	0.5
4	3M 7Y10Y	7.2	82.9	0.1	38	-0.4	0.0	0.1	0.2	0.7
5	3M 5Y10Y	8.2	97.1	0.1	39	-0.3	0.0	0.1	0.2	0.7
6	1Y 5Y7Y	2.7	37.1	0.1	13	-0.1	0.1	0.2	0.2	0.4
7	6M 5Y10Y	6.3	96.7	0.1	24	-0.2	0.1	0.1	0.2	0.5
8	1Y 3Y10Y	4.9	103.6	0.0	8	-0.1	0.1	0.2	0.3	0.5
9	3M 5Y7Y	1.0	39.2	0.0	29	-0.3	0.0	0.1	0.2	0.6
10	6M 5Y7Y	1.6	79.3	0.0	14	-0.1	0.1	0.1	0.2	0.4
11	1Y 3Y7Y	1.1	87.4	0.0	8	-0.1	0.1	0.2	0.3	0.6
12	1Y 3Y5Y	-1.6	54.3	0.0	11	-0.2	0.1	0.2	0.4	0.8
13	6M 3Y10Y	-7.1	126.0	-0.1	11	-0.3	0.1	0.2	0.3	0.5
14	1Y 2Y10Y	-13.0	132.3	-0.1	9	-0.3	0.0	0.1	0.2	0.7
15	6M 3Y7Y	-11.9	101.6	-0.1	12	-0.4	0.0	0.2	0.4	0.6

Source: Deutsche Bank

Top 15 GBP Flatteners

Rank	Trade	1y Carry	Imp. Vol	Ratio	Percentile	Min	25th	Median	75th	Max
1	3M 1Y2Y	12.1	23.6	0.5	51	-0.7	0.2	0.5	1.1	9.8
2	6M 1Y2Y	9.0	24.2	0.4	60	-0.9	0.1	0.3	0.6	3.4
3	3M 1Y3Y	11.3	39.3	0.3	35	-0.8	0.2	0.5	0.8	4.0
4	6M 1Y3Y	7.0	35.8	0.2	39	-1.1	0.0	0.3	0.6	3.4
5	1Y 1Y2Y	2.2	15.8	0.1	43	-1.2	-0.1	0.2	0.5	2.5
6	3M 1Y5Y	5.0	58.3	0.1	32	-1.1	0.0	0.3	0.7	3.4
7	6M 1Y5Y	-0.1	49.4	0.0	37	-1.3	-0.2	0.2	0.6	2.9
8	3M 1Y7Y	-0.4	62.7	0.0	32	-1.3	-0.1	0.3	0.6	2.9
9	3M 2Y3Y	-0.8	18.4	0.0	49	-5.2	-0.5	0.0	0.5	2.0
10	1Y 1Y3Y	-1.4	24.6	-0.1	37	-1.2	-0.2	0.2	0.5	2.0
11	6M 2Y30Y	-1.1	15.4	-0.1	59	-1.6	-0.2	-0.1	0.0	0.2
12	3M 1Y10Y	-4.9	65.4	-0.1	33	-1.4	-0.2	0.2	0.5	2.6
13	6M 1Y7Y	-5.6	53.5	-0.1	35	-1.3	-0.3	0.1	0.5	2.5
14	6M 20Y25Y	-1.6	15.1	-0.1	63	-2.3	-0.4	-0.3	0.0	0.2
15	6M 2Y3Y	-1.9	13.8	-0.1	47	-3.9	-0.5	0.0	0.5	1.5

Source: Deutsche Bank

Top 15 GBP Steepeners

Rank	Trade	1y Carry	Imp. Vol	Ratio	Percentile	Min	25th	Median	75th	Max
1	6M 3Y20Y	24.2	43.3	0.6	63	-0.6	0.0	0.3	0.9	3.7
2	6M 3Y15Y	21.5	38.5	0.6	65	-0.6	0.0	0.2	0.9	3.7
3	1Y 2Y20Y	28.6	53.6	0.5	62	-0.5	0.0	0.3	0.9	2.0
4	1Y 3Y20Y	25.0	47.1	0.5	60	-0.4	0.0	0.3	0.9	2.0
5	1Y 2Y15Y	25.8	49.0	0.5	63	-0.5	0.0	0.3	0.8	2.1
6	6M 3Y25Y	25.9	49.3	0.5	62	-0.6	0.0	0.2	0.9	3.6
7	6M 5Y7Y	5.5	10.5	0.5	72	-0.6	-0.1	0.2	0.6	3.3
8	6M 3Y30Y	26.9	51.4	0.5	62	-0.5	0.0	0.2	0.9	3.6
9	1Y 3Y7Y	13.5	25.8	0.5	67	-0.7	-0.1	0.2	0.7	2.1
10	1Y 3Y15Y	22.3	42.6	0.5	61	-0.4	0.0	0.3	0.9	2.0
11	6M 2Y20Y	26.2	50.1	0.5	63	-0.8	-0.1	0.3	0.9	3.8
12	6M 3Y10Y	17.3	33.4	0.5	67	-0.6	-0.1	0.2	0.7	3.7
13	1Y 2Y25Y	30.2	58.6	0.5	61	-0.5	0.0	0.3	0.9	2.1
14	1Y 3Y10Y	18.2	35.4	0.5	65	-0.5	0.0	0.2	0.8	2.0
15	6M 5Y15Y	14.3	27.9	0.5	62	-0.4	0.1	0.3	0.8	3.3

Source: Deutsche Bank

Carry is calculated for next 3 months and shown in annualized form.

Volatility is calculated as 1m realized for CAD and extracted from swaptions prices for other currencies.

Percentile statistics are calculated from a 10 year history.



Top 15 CHF Flatteners

Rank	Trade	1y Carry	Imp. Vol	Ratio	Percent	Min	25th	Median	75th	Max
1	6M2Y3Y	4.0	4.7	0.9	92	-1.4	-0.2	0.2	0.5	1.7
2	3M2Y3Y	4.8	5.7	0.8	97	-1.7	-0.2	0.2	0.4	1.6
3	3M2Y5Y	7.7	11.6	0.7	79	-1.1	-0.3	0.3	0.6	3.7
4	1Y2Y3Y	3.4	6.2	0.5	79	-0.8	-0.2	0.2	0.5	1.2
5	3M3Y5Y	2.8	7.0	0.4	56	-0.8	-0.3	0.2	0.6	2.3
6	6M2Y5Y	4.4	12.9	0.3	53	-0.9	-0.3	0.2	0.6	1.4
7	3M2Y7Y	5.3	17.0	0.3	55	-1.2	-0.4	0.2	0.5	2.0
8	1Y2Y5Y	1.7	17.6	0.1	51	-0.8	-0.4	0.1	0.5	1.1
9	6M2Y7Y	1.1	21.5	0.1	49	-1.0	-0.4	0.1	0.5	1.4
10	6M3Y5Y	0.4	8.9	0.0	47	-0.7	-0.3	0.2	0.6	1.5
11	3M2Y10Y	1.0	25.5	0.0	52	-1.2	-0.5	0.0	0.3	1.6
12	3M3Y7Y	0.5	14.2	0.0	50	-1.0	-0.3	0.0	0.5	2.6
13	1Y2Y7Y	-2.2	25.6	-0.1	44	-0.9	-0.5	0.0	0.4	1.0
14	1Y3Y5Y	-1.7	13.9	-0.1	41	-1.0	-0.4	0.0	0.5	1.2
15	6M2Y10Y	-3.7	29.3	-0.1	43	-1.1	-0.6	0.0	0.3	1.1

Source: Deutsche Bank

Top 15 CHF Steepeners

Rank	Trade	1y Carry	Imp. Vol	Ratio	Percent	Min	25th	Median	75th	Max
1	1Y7Y10Y	5.0	9.6	0.5	37	0.0	0.4	0.6	0.9	1.6
2	3M7Y10Y	4.3	9.9	0.4	59	-0.5	0.1	0.4	0.7	1.6
3	1Y5Y10Y	8.9	23.3	0.4	39	-0.1	0.2	0.6	0.8	1.3
4	3M5Y10Y	6.7	18.1	0.4	48	-0.9	0.1	0.4	0.8	1.5
5	1Y3Y10Y	10.6	28.9	0.4	55	-0.6	0.0	0.3	0.7	1.1
6	6M5Y10Y	8.1	22.5	0.4	44	-0.7	0.1	0.5	0.8	1.4
7	6M5Y7Y	3.3	10.2	0.3	52	-1.0	-0.1	0.3	0.6	1.2
8	6M7Y10Y	4.9	16.4	0.3	20	-1.0	0.4	0.6	0.9	1.4
9	6M3Y10Y	7.7	27.6	0.3	58	-1.0	-0.2	0.1	0.6	1.1
10	1Y3Y7Y	5.6	20.9	0.3	59	-1.0	-0.3	0.1	0.6	1.0
11	3M5Y7Y	2.4	9.0	0.3	74	-1.6	-0.2	0.1	0.3	1.3
12	1Y5Y7Y	3.9	16.1	0.2	47	-0.6	0.0	0.4	0.6	1.0
13	1Y2Y10Y	7.2	33.1	0.2	58	-0.7	-0.2	0.1	0.6	1.0
14	3M3Y10Y	3.8	23.1	0.2	55	-1.6	-0.2	0.1	0.6	1.1
15	6M3Y7Y	2.9	18.2	0.2	57	-1.4	-0.4	0.0	0.5	0.9

Source: Deutsche Bank

Top 15 SEK Flatteners

Rank	Trade	1y Carry	Imp. Vol	Ratio	Percent	Min	25th	Median	75th	Max
1	1Y1Y3Y	146.1	63.3	2.3	51	-4.9	-1.1	2.3	4.7	9.5
2	3M7Y10Y	46.0	20.8	2.2	100	-3.8	-1.8	-1.2	-0.6	2.4
3	1Y1Y5Y	185.5	93.8	2.0	51	-4.3	-1.3	1.8	4.1	7.6
4	1Y1Y7Y	202.3	110.3	1.8	54	-4.2	-1.6	1.5	3.6	6.8
5	1Y1Y10Y	215.6	118.6	1.8	58	-4.5	-1.8	1.2	3.2	6.3
6	6M7Y10Y	18.4	12.8	1.4	100	-4.3	-1.9	-1.3	-0.6	1.6
7	3M5Y10Y	83.2	61.2	1.4	100	-3.4	-2.1	-1.1	-0.3	1.4
8	1Y7Y10Y	13.4	11.0	1.2	100	-4.6	-1.8	-1.2	-0.4	1.3
9	1Y5Y10Y	30.1	31.2	1.0	100	-4.2	-1.8	-1.0	0.0	1.0
10	3M5Y7Y	37.1	42.5	0.9	100	-3.1	-1.8	-0.8	0.0	1.0
11	1Y5Y7Y	16.7	21.4	0.8	96	-3.5	-1.5	-0.6	0.3	1.0
12	6M5Y10Y	34.2	44.5	0.8	100	-4.0	-2.1	-1.1	-0.3	0.8
13	1Y3Y10Y	69.5	107.5	0.6	68	-4.7	-1.8	-0.5	0.9	2.0
14	1Y3Y7Y	56.2	98.2	0.6	60	-4.5	-1.5	-0.2	1.2	2.5
15	1Y3Y5Y	39.4	78.1	0.5	54	-4.1	-1.1	0.2	1.7	3.2

Source: Deutsche Bank

Top 15 SEK Steepeners

Rank	Trade	1y Carry	Imp. Vol	Ratio	Percent	Min	25th	Median	75th	Max
1	3M1Y5Y	725.4	954.9	0.8	9	-0.8	2.3	5.1	9.1	14.6
2	3M1Y7Y	688.3	931.4	0.7	8	-0.5	2.4	5.0	8.8	14.9
3	3M1Y10Y	642.2	925.1	0.7	6	-0.3	2.6	5.0	9.0	15.0
4	3M1Y3Y	752.8	1105.7	0.7	13	-1.5	2.1	5.7	9.9	21.1
5	6M1Y3Y	248.3	385.3	0.6	8	-1.0	1.4	2.2	3.9	8.1
6	6M1Y5Y	230.6	463.4	0.5	11	-0.5	1.1	1.7	3.2	6.9
7	6M1Y7Y	214.9	483.5	0.4	9	-0.5	1.1	1.7	3.2	6.6
8	6M1Y10Y	196.5	489.7	0.4	7	-0.4	1.2	1.9	3.2	6.3
9	3M3Y5Y	-27.4	242.5	-0.1	42	-2.6	-0.6	0.2	1.2	3.2
10	6M3Y5Y	-17.7	152.7	-0.1	44	-2.9	-0.7	0.2	1.3	2.8
11	6M3Y7Y	-33.5	184.1	-0.2	35	-2.4	-0.4	0.5	1.8	3.5
12	3M3Y7Y	-64.5	282.5	-0.2	31	-2.1	-0.4	0.6	1.7	3.5
13	6M3Y10Y	-51.8	194.9	-0.3	24	-1.9	-0.2	0.8	1.9	3.9
14	3M3Y10Y	-110.6	300.3	-0.4	22	-1.5	-0.1	0.8	2.0	3.4
15	6M5Y7Y	-15.8	33.1	-0.5	6	-1.0	0.0	0.8	1.7	3.9

Source: Deutsche Bank

Spread of Swap Spreads Trades

Trade	Current Carry	Current Level	Percentile	Min	25th	Median	75th
2Y3Y	-1.92	-3.0	11	-4.9	-2.0	-1.2	-0.5
2Y5Y	-1.78	-10.2	3	-11.7	-6.9	-3.9	0.3
2Y7Y	-2.25	-16.8	4	-18.5	-11.8	-6.1	1.3
2Y10Y	-2.72	-14.6	2	-15.9	-8.1	-3.2	-0.4
2Y30Y	-3.02	-39.2	1	-41.4	-23.6	-19.4	-14.8
3Y5Y	0.14	-7.2	4	-8.2	-5.0	-2.6	0.8
3Y7Y	-0.33	-13.8	3	-15.3	-10.0	-4.5	2.0
3Y10Y	-0.80	-11.6	2	-12.7	-6.2	-1.9	0.3
3Y30Y	-1.10	-36.2	1	-38.2	-22.3	-18.3	-13.8
5Y7Y	-0.48	-6.6	8	-7.7	-4.4	-2.0	0.7
5Y10Y	-0.94	-4.5	4	-6.2	-2.1	-0.6	1.0
5Y30Y	-1.24	-29.0	3	-31.0	-20.3	-16.2	-11.2
7Y10Y	-0.47	2.1	49	-7.5	-1.4	2.2	3.8
7Y30Y	-0.77	-22.4	16	-33.8	-18.7	-12.4	-9.2
10Y30Y	-0.30	-24.5	6	-30.7	-20.2	-14.8	-12.7

Source: Deutsche Bank

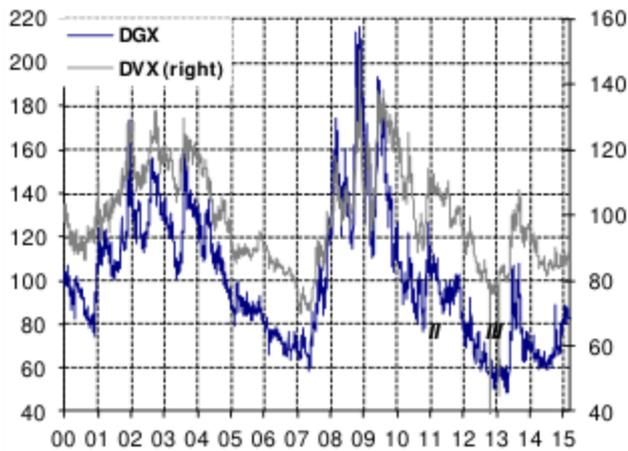
Values as of Mar 26th 2015

Tenor	Repo	Spot Swap Spread	1M Fwd. Swap Spread
2	15.00	23.5	26.2
3	16.00	20.5	21.3
5	7.50	13.3	14.2
7	9.50	6.7	7.2
10	2.50	8.8	8.8
30	11.50	-15.7	-16.0

Source: Deutsche Bank

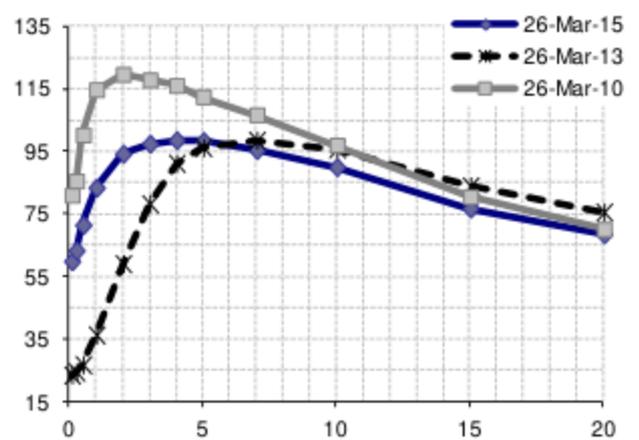


DGX and DVX across different market regimes



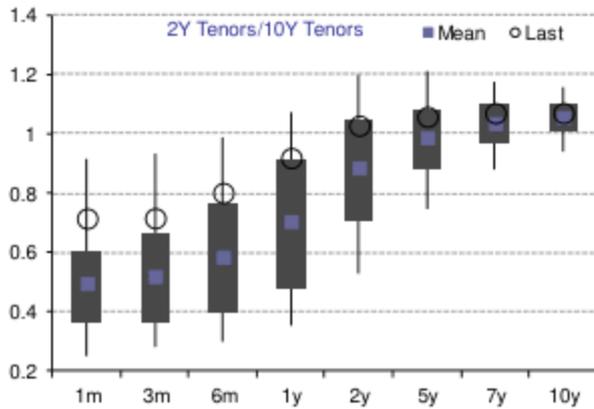
Source: Deutsche Bank

Term structure of 2Y vol



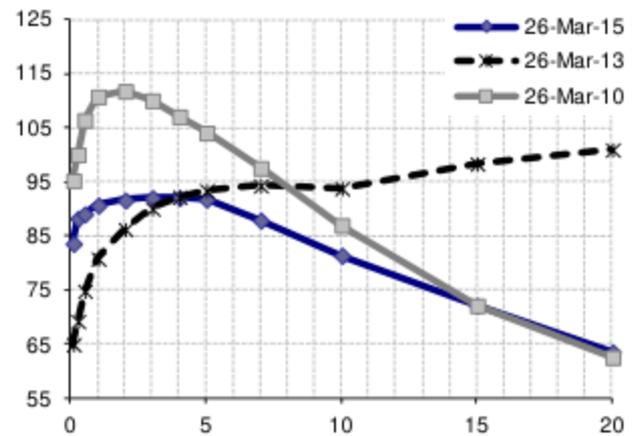
Source: Deutsche Bank

Ratios of 2Y to 10Y tenors (quartiles, 5-year history)



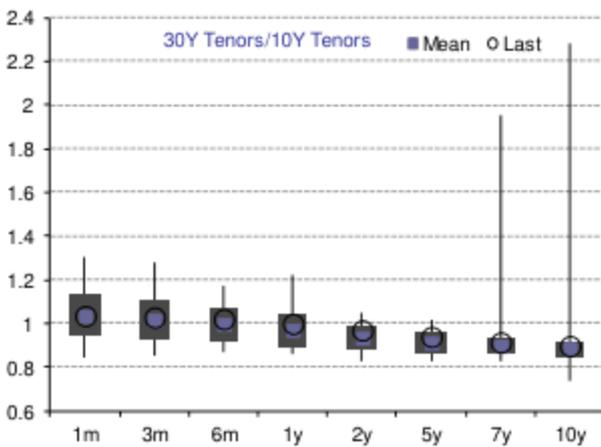
Source: Deutsche Bank

Term structure of 10Y vol



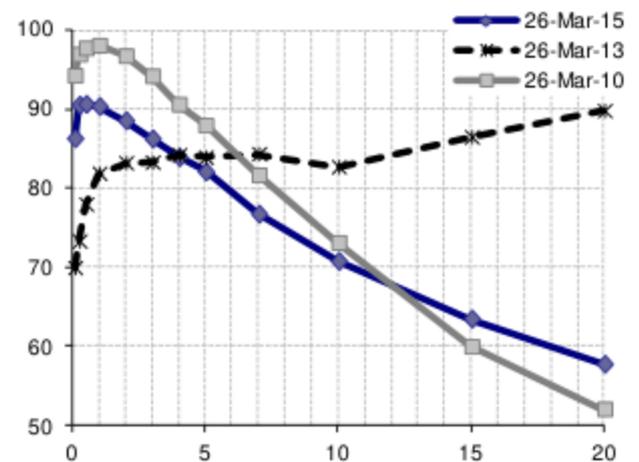
Source: Deutsche Bank

Ratios of 30Y to 10Y tenors (quartiles, 5-year history)



Source: Deutsche Bank

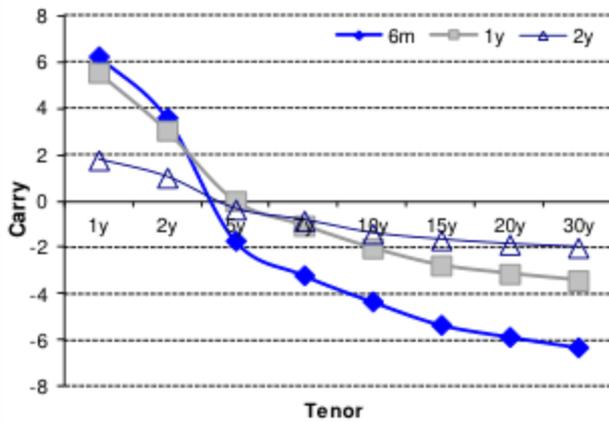
Term structure of 30Y vol



Source: Deutsche Bank

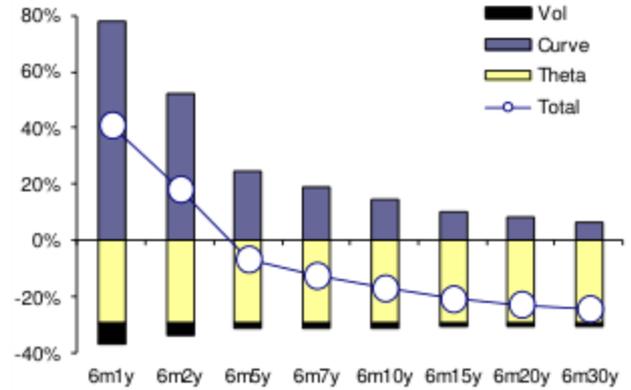


3M carry across different expiries (ATMF receivers)



Source: Deutsche Bank

Breakdown of 3M carry for 6M expiries (% premium)



Source: Deutsche Bank

US surprise index: 10Y Treasury yield



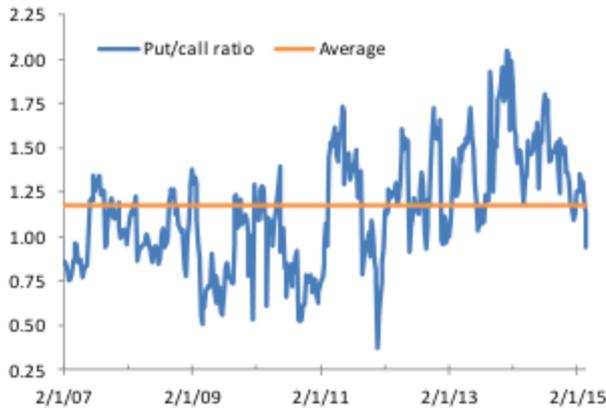
Source: Deutsche Bank

Trade weighted dollar surprise index



Source: Deutsche Bank

Combined put/call ratio in Treasury futures



Source: Deutsche Bank and CME Group



US Treasury Coupon Auction Calendar

Ticker/Coupon/Maturity	Date	Tap/New Issue	Size
------------------------	------	---------------	------

US Economics & Events Calendar

	Event	DB Forecast
Mon, Mar 30 2015	Personal Income	
	Income	+0.4%
	Consump.	+0.2%
	Core PCE	+0.1%
	Pending Home Sales Index	+1.0%
	Fed Vice Chair Fisher	gives keynote address at Atlanta FRB conference
Tue, Mar 31 2015	Chicago PMI	50.0
	Consumer Confidence	95.0
Wed, Apr 01 2015	ADP Employment Report	+215k
	ISM Index	52.7
	Construction Spending	+0.7
	Unit motor vehicle sales	5.6M
	Cars	8.2M
	Trucks	16.6M
	Total	
Thu, Apr 02 2015	International Trade Balance	-\$41.0B
	Factory Orders	+0.4%
	3 Yr Note Announcement	\$24B
	10 Yr Note announcement	\$21B
	30 Yr Bond Announcement	\$13B
	Fed Chair Yellen	gives opening remarks at Fed conference on economic mobility
Fri, Apr 03 2015	Employment	
	Payrolls	+225k
	Private	+215k
	UnRate	5.5%
	Hrly Erngs	+0.2
	Workwk	34.6hrs



European Economics & Events Calendar

Date	Economic Releases	Political Events	Bond Redemption/Supply
Mar 30	Spain: CPI EU Harmonized YoY Portugal: Industrial Production YoY Germany: CPI YoY France: PPI YoY Italy: Business Confidence Eurozone: Consumer Confidence		Italy to Sell Up to EUR2 Bln 1.05% 2019 Bonds Italy to Sell Up to EUR2.5 Bln 1.5% 2025 Bonds Italy to Sell Up to EUR3 Bln 2022 Bonds
Mar 31	Spain: Retail Sales YoY Germany: Unemployment Rate Italy: CPI EU Harmonized YoY Greece: Retail Sales YoY Eurozone: CPI Estimate YoY		
Apr 01	Spain: Markit Spain Manufacturing PMI Germany: Markit/BME Germany Manufacturing PMI France: Markit France Manufacturing PMI Ireland: Unemployment Rate Italy: Markit/ADACI Italy Manufacturing PMI Greece: Markit Greece Manufacturing PMI Eurozone: Markit Eurozone Manufacturing PMI		Germany to Sell EUR4 Bln 0% 2020 Bonds (DE0001141711)
Apr 02			France to Sell Bonds
Apr 03	Ireland: Investec Composite PMI Ireland		



Total/excess return forecasts in HY, IG, leveraged loans

	HY	IG	5yr Trsy	10yr Trsy		Loans	2yr Trsy
Spreads/Yields					Spreads/Yields		
Current	476	129	147	201	Current	515	55
Target	510	130	195	250	Target	500	155
Change	34	1	48	49	Predicted Change	-15	100
Normal HY vs IG Beta = 4:1							
Duration	4.6	6.5	4.8	8.5	Rate Duration	1.0	
Change in Yield	82	49	48	49	Spread Duration	2.7	
Change in Price	-377	-319	-230	-417	Avg Par Coupon	440	
Current Yield	737	421			Libor/Tsy Change	100	
Current Price	100.4	109.2			Total Change in Yield	85	
Default Rate	3.5	0.0			Repricings	-50	
Recovery	40	--			Capital Gain	-110	
Credit Loss	-211	0			Current Yield	440	
					Default Rate	3.5	
Price Return	-5.9	-2.9			Price	99.9	
Total Return	1.5	1.3			Credit Loss	87	
Excess Return	2.3	2.7			Total Return	2.4	

Source: Deutsche Bank

Closed Trade Recommendations

	Trade Detail	Rationale	Risks	Opened	Entry	Closed	Exit	P/L
Inflation	Long 2019 TIPS breakevens versus 2016 TIPS breakevens	Being long 2019 BEs versus 2016 BEs has positive carry, and is less correlated with energy prices than 1yr BEs	2019 breakevens drop more than 2016 breakevens	11/26/14	+41 bp	2/25/15	+22 bp	+4,014k
Inflation	Long 30yr TIPS breakevens	Bond TIPS look cheap on a relative value basis	Inflation expectations decline	10/17/14	2.08%	12/9/14	1.97%	-1,171k
Inflation	Long 5yr TIPS	5yr TIPS look cheap	Inflation declines further	9/12/2014	-6 bp	10/28/14	-11bp	+81k
Inflation	Long 10yr TIPS breakevens vs 5yr and 30yr TIPS breakevens	10yr breakevens look cheap ahead of supply	10yr breakevens underperform	5/16/14	+6 bp	9/25/14	+6 bp	-120k
Inflation	Long 30yr TIPS breakevens vs 10yr TIPS breakevens	10s-30s breakeven curve is too flat	10yr breakevens outperform	6/12/14	+8 bp	7/23/14	+12 bp	+171k
Inflation	Long 5yr TIPS breakevens	We favor short-dated TIPS for near-term carry. We like the cheap and liquid 0.125s of 4/2019.	Decline in energy prices or inflation expectations	6/12/14	+200bp	9/16/14	+182 bp	-1,240k
Inflation Swaps	Long 2y2y inflation swap	2y2y inflation looks attractive on historical basis	Forward inflation falls	10/3/14	2.1%	12/9/14	2.0%	-309k
Inflation Swaps	Sell the 5yr5yr inflation swaps	The spread between 5yr5yr inflation swaps and 5yr5yr TIPS breakevens is wide. Selling the 5yr5yr inflation swaps looks attractive.	5yr5yr inflation swaps rise	11/7/14	2.58%	12/18/14	2.43%	+1,361k
Treasury RV	Long 5s vs 2s and 10s	5s appear attractive	5s cheapen further	9/5/2014	+41 bp	10/28/14	+34bp	+418k
Treasury RV	Sell classic bond futures CTD (6.125 Aug29s) against Aug22s and Aug42s	Classic bond futures close to 1.5 standard deviations rich versus 10s and 30s	Continuing outperformance of classic bond futures	10/7/13	+13bp	8/12/14	+7 bp	-404k
Treasury RV	Take profits on the 2026-2029 bonds. (Li)	2026-2029 bonds have outperformed recently and look rich to 10s and 30s	2026-2029 bonds continue to cheapen	9/17/13	+11 bp	8/12/14	+7 bp	-226k
Treasury RV	Long 10s vs 5s and 30s	10s look cheap on the curve	10s continue to cheapen	9/12/13	+26 bp	7/7/14	+14 bp	+364k
Option	Conditional bull steepeners: Sell \$32.8mn 3M10Y ATMF receivers vs. buy \$100mn 3M3Y ATMF receivers at net takeout 1c	Front-end gets re-priced in a delayed Fed hike	Curve bull flattens; unlimited downside	9/26/14	-1 bp	12/30/14	0 bp	+19k
Option	Buy 1X2 3M3Y ATMF/13.5bp receiver spreads for zero net cost	Short-term risk off and short covering	Rally below the breakevens; unlimited downside	9/26/14	0 bp	12/30/14	0 bp	+28k

Source: Deutsche Bank



Closed Trade Recommendations

	Trade Detail	Rationale	Risks	Opened	Entry	Closed	Exit	P/L
Option	Buy \$1,000mm 6m single reset cap on CMS10-CMS5 strike 89bp for 9.75c	Carry pays for option, repriced fed suggests 5y outperformance	Curve flattening, max loss premium	5/20/14	+9 bp	11/20/14	0 bp	-875k
Option	Sell \$100mn 3M5Y straddles vs. buy \$100mn 3M5Y 22bp OTM payers for net takeout of 100c.	No big changes in vol near term	Rates rally	9/19/14	-100 bp	12/30/14	0 bp	+1,028k
Option	Buy 2y10y 25/75/115 payer ladder at zero net cost.	Positive carry bearish rates positioning	Higher gamma; rates rally	4/5/13	0 bp	10/9/14	+92 bp	+991k
Option	Buy \$342m 18m3y ATMF+25bp payer and sell \$113m 18m10y ATMF+57.5bp payer. (Kocic)	Fed tapers in 2013	Curve steepens and rates rise	5/16/13	+147 bp	10/9/14	+127 bp	+539k
Option	Buy \$207mm 3m5y receiver ATMF - 25 bp, sell 207mm 3m5y receiver ATMF - 50 bp at 16.75 bp premium	High payout ratio for exposure to delayed Fed	Market sell off, max loss net premium	5/20/14	+17 bp	8/19/14	+0 bp	-339k
Option	Sell \$100mn 1Y2Y ATMF receivers vs. buy \$40mn 1Y5Y 22bp OTM receivers at zero net cost	5s lead the way in a rally as rate hikes are taken out	Bull steepening in 2s/5s	10/3/13	0 bp	10/3/14	0 bp	+7k
Option	Buy \$880mn 1Y 5s/30s ATMF curve caps vs. sell \$100mn 6m10Y 11bp OTM payers at net zero cost. (Kocic)	The risk of weak data and/or more aggressive forward guidance becomes a 5s/30s steepener, while slowdown of growth puts an upper limit on the 10Y sector	Short term flattening sell off	9/13/13	0 bp	3/14/14	+229 bp	+2441k
Swaps RV	Receive \$208.2mm 6m5y rate versus pay \$292.9mm 10y5y rate	15y par rate rich, 6m5y exposed to repricing Fed with positive carry	Curve flattening	5/20/14	+219 bp	11/19/14	+320 bp	-7,274k
Cross Market	Receive 158m 1y5y EUR and pay 773m 1y1y EU. (Sparks)	ECB cuts the depo rate further	Forward curve steepens	5/16/13	+84 bp	5/16/14	+55 bp	+2,963
Cross Market	Receive 3y1y JPY and pay 1y1y JPY (Sparks)	Recent sell-off in Japan	US rate outperforms	5/16/13	+44 bp	4/22/14	+8 bp	+4,575k

Source: Deutsche Bank

Performance numbers are based on trader end-of-day marks, and do not include bid/offer spreads or transaction costs. We consider the relevant benchmark for our trades to be a zero position, given the leveraged or generally market neutral aspects of these trades. Historical performance is not a guarantee of future performance.*



2014 Outlook Closed Trades

	Trade Detail	Rationale	Risks	Opened	Entry	Closed	Exit	P/L
Treasury RV	Buy 10y Treasuries vs 5s and 30s	10s have underperformed on the curve since May, and appear cheap on fly	Further sell-off in Treasuries, led by a steeper 5s/10s curve	12/6/13	+17 bp	6/25/14	+5 bp (Closed on 6/25)	+1,123k
Option	1y 3s10s conditional bearish flattener for zero premium: Buy 1y3y + 25 bp payer, sell DV01 weighted 1y10y +41.5 bp payer for zero premium.	The curve should bear flatten as soon the Fed tapers and front end sells off	Curve steepens as rates rise	12/6/13	+212.5 bp	12/19/14	+17 bp	0k
Swaps RV	Receive 3y1y/2y1y rate spread at 108 bp	Curve slope is near its historic levels; curve is likely to flatten in both sell-off or rally	Curve steepens	12/6/13	+108 bp	12/19/14	+80bp	+222k
Option	Dual digital option on 5s and 10s: Buy a 6m dual digital that pays out if 5s > 2% & 10s < 3.50%, offer 17% (6:1 leverage)	Curve flattens beyond the current forwards; adding additional leverage by shorting the correlation between 5y and 10y rates	Either of the two conditions is not true at expiration; maximum loss is premium outlay	12/6/13		12/19/14		
Option	Contingent curve cap: Buy 6M 5s10s ATMF curve caps subject to 10s < 3.50%, 5.25c offer, a 40% discount to vanilla at 9c	Front-end of the curve remains anchored, limited sell off in 10s	Curve flattens	12/6/13		12/19/14		
Option	Receiver spreads: Buy \$100mm 2y2y ATMF/25 bp receiver spreads at 28 bp	Macro data disappoints, curve bull flattens	Rates rise as recovery strengthens	12/6/13	+28 bp	12/19/14	+29 bp	+19k
Option	Contingent payers: Buy 1y30y ATMF payers subject to 5s < ATMF+50 bp at 259 bp, a 57% discount to vanilla	Rate hikes unbundled from taper, long end sells off while 5y remains anchored	Curve flattens	12/6/13		12/19/14		
Option	Curve caps: Buy 1y single reset, ATMF 5s30s curve cap at 21.5 bp	Economic recovery disappoints and curve remains steep	Curve flattens	12/6/13	+21.5 bp	12/19/14	0 bp	-197k
Inflation	Long-end US real rates vs long-dated Europe real rates: Buy 2041 US TIPS vs sell 2040 OATei	Long dated real rates in the US appear cheap to those in Europe, especially France	Further sell-off in long dated US rates relative to Europe	12/6/13	+40 bp	9/25/14	+50 bp (Closed on 9/25)	+3,382k
Inflation	Buy 2023 TIPS vs. 7/2019 and 1/2025 TIPS on ASW	The intermediate sector in inflation markets is cheap relative to the wings	Further cheapening of the belly in inflation markets relative to the wings	12/6/13	+38 bp	12/19/14	+8 bp	+2,263k
US Credit	Underweight high-yield into Taper	HY spreads should widen upon the onset of the taper	Tapers gets delayed	12/6/13		12/19/14		

Source: Deutsche Bank

Performance numbers are based on trader end-of-day marks, and do not include bid/offer spreads or transaction costs. We consider the relevant benchmark for our trades to be a zero position, given the leveraged or generally market neutral aspects of these trades. Historical performance is not a guarantee of future performance.*





Appendix 1

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