Deutsche Bank
Markets Research
United States
Economics
Rates
Credit
US Fixed Income Weekly

Markets are fixated on the potential for Fed normalization to start earlier than currently priced and whether China's recent FX adjustment is the beginning or the end.

At a superficial level there appears to be conflicting influences on rates. The Fed and China may undermine risk asset performance but the consensus is that if risk assets find support, fewer FX reserves are likely to
pressure rates higher.

On the contrary, we think the most important thing is that both the Fed and China's FX (ongoing?) unwind represent a tightening of global liquidity that clearly is negative for risk assets and clearly, at least for the last decade, has been positive for real rates and the curve. 5y5y is well correlated with changes in global liquidity and based on recent trends should be closer to 2 percent.

This reinforces our view that the Fed is in danger of committing policy error. Not because one and done is a non issue but because the market will initially struggle to price "done" after "one". And the Fed's communication skills hardly lend themselves to over achievement. More likely in our view, is that one in September will lead to a December pricing and additional hikes in 2016, suggesting 2s could easily trade to 1 ¼ percent. This may well be an overshoot but it could imply another leg lower for risk assets and a sharp reflattening of the yield curve.
Decline in liquidity implies a lower 5y5y
10
15
20
25
30
-10
-5
0
5
20001
Source: Fed and Deutsche Bank
20061
20121
Fed plus fx reserves yoy
5y5y rhs
0.0
1.0

2.0
3.0
4.0
5.0
6.0
7.0
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Table of Content

124/04/2015.

2015 Outlook Recommendations
Trade Detail
Rationale
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.
Swaps RV Pay 3y1y versus 2y1y
Option
Option
Option
Option
Option
Option
Source: Deutsche Bank
Sell 1X2 payer spreads at the short end: Sell $100mn 6M3Y ATMF vs. buy $200mn 34.5bp OTM payers at zero net cost
Sell $100mn 6M10Y straddles vs. buy $300mn 6M3Y straddles for a net premium of 175K
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
Quiet bulls: Sell $100mn 1Y10Y 50bp OTM payers vs. buy $100mn 1Y10Y ATMF/33 receiver spreads costless
Buy $100mn 1Y30Y receivers, struck at spot, at 1270c
6M dual digital: 2s> F+10bp & 10s < F-10bp offer 11.5%
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.
The repricing of Fed hikes could begin in Q2 with the short end rebounding sharply after initial rally.
With expectations of Fed hikes, volatility should move to the front end of the curve, while the back end movements remains
Potential for considerable bear flattening should

the market reprice the Fed hikes.
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.
Bull/flatteners at the back end.
This is a leveraged expression of a policy-mistake trade where premature hikes cause a rally at the back end.
Risks
Maximum total loss is the premium outlay
Opened
12/19/14
Entry
29c
Current
P/L
Curve flattens
12/19/14
Vulnerable to rally below the breakevens, with potentially unlimited downside.
Unilateral spike in backend vol.
Curve steepens.
Sell-off beyond 3.10%.
Loss equal to the options premium
Loss equal to the options premium
+40 bp
12/19/14
12/19/14
12/19/14
12/19/14
12/19/14
12/19/14

2015 Outlook Recommendations
Trade Detail
Rationale
Treasury
RV
Inflation
Swaps
Inflation
Inflation
Agencies
Agencies
Sell rich bond futures against
cheap off-the-run bonds
The classic bond futures look rich in the long end
Risks
Further outperformance
of the 6.25s of 5/2030
in the long end
Buy 2yr2yr forward breakevens
The 2yr2yr inflation appears attractive on a longterm
history
Buy long end inflation
Buy 5yr5yr forward breakevens
as a hedge to high rates
Buy 3nc1y and 5nc6m
callables vs. matched-maturity
bullets
2-year vs. 5-year agency
spread curve flattener
The long end inflation market looks undervalued on
a long-term perspective, with the 30-year TIPS
breakevens trading below 2.00%.
The 5yr5yr forward breakevens have dropped to
their multi-year lows.
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.
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.
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
Source: Deutsche Bank
Further decline in medium-term inflation expectations
Inflation markets further underperform.
Decline in energy prices and a stronger dollar
Higher implied vol cheapens callables relative to bullets
Increased GSE risk widens intermediate spreads
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
Opened
12/19/14
Entry Current
+5 bp
+21 bp
(Closed on 2/25)
12/19/14
1.95%
1.60%
P/L
+1,249k
-1,367k
12/19/14
12/19/14
12/19/14
1.92%
2.18%
1.71%
1.97%
-3,400k
-648k
12/19/14
12/19/14

Other Current Recommendations

Trade Detail	Rationale
Treasury RV	
Treasury RV	
Short 10s versus 5s and 30s	
Sell rich bond futures against cheap off-the-run bonds	
Inflation 10s/30s breakeven curve steepener	
Inflation Long front end TIPS breakevens	
Inflation	
Inflation	
Inflation	
Real yield curve steepeners, either 10s-30s or 5s-30s.	
Long 10yr inflation swaps versus 10yr TIPS breakevens	
Long 1/2029 breakevens vs 10yr breakevens	
Inflation Long 30yr TIPS breakevens	
Inflation	
Swaps	
Inflation	
Swaps	
Agencies	
Muni	
Option	

Source: Deutsche Bank

Long 1yr1yr inflation swaps	
Long 2yr2yr inflation swaps	
Buy long-dated GSE debt:	
Buy $100mm FNMA 6.625 11/30s vs. T 5.325 2/31s	
Receive $100m 3y3y SIFMA ratio at 78.2%. (Sorid)	
1X2 1Y 5Y5Y ATMF/41 receiver spreads costless	
10s look rich on the curve against 5s and 30s	
Sell the rich classic bond futures versus off-the-run bonds in the 2026 to 2028 sector	
Long end TIPS offer good value	
Front end TIPS look cheap to our inflation forecast	

Possibly delayed first Fed rate hike is likely to help intermediate sector outperform in real yields, steepening the real yield curve.
The spread between 10yr inflation swaps and TIPS breakevens is too tight
10yr TIPS to 1/2029 breakeven curve is too flat
The long end inflation market looks undervalued; 30yr TIPS breakevens near multi-year lows
We like 1yr1yr forward inflation swaps. Front end breakevens look attractive.
We like being long 2yr2yr or 2yr3yr forward breakevens to take advantage of cheap 5s, while avoiding negative carry in front end TIPS
Legislative momentum of JohnsonCrapo on GSE reform is credit bullish for long-dated GSE debt.
Attractive roll down profile
Long-end rallies on premature or fast rate hikes (policy mistake)
Risks
10s richen further
Classic bond futures richen
30yr underperforms relative to 10yr
Energy prices drop
Opened
5/8/15
11/26/14
6/26/2015
4/10/2015
Long end outperforms 1/20/2015
TIPS outperform inflation swaps
1/2029 breakeven cheapen further
Long term inflation expectations decline
Inflation expectations decline
Medium term inflation expectations decline
Reform bill stalls in Congress or language on government

guarantee modified.
Further ratio curve
steepening
Rally below the
breakevens; unlimited
downside
1/20/2015
10/3/14
12/12/14
3/3/15
12/12/14
Entry
+9 bp
+21 bp
0.13%
1.23%
5s/30s@0.65%
10s/30s@1.60%
+21 bp
+2 bp
1.91%
1.84%
1.77%
Current
+8 bp
+20 bp
0.30%
-1.45%
5s/30s@0.97%
P/L
-6k
-106k
+1,042k
-1,563k
10s/30s@1.48% +3,464k
+17 bp
+6 bp
1.71%
1.22%
1.68%
-249k
+502k
-2,107k
-662k
-868k
3/14/14
4/25/13
9/26/14
+48 bp
+62 bp
78.2%

0¢
72.0%
-18.4¢
-953k
+941k
-311k

Other Current Recommendations Cont’d

Trade Detail	Rationale
Option	Buy $100mn 2Y2Y ATMF receivers vs. sell $22.7mn 2Y10Y ATMF receivers for the net takeout of $55K
Option	Payer spreads: Sell $500mn 2Y2Y 92bp OTM payers vs. buy $50mn 2Y30Y 25bp OTM payers at zero net cost
Swaps	Receive $1,023.4mm 2y1y rate versus pay $1,002.7mm 1y1y rate
Rv	Receive $1,023.4mm 2y1y rate versus pay $431.2mm 1y1y rate and $597mm 3y1y rate
Swaps	Forward fly: Pay fixed on $298.6 mm 10y5y versus receive fixed on $72.9 mm 5y5y and $257.6 mm 15y5y
Rv	Buy $10m each of SPNTAB 2.95% 3/16; SPABOL 2.625% 5/16; DNBNOR 2.90% 3/16 on ASW. (Sorid)
Cross Market	US-Europe spread tightener: Receive fixed in $244 mm USD 5y5y rate vs. pay fixed on €165.8mm EUR 5y5y rate
Cross Market	Trend growth and low inflation limit the rise of long rates
	Vol differential is favorable for initiating a positive carry bear steepening trade
	Positive carry look at repricing Fed
	Further rally via Fed delay benefits 2y1y rate
	5y rate, 10y forward is historically rich versus 5y rate, 5y forward and 5y rate, 15yfoward
	Risk-on retightening of covered bonds in stable rates regime

US recovery disappoints
Risks
Recessionary mode with
bull flattening of forwards
The curve bear flattens
The curve bear steepens
2y1y underperformance
Further 10y5y
outperformance
Bank credit underperforms;
Eurozone credit crunch;
Widening in a rate sell-off
Spread widens
Opened Entry Current
-6 bp
10/3/13
1/2/14
5/20/14
5/20/14
4/29/14
7/25/13
1/24/14
+2 bp
+95 bp
-10 bp
+22 bp
+25 bp
+37 bp
+31 bp
+127 bp
-99 bp
-0 bp
+95 bp
-17 bp
+21 bp
+30 bp
+25 bp
+31 bp
+136 bp
P/L
-925k
-25k
+2,305k
+405k
-416k
-930k
-10k
P/L as of 09/03/2015 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

4 September 2015
US Fixed Income Weekly
United States
Rates
Gov. Bonds & Swaps
Rates Volatility
US Overview

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pressure rates higher.

On the contrary, we think the most important thing is that both the Fed and China's FX (ongoing?) unwind represent a tightening of global liquidity that clearly is negative for risk assets and clearly, at least for the last decade, has been positive for real rates and the curve. 5y5y is well correlated with changes in global liquidity and based on recent trends should be closer to 2 percent.

This reinforces our view that the Fed is in danger of committing policy error. Not because one and done is a non issue but because the market will initially struggle to price "done" after "one". And the Fed's communication skills hardly lend themselves to over achievement. More likely in our view, is that one in September will lead to a December pricing and additional hikes in 2016, suggesting 2s could easily trade to 1 ¼ percent. This may well be an overshoot but it could imply another leg lower for risk assets and a sharp reflattening of the yield curve.

We think risk/reward has shifted toward paying spreads in the front end. Financing is challenging with term GC trading high relative to LIBOR, but we think rolling the position overnight should allow investors to average in financing better than LIBOR, providing some backstop against tightening if significant additional intervention-related selling does not materialize.

We like being long front end breakevens in forwards, e.g., one-year breakevens implied by short maturity TIPS, such as the 7/2016s and the 7/2017s. One can also hedge out energy prices in that trade to create a synthetic exposure to core CPI. A simpler version of the implied front end forward breakevens is to be long front end breakevens outright. They have lagged oil prices.

5-year inflation basis has recovered, while 30-year inflation basis has done
less well, and remains in the low end of the long term trading range. Investors should consider inflation basis steepeners by being long 30-year inflation basis against 5-year inflation basis.

The case for more liquidity
Investors are rightly concerned about the impact of both a possible early start
to Fed normalization and the probably yet-to-be-resolved Chinese FX adjustment. There is a reasonable consensus that both encourage further downside to risk assets. There is more uncertainty around bond yields. Potential FX intervention might imply selling of Treasuries, especially the front
end where most reserves are held. But if higher short rates from either those sales or Fed tightening, undermine equities, bond yields might actually fall.

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The right framework to view potential Fed tightening as well as China's FX adjustment is in the context of global liquidity and that relationship with financial assets. Liquidity in the broadest sense tends to support growth momentum, particularly when it is in excess of current nominal growth. Positive changes in liquidity should therefore be equity bullish and bond price
negative. Central bank liquidity is a large part of broad liquidity and, subject
to bank multipliers, the same holds true. Both Fed tightening and China's FX adjustment imply a tightening of liquidity conditions that, all else equal, implies a loss in output momentum. Typically this should be associated with lower yields. This runs counter to a common perception that forex intervention that leads to Treasury sales pushes up yields. To the extent that
it does, we suspect this is a short lived temporary affair and will easily be dominated by the more sinister implications of dwindling global liquidity. We note that the recent weakness in global nominal growth that we highlighted last week is highly consistent with weaker global liquidity and that the weakening in liquidity is not new news but has been ongoing since late last year. Not only has it been driven by falling FX reserves but also by the slowing of the Fed's balance sheet. To the extent that other central banks have tried to expand liquidity, in terms of historic relationships to financial
assets, FX reserves and the Fed's balance sheet are more important. We think this reflects the role of the dollar as the reserve currency in the global
financial system.

Let's start from some basics. Global liquidity can be thought of as the sum of all central banks' balance sheets (liabilities side) expressed in dollar terms. We then have the case of completely flexible exchange rates versus one of fixed exchange rates. In the event that one central bank, say the Fed, is expanding its balance sheet, they will add to global liquidity directly. If
exchange rates are flexible this will also mean the dollar tends to weaken so that the value of other central banks' liabilities in the global system goes
up in dollar terms. Dollar weakness thus might contribute to a higher dollar price for dollar denominated global commodities, as an example. If exchange rates are pegged then to achieve that peg other central banks will need to expand their own balance sheets and take on dollar FX reserves on the asset side. Global liquidity is therefore increased initially by
the Fed but, secondly, by further liability expansion, by the other central banks. Depending on the sensitivity of exchange rates to relative balance sheet adjustments, it is not an a priori case that the same balance sheet expansion by the Fed leads to greater or less global liquidity expansion under either exchange rate regime. Hence the mere existence of a massive build up in FX reserves shouldn't be viewed as a massive expansion of global liquidity per se – although as we shall show later, the empirical

observation is that this is a more powerful force for the “impact” of changes in global liquidity on financial assets.

The chart below shows the RMB vs. the ratio of PBOC to Fed balance sheets, using prevailing exchange rates at the time as the conversion factor. The initial

post crisis period sees the Fed balance sheet expand relatively while the exchange rate is unchanged. There is then a phase of RMB appreciation and relative stability in the balance sheet ratio and then the PBOC balance sheet expands with continued RMB appreciation.

RMB vs. ratio of Fed to PBOC balance sheet
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1
20084
Source: Bloomberg and Deutsche Bank
The table below highlights these three periods in terms of the actual notional impact on global liquidity via the combined effects of revaluing the PBOC balance sheet as well as the changes in the underlying domestic liquidity. Under a relatively stable currency the PBOC expanded its balance sheet aggressively in the first phase, presumably in part being obliged to accelerated FX reserve accumulation; the Fed was more or less in between expanding their balance sheet. The second phase saw the more dramatic currency appreciation with a strong Fed expansion but also strong PBOC liquidity expansion. The third phase saw even stronger Fed balance sheet expansion but weaker PBOC expansion and more modest RMB appreciation. The last two phases combined saw global central bank liquidity expand by notionally similar amounts i.e. $1500 billion. More than double the first phase when the currency was more stable and the Fed was quieter. However note that as expected, the reserve accumulation was almost the same in each period, around 500-600+ billion. So even though the Fed wasn't expanding the balance sheet much, the hangover of the previous expansion and capital flows in general required a more aggressive intervention by PBOC to acquire reserves and maintain the a stable currency. So a notionally less aggressive expansion in global central bank liquidity under a stable exchange rate regime was disproportionately more skewed to reserve accumulation.

Changes in central bank balance sheet liquidity
chg Fed BS
chg
2010q2-2008q4
2012q1-2010q3
2013q4-2012q4
4.1%
25.8%

39.3%
$ bn
90
581
1126
Source: Haver Analytics and Deutsche Bank
The next issue is given changes to liquidity how does it impact asset prices. We can think of the three components of liquidity: the Fed's balance sheet, the accumulation of FX reserves by other central banks; and the residual of other central banks' liquidity expansion after the accumulation of FX reserves. As the chart below shows in terms of growth the explosion of the Fed stands out during the crisis but there have been strong expansions in other central banks' liquidity excluding reserve increases. FX reserve accumulation has been quite weak since 2012 and is now negative. In absolute terms liquidity is strongest in FX reserves and other central banks ex reserves by a factor of three times for the Fed's balance sheet.

chg Ch BS RMB change RMB
bn
17.3%
14.2%
7.7%
3584
3534
2274
start
6.84
6.77
6.24
20114
20144
ratio of balance sheets
RMB/$ rhs
6.0
6.1
6.2
6.3
6.4
6.5
6.6
6.7
6.8
6.9
RMB % chg RMBUSD change Total Reserve chg

finish
bn
6.82
6.31
6.09
0.23%
7.26%
2.51%
532
827
492
622
1408
1618
bn
508
657
510

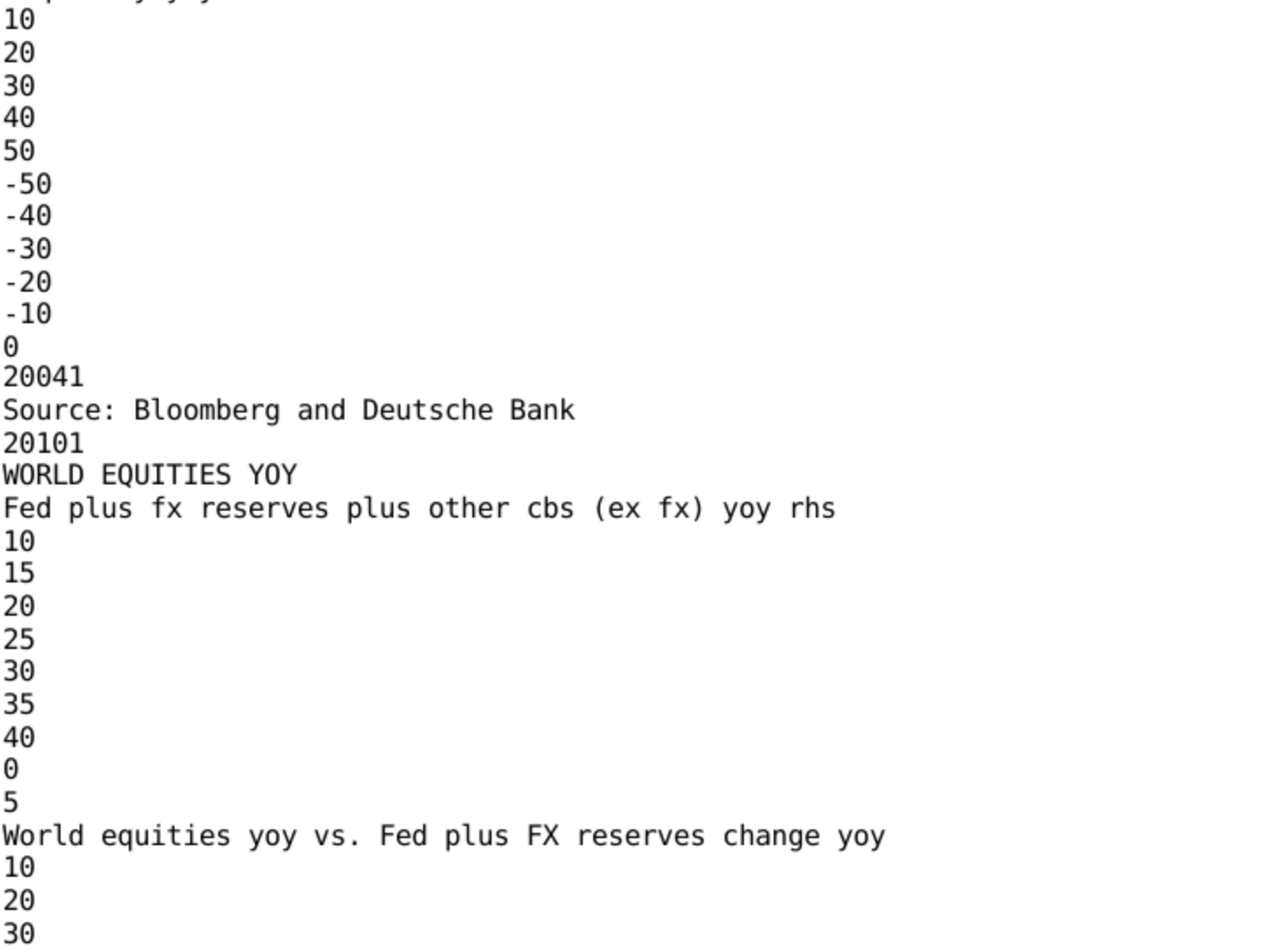
Sources of central bank liquidity – change yoy
Sources of central bank liquidity – $ billion
100
120
140
160
180
20
40
60
80
-20
0
20031
Source: Bloomberg and Deutsche Bank
20081
20131
FX reserves
Fed
Other CBks ex
Reserves
2000
4000
6000
8000
10000
12000
14000
16000
0
20031
Source: Bloomberg and Deutsche Bank
Let’s start with risk assets, proxied by global equity prices. It would appear at first glance that the correlation is negative in that when central bank liquidity is expanding, equities are falling and vice versa. Of course this likely suggests a policy response in that central banks are typically “late” so that they react once equities are falling and then equities tend to recover. If we shift liquidity forward 6 quarters we can see that the market “leads” anticipated” additional liquidity by something similar. This is very worrying now in that it suggests that equity price appreciation could decelerate easily to -20 or even 40 percent based on near zero central bank liquidity, assuming similar multipliers to the post crisis period. From q2 levels that implies an MSCI level of around 1350 for

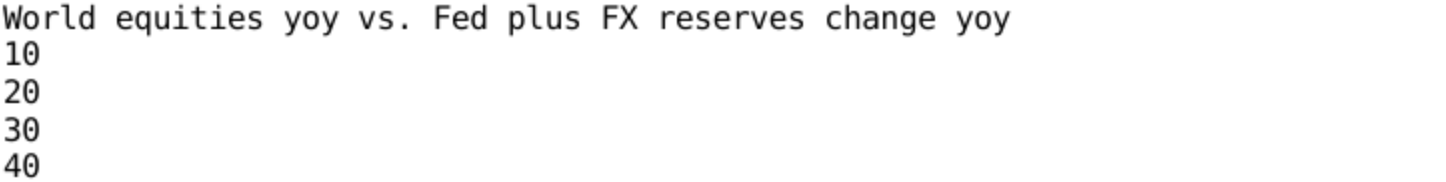
2015q4 (reference q2 @ 1735), the end August level was 1645 i.e. still another
10-15 percent decline.
World equities yoy vs. central bank liquidity yoy
10
20
30
40
50
-50
-40
-30
-20
-10
0
20041
Source: Bloomberg and Deutsche Bank
20101
WORLD EQUITIES YOY
Fed plus fx reserves plus other cbs (ex fx) yoy rhs
10
15
20
25
30
35
40
0
5
World equities yoy vs. components of liquidity yoy
-50
-30
-10
10
30
50
20031
Source: Bloomberg and Deutsche Bank
Interestingly, the components of liquidity themselves behave a little differently
with FX reserves and Fed balance sheet being more in line recently than other central bank liquidity. This reflects the ECB and BoJ tardier reactions to balance sheet expansion in the post crisis period. If we only consider the FX and Fed components of liquidity there appears to be a tighter and more contemporaneous relationship with equity prices. The suggestion is at one

20081
20131
FX reserves
Fed

Other CBks ex Reserves
FX reserves
Fed
Other CBks ex Reserves
world equities yoy
20081
20131

level still the same, absent Fed and FX reserve expansion, equity prices look more likely to decelerate and quite sharply. The tie out, presumably with the "leading" indicator of other central bank action is that other central banks have been instrumental in supporting equities in the past. The largest of course being the ECB and BoJ. If the Fed isn't going doing its job, it is good to know someone is willing to do the job for them, albeit there is a "lag" before they appreciate the extent of someone else's policy "failure". And just to ram home the point – this differential relationship is entirely consistent with the idea that FX reserves are accumulate don the back of Fed balance sheet expansion and so if the Fed's balance sheet is not expanding then it is a double whammy that FX reserves are also not expanding and as we shall see below are contracting!





50
-50
-40
-30
-20
-10
0
20001
Source: Bloomberg and Deutsche Bank
So now let’s be a little more specific on the Fed balance sheet and FX reserves
now. The next chart shows both are decelerating sharply. The Fed’s balance sheet is almost flat on the year and reserves are down around 5 percent and counting. The two as we have demonstrated are clearly connected. In the reverse scenario (as opposed to the above, when we demonstrated the connection when the Fed was expanding its balance sheet), tighter Fed policy forces other central banks to spend reserves to defend their currency peg and in principle shrink their balance sheets. This is the example recently with the
adjustment in China’s FX regime to accommodate more market based fixings. The ensuing unwind of the China carry trade has solicited what appears to have been significant FX intervention, judging by the move in front end swap spreads and dealer inventory of shorter dated Treasuries. The main point however is that it is not a change in FX regime per se that drives the loss of
liquidity but that that change emanates from a tighter Fed balance sheet. Hence in the event that the Fed raises rates and we start to worry about balance sheet unwind this becomes a much more significant issue going forward. The Fed’s balance sheet for example could easily be negative 5 percent this time next year, depending on how they manage the SOMA portfolio and would be associated with further FX reserve loss unless countries,
including China allowed for a much weaker currency. This would be a great concern for global (central bank liquidity)
So one counter is that FX reserve loss can be offset by other central banks’ liquidity injection. At one level this is tempting but flawed; at another level it
is more plausible. The first level is that FX reserve loss typically is “sterilized”.
The shock to a country’s financial system from the sudden loss of liquidity

20061
20121
WORLD EQUITIES YOY
Fed plus fx reserves yoy
10
15
20
25
30

```
-5
0
5
```

needs to be offset and recently in the case of China the PBOC has acted to reinstate domestic liquidity and also has cut reserve requirements. However as we demonstrated above this component of liquidity seems to have a lagged impact on say (equity) financial assets relative to either the Fed or FX
reserves themselves This is actually quite intuitive. The liquidation of FX reserve holdings reflects forced redemptions of domestic currency holdings. Simply forcing currency back into the system to satisfy those redemptions shouldn't be associated with restoring asset prices to where they were before. Ultimately in a fiat money system asset prices reflect "outside" i.e. central bank money and the extent to which it multiplied through the banking system. The loss of reserves represents not just a direct loss of outside money but also a reduction in the multiplier. There should be no expectation that the multiplier is quickly restored through offsetting central
bank operations.
PBOC injection of funds vs. CNY
200
400
600
-600
-400
-200
0
Jan-14
Jul-14
Source: Bloomberg Finance LP and Deutsche Bank
We now move on to interest rates. If equities have a negative correlation with liquidity, it is not surprising to find that interest rates have a positive
correlation at least since the crisis. Again in line with the above analysis regarding equities, the correlation in contemporaneous time is better if we focus on Fed and FX reserves. However even then we notice the correlation is a little loose at times. This raises an obvious issue in terms of how one thinks about nominal yields in terms of additional central bank liquidity and FX reserve accumulation. On the one hand the more Fed may help lower real yields but raise inflation expectations; more FX reserve accumulation may be just lower nominal yields and if anything real yields to the extent that by accommodating Fed monetary policy expansion the US "exports" inflation risk. Running across everything is the problem that equities are generally stronger (weaker) of liquidity is expanding (falling).
Jan-15
Jul-15
10-day total of net injection of funds by PBoC (Bn Yuan)
USDCNY (rhs)
6.00
6.05
6.10
6.15

6.20
6.25
6.30
6.35
6.40
6.45
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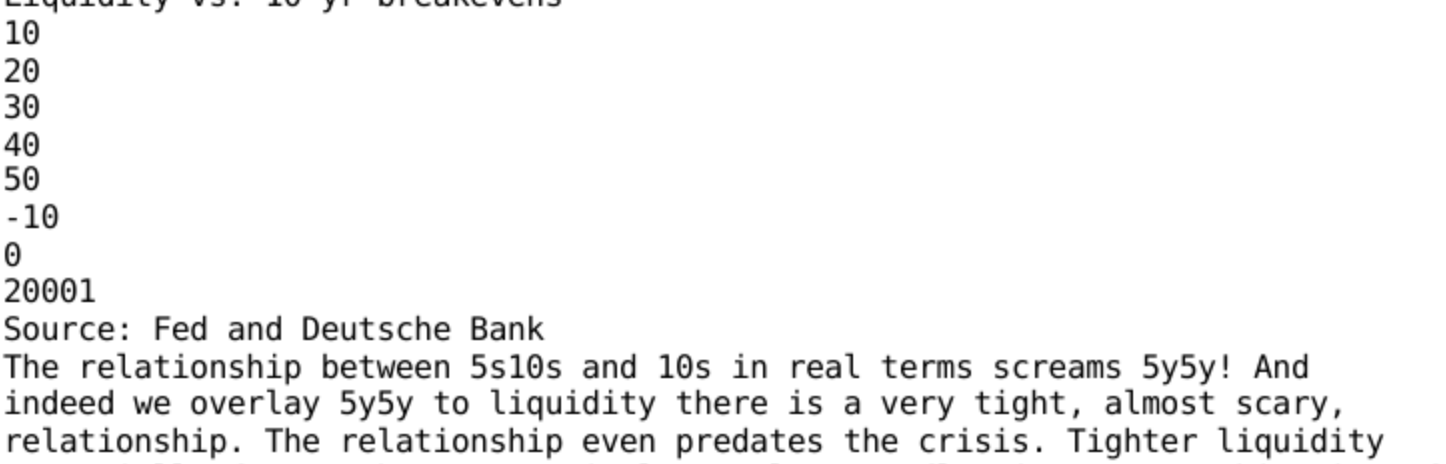
Page 11

10 yr yield vs. FX/Fed defined liquidity
10 yr yield vs. broader defined liquidity
10
15
20
25
30
-10
-5
0
5
20001
Fed plus fx reserves yoy
20061
Source: Bloomberg Finance LP and Deutsche Bank
10y rhs
20121
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
10
15
20
25
30
35
40
-10
-5
0
5
20001
Source: Fed and Deutsche Bank
Breaking down the breakeven and real yield components verifies that central bank liquidity has been more associated with real yields then breakevens, however the relationship is perverse! Real yields have tended to fall when balance sheet expansion is slowing while breakevens have generally been more sticky. This suggests that risk assets drive (real) yields and that breakevens
anticipate a (delayed) liquidity injection. This is corroborated by also considering
the curve. Like real yields 5s10s is well correlated (positively) with real yields.
Note that prior to the crisis the relationship looked more “normal” in that

expanding liquidity drive yields lower and vice versa. So something has changed
since the crisis—this we think is very important and again, will revisit below.

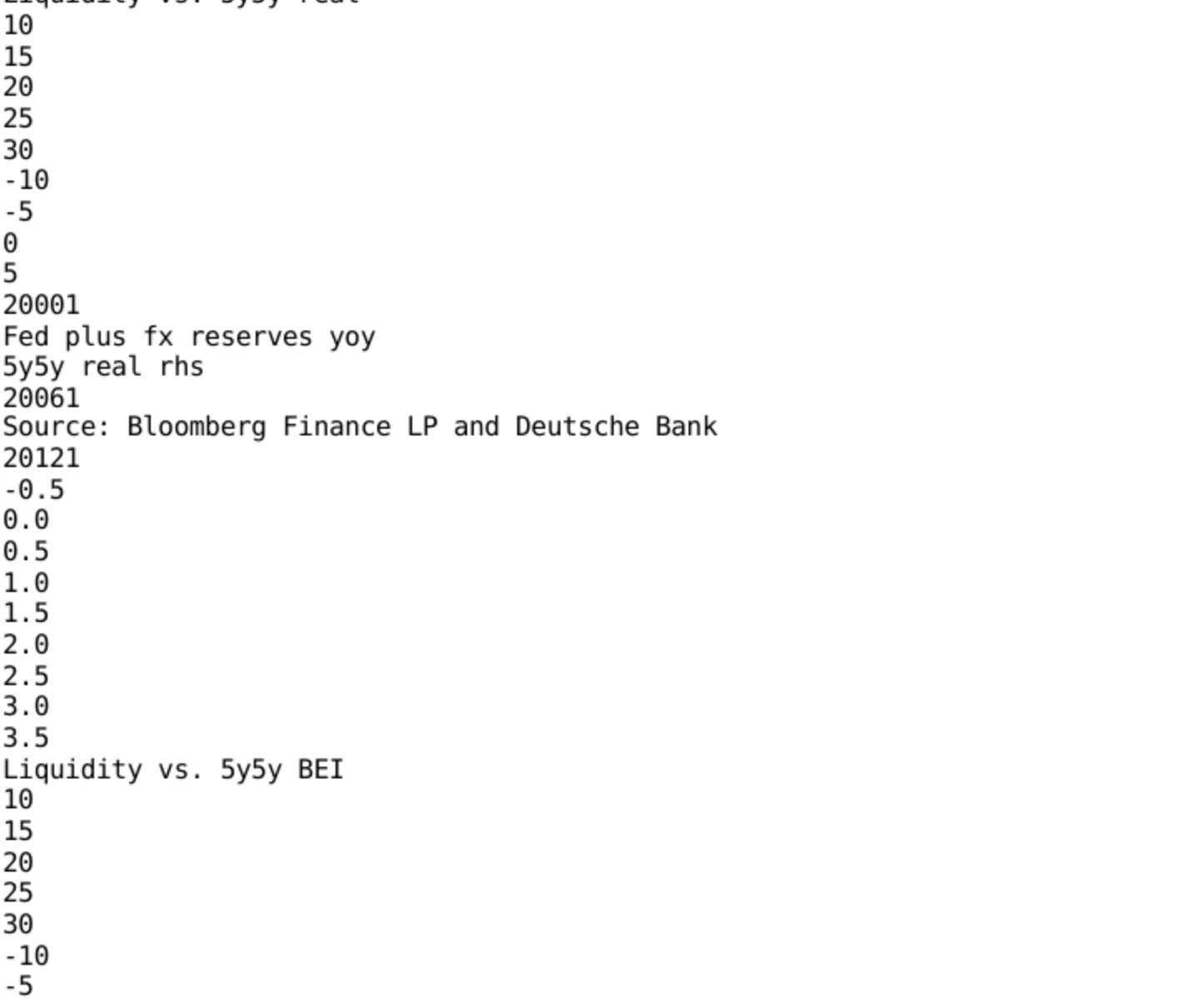
The relationship between 5s10s and 10s in real terms screams 5y5y! And indeed we overlay 5y5y to liquidity there is a very tight, almost scary, relationship. The relationship even predates the crisis. Tighter liquidity essentially forces the 5y5y nominal rate lower reflecting some combination of a flatter curve and higher yields with a steeper curve and lower yields. Fundamentally we think this ultimately speaks to a lower terminal policy rate so that it doesn't really matter whether the term structure is trying to shift
higher or lower but the curve will more than compensate so that if the trend is
towards less central bank liquidity, the terminal rate is falling.

FX + Fed balance sheet yoy

10 yr bei rhs
20061
20121
1.0
1.2
1.4
1.6
1.8
2.0
2.2
2.4
2.6
2.8
Fed plus fx reserves plus other cbk (ex fx)
yoy
10y rhs
20061
20121
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0

Right now the decline is central bank liquidity suggest 5y5y should be closer to
2 percent or below not 3 percent to above. And this is before the Fed has tightened and China has potentially “finished” its adjustment.
Liquidity vs. 5s10s
10
15
20
25
30
-10
-5
0
5
20001
20061
Source: Bloomberg Finance LP and Deutsche Bank
20121
Fed plus fx reserves yoy
5s10s rhs
-0.4
-0.2
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
Liquidity vs. 5y5y
10
15
20
25
30
-10
-5
0
5
20001
Source: Fed and Deutsche Bank
And of course the breakdown in 5y5y between real and inflation reinforces the story that it is the real rate not inflation expectations that drive this result. And
this is again consistent with the risk asset concern that it is the lack of liquidity
that undermines risk assets that in turn drives real yields lower, despite

keeping breakevens relatively inflated. One conclusion is that if investors believe that liquidity is likely to continue to fall one should not sell real yields
but buy them and be more worried about risk assets than anything else. This flies in the face of recent concerns that China's potential liquidation of Treasuries for FX intervention is a Treasury negative and should drive real yields higher. It is possible that if risk assets do very well then maybe the correlation with interest rates is broken. But like all these relationships for us, it
is easier to work with the correlations that currently persist rather than to predict random breaks. And the potential breaks should be more cheaply hedged rather than making for a core portfolio allocation. I.e. cheap SPX calls
based on rates lower. More generally the simple point is that falling reserves
should be the least of worries for rates – as they have so far proven to be since
late 2014 and instead, rates need to focus more on risk assets.



0
5
20001
Source: Fed and Deutsche Bank
Fed plus fx reserves yoy
5y5y bei rhs
20061
20121
0.0
0.5
1.0
1.5
2.0
2.5
3.0
20061
20121
Fed plus fx reserves yoy
5y5y rhs
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
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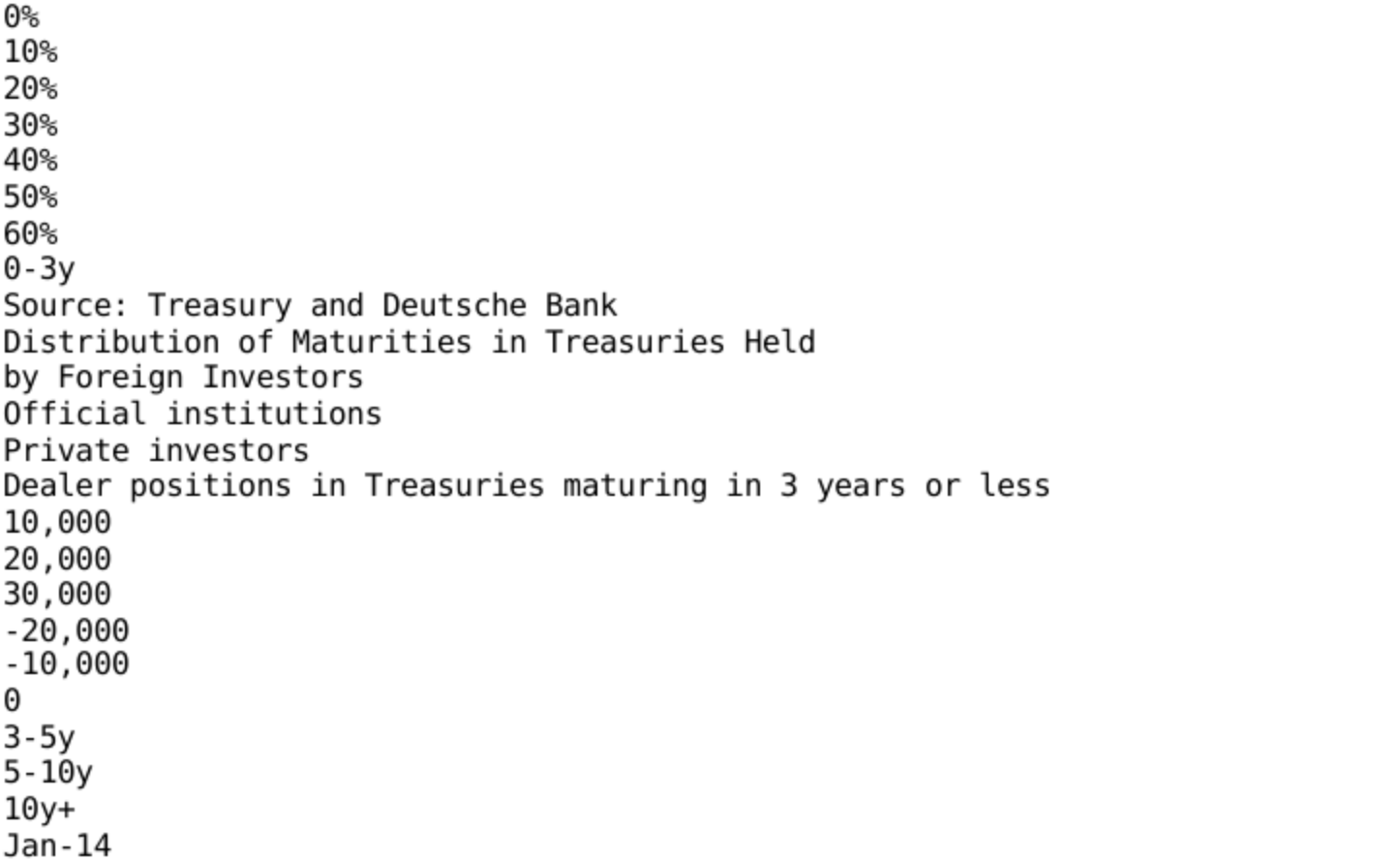
Even without considering the empirical relationships, it is also clear that FX intervention is very much a short term affair. As the chart below shows the recent jump in dealer positions in less than three years is consistent with the Treasury data for 2014 that shows the preponderance of foreign official Treasury holdings is held in the sub 3 year sector. Very little is held in longer dated maturities so any FX intervention is anyway more likely to flatten the yield curve than steepen it.

About 56% foreign official holdings of Treasuries are under three years in maturity



The relationship between central bank liquidity and the byproduct of FX reserve accumulation is clearly central to risk asset performance and therefore interest rates. The simplistic error is to assume that all assets are treated equally. They are not – or at least have not been especially since the crisis. If liquidity weakens and risk assets trade badly, rates are most likely to rally not sell off. It doesn't matter how many Treasury bills are redeemed or USD cash is liquidated from foreign central bank assets, US rates are more likely to fall than rise especially further out the curve. In some ways this really shouldn't be that hard to appreciate. After all central bank liquidity

drives broader measures of liquidity that also drives, with a lag, economic activity. The indicators of excess liquidity (see below) are but derivatives of
central bank liquidity and the bank or ”inside” money multipliers. If liquidity
is tightening relatively to nominal growth, real growth will tend to slowdown later. Right now the message is not good for the OECD, excess liquidity indicators point to real growth losing momentum. The IMF seems to get the picture. China is probably getting the picture but faces the conundrum of how to manage the carry trade unwind with minimal disruption. The grass is definitely though greener if the currency is weaker and they hang onto most of their reserves. Ironically the excess liquidity indicator has recently improved for China although this is as much to do with decelerating nominal growth.
Jul-14
Jan-15
Jul-15
Dealer Net Outright Position:
Govt Coupon Securities,Due 3Yr
or Less(EOP,Mil$)

$ millions

Excess liquidity indicator vs. output: OECD
Excess liquidity indicator vs. output: China
-30%
-20%
-10%
0%
10%
20%
30%
Global excess liquidity yoy +12m lead
OECD output momentum
OECD
-20%
-10%
0%
10%
20%
30%
40%
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16
Source: Bloomberg and Deutsche Bank
China excess liquidity yoy +12m lead
China output momentum
China
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16
Source: Bloomberg and Deutsche Bank

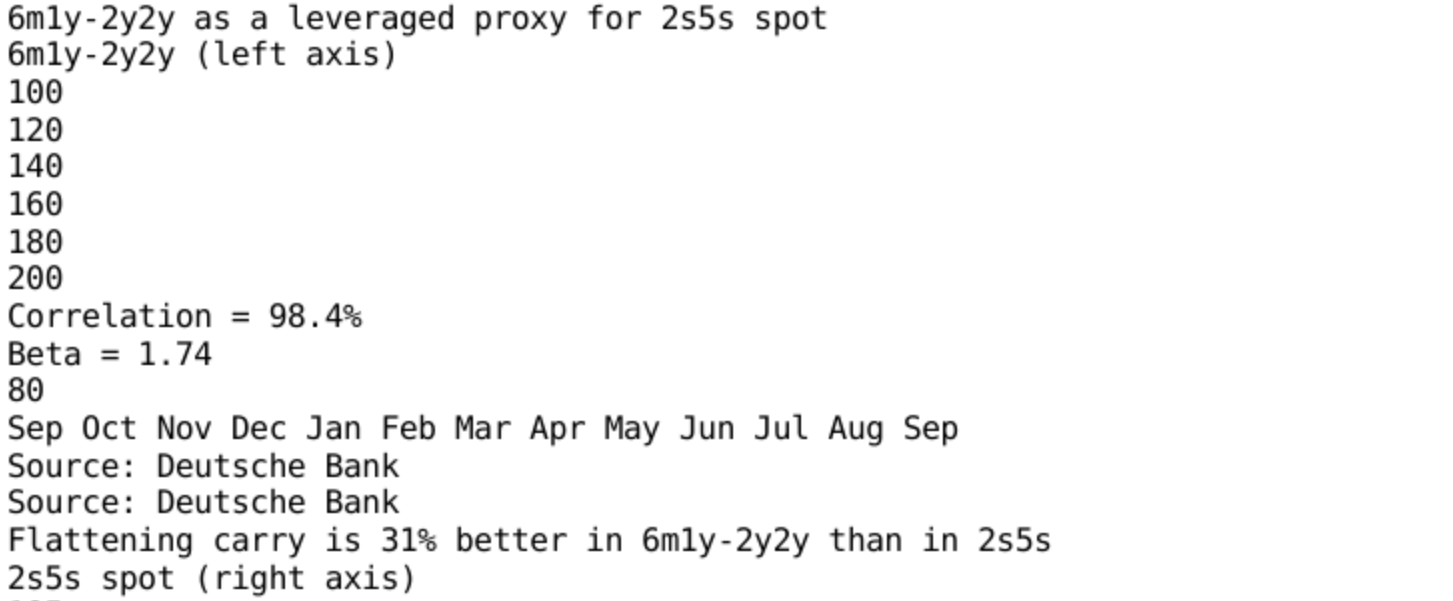
The more sinister undercurrent is that as the relationship between negative rates has tightened with weaker liquidity since the crisis, there is a sense that policy is being priced to “fail” rather than succeed. Real rates fall when central banks back away from stimulus presumably because they “think” they have done enough and the (global) economy is on a healing trajectory. This could be viewed as a damning indictment of policy and is not unrelated to other structural factors that make policy less effective than it would be otherwise -including the self evident break in bank multipliers due to new regulations and capital requirements. Of course our definition of “failure” may also be a little zealous. After all why should equities always rise in value? Why should debt holders be expected to afford their debt burden? There are plenty of alternative viable equilibria with SPX half its value, longevity liabilities in default and debt deflation in abundance. In those equilibria traditional QE ceases to work and the only road back to what we think is the current desired equilibrium is via true helicopter money via fiscal stimulus where there are no independent central banks. One step at a time…

6m1y-2y2y as a carry-efficient flattener

We recommend a 6m1y-2y2y flattener as an optimal carry proxy for USD 2s5s. The 6m1y-2y2y can be thought of a leveraged version of the 2s5s spot: it has a 98% correlation and a beta of 1.74 with the latter over the last 12 months. Because of the 1.74x leverage, the beta-adjusted 3m carry is -2.0bp instead of -2.9bp for 2s5s, a 31% improvement.

This flattener takes advantage of a recent 2.3 standard deviation decline in the (negative) roll for the 6m1y paying leg, which compares to a 1.7 standard deviation decline in the 2y spot. The positive roll for receiving the 2y2y is also more attractive; it had just a 0.5 standard deviation reduction compared to a 0.7 standard deviation reduction in the 5y spot.

Historically, 2s5s flatteners have performed well going into a tightening cycle, with nearly 70 percent of trades put on within three months of the liftoff beating their ex-ante forwards and thus being profitable. The market clearly thinks Friday’s mixed jobs report was not enough to take a September liftoff completely off the table. DEC15 Fed funds future sold off 1.5bp after payrolls, and the implied probability of hiking in September rose slightly from Thursday to 34% at the time of writing. The 2s5s slope also flattened 2.5bp to 71.5bp, but still remains 7bp+ above its 2015 lows. A policy error by the Fed (i.e. hiking more than once this year in spite of declining global liquidity and falling inflation) can easily flatten 2s5s to 50bp or below. The risk to this trade is if the Fed relents in September but we think they will more likely than not do a

“dirty” relent, which is to keep October and December FOMC dates in play. In this case 2s5s could steepen slightly but such a move would be short lived and
limited in magnitude, if not for a hyped expectation of an October liftoff it would be because China’s FX intervention flows continue to exert a flattening pressure on the curve, which we discussed earlier in this note.


1.927
1.94x
3M carry
(bp)
(8.3)
5.3
(2.9)
(15.1)
11.6
(3.5)
1.74
(2.0)
31%
1.00
(2.9)
Beta
adjusted
carry (bp)
Improve
ment
Risk/reward shifting towards paying front end spreads
Front end spread tightening has been considerable given concerns about possible intervention-related selling, and has reached levels we think offer value. At the time of writing the most recent Chinese reserves data have not been released, and markets will naturally be looking for concrete evidence that
intervention-related sales have indeed been material. While this may introduce
event risk into paid positions in spreads, we think risk reward should be biased
toward spread re-widening from current levels.
There are three primary supporting arguments. The first is that China will be increasingly defensive of its reserves, and is more likely to devalue in a larger
increment to discourage new speculation against the RMB and trap speculative capital. A large enough increment should significantly reduce further speculation on the margin and hence reduce the need to liquidate Treasury positions to sell dollars and buy domestic currency.
The second is that there remains some possibility that if the Fed does indeed raise rates (which we think would increase the probability of further devaluation in a lumpy increment) that IOER will have to be set higher than the
top of the desired band for overnight effective funds in order to create adequate incentive for banks to do the “arb” whereby they absorb cash balances in the overnight market and then deposit them at the Fed. Third, both a devaluation and the likely risk-off market environment that would accompany it should bias spreads wider.
If, as remains our central expectation, the Fed does not raise rates, then we would expect speculative pressure against the RMB to decrease somewhat, slowing reserve loss and Treasury liquidation. So even though diminished financial stress might work against spreads in this scenario,

interventionrelated
selling could well decline.
Financing is obviously critical with front end spreads, and this trade is complicated somewhat by high term repo rates relative to LIBOR. The September 2y note, given current levels, is likely to a reopening of the

September 2017 5y note, which means the large issue is unlikely to trade tighter
than GC. We note that as usual this September 2y should be the CTD issue into the December TU contract.
In fact 3m GC has traded at levels above LIBOR as financing markets price defensively for the possibility of a September rate hike. This would effectively
mean borrowing to fund the position at higher rates than offered by the Treasury asset itself. In this case investors are likely better served by rolling
on open rather than locking in term financing. September month/quarter end could see elevated overnight GC levels, which would argue for exiting the trade at or shortly following the FOMC meeting. Naturally the trade is exposed
to further spread tightening, and in theory potential losses are unlimited. However, more pragmatically, financing spreads offer some support against dramatic spread tightening.
Dealer positions in Treasuries maturing in 2 years or less
-10.0
-5.0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
Primary dealer inventory <2 y
Source: Federal Reserve and Deutsche Bank
Did dealer positions tell much about intervention flows in the past?
The concentration of foreign official holdings of Treasuries in the front end of
yield curve suggests foreign reserve losses lead to yield curve flatteners to the
extent that central banks sell their Treasury holdings. Treasury's TIC data shows that about 56% foreign official holdings of Treasuries mature within three years as of June 2014, up from about 48% as of June 2010.
We note that primary dealer positions in short dated coupon Treasuries and TIPS have increased rapidly over the past few weeks. For example, dealer positions in Treasuries maturing in three years and less jumped to $18.6 billion
on August 26; they were as low as -$11 billion in early July. Dealer positions in
short dated TIPS set a record high on August 19.

$ billion

There has been an increased concentration in short dated Treasury holdings by foreign official institutions
Dealer positions in TIPS maturing in less than or equal to 2 years
1,000
2,000
3,000
4,000
5,000
6,000
7,000
-1,000
0
Jan-14
Source: Treasury and Deutsche Bank
Source: Fed and Deutsche Bank
How much did intervention-related flows affect dealer positions in the past? To answer that question, we analyzed Japan's foreign exchange operations in US dollars and dealer positions in short dated coupon Treasuries from 1991 to the present. The most recent operations occurred in 2010 and 2011, when Japan bought US dollars and sold yen. The operations that sold US dollars and bought yen were less frequent and have not occurred since 1998. It was evident that dollar buying foreign exchange operations coincided with a decline in dealer positions in short dated Treasuries, but the effects were not overwhelming.

On a related note, there has been an uptick in PBoC's OMO net injections of funds recently, in the order of CNY215 billion in the second half of August, which came along with the CNY depreciation. Last time when the net injections in this order of magnitude occurred was late February.

Opportunities abound in inflation markets

Volatility in inflation markets has continued along with commodities and equities, creating opportunities for active traders. We like being long front end breakevens in forwards, e.g., one-year breakevens implied by short maturity TIPS, such as the 7/2016s and the 7/2017s, currently trades around 1.3%. One can also hedge out energy prices in that trade to create a synthetic exposure to core CPI. For example, one can use gasoline RBOB futures Dec16 and Dec17, which have higher open interest than neighboring contracts, taking advantage of the contango. The average core CPI over the past ten years is about 1.9%. Only briefly in 2010, did the year-over-year core CPI dipped below 1.0%.

Jul-14
Jan-15
Jul-15
Primary Dealer Positions: TIPS

Due in Less than or Equal to 2 Years (EOP,Mil.$)
Page 18
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$ millions

4 September 2015
US Fixed Income Weekly
Long forward breakevens, either outright or hedged with energy futures
1.0
1.2
1.4
1.6
1.8
2.0
2.2
2/1/15 3/1/15
1y fwd implied BE from 7/15/16 to 7/15/17
1y fwd implied BE from 1/15/17 to 1/15/18
4/1/15
Source: Bloomberg Finance LP and Deutsche Bank
A simpler version of the implied front end forward breakevens is to be long front end breakevens outright. They have lagged oil prices. A regression of five-year TIPS breakevens against oil prices on past six months' data suggests
breakevens are too low by 15bp to 20bp, given the current oil prices. Similarly,
5s/10s breakeven curve appears too steep and have room to flatten relative to oil prices. So the weakness in front end breakevens appears to be more than a function of energy prices. Dealer positions in TIPS maturing in less than or equal to 2 years are at a record high.
Front end TIPS breakevens have lagged oil prices
1.0
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
y = 0.023x + 0.3417
R² = 0.7756
5s/10s breakeven curve appears to have room to flatten
Last 6mos data
9/4/2015
0.15
0.20
0.25
0.30
0.35
0.40
0.45
38 40 42 44 46 48 50 52 54 56 58 60 62
Oil Prices
Source: Bloomberg and Deutsche Bank
5/1/15

6/1/15
7/1/15
8/1/15
9/1/15
Last 6mos data
9/4/2015
y = -0.0073x + 0.6339
R² = 0.5603
36 38 40 42 44 46 48 50 52 54 56 58 60 62
Oil Prices
Source: Bloomberg and Deutsche Bank
5-year inflation basis has recovered, while 30-year inflation basis has done less
well, and remains in the low end of the long term trading range. The 5-year inflation basis traded as low as +13bp in April and has bounced to about +25bp lately. The 30-year inflation basis currently trades about +25bp as well,
having widened from about +18bp in late May. Over the past one year, the spread between the two basis spread has averaged around +6bp. Investors should consider inflation basis steepeners by being long 30-year inflation basis
against 5-year inflation basis.
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Page 19
5yr Breakevens
5s-10s Breakeven Spread

5-year inflation basis has recovered, …
…while 30-year inflation basis has remained in the low end of the long term trading range
0.10
0.15
0.20
0.25
0.30
0.35
0.40
0.45
0.50
Source: Bloomberg and Deutsche Bank
5yr inflation swaps minus TIPS BEs
0.1
0.2
0.3
0.4
0.5
0.6
0.7
Jan-10 Jan-11 Jan-12 Jan-13 Jan-14 Jan-15
30yr inflation swaps minus TIPS BEs
Jan-10 Jan-11 Jan-12 Jan-13 Jan-14 Jan-15
Source: Bloomberg and Deutsche Bank
US CPI-U NSA y/y, actual and forecast
MoM CPI-U, actual and forecast (non-seasonallyadjusted)
-3.0
-2.0
-1.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
Source:
Bureau of Labor Statistics and Deutsche Bank
%Y/Y
Projections
-0.3
-0.2
-0.1
0.0
0.1
0.2
0.3
0.4

0.5
0.6
0.7
Aug-04 Aug-06 Aug-08 Aug-10 Aug-12 Aug-14 Aug-16
Source: Bureau of Labor Statistics and Deutsche Bank
%MoM NSA
Projected
Auction Preview: 3s, 10s, and Bonds
Treasury will sell a total of $58 billion notional securities worth roughly the
same in ten-year cash equivalent through three- and ten-year notes and 30year bond auction next week. The auction will settle on Tuesday, September 15, against an estimated $32 billion of coupon securities on the same day. The
combined customer participation of this set of auction decreased for the third
straight month to 63% from 64.2% in July, but remained above its one-year average of 62.2%. Direct bidders declined to a three-year record low of 7.7% from 11.9% in July (1yr avg. 12.3%). However, indirect bidders took down 55.3% of the supply up from July's 52.2%, and beat the average 49.9% for the seventh month in a row.
3-year note
Indirect bidder participation increased to 52.8% from July's 47.7%, above the one-year average of 45.7% in every month since last December. However,

direct bidders dropped to 8.2% from 13.9% in July (12.3% average). The combined customer participation of 61.0% was close to the 61.6% in July and remained above its one-year average 58% for the sixth straight month. Allotments share to investment funds rose to a record 45.3% from July's 38.9%, and compares with the one-year average of 35.4%. However, the allotments share to foreign and international investors dropped to 13.5% from July's 20.1%, and was soft as compared to the average 19.2% for the first time
since April. The bid-to-cover ratio bounced back to 3.34 from 3.16 in July, above the average of 3.29. The auction stopped on the screws for the second straight month.
Dealer positioning in two- to three-year Treasuries increased by $1.6 billion from the last auction to $1billion as of August 26.
3-year note auction statistics

Size ($bn)	Primary Dealers	Direct Bidders	Indirect Bidders	Cover Ratio
1yr Avg $24.8				
Aug-15 $24.0	42.0%	12.3%	45.7%	3.29
Jul-15 $24.0	39.0%	8.2%	52.8%	3.34
Jun-15 $24.0	38.4%	13.9%	47.7%	3.16
May-15 $24.0	39.6%	9.7%	50.7%	3.33
Apr-15 $24.0	35.7%	11.6%	52.7%	3.34
Mar-15 $24.0	39.5%	11.1%	49.4%	3.25
Feb-15 $24.0	40.5%	8.0%	51.4%	3.33
Jan-15 $24.0	43.9%	7.2%	48.9%	3.34
Dec-14 $25.0	39.4%	14.8%	45.8%	3.33
Nov-14 $26.0	47.7%	10.1%	42.2%	3.24
Oct-14 $27.0	47.1%	15.2%	37.7%	3.18
Sep-14 $27.0	47.0%	17.4%	35.5%	3.42

46.6% 20.3% 33.1% 3.17
Source: US Treasury and Deutsche Bank
10-year note
Indirect bidder participation increased to 60.1% from July’s 58.1%, beating its
one-year average of 54.9% for the seventh straight month. Direct bidders took down 5.8% of the supply, their lowest of the last three years and compares with the average 11.1%. The combined customer participation declined to 66% from 70.2% in July, in line with the one-year average. The allotments share to
investment funds decreased to 41.3% from 45.3% of the auction in July, but was still above its one-year average 40.1%. However, foreign and international
investor share increased to 22.7% from July’s 21.7%, a touch below the average 23.0%. The bid-to-cover ratio fell to 2.40 from July’s 2.72, the lowest
since March 2009, and well below the average of 2.65. The auction tailed by 0.8bp for the first time in the last seven months.
Dealer net shorts in seven-to eleven-year Treasuries increased by $1.8 billion
from around the last auction to $3.9 billion as of August 26.
Stop-out
Yield
1.013
0.932
1.125
1.000
0.865
1.104
1.050
0.926
1.066
0.998
0.994
1.066
1PM WI
Bid
1.013
0.933
1.124
1.005
0.866
1.110
1.056
0.933
1.066
0.997
0.997
1.064
BP Tail
-0.2

0.0
0.0
0.1
-0.5
-0.1
-0.6
-0.6
-0.6
0.0
0.1
-0.3
0.2
Deutsche Bank Securities Inc.

10-year note auction statistics
Size
($bn)
Primary
Dealers
Direct
Bidders
Indirect
Bidders
Cover
Ratio
1yr Avg $ 22.0 34.0% 11.1% 54.9% 2.65
Aug-15 $ 24.0 34.0% 5.8% 60.1% 2.40
Jul-15 $ 21.0 29.8% 12.1% 58.1% 2.72
Jun-15 $ 21.0 30.0% 12.1% 57.9% 2.74
May-15 $ 24.0 18.9% 20.9% 60.2% 2.72
Apr-15 $ 21.0 32.2% 9.3% 58.5% 2.62
Mar-15 $ 21.0 31.2% 10.2% 58.6% 2.65
Feb-15 $ 24.0 27.8% 12.7% 59.5% 2.62
Jan-15 $ 21.0 40.8% 9.2% 50.0% 2.61
Dec-14 $ 21.0 39.3% 6.9% 53.8% 2.97
Nov-14 $ 24.0 42.0% 13.4% 44.7% 2.52
Oct-14 $ 21.0 49.0% 6.6% 44.4% 2.52
Sep-14 $ 21.0 33.5% 13.5% 53.0% 2.71
Source: US Treasury and Deutsche Bank
30-year bond
Direct bidder participation increased to 9.9% of the supply from 8.1% in July, but still below the one-year average of 14.4%. Indirect bidders took down 51.9% in August, almost unchanged from July and beat their one-year average of 49.4% for the seventh straight month. The combined customer participation increased to 61.8% from 59.2% in July, but remained below its one-year average of 63.8% for the second straight month. Allotments share to investment funds declined to 48.1% from 49.1% in July, below the one-year average of 48.5% for the first time in the last four months. The allotments share to foreign and international investors increased to 11.4% from 7.7% of the auction in July, but remained below the average of 12.5%.The bid-to-cover ratio of 2.26 was almost the same as in July and compares with the average 2.36. The last auction tailed by 2.2bp, the most in the last five refunding auctions.
Dealer net longs in more than eleven-year Treasuries increased by $1.1 billion to $12.6 billion over the week ended on August 26
30-year bond auction statistics
Size
($bn)

Primary
Dealers
1yr Avg $14.0
Direct
Bidders
Indirect
Bidders
Cover
Ratio
36.2% 14.4% 49.4% 2.36
Aug-15 $ 16.0 38.2% 9.9% 51.9% 2.26
Jul-15 $ 13.0 40.8% 8.1% 51.1% 2.23
Jun-15 $ 13.0 33.6% 14.4% 52.0% 2.54
May-15 $ 16.0 38.0% 11.1% 50.8% 2.20
Apr-15 $ 13.0 41.8% 7.0% 51.3% 2.18
Mar-15 $ 13.0 36.6% 11.6% 51.9% 2.18
Feb-15 $ 16.0 35.1% 15.5% 49.4% 2.26
Jan-15 $ 13.0 37.4% 13.7% 48.9% 2.32
Dec-14 $ 13.0 25.9% 24.3% 49.8% 2.76
Nov-14 $ 16.0 42.5% 13.8% 43.8% 2.29
Oct-14 $ 13.0 32.2% 21.5% 46.2% 2.40
Sep-14 $ 13.0 32.8% 21.8% 45.5% 2.67
Source: US Treasury and Deutsche Bank
2.880
3.084
3.138
3.044
2.597
2.681
2.560
2.430
2.848
3.092
3.074
3.240
2.858
3.070
3.149
3.023
2.567
2.662
2.555
2.411
2.872
3.078
3.071
3.261
Stop-out
Yield
1PM WI
Bid

BP Tail
0.8
2.2
1.4
-1.1
2.1
3.0
1.9
0.5
1.9
-2.4
1.4
0.3
-2.1
Stop-out
Yield
2.115
2.225
2.461
2.237
1.925
2.139
2.000
1.930
2.214
2.365
2.381
2.535
1PM WI
Bid
2.107
2.232
2.473
2.256
1.928
2.147
2.011
1.917
2.217
2.37
2.366
2.532
BP Tail
-0.2
0.8
-0.7
-1.2
-1.9
-0.3
-0.8
-1.1

1.3
-0.3
-0.5
1.5
0.3

4 September 2015
US Fixed Income Weekly
United States
Credit
HY Strategy
IG Strategy
US Credit Strategy

Volatility This High Tends To Last

Aftershocks lasting for weeks/months usually follow spikes like this

As the dust from initial shake-up in global risk assets last week began to settle, markets turned to soul-searching. Was that a flash crash or not? How much did poor summer liquidity contribute? What part did new regulations play? Did markets “overreact”, or was the move supported by deteriorating macro fundamentals? Will the Fed hike or do QE4? Rarely did opinions appear to vary this greatly over such a wide set of important issues.

The extent of volatility was of course incredible. From a 7x sigma move in equities and all-time high change in vol of vol on Monday, to 700pts of total travel distance by S&P500 during the week, to four consecutive days of 6xplus sigma moves in oil, recent trading sessions were nothing short of extraordinary. One particular development that gained some attention but still lacks proper appreciation by the market, in our view, is a failure to price dozens of equity ETFs on last Monday opening, a development that could have long-lasting repercussions for this $2trln AUM industry. As it often happens, this surprise development exposed how far off the reality perceptions stood on the topic of liquidity. Whereas so many pundits predicted the day when HY/IG ETFs will fail to clear, plain-vanilla equity ETFs failed to do so, while no issues were reported in credit space.

The VIX index has closed at above 30pts for three days in a row early last week, and returned there this Tuesday. The significance of this level comes from historical experience shown in two graphs on the right. Here, for the sake of better readability, we have broken down its time series to 1997-2003 and 2007-2011, and highlighted the 30pt level with a red line (2004-2006 and 20122015 are omitted as the index never reached 30pts in those years). The graphs seem to suggest that once volatility jumps to 30pts on the VIX scale, it tends to stay there for at least a few weeks or even months, with a total of seven distinct periods confirming this observation.

The only exceptions that happened during the past 20 years have taken place in early 2000 and late 2007/early 2008. So technically speaking, even periods of quick reversal from a 30pt VIX levels have previously proven to be prescient indicators of more volatility to come down the road. We would thus caution our readers not to be too quick in dismissing what happened over the past two weeks as simple “overreaction”. We explore the volatility angle of this developing story in greater detail on the following pages.

In the credit world, spreads have naturally widened during this past week, albeit to a much lesser extent than what would have been expected given the volatility in equities. Our DM USD HY index has widened initially from 550bp earlier last week to 600 by Monday, and then retraced most of that range, closing at 566. In IG, the identical range was 157 – 165 – 163. Negative fund flows have reemerged in credit, with EPFR showing $5bn out of HY last week, the sevenths-largest reading on record. Combined HY outflows since June have claimed $18bn, compared to a $38bn withdrawal in 2H 2014. The takeaway here is that HY market's ability to offset outflows was poorer in this
episode compared to 2H 2014, as evidenced by a similar degree of widening (+130bp last 3 mo vs +150bp in 2014) on half the size of outflows.

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Figure 1: VIX index 1997-2003

VIX index 2006-2011

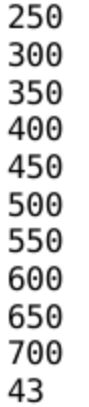
Following the recent moves across asset classes, our relative value models are showing HY as being 50-75bp tight to IG, and 75-85bp tight to implied volatility in equities, FX, and rates. Additionally, we estimate that HY bonds are trading about 65bps wide relative to their equity valuations, as shown in Figure 2 below. In other words, equities still appear to be the most overpriced asset in our relative valuation framework.

To arrive at our relative equity-vs-HY signal, we take all public HY issuers with a minimum of $1bn of debt outstanding and Total Debt/Enterprise Value ratio in the rage of 20% - 85%. The cutoff points here are used to exclude lowlevered names with little meaningful spread sensitivity to equity values, and those deeply distressed names with D/EVs approaching 100%. Live equity valuations are reflected in this calculation as components of enterprise value.

We then aggregate these values up to a market level and apply total debt weights capped at 2% to each issuer D/EV metric. On the bond side, we take 5yr benchmark-sized most recently issued senior unsecured bond spread levels, and aggregate them up using the same weighting methodology. The resulting combination provides a clean view of relative bond-vs-equity valuations adjusted for leverage and matched issuer-by-issuer. Each dot on the scatter plot represents a weekly observation going back to Jan 2010. Our sample includes only about 120 issuers, given the restrictions on bond liquidity/-issuer size described above.

At current levels, spreads in are about 65bps wide to respective debt/EV readings, or equity valuations adjusted for leverage.

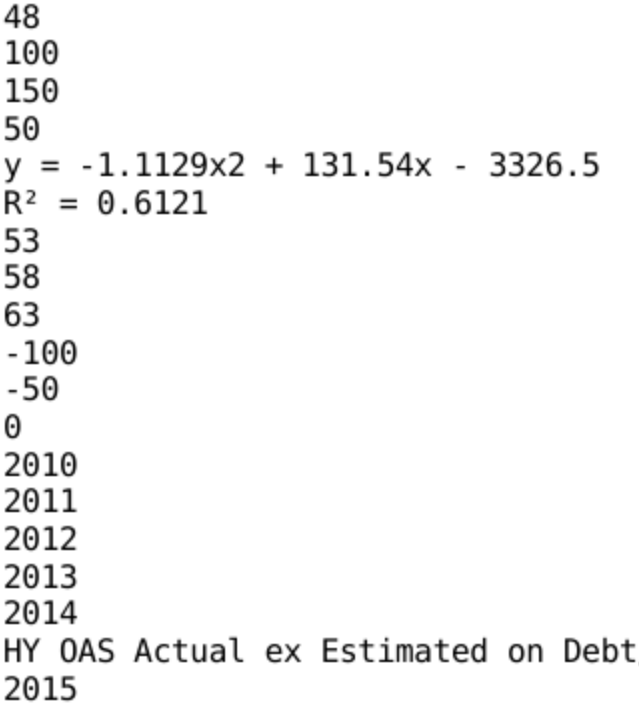
Figure 2: US HY Issuer spreads vs Debt/Enterprise Ratio, combined for the market, total-debt weighted



Source: Deutsche Bank

Other measures of relative value we have recently introduced, the proportion of distressed issuers in HY stood at 18.3% in US, versus 23.6% in EM following market repricing. Our argument here remains that this differential should be

substantially wider (more EM names trading distressed vs US), given that EM HY market has twice as much weight in commodity names relative to US. Furthermore, our GDP-weighted basket of EM currencies devalued further in recent days, losing 2% since Aug 21, and bringing the cumulative devaluation in EM to 41% since a year ago. This factor is important in two respects: (a) it
points to potential headwinds many EM corp issuers are facing in servicing their USD denominated debt; and (2) currencies continued to devalue even over the past week on top of extreme weakness going into it. As we have



shown in our last report, issuers in many important EM domiciles, such as Chile, Mexico, Brazil, Indonesia, Russia, and Turkey have more than half of their total debt denominated in external currencies, predominantly in USD. It is also important to keep in mind that China's corporates have the lowest external debt burden of all major EM countries, at less than 20%. The focus thus should not be just China, but a potential for spillovers to the rest of EM.

Finally, we have suggested that some EM IG commodity names are still trading tight, in our opinion, given the prevailing macro environment. Following the market repricing last week, all these names are now trading meaningfully wider, including Pemex at 255bp (+25bp), Ecopetrol at 375 (+15), Vale at 310 (+20), Codelco at 235 (+20). While we view this move as one in the right direction, it still falls short of where it needs to be in this environment. In all cases, these EM names are trading roughly in line with US-domiciled issuers in the same industries with similar leverage, something that is unsustainable longer-term, in our opinion. We note that EM oil names have traded wider in the past week even in the face of a net 15% rebound in oil prices. Additionally, three largest Brazilian banks – Banco do Brasil, Bradesco, and ITAU – are all trading in the 450-500bp spread range, while all being technically rated as IG at this point1. We view these levels as incompatible with being IG in the longer run, particularly for a financial institution, relying heavily on its ability to access capital markets.

Volatility risk premia

Because the VIX has breached a level of 30 so rarely over the past decade, we looked to expand the number of recent historical parallels to last week's equity market shock through an alternative measure of implied vol relative to the level of volatility actually experienced in the market over the prior year. What we find is that such shocks tend to involve an extended period of market choppiness that runs its course over a period measured in weeks and months, not in days.

The implied-vs-realized vol measure is considered to be a proxy for the volatility risk premium that rises and falls based upon investor risk version2 expectations that volatility might break out from trend levels. In the years leading up to the financial crisis of 2008, for example, realized volatility was substantially lower than it is today, which created a lower threshold for implied volatilities to signal extreme levels of investor fear. Similarly, amid the choppiness of the equity markets during the period immediately after the 2008 financial crisis, implied volatilities remained high on an absolute basis but were

actually lower than the trend at the time, suggesting an improvement of market conditions.

Looking most recently, implied volatility on three-month, at-the-money SPX options reached a level that was nearly double the level of realized volatility
over the past 12 months, and has since settled into a 50% premium. The table shown here lists the ten prior episodes when the ratio of 3m ATM implied to 12m realized volatility exceeded 1.5x, as well as the number of days that implied vols remained above the equity market performance over the episode. (We measure equity performance beginning a week before the day when the vol risk premium rose above 1.5x against the low print on the S&P 500 over the episode.) One observation is that these episodes are associated with an average decline in the S&P index of 12%, or if the 2007-8 crisis episodes are

1 ITAU is a five-B split-rated issuer.

2 See, for example, http://www.bis.org/publ/qtrpdf/r_qt1409v.htm

and

Figure 3: High vol premium episodes

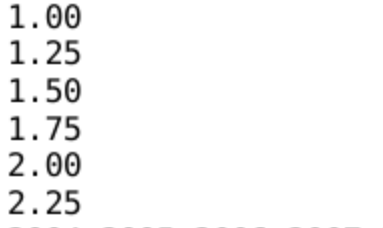
Start	Length	S&P Drop	Days to S&P Low
Jul ‘04	17	-3%	17
Feb ‘07	57	-5%	22
Jun ‘07	6		
Oct ‘07	83		
Oct ‘08	110		
May ‘06	57		
May ‘10	57		
Aug ‘11	66		
Oct ‘14	45		
Dec ‘14	110		
Aug ‘15	45		
Avg	66		
ex '07-8	57		
	10		
	50		
	12		
	50		
	38		

Source: Deutsche Bank

-6% 6
-8% 50
-16% 95
-35% 44
-15% 57
-17% 62
-5% 5
-5% 5
-11% 4
-12% 36
-8% 25

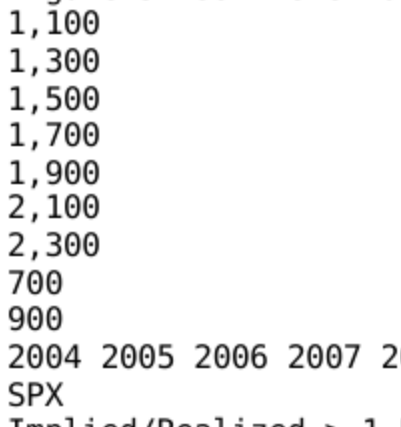
removed, 8%. This puts the current episode's maximum decline of 11% in good company with historical episodes. But other aspects of the historical record suggest that we may not out of the woods yet. For one, previous episodes of shocks to the volatility risk premium tend to last substantially longer than two weeks; they take an average of 50 days, or 38 days if the crisis-era episodes are excluded. (While there are some previous examples of "short" vol shocks in early 2007 and October 2014, these might be more appropriately viewed as early warning indicators for more extended periods of high volatility, and less as standalone examples.) Also, the equity markets have
tended to hit rock bottom during these episodes an average of 30 days or so after implied volatility rises. The S&P 500 hit its low just four days after the vol
shock, which seems out of line with historical patterns.

Figure 4: Equity implied volatility relative to realized vol



Source: Deutsche Bank

Figure 5: S&P level during elevated volatility episodes



Source: Deutsche Bank

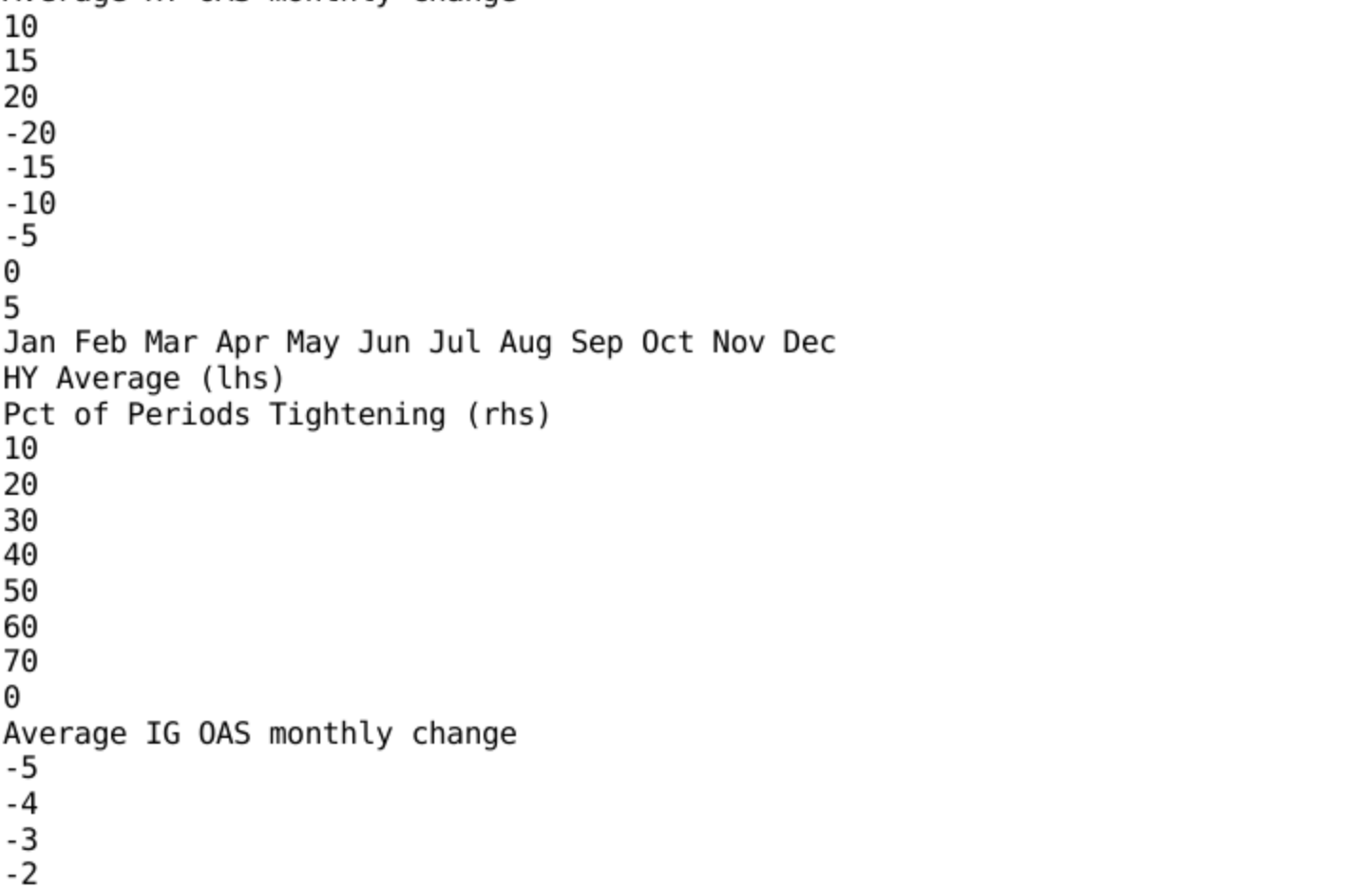
The shock to the VIX index can be attributed to three inter-related measures of
equity volatility: the general level of at-the-money volatility relative to the trend
of realized volatility, the premium for options expiring in the near-term (1m)
relative to somewhat longer-expiry (3m) options, as well as the premium for out-of-the-money strikes over at-the-money strikes. An additional way to measure the magnitude of last week's equity market shock is to consider the elevated level of volatility risk premium, measured here as the degree to which

option-implied volatility exceeds realized volatility. Finally, it’s worth observing
that credit markets are also participating in these developments. The impliedto-realized
ratio on the CDX indices is also elevated, sitting in the 90thh percentile over the last 3.5 years for 1m options on IG CDX, while the equity risk premium is in the 99th percentile over the same period.

Conclusions

Overall, we find market moves over the past week were in line with our expectations, directionally, although their speed, volatility, and reversals were
certainly as much a surprise to us as they were to most other investors. We thought equities and other risk asset classes were much closer to what we perceive to be fair value at their bottom last Tuesday than they were following
a retracement. Developments in China could have significant repercussions for broader EM universe, and we don’t find EM credit spreads to be properly reflecting those consequences. We see main risks associated with EM credit assets being forced to re-price more substantially and having second-order effects on US credit markets. Additionally, historical evidence suggests that periods of extreme volatility similar to those witnessed over the past few sessions tend to exhibit propensity for aftershocks, usually lasting for weeks if
not months.

Figure 6: Seasonality trends in HY/IG



-1
0
1
2
3
4
5
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
IG Average (lhs)
Pct of Periods Tightening (rhs)
Source: Deutsche Bank
10
20
30
40
50
60
70
80
0

In terms of relative value we find IG to be priced most attractively here, although this is unlikely to prevent it from widening in absolute terms, if broad market volatility persists. A +120bp repricing in HY over the past three months has moved valuations closer to reality, in our opinion, although it continues to trade 50-75bp tight to IG, and 75-85bp tight to implied volatility in equities, FX, and rates. At the same time HY is trading 65bp wide to a basket of issuermatched equities adjusted for leverage (via debt/EV ratios), and this still suggests to us further vulnerability in broader equity space. Finally, September is the last month of the May-Sept seasonally-weak stretch in credit (Figure 3).

Our targets in US credit thus remain 650bp all-in HY and 575bp ex-energy (+85bp and +70bp from here respectively), and 170bp in IG (+6bp).

The Fed

Last week's volatility naturally triggered a discussion whether the Fed is going to be able to proceed with its intentions to raise rates in the near future. Earlier voices and opinions on this matter seemed to side on with the view that it is unlikely to be able to do so, and interest rate derivatives have shown a substantially lower probability of the move in September. And yet Fed speakers who had a chance to react to recent events publicly recently have mostly sided with the narrative that while additional level of uncertainty has been introduced by recent volatility, the initial move in September, and even October, are still very much on the table. As a result, the forwards were still pricing in three full, and potentially four rate hikes before Dec 2016, and the 2yr Treasury yield was at 72bp, or 3bp away from its 2015 highs, at the time of this writing.

This reaction is not surprising to us, as we have expressed our opinion that the bar is set very high for the Fed to pull the plug on its intentions to raise rates later this year. We continue to believe that it would take a lot more than S&P500 at 5% below its average level in 2015, where it stands today, for the Fed to seriously consider changing its plans. We would have to see more volatility and more negative (and sustained) reaction in US markets before the Fed is forced to step back. And while this view almost creates a breeding ground for more

volatility, it
also sets the stage for its eventual undoing as the risk of Fed weighing in
against
the market weakness will remain ever more present in coming weeks and months.
The full list of our existing and past trade recommendations is available
under
https://gm.db.com/welcome.html >> Legal >> US Credit Strategy.

4 September 2015
US Fixed Income Weekly
Chart Pack
DB Treasury Yield Forecasts
2Y
2015 Q3
2015 Q4
2016 Q1
2016 Q2
0.75
1.15
1.20
1.20
Source: Deutsche Bank
Note: Forecasts reflect expectations for end-of-period.
5Y
1.60
1.90
2.00
2.25
10Y
2.25
2.45
2.75
3.00
30Y
2.95
3.10
3.15
3.25
2-3-5 butterfly, 50/50 weight, long bullet
20
Butterfly 2-3-5
-100
-80
-60
-40
-20
0
03 04 05 06 07 08 09 10 11 12 13 14 15
Source: Deutsche Bank
2-5-10 butterfly, 50/50 weight, long bullet
Butterfly 2-5-10
10
20
30
40
-40
-30
-20
-10

0
03 04 05 06 07 08 09 10 11 12 13 14 15
Source: Deutsche Bank
5-10-30 butterfly, 50/50 weight, long bullet
15
25
35
45
55
-15
-5
5
02 03 04 05 06 07 08 09 10 11 12 13 14
Source: Deutsche Bank
Butterfly 5-10-30
2-10-30 butterfly, 50/50 weight, long bullet
Butterfly 2-10-30
100
120
20
40
60
80
-20
0
03 04 05 06 07 08 09 10 11 12 13 14 15
Source: Deutsche Bank
5-7-10 butterfly, 50/50 weight, long bullet
10
Butterfly 5-7-10
-12
-10
-8
-6
-4
-2
0
2
4
6
8
Sep-12 Mar-13 Sep-13 Mar-14 Sep-14 Mar-15 Sep-15
Source: Deutsche Bank

4 September 2015
US Fixed Income Weekly
2-5-10 butterfly (PCA 65.88% and 34.12% risk on the wings)
5-10-30 butterfly (PCA 34.92% and 65.08% risk on the wings)
18
24
30
36
42
48
54
60
Sep-13
Source: Deutsche Bank
Butterfly 2-5-10
-15
Butterfly 5-10-30
-20
-25
-30
Mar-14
Sep-14
Mar-15
Sep-15
Sep-13
Source: Deutsche Bank
Mar-14
Sep-14
Mar-15
Sep-15
2-10-30 butterfly (PCA 26.14% and 73.86% risk on the wings)
-26
-22
-18
-14
-10
-6
-2
2
6
Sep-13
Source: Deutsche Bank
Mar-14
Butterfly 2-10-30
Sep-14
Mar-15
Sep-15
Deutsche Bank Securities Inc.

4 September 2015
US Fixed Income Weekly
30Y Treasury yield seasonals (Change since Jan-1)
2005-2014
-50
-30
-10
10
30
50
70
Source: Deutsche Bank
5Y Treasury yield seasonals (Change since Jan-1)
2005-2014
15
25
-45
-35
-25
-15
-5
5
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Source: Deutsche Bank
2Y/5Y slope seasonals (Change since Jan-1)
2005-2014
10
15
-25
-20
-15
-10
-5
0
5
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Source: Deutsche Bank
Source: Deutsche Bank
1997-2014
1997-2014
2015
10Y Treasury yield seasonals (Change since Jan-1)
2005-2014
12
22
32
42
-48
-38
-28
-18

-8
2
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Source: Deutsche Bank
2015
2Y Treasury yield seasonals (Change since Jan-1)
2005-2014
15
25
-35
-25
-15
-5
5
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Source: Deutsche Bank
1997-2014
2015
2Y/10Y slope seasonals (Change since Jan-1)
2005-2014
10
20
30
40
-30
-20
-10
0
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1997-2014
1997-2014
1997-2014
2015
2015
2015

4 September 2015
US Fixed Income Weekly
2Y/30Y slope seasonals (Change since Jan-1)
2005-2014
12
22
32
42
52
62
-28
-18
-8
2
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Source: Deutsche Bank
5Y/30Y slope seasonals (Change since Jan-1)
2005-2014
10
20
30
40
50
-10
0
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Source: Deutsche Bank
30Y swap spread seasonals (Change since Jan-1)
2005-2014
1997-2014
-27
-22
-17
-12
-7
-2
3
8
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Source: Deutsche Bank
1997-2014
1997-2014
2015
5Y/10Y slope seasonals (Change since Jan-1)
2005-2014
12
17
22
27
-8
-3

2
7
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Source: Deutsche Bank
2015
10Y/30Y slope seasonals (Change since Jan-1)
2005-2014
12
17
22
27
-3
2
7
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Source: Deutsche Bank
2015
10Y swap spread seasonals (Change since Jan-1)
2005-2014
-9
-7
-5
-3
-1
1
3
5
7
Source: Deutsche Bank
1997-2014
1997-2014
1997-2014
2015
2015
2015
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

4 September 2015
US Fixed Income Weekly
5Y swap spread seasonals (Change since Jan-1)
2005-2014
-4
-2
0
2
4
6
8
Source: Deutsche Bank
Source: Deutsche Bank
S&P Index seasonals (Change since Dec-31)
2005-2014
-10%
-8%
-6%
-4%
-2%
0%
2%
4%
6%
8%
Source: Deutsche Bank
Source: Deutsche Bank
5Y10Y Implied vol seasonals (Change since Dec-31)
2005-2014
-7
-5
-3
-1
1
3
5
7
Source: Deutsche Bank
1997-2014
1997-2014
2015
3M10Y Implied vol seasonals (Change since Dec-31)
2005-2014
10
15
20
25
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
-20
-15
-10

-5
0
5
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1997-2014
1997-2014
2015
2Y swap spread seasonals (Change since Jan-1)
2005-2014
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
-12
-10
-8
-6
-4
-2
0
2
4
6
8
1997-2014
2015
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
2015
2015
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

4 September 2015
US Fixed Income Weekly
30Y Treasury roll business days from auction
2.875% 08/45
-2.7
-2.3
-1.9
-1.5
-1.1
-0.7
-0.3
0.1
0.5
0.9
1.3
1.7
0
20
Source: Deutsche Bank
Source: Deutsche Bank
7Y Treasury roll business days from auction
1.875% 08/22
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
0
10
Source: Deutsche Bank
Source: Deutsche Bank
3Y Treasury roll business days from auction
1.000% 08/18
0.5
0.9
1.3
1.7
2.1
2.5
2.9
3.3
3.7
4.1
4.5
0
10
Source: Deutsche Bank
Source: Deutsche Bank
1.125% 06/18

0.875% 07/18
1.000% 05/18
2Y Treasury roll business days from auction
0.625% 08/17
20
30
40
Bus iness days from the auction date
50
60
-0.3
0.2
0.7
1.2
1.7
2.2
2.7
3.2
3.7
4.2
4.7
0
10
0.625% 06/17
2.125% 06/22
2.000% 07/22
1.875% 05/22
5Y Treasury roll business days from auction
1.375% 08/20
1.625% 06/20
2.500% 02/45
3.000% 05/45
3.000% 11/44
10Y Treasury roll business days from auction
2.000% 08/25
-2.0
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
2.5
40
60
80
Bus iness days from the auction date
100
120

0
20
2.000% 02/25
2.125% 05/25
2.250% 11/24
40
60
80
Bus iness days from the auction date
100
120
20
30
40
Bus iness days from the auction date
50
60
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
0
10
20
30
40
Bus iness days from the auction date
50
60
1.625% 07/20
1.500% 05/20
0.625% 07/17
0.625% 05/17
20
30
40
Bus iness days from the auction date
50
60

4 September 2015
US Fixed Income Weekly
Top 15 USD Flatteners
Top 15 USD Steepeners
Rank Trade 1y Carry Imp. Vol Ratio Percentile Min 25th Median 75th Max
1
2
3
4
5
6
7
3M 1Y2Y
6M 1Y2Y
3.3
1.1
3M 1Y3Y -2.6
6M 1Y3Y -4.7
1Y 1Y2Y -3.4
3M 1Y5Y -10.8
6M 1Y5Y -13.2
8 3M 20Y25Y -1.3
9
3M 1Y7Y -20.5
10 1Y 1Y3Y -9.4
11 3M 2Y3Y -5.9
12 6M 1Y7Y -22.4
13 6M 2Y3Y -5.9
14 3M 3Y5Y -8.1
15 6M 3Y5Y -8.5
Source: Deutsche Bank
Top 15 EUR Flatteners
Rank Trade 1y Carry Imp. Vol Ratio Percentile Min 25th Median 75th Max
1
2
3
4
5
6
7
8
9
3M 2Y3Y
6M 2Y3Y
1Y 2Y3Y
6.6
6.0
5.2
3M 2Y5Y 13.3
6M 2Y5Y 12.2
1Y 2Y5Y 10.3

6M 3Y5Y
6.2
10 3M 3Y5Y
11 1Y 3Y5Y
3M 2Y7Y 15.5
6M 2Y7Y 14.0
6.6
5.1
12 1Y 2Y7Y 11.3
13 6M 3Y7Y
14 3M 3Y7Y
15 1Y 3Y7Y
7.9
8.8
6.1
Source: Deutsche Bank
Top 15 JPY Flatteners
Rank Trade 1y Carry Imp. Vol Ratio Percent Min 25th Median 75th Max
1
2
3
4
5
6
7
8
9
1Y 2Y3Y
6M 2Y3Y
1Y 2Y5Y
3M 2Y3Y
6M 2Y5Y
3.8
4.5
7.9
5.4
9.0
1Y 1Y5Y 10.9
3M 2Y5Y 10.0
6M 1Y5Y 12.1
1Y 1Y3Y
10 6M 1Y3Y
11 1Y 2Y7Y
12 1Y 3Y5Y
6.8
7.5
9.7
4.0
13 3M 2Y7Y 12.2
14 6M 2Y7Y 11.1
15 1Y 1Y7Y 12.7

Source: Deutsche Bank
4.3
5.6
11.4
8.2
15.2
19.6
18.3
23.2
13.4
14.9
20.0
8.4
25.6
23.2
27.2
0.9
0.8
0.7
0.7
0.6
0.6
0.5
0.5
0.5
0.5
0.5
0.5
0.5
0.5
0.5
99
86
83
72
63
54
59
50
57
53
58
55
55
54
46
-1.4 0.1
-1.7 0.2
-1.6 0.1
-1.4 0.1
-1.8 0.1

-1.8 0.3
-1.5 0.1
-2.0 0.3
-1.8 0.2
-1.9 0.2
-1.6 0.1
-1.4 0.0
-1.8 0.1
-1.8 0.1
-1.8 0.3
0.5
0.5
0.5
0.4
0.5
0.5
0.5
0.5
0.5
0.5
0.4
0.4
0.4
0.4
0.5
0.6 1.0
0.7 1.7
0.6 1.2
0.7 2.1
0.7 1.6
0.7 1.4
0.7 2.4
0.7 1.9
0.7 1.9
0.7 2.9
0.6 1.1
0.6 1.2
0.6 2.0
0.6 1.5
0.6 1.2
9.4
9.3
9.5
28.0
26.0
24.4
16.9
44.3
40.5
19.3
15.5

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37.7
31.8
35.6
29.5
0.7
0.6
0.5
0.5
0.5
0.4
0.4
0.3
0.3
0.3
0.3
0.3
0.3
0.2
0.2
73
72
74
69
70
75
72
67
70
69
78
76
76
70
80
-2.0 -0.3 0.3
-1.7 -0.3 0.2
-1.2 -0.2 0.2
-1.8 -0.4 0.1
-1.5 -0.3 0.1
-1.1 -0.3 0.1
-1.2 -0.3 0.1
-1.8 -0.4 0.1
-1.4 -0.3 0.1
-1.3 -0.3 0.1
-1.0 -0.3 0.1
-1.0 -0.3 0.1
-1.1 -0.4 0.0
-1.4 -0.4 0.0
-0.9 -0.3 0.0
0.7 3.7
0.7 2.4
```

```
0.6 1.5
0.6 3.0
0.5 1.8
0.4 1.3
0.4 1.2
0.5 2.9
0.4 1.6
0.4 1.4
0.3 1.0
0.3 1.1
0.2 1.0
0.3 1.4
0.2 0.8
17.9
17.3
30.4
29.2
14.5
45.2
44.3
3.6
53.3
24.3
13.9
52.3
13.3
18.4
18.8
0.2
0.1
-0.1
-0.2
-0.2
-0.2
-0.3
-0.4
-0.4
-0.4
-0.4
-0.4
-0.4
-0.4
-0.4
-0.4
20
15
15
15
13
17
20
57
```

17
16
17
20
20
28
32
-1.7 0.3
-1.4 0.3
-1.5 0.2
-1.3 0.1
-1.5 0.2
0.7
0.6
0.5
0.5
0.6
-1.6 -0.1 0.4
-1.5 -0.1 0.4
1.1 4.2
1.1 4.5
0.9 3.9
0.9 4.0
1.0 4.6
0.8 4.2
0.7 3.9
-2.5 -0.7 -0.4 -0.1 1.7
-1.8 -0.2 0.2
-1.6 -0.1 0.5
-1.9 -0.3 0.3
-1.5 -0.3 0.2
-1.7 -0.3 0.4
-1.7 -0.5 0.0
-1.4 -0.6 0.0
0.6 4.3
0.9 3.4
0.8 3.0
0.5 3.5
0.8 3.2
0.4 3.1
0.4 1.9
Rank Trade 1y Carry Imp. Vol Ratio Percentile Min 25th Median 75th Max
1 3M 25Y30Y 2.0
2 6M 25Y30Y 1.8
3 3M 12Y15Y 4.2
4 3M 5Y20Y 30.9
5 3M 7Y15Y 17.2
6 3M 5Y15Y 26.9
7 3M 7Y20Y 21.2
8 3M 5Y30Y 34.3
9 3M 10Y15Y 7.9

10 1Y 25Y30Y 1.7
11 3M 12Y20Y 8.2
12 3M 5Y12Y 22.7
13 3M 7Y12Y 13.0
14 3M 5Y25Y 32.2
15 3M 10Y20Y 11.9
Source: Deutsche Bank
Top 15 EUR Steepeners
Rank Trade 1y Carry Imp. Vol Ratio Percentile Min 25th Median 75th Max
1 3M 15Y25Y 6.7
2 1Y 15Y20Y 4.4
3 3M 15Y20Y 4.3
4 3M 15Y30Y 7.7
5 1Y 15Y25Y 6.8
6 1Y 10Y25Y 13.6
7 3M 20Y25Y 2.4
8 1Y 10Y20Y 11.3
9 1Y 10Y30Y 14.5
10 6M 10Y30Y 14.3
11 6M 10Y25Y 13.3
12 6M 15Y20Y 4.3
13 6M 10Y20Y 10.9
14 6M 15Y25Y 6.7
15 3M 10Y30Y 14.1
Source: Deutsche Bank
Top 15 JPY Steepeners
Rank Trade 1y Carry Imp. Vol Ratio Percent Min 25th Median 75th Max
1 6M 15Y20Y 2.1
2 1Y 15Y20Y 2.4
3 3M 15Y20Y 1.8
4 6M 10Y20Y 1.7
5 1Y 10Y20Y 2.2
6 3M 10Y20Y 1.2
7 6M 15Y30Y 5.2
8 1Y 15Y30Y 5.6
9 6M 10Y30Y 4.9
10 1Y 7Y20Y 1.1
11 1Y 10Y30Y 5.4
12 3M 15Y30Y 5.0
13 3M 10Y30Y 4.4
14 6M 20Y30Y 3.2
15 1Y 7Y30Y 4.3
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.
6.6
8.6
7.2
13.2

18.5
12.2
106.9
125.1
109.4
24.3
130.7
128.8
130.9
102.2
137.3
0.3
0.3
0.3
0.1
0.1
0.1
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
16
6
14
9
5
10
1
1
4
7
4
2
4
2
5
-1.3 0.4
-0.3 0.5
-3.8 0.4
-0.6 0.3
-0.3 0.3
-1.2 0.3
-0.5 0.1
-0.3 0.1
-0.6 0.1
-0.3 0.2

-0.4 0.1
-1.3 0.1
-0.9 0.1
-0.5 0.1
-0.2 0.1
0.7
0.7
0.6
0.6
0.6
0.5
0.3
0.2
0.3
0.4
0.3
0.2
0.3
0.1
0.3
0.9 1.8
0.9 1.6
0.9 2.4
0.8 1.9
0.8 1.5
0.8 2.7
0.7 1.7
0.8 1.2
0.7 1.7
0.6 1.1
0.8 1.2
0.6 2.4
0.6 2.4
0.6 1.4
0.6 1.2
9.3
6.2
6.1
11.0
9.9
20.1
3.5
16.9
21.8
21.6
20.2
6.6
16.7
10.3
21.9
0.7

0.7
0.7
0.7
0.7
0.7
0.7
0.7
0.7
0.7
0.7
0.7
0.7
0.6
0.6
78
90
80
81
91
72
85
69
77
77
71
80
69
78
68
-0.1 0.3
0.0 0.3
-0.1 0.3
-0.1 0.2
0.0 0.3
-0.1 0.3
-0.1 0.2
-0.1 0.3
-0.1 0.3
-0.1 0.3
0.0 0.3
0.0 0.3
0.0 0.3
0.0 0.3
-0.1 0.3
0.5
0.5
0.5
0.4
0.5
0.5
0.4

0.5
0.5
0.5
0.5
0.5
0.5
0.5
0.5
0.7 1.6
0.6 0.9
0.7 1.4
0.6 1.4
0.6 0.8
0.7 1.0
0.6 1.3
0.7 1.1
0.7 0.9
0.6 1.1
0.7 1.2
0.6 1.1
0.7 1.2
0.6 1.1
0.7 1.4
2.2
2.1
5.1
37.9
21.2
33.2
26.1
43.0
10.0
2.1
10.4
28.9
16.5
41.1
15.2
1.0
0.9
0.8
0.8
0.8
0.8
0.8
0.8
0.8
0.8
0.8
0.8
0.8

0.8
0.8
82
85
68
70
70
72
69
68
64
71
67
74
71
68
64
-3.2 0.2
-2.3 0.2
-1.2 0.2
-1.4 0.2
-1.0 0.2
-1.4 0.1
-1.0 0.2
-1.3 0.2
-1.7 0.2
-1.6 0.2
-1.4 0.2
-1.7 0.1
-1.3 0.2
-1.3 0.2
-1.2 0.2
0.5
0.6
0.6
0.5
0.6
0.5
0.6
0.5
0.7
0.6
0.6
0.4
0.5
0.5
0.7
0.8 4.5
0.8 2.3
0.9 1.9
0.9 2.0

0.9 1.9
0.9 1.8
0.9 2.2
0.9 2.0
0.9 2.8
0.8 1.6
0.9 2.4
0.8 1.7
0.8 1.9
0.9 2.0
0.9 2.3

4 September 2015
US Fixed Income Weekly
Top 15 CAD Flatteners
Top 15 CAD Steepeners
Rank Trade 1y Carry Rlzd. Vol Ratio Percentile Min 25th Median 75th Max
1
2
3
4
5
6
7
8
9
1Y 1Y2Y 13.6
3M 2Y3Y
8.4
1Y 1Y5Y 27.4
1Y 1Y3Y 19.5
6M 1Y3Y 12.1
1Y 1Y7Y 27.4
6M 1Y7Y 22.4
6M 1Y5Y 21.1
1Y 3Y5Y
10 6M 2Y3Y
7.9
8.0
11 3M 2Y7Y 19.0
12 6M 2Y7Y 18.3
13 3M 2Y5Y 17.2
14 1Y 1Y10Y 24.6
15 6M 2Y5Y 17.0
Source: Deutsche Bank
Top 15 AUD Flatteners
Rank Trade 1y Carry Imp. Vol Ratio Percent Min 25th Median 75th Max
1
2
3
4
5
6
7
8
9
3M 3Y5Y 41.9
3M 2Y5Y 66.8
3M 1Y5Y 93.8
6M 2Y3Y 26.4
3M 1Y7Y 90.7
3M 2Y7Y 63.7
3M 2Y3Y 24.9

6M 2Y5Y 43.4
1Y 1Y3Y 37.3
10 6M 1Y5Y 63.3
11 3M 1Y3Y 51.9
12 1Y 2Y3Y 21.7
13 3M 3Y7Y 38.8
14 6M 1Y3Y 46.3
15 3M 1Y10Y 83.6
Source: Deutsche Bank
Top 15 GBP Flatteners
Rank Trade 1y Carry Imp. Vol Ratio Percentile Min 25th Median 75th Max
1
2
3
4
5
6
7
8
9
3M 1Y2Y
6M 1Y2Y
3M 1Y3Y
3.2
1.9
2.0
6M 1Y3Y -0.2
1Y 1Y2Y -0.4
3M 2Y3Y -1.2
3M 1Y5Y -5.4
1Y 1Y3Y -3.6
6M 2Y3Y -2.1
10 6M 1Y5Y -8.5
11 3M 1Y7Y -12.5
12 3M 2Y5Y -8.6
13 1Y 25Y30Y -1.2
14 6M 25Y30Y -1.2
15 1Y 2Y3Y -3.2
Source: Deutsche Bank
18.4
18.0
33.0
27.3
14.7
15.7
50.2
22.5
12.4
42.2
57.5
35.5

4.7
4.3
11.6
0.2
0.1
0.1
0.0
0.0
-0.1
-0.1
-0.2
-0.2
-0.2
-0.2
-0.2
-0.3
-0.3
-0.3
21
26
19
28
30
51
23
33
49
29
23
47
26
17
42
-0.7 0.2
-0.9 0.1
-0.8 0.1
-1.1 0.0
0.4
0.3
0.4
0.3
-1.2 -0.1 0.2
0.9 9.8
0.5 3.4
0.7 4.0
0.5 3.4
0.4 2.5
-5.2 -0.5 -0.1 0.4 2.0
-1.1 -0.1 0.3
-1.2 -0.3 0.1
0.6 3.4

```
0.4 2.0
-3.9 -0.5 -0.2 0.5 1.5
-1.3 -0.3 0.1
-1.3 -0.2 0.2
0.5 2.9
0.5 2.9
-4.7 -0.6 -0.2 0.3 1.6
-1.0 -0.3 -0.2 0.0 0.2
-1.6 -0.3 -0.2 0.0 0.2
-2.9 -0.6 -0.2 0.4 1.1
48.7
84.1
131.8
37.8
147.3
109.0
44.0
79.7
71.3
122.3
101.4
42.7
76.9
92.8
170.9
0.9
0.8
0.7
0.7
0.6
0.6
0.6
0.5
0.5
0.5
0.5
0.5
0.5
0.5
0.5
89
90
76
77
77
92
76
92
82
78
62
```

61
93
73
74
-1.4 -0.6 0.0
-1.2 -0.2 0.3
-1.3 -0.1 0.5
-1.0 0.3
0.5
-1.2 -0.1 0.4
-0.9 -0.2 0.2
-0.9 0.2
0.4
-1.0 -0.1 0.3
-0.9 0.1
0.3
-1.1 -0.1 0.4
-1.0 0.1
-0.9 0.2
0.4
0.4
-0.8 -0.4 0.0
-1.0 0.1
0.4
-1.1 -0.1 0.3
0.6 1.8
0.6 1.4
0.7 1.4
0.7 1.5
0.6 1.3
0.4 1.0
0.6 1.3
0.4 0.9
0.5 1.0
0.5 1.0
0.6 1.5
0.6 1.1
0.3 1.0
0.5 1.2
0.5 1.1
17.0
10.6
45.1
33.1
20.9
47.7
42.5
40.6
15.5
15.8
38.9

```
38.3
36.1
52.6
36.4
0.8
0.8
0.6
0.6
0.6
0.6
0.5
0.5
0.5
0.5
0.5
0.5
0.5
0.5
79
91
87
79
59
89
70
66
97
81
89
91
89
91
91
-4.7 -0.1 0.4
-2.3 -0.3 0.2
-2.4 -0.2 0.1
-3.4 -0.1 0.2
-8.8 -0.2 0.4
-2.2 -0.2 0.1
-4.1 -0.3 0.2
-5.1 -0.3 0.3
0.7 3.5
0.5 1.5
0.4 1.7
0.5 2.5
1.1 6.7
0.4 1.5
0.6 3.5
0.7 4.3
-2.1 -0.3 -0.1 0.2 1.5
```

-2.5 -0.3 0.1
-2.8 -0.3 0.1
-2.5 -0.3 0.0
-2.6 -0.3 0.1
-1.9 -0.2 0.1
-2.5 -0.3 0.0
0.4 1.3
0.3 1.4
0.3 1.1
0.3 1.3
0.3 1.1
0.3 1.2
Rank Trade 1y Carry Rlzd. Vol Ratio Percentile Min 25th Median 75th Max
1
3M 1Y2Y 23.1
2 3M 10Y20Y 12.8
3 6M 10Y20Y 12.7
4 3M 10Y25Y 15.1
5 3M 10Y15Y 7.6
6 6M 10Y25Y 15.0
7 1Y 10Y20Y 13.5
8 6M 10Y15Y 7.7
9 6M 7Y20Y 14.7
10 1Y 10Y15Y 8.4
11 1Y 7Y20Y 16.4
12 6M 7Y25Y 16.9
13 6M 10Y30Y 16.5
14 3M 10Y30Y 16.6
15 1Y 10Y25Y 15.8
Source: Deutsche Bank
Top 15 AUD Steepeners
Rank Trade 1y Carry Imp. Vol Ratio Percent Min 25th Median 75th Max
1 1Y 7Y10Y 5.3
2 3M 7Y10Y 7.1
3 6M 7Y10Y 5.6
4 1Y 5Y10Y 9.8
5 3M 5Y10Y 10.2
6 6M 5Y10Y 8.8
1Y 5Y7Y
3M 5Y7Y
6M 5Y7Y
7
8
9
4.5
3.1
3.1
10 1Y 3Y10Y 6.4
11 1Y 3Y7Y
1.1
12 1Y 3Y5Y -3.4

13 6M 3Y10Y -8.2
14 1Y 2Y10Y -15.3
15 6M 3Y7Y -13.9
Source: Deutsche Bank
Top 15 GBP Steepeners
Rank Trade 1y Carry Imp. Vol Ratio Percentile Min 25th Median 75th Max
1 6M 7Y20Y 14.7
2 6M 7Y15Y 11.2
3 6M 5Y20Y 21.9
4 6M 5Y25Y 23.8
5 6M 5Y15Y 18.5
6 6M 5Y30Y 25.0
7 6M 10Y15Y 5.6
8 6M 7Y25Y 16.5
9 6M 3Y25Y 32.1
10 6M 3Y30Y 33.3
11 6M 3Y20Y 30.2
12 6M 10Y20Y 9.1
13 3M 7Y20Y 14.8
14 3M 10Y15Y 5.6
15 6M 7Y30Y 17.7
Source: Deutsche Bank
15.6
11.9
23.5
26.4
21.0
28.8
6.5
19.2
37.8
39.6
36.1
11.3
18.6
7.0
22.2
0.9
0.9
0.9
0.9
0.9
0.9
0.9
0.9
0.8
0.8
0.8
0.8
0.8
0.8

0.8
82
82
81
81
78
82
70
77
71
71
70
72
65
60
78
-0.4 0.1
-0.4 0.2
-0.4 0.1
-0.4 0.1
-0.4 0.1
-0.4 0.1
-0.4 0.1
-0.4 0.1
-0.6 0.0
-0.5 0.1
-0.6 0.0
-0.4 0.1
-0.5 0.1
-0.5 0.1
-0.4 0.1
0.6
0.5
0.4
0.4
0.3
0.4
0.6
0.5
0.3
0.3
0.3
0.6
0.6
0.7
0.5
0.9 3.2
0.9 3.3
0.9 3.3
0.8 3.3
0.8 3.3

0.8 3.2
0.9 3.3
0.8 3.1
0.9 3.6
0.9 3.6
0.9 3.7
0.8 3.1
0.9 1.6
0.9 2.0
0.8 3.0
21.7
30.8
28.0
54.6
63.7
62.1
36.1
34.9
35.7
104.2
86.9
55.3
108.8
132.8
82.7
0.2
0.2
0.2
0.2
0.2
0.1
0.1
0.1
0.1
0.1
0.0
-0.1
-0.1
-0.1
-0.2
76
78
75
61
64
55
37
47
40
11
9

```
8
11
8
8
-0.1 0.1
-0.4 0.0
-0.2 0.1
-0.1 0.1
-0.3 0.0
-0.2 0.1
-0.1 0.1
-0.3 0.0
-0.1 0.1
-0.1 0.1
-0.1 0.1
-0.2 0.0
-0.3 0.0
-0.3 0.0
0.1
0.1
0.1
0.2
0.1
0.1
0.1
0.1
0.1
0.2
0.2
0.2
0.1
0.0
-0.4 -0.1 0.1
0.2 0.5
0.2 0.7
0.2 0.7
0.2 0.5
0.2 0.7
0.2 0.5
0.2 0.4
0.2 0.6
0.2 0.4
0.3 0.4
0.3 0.4
0.3 0.6
0.3 0.4
0.2 0.5
0.3 0.6
10.4
12.6
13.1
```

15.9
8.2
16.2
15.1
8.6
16.7
9.7
19.0
20.1
20.0
20.1
19.3
2.2
1.0
1.0
1.0
0.9
0.9
0.9
0.9
0.9
0.9
0.9
0.8
0.8
0.8
0.8
91
81
80
84
88
84
80
89
80
90
81
79
88
85
81
-12.8 -1.5 -0.5 0.5 18.5
-2.1 0.3
-1.0 0.3
-1.7 0.3
-3.7 0.2
-0.8 0.3
-0.5 0.3
-1.9 0.3
-0.5 0.2

-1.0 0.3
-0.2 0.2
-0.4 0.2
-0.7 0.3
-1.3 0.3
-0.4 0.3
0.6
0.6
0.6
0.5
0.6
0.6
0.5
0.5
0.5
0.5
0.5
0.5
0.5
0.6
0.9 2.3
0.9 1.7
0.9 2.1
0.8 3.1
0.8 1.5
0.8 1.5
0.7 1.8
0.8 1.6
0.7 1.3
0.8 1.7
0.8 1.5
0.7 1.2
0.7 2.3
0.8 1.3
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.

4 September 2015
US Fixed Income Weekly
Top 15 CHF Flatteners
Top 15 CHF Steepeners
Rank Trade 1y Carry Imp. Vol Ratio Percent Min 25th Median 75th Max
1
2
3
4
5
6
7
8
9
3M 3Y5Y
3M 2Y5Y
6M 3Y5Y
7.0
9.8
6.7
6M 2Y5Y 10.0
3M 2Y7Y
3M 3Y7Y
6M 2Y3Y
1Y 2Y5Y
3M 2Y3Y
10 6M 2Y7Y
11 1Y 3Y5Y
12 1Y 2Y3Y
13 6M 3Y7Y
14 1Y 2Y7Y
9.5
6.7
3.2
8.8
2.8
8.8
5.5
3.3
5.6
6.5
15 3M 2Y10Y 4.8
Source: Deutsche Bank
11.0
19.3
13.4
21.7
25.6
18.0
9.3
26.8

9.1
29.2
18.6
11.7
21.4
33.9
27.0
0.6
0.5
0.5
0.5
0.4
0.4
0.3
0.3
0.3
0.3
0.3
0.3
0.3
0.2
0.2
77
63
69
62
59
63
55
55
58
57
61
53
63
57
60
-0.7 -0.3 0.3
-1.1 -0.2 0.4
-0.7 -0.3 0.2
-0.9 -0.3 0.3
-1.2 -0.3 0.3
-1.0 -0.3 0.1
-1.4 -0.1 0.3
-0.8 -0.4 0.2
-1.7 -0.1 0.2
-1.0 -0.4 0.2
-1.0 -0.4 0.0
-0.8 -0.2 0.2
-0.9 -0.5 0.0
-0.9 -0.5 0.0

-1.2 -0.5 0.0
0.6 2.3
0.6 3.7
0.6 1.5
0.6 1.4
0.5 2.0
0.5 2.6
0.5 1.7
0.5 1.1
0.5 1.6
0.5 1.4
0.4 1.2
0.5 1.2
0.4 1.4
0.4 1.0
0.3 1.6
Rank Trade 1y Carry Imp. Vol Ratio Percent Min 25th Median 75th Max
1 3M 7Y10Y 4.7
2 6M 7Y10Y 4.9
3 1Y 7Y10Y 5.3
4 3M 5Y10Y 5.0
5 6M 5Y10Y 6.1
6 1Y 5Y10Y 7.6
1Y 5Y7Y
6M 5Y7Y
7
8
2.3
1.2
9 1Y 3Y10Y 2.1
10 3M 5Y7Y
0.3
11 6M 3Y10Y -0.7
12 1Y 2Y10Y -1.2
13 3M 3Y10Y -2.0
14 6M 2Y10Y -3.9
15 1Y 3Y7Y -3.2
Source: Deutsche Bank
Top 15 SEK Flatteners
Rank Trade 1y Carry Imp. Vol Ratio Percent Min 25th Median 75th Max
1
3M 5Y7Y 122.4
2 1Y 7Y10Y 37.1
3 1Y 5Y10Y 75.1
4 1Y 1Y10Y 417.9
5 3M 5Y10Y 276.8
6
7
1Y 1Y7Y 380.8
1Y 5Y7Y 38.0
8 1Y 3Y10Y 169.5

9
1Y 1Y5Y 342.8
10 1Y 3Y7Y 132.4
11 1Y 3Y5Y 94.4
12 6M 5Y7Y 48.2
13 3M 7Y10Y 154.5
14 6M 5Y10Y 111.3
15 3M 3Y10Y 372.8
Source: Deutsche Bank
Spread of Swap Spreads Trades
Trade
Current
Carry
2Y3Y
2Y5Y
2Y7Y
2Y10Y
2Y30Y
3Y5Y
3Y7Y
3Y10Y
3Y30Y
5Y7Y
5Y10Y
5Y30Y
7Y10Y
7Y30Y
1.03
-0.14
-0.51
-0.23
-0.60
-1.17
-1.54
-1.26
-1.63
-0.37
-0.09
-0.47
0.28
-0.09
10Y30Y -0.37
Source: Deutsche Bank
Current
Level
-1.6
-4.4
-11.0
-8.2
-37.3
-2.8

-9.4
-6.6
-35.7
-6.6
-3.8
-32.9
2.8
-26.3
-29.1
70
52
47
25
69
49
44
23
25
24
11
52
10
10
18.4
10.4
28.8
172.6
130.8
181.5
19.3
92.4
199.0
83.0
64.8
34.1
112.4
104.8
379.3
6.6
3.6
2.6
2.4
2.1
2.1
2.0
1.8
1.7
1.6
1.5
1.4
1.4

1.1
1.0
99
99
99
56
100
50
99
97
41
82
68
99
96
96
95
-3.1 -1.5 -0.5 0.1 8.0
-4.6 -1.6 -0.9 -0.2 4.0
-4.1 -1.6 -0.6 0.2 2.9
-4.5 -1.2 1.8
3.6 7.0
-3.3 -1.8 -0.8 -0.2 2.2
-4.2 -1.0 2.1
3.9 6.8
-3.3 -1.2 -0.3 0.5 2.2
-4.7 -1.4 0.1
-4.3 -0.8 2.4
-4.3 -1.1 0.4
-4.0 -0.6 0.6
1.1 2.2
4.2 7.6
1.4 2.5
1.7 3.2
-2.7 -1.5 -0.5 0.2 1.6
-3.8 -1.6 -1.1 -0.5 3.4
-3.3 -1.7 -0.9 -0.2 2.5
-3.4 -1.7 -0.4 0.4 1.5
Top 15 SEK Steepeners
Rank Trade 1y Carry Imp. Vol Ratio Percent Min 25th Median 75th Max
1
2
3
6M 1Y3Y 458.3
6M 1Y5Y 402.1
6M 1Y7Y 353.9
4 6M 1Y10Y 290.8
5
6
7
3M 3Y5Y -96.0

1478.4
1480.3
1466.8
1468.5
0.3
0.3
0.2
0.2
3M 1Y3Y 1266.8 11439.0 0.1
3M 1Y5Y 1170.8 11687.5 0.1
3M 1Y7Y 1048.4 11705.9 0.1
8 3M 1Y10Y 893.9 11818.3 0.1
9
10 6M 3Y5Y -56.2
11 6M 3Y7Y -104.4
12 6M 3Y10Y -167.5
13 3M 3Y7Y -218.4
14 6M 7Y10Y -63.1
15 1Y 1Y3Y -248.4
Source: Deutsche Bank
Percentile Min 25th Median 75th
59
-4.9
-13.4
-2.5
-9.2
-1.8
-6.6
-22.1 -16.0 -11.4
-22.1 -12.7
-7.5
-6.8
-19.8 -13.3
-19.9 -10.3
-6.6
-3.7
1.1
-4.6
-9.2
-5.6
-4.2
-1.6
2.7
-1.0
-3.6
-5.5
-2.8
-53.9 -37.0 -22.1 -14.8
-11.2
-2.2
-4.2

-1.6
-50.8 -33.6 -20.3 -13.8
-10.1
-10.2
-1.8
0.6
-42.3 -27.2 -16.3 -11.2
-3.1
3.9
-33.0 -19.9 -12.4
-9.2
-35.1 -23.4 -14.8 -12.7
Values as of September 3rd 2015
Tenor Repo Spot Swap Spread 1M Fwd. Swap Spread
2
3
5
7
10
30
15.00
16.00
7.50
9.50
2.50
11.50
Source: Deutsche Bank
13.5
11.9
9.1
2.5
5.3
-23.8
13.8
13.3
9.3
2.3
5.4
-24.1
248.5
141.8
171.4
244.6
266.9
73.2
261.7
1
5
6
5
1

```
1
1
1
-0.4
-0.4
-0.6
-0.7
-0.8
-0.9
-0.9
33
36
24
17
18
8
66
-0.6 1.3
-0.5 1.1
-0.5 1.1
-0.4 1.1
-0.6 2.1
-0.5 2.3
-0.4 2.4
-0.3 2.6
2.2
1.7
1.7
1.9
5.7
5.1
5.0
5.0
3.9 8.1
3.2 6.9
3.2 6.6
3.2 6.3
9.9 21.1
9.1 14.6
8.8 14.9
9.0 15.0
-2.6 -0.6 -0.1 0.9 3.2
-2.9 -0.7 -0.1 0.9 2.8
-2.4 -0.6 0.0
-1.9 -0.5 0.4
-2.1 -0.6 0.0
-3.8 0.5
1.1
1.3 3.2
1.6 3.4
1.4 3.5
```

```
1.6 3.8
-9.5 -4.7 -2.3 0.8 4.9
4.6
7.0
9.4
9.6
13.9
21.3
17.3
10.2
30.1
8.9
24.8
38.7
19.2
32.1
24.7
1.0
0.7
0.6
0.5
0.4
0.4
0.1
0.1
0.1
0.0
0.0
0.0
-0.1
-0.1
-0.1
91
57
36
55
48
32
36
41
35
37
36
39
36
41
37
-0.5 0.2
-1.0 0.4
0.0 0.5
-1.1 0.1
```

-0.7 0.2
-0.1 0.3
-0.6 0.1
0.4
0.6
0.7
0.4
0.5
0.6
0.4
-1.0 -0.1 0.3
-0.6 0.0
0.3
-1.6 -0.2 0.1
-1.0 -0.2 0.2
-0.7 -0.2 0.1
-1.6 -0.2 0.1
-1.1 -0.3 0.0
-1.0 -0.3 0.1
0.7 1.6
0.9 1.4
0.9 1.6
0.8 1.5
0.8 1.4
0.8 1.3
0.6 1.0
0.6 1.2
0.7 1.1
0.3 1.3
0.6 1.1
0.6 1.0
0.6 1.1
0.6 1.1
0.6 1.0

Term structure of 2Y vol
100
120
140
160
180
200
220
40
60
80
Source: Deutsche Bank
Ratios of 2Y to 10Y tenors (quartiles, 5-year history)
1.2
1.4
0.2
0.4
0.6
0.8
1
1m 3m 6m
Source: Deutsche Bank
Ratios of 30Y to 10Y tenors (quartiles, 5-year history)
2.2
2.4
1.2
1.4
1.6
1.8
2
0.6
0.8
1
1m
Source: Deutsche Bank
3m
6m
1y
2y
5y
7y
10y
30Y Tenors/10Y Tenors
Mean Last
1y
2y
5y
7y

10y
2Y Tenors/10Y Tenors
Mean
Last
DGX
DVX (right)
100
120
140
160
II
III
40
60
80
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15
Source: Deutsche Bank
Term structure of 10Y vol
100
110
120
130
140
60
70
80
90
0
Source: Deutsche Bank
Term structure of 30Y vol
100
110
120
130
50
60
70
80
90
0
Source: Deutsche Bank
5
10
15
20
3-Sep-15
5-Sep-13
3-Sep-10
5
10
15

20
3-Sep-15
5-Sep-13
3-Sep-10
100
110
120
130
40
50
60
70
80
90
0
5
10
15
20
3-Sep-15
5-Sep-13
3-Sep-10
Deutsche Bank Securities Inc.

4 September 2015
US Fixed Income Weekly
3M carry across different expiries (ATMF receivers)
Breakdown of 3M carry for 6M expiries (% premium)
-6
-4
-2
0
2
4
6
8
6m
1y
2y
1y
2y
5y
7y
10y
15y
20y
30y
-40%
-20%
0%
20%
40%
60%
80%
Tenor
Source: Deutsche Bank
US surprise index: 10Y Treasury yield
100
110
30
40
50
60
70
80
90
Aug-04
surprise
10 yr Treasury Rate
Aug-06
Source: Deutsche Bank
Combined put/call ratio in Treasury futures
0.25
0.50
0.75

1.00
1.25
1.50
1.75
2.00
2.25
9/1/07
Put/call ratio
Average
1
1.5
2
2.5
3
3.5
4
4.5
5
5.5
Aug-08
Aug-10
Aug-12
Aug-14
Source: Deutsche Bank
Trade weighted dollar surprise index
100
110
30
40
50
60
70
80
90
Aug-04
100
surprise
Deutsche Bank USD
trade weighted index
Aug-06
Source: Deutsche Bank
Aug-08
Aug-10
Aug-12
Aug-14
50
55
60
65
70
75

80
85
90
95
Vol
Curve
Theta
Total
6m1y 6m2y 6m5y 6m7y 6m10y 6m15y 6m20y 6m30y
9/1/09
Source: Deutsche Bank and CME Group
9/1/11
9/1/13
9/1/15
Page 38
Deutsche Bank Securities Inc.
Carry

US Treasury Coupon Auction Calendar

Ticker/Coupon/Maturity	Date	Tap/New Issue	Size
T TBA 9/18	Tuesday , September 08	New Issue	24bln
T 2.00% 8/25	Wednesday, September 09	Tap	21bln
T 2.875% 8/45	Thursday, September 10	Tap	13bln

US Economics & Events Calendar

Event	DB Forecast
Mon, Sep 07 2015	
Tue, Sep 08 2015	
Wed, Sep 09 2015	
Thu, Sep 10 2015	
Fri, Sep 11 2015	
Labor Day Holiday	
Consumer Credit	+20.0B
July JOLTS data released	10:00 AM
Wholesale Inventories	+0.1%
PPI	-0.1%
Total	+0.2%
Core	
Consumer Sentiment	95.0
All markets closed	

4 September 2015
US Fixed Income Weekly
European Economics & Events Calendar
Date Economic Releases
Sep 07 Germany: Industrial Production SA YoY
Sep 08 Eurozone: GDP SA YoY
Sep 09 Greece: CPI EU Harmonized YoY
Sep 10 Spain: Industrial Output NSA YoY
Portugal: CPI EU Harmonized YoY
France: Industrial Production YoY
Ireland: CPI EU Harmonized YoY
Sep 11 Spain: CPI EU Harmonized YoY
Germany: CPI EU Harmonized YoY
Italy: Industrial Production YoY
Political Events
Bond Redemption/Supply
Germany: Schaeuble Presents 2016 Federal Draft
Budget in Parliament
Germany: Merkel Delivers Remarks in Parliament
Keyed to 2016 Budget
Germany to Sell EUR1 Bln 0.5% I/L 2030 Bonds
(DE0001030559)
Germany to Sell EUR4 Bln 1.0% 2025 Bonds
(DE0001102382)
Italy to Sell Bonds
Ireland to Sell Bonds
Total/excess return forecasts in HY, IG, leveraged loans
HY
IG
Spreads/Yields
Current
Target
Change
Duration
Change in Yield
Change in Price
Current Yield
Current Price
Default Rate
Recovery
Credit Loss
Price Return
Total Return
Excess Return
Source: Deutsche Bank
561
650
89
4.6
100
-462

701
95.8
3.5
40
-204
-6.9
0.1
-0.9
163
170
7
Normal HY vs IG Beta = 4:1
6.5
17
-107
409
104.3
0.0
-0
-1.0
3.1
1.9
4.8
11
-53
8.5
7
-60
Libor/Tsy
Change
Total Change in Yield
Repricings
Capital Gain
Current Yield
Default Rate
Price
Credit Loss
Total Return
18
53
-50
-163
440
3.5
99.9
87
1.9
Rate Duration
Spread Duration
Avg Par Coupon
1.0

2.7
440
5yr Trsy
149
160
11
10yr Trsy
Loans
218
225
7
Spreads/Yields
Current
Target
Predicted Change
540
575
35
2yr Trsy
57
75
18

Closed Trade Recommendations

Trade Detail	Rationale
Inflation Underweight 30yr TIPS	
Inflation	
Inflation	
Inflation	
Short 1/2026 breakevens vs 5yr and 30yr breakevens	
Long 30yr TIPS breakevens versus 10yr TIPS breakevens	
Long 2019 TIPS breakevens versus 2016 TIPS breakevens	
Inflation Long 30yr TIPS breakevens	
Inflation	
Inflation	
Swaps	
Inflation	
Swaps	
Option	
Option	
Option	
Option	
Option	
Option	
Option	

Source: Deutsche Bank

Buy 2023 TIPS vs. 7/2019 and 1/2025 TIPS on ASW	
Long 2y2y inflation swap	
Sell the 5yr5yr inflation swaps	
Buy $100mn 6M 2y1y 25bp OTM MC payers vs. Sell 100mn 1Y 4Y1Y 45bp OTM MC payers at zero net cost	
Sell $100mn 6M5Y ATMF vs. buy $200mn 6M5Y 30bp OTM payers at zero net cost	
Mid-curve payer: Sell $100mn 1Y 5Y5Y ATMF mid-curve payers vs. buy $200mn 1Y2Y ATMF payers for the net takeout of 28c	
Conditional bull steepeners: Sell $32.8mn 3M10Y ATMF receivers vs. buy $100mn 3M3Y ATMF receivers at net takeout 1c	
Buy 1X2 3M3Y ATMF/13.5bp receiver spreads for zero net cost	

Buy $1,000mm 6m single reset cap on CMS10-CMS5 strike 89bp for 9.75c
Sell $100mn 3M5Y straddles vs. buy $100mn 3M5Y 22bp OTM payers for net takeout of 100c.
30yr tends to cheapen ahead of supply
10s look rich; sell the rich 1/2026s
10s-30s breakeven curve appears too flat on a long term basis
Being long 2019 BEs versus 2016 BEs has positive carry, and is less correlated with energy prices than 1yr BEs
Bond TIPS look cheap on a relative value basis
The intermediate sector in inflation markets is cheap relative to the wings
2y2y inflation looks attractive on historical basis
The spread between 5yr5yr inflation swaps and 5yr5yr TIPS breakevens is wide. Selling the 5yr5yr inflation swaps looks attractive.
Curve flattens on a hawkish FOMC
Skew trades rich in a sell-off
5Y5Y has a limited upside while 1Y2Y could see significant repricing due to adjustments of monetary policy
Front-end gets re-priced in a delayed Fed hike
Short-term risk off and short covering
Carry pays for option, repriced fed suggests 5y outperformance
No big changes in vol near term
Risks
30yr outperforms
10s richen further
Long term inflation expectations decline
2019 breakevens drop more than 2016 breakevens
Inflation expectations decline
Further cheapening of the belly in inflation markets relative to the wings
Forward inflation falls
5yr5yr inflation swaps rise

Curve bear steepens
Rates sell off half-way
and stay there till the
expiry
The curve bear steepens
Curve bull flattens;
unlimited downside
Rally below the
breakevens; unlimited
downside
Curve flattening, max
loss premium
Rates rally
Opened
6/5/15
1/23/15
Entry
+11 bp
+15 bp
11/26/14 +16 bp
11/26/14 +41 bp
10/17/14
12/6/13
10/3/14
11/7/14
9/12/14
9/12/14
3/14/14
9/26/14
9/26/14
5/20/14
9/19/14
Closed
6/17/15
6/11/15
6/5/15
2/25/15
2.08% 12/9/14
+38 bp
2.1%
12/19/14
12/9/14
2.58% 12/18/14
0¢
0 bp
-18¢
-1 bp
0 bp
+9 bp
3/11/15
3/11/15

3/13/15
12/30/14
12/30/14
11/20/14
-100 bp 12/30/14
Exit
+12 bp
+5 bp
6.54 bp
+22 bp
1.97%
+8 bp
2.0%
2.43%
-0.7¢
0.0 bp
0.0¢
0 bp
0 bp
0 bp
0 bp
P/L
-60k
+308k
152K
+4,014k
-1,171k
+2,263k
-309k
+1,361k
-32k
-2k
+184k
+19k
+28k
-875k
+1,028k

2014 Outlook Closed Trades
Trade Detail
Rationale
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.
Option Receiver spreads: Buy $100mm 2y2y ATMF/25 bp receiver spreads at 28 bp
Option
Option
Option
Contingent payers: Buy 1y30y ATMF payers subject to 5s< ATMF+50 bp at 259 bp, a 57% discount to vanilla
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)
Contingent curve cap: Buy 6M 5s10s ATMF curve caps subject to 10s < 3.50%, 5.25c offer, a 40% discount to vanilla at 9c
Option Curve caps: Buy 1y single reset, ATMF 5s30s curve cap at 21.5 bp
Swaps Rv
Swaps RV
Forward steepener: Receive fixed on $115.71 mm 1y10, pay fixed on $54.85 mm 1y30y
Receive $208.2mm 6m5y rate versus pay $292.9mm 10y5y rate
Swaps RV Receive 3y1y/2y1y rate spread at 108 bp
US Credit Underweight high-yield into Taper
The curve should bear flatten as soon the Fed tapers and front end sells off
Macro data disappoints, curve bull flattens
Rate hikes unbundled from taper, long end sells off while 5y remains anchored
Curve flattens beyond the current forwards; adding additional leverage by shorting

the correlation between 5y and
10y rates
Front-end of the curve remains
anchored, limited sell off in 10s
Economic recovery disappoints
and curve remains steep
Slope of 10s30s too flat given
level of 10y Rate
15y par rate rich, 6m5y
exposed to repricing Fed with
positive carry
Curve slope is near its historic
levels; curve is likely to flatten
in both sell-off or rally
HY spreads should widen upon
the onset of the taper
Risks
Opened
Entry
Closed
Curve steepens as rates rise 12/6/13 +212.5 bp 12/19/14
Rates rise as recovery
strengthens
Curve flattens
Either of the two conditions
is not true at expiration;
maximum loss is premium
outlay
Curve flattens
Curve flattens
Curve flattens
Curve flattenening
Curve steepens
Tapers gets delayed
12/6/13
12/6/13
+28 bp
12/19/14
12/19/14
Exit
+17 bp
+29 bp
P/L
0k
+19k
12/6/13
12/19/14
12/6/13
12/19/14
12/6/13
3/28/14

5/20/14
12/6/13
12/6/13
+21.5 bp 12/19/14
+45 bp
3/27/15
+219 bp 11/19/14
+108 bp 12/19/14
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."
0 bp
+33 bp
+320 bp
+80bp
-197k
-3,109k
-7,274k
+222k

Appendix 1
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risks
related
to
rates
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