

European Rates Weekly

Constant flow to support OATs, but...

- **Flow drivers of French government bonds:** We analyse the balance of demand and supply in the OAT market in light of the heavy positioning resulting from investment flow in 2012. The gap between valuation and deteriorating fundamentals is wide, but bond-specific factors make the OAT an asset in demand (for now).
- **Bund yield outlook and the ECB:** Bund yields rose in response to a less dovish ECB meeting with positioning also likely affecting market moves. Given the low growth and low inflation fundamental backdrop, domestic European factors are unlikely to drive Bund yields significantly and structurally higher over the near-term.
- **Impact of cash flows on gilts:** The absence of gilt coupons and redemptions coupled with the resumption of supply, concentrated in the long-end, should put widening pressure on gilt-Bund spreads.
- **EFSF in June 2013, au revoir not adieu:** The EFSF will soon cease to be able to enter into new programmes. However, it will continue to refi bonds and will exist in an administrative capacity until all outstanding debt is repaid. Hence, although some EFSF functions are set to cease next month, it's not really farewell completely.
- **Commerzbank goes traditional:** Few topics have been discussed with equal energy as Commerzbank's SME structured covered/collateralized bond. In the near future, the bank is likely to show that it can also go the traditional way. However, the collateral will again display the bank's stance in Germany's SME market.
- **Bund technical analysis:** We look at key technical indicators to identify emerging patterns in 10yr Bund yields. Bullish divergence and support from levels of RSI and stochastic oscillator indicate near-term bullish bias.
- **EMU relative value trades:** We highlight several relative value opportunities with attractive carry in the 2-5yr sectors of the French, Spanish and Dutch yield curves.
- **Supply:** Within Europe, next week's bond supply of around €15bn comes from Germany (€6bn), the Netherlands (€2.5-3.5bn) and Italy (around €6bn). The US Treasury will issue \$66bn across the 3yr, 10yr and 30yr sectors next week. The UK will issue £6bn of conventional gilts via two auctions next week.

Alessandro Tentori

+44-20-7986-9224
alessandro.tentori@citi.com

Jamie Searle

+44-20-7986-9493
jamie.searle@citi.com

Peter Goves

+44-20-7986-3215
peter.goves@citi.com

Nishay Patel

+44-20-7986-1007
nishay.patel@citi.com

Michael Spies

+49-69-1366-8403
michael.spies@citi.com

Aman Bansal, CFA

+91-22-4277-5021
aman1.bansal@citi.com

Mohit Aggarwal

+91-22-4277-5022
mohit1.aggarwal@citi.com

See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.

Citi Research is a division of Citigroup Global Markets Inc. (the "Firm"), which does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the Firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

This page is left intentionally blank

Contents

Contents	3
Duration Scorecard	5
Tradesheet	6
EGB: Update on French Government Bonds	7
Bund yield outlook and the ECB	10
UK Rates: Impact of cash flows on gilts	13
SSA Strategy	15
Covered Bond Strategy	17
Bund Technical Analysis	19
EMU relative value trades	20
Relative value tables	21
EMU relative value table – all maturities	22
EMU relative value table – max 12yr maturity	23
EMU relative value table – min 8yr maturity	24
UK relative value table	25
Supply Analysis and Forecasts	26
EUR: Coupons & Redemptions (next 3 mths)	27
ESP and ITA Bill Issuance Projections	28
Inflation Forecasts, Carry & Weekly Changes	29
Summary of Recent Publications	31
Appendix A-1	33

Figure 1. Strategy Summary Table

Europe	View	Strategies
Direction	Our 1wk duration scorecard is long on euro market and macro factors.	Long over the near term
Money Market	Weak GDP data and the prospect of ECB policy being accommodative for an extended period should be supportive for the short-end over the medium-term (we continue to expect a cut to the the refi-rate by 25bp in 4Q13).	Stop hit on receive EUR 3yr1yr.
Yield Curve	EUR 10s30s have flattened as expected and we do not expect a return to >70bp region anytime soon. We are more likely to see EUR 10s30s trade between 60-65bps in the coming weeks in our view. We continue to hold our EUR 30s50s recommendation.	Hold EUR 10s30s flatteners vs USD EUR 30s50s flatteners
Cross-market	There will be a sizeable amount of long-end gilt issuance in the next 5 weeks. The absence of coupons and redemptions results in a strongly non-supportive cash flow profile and we expect this to put widening pressure on 10yr gilts vs Bunds. We continue to expect sustained widening in the UST-Bund spread given economic growth projections.	Sell 10yr gilts vs Bunds once the 7 June gilt coupons have been paid. Prefer Bunds to UST over the medium term
EMU Spreads	Although spreads have been somewhat softer recently - likely reflecting doses of profit taking, the general backdrop for peripheral markets remains supportive. We continue to expect Bono-Bund spreads to trade sideways over the medium term.	Buy 2yr Spain vs Italy
Swap Spreads	Schatz swap spreads are widening as expected and we believe this has further to run (target 40bp, ref. Schatz Mar15). 10yr Bund spreads are cheap and we recommend holding onto long 10yr Bund vs swap positions. Seasonal support in June and July should help 10yr Bund spread wideners.	Buy Schatz vs swaps Remain long 10yr Bunds vs swaps
Inflation	Euro break-evens have recently come under pressure, but they might find near-term support due to a likely rebound in May HICP. In the UK, we favour 5s10s or 5s30s break-even flatteners. The 5yr sector looks a little cheap to fundamentals and is likely to benefit from the likelihood of forward guidance. Meanwhile the long-end is likely to come under increasing pressure in the coming weeks ahead of a likely pickup in supply from July.	Buy IL gilt 2017. IL gilt 5s10s or 5s30s break-even flatteners Sell 5yr, 5yr euro HICPXT Maintain tactical long in BTPei23.
Volatility	Look to fade the recent spike in gamma. We expect vol to remain low following the prospect of further ECB rate cuts. Long-end payers such as EUR 15y5y (or EUR 10y30y or 15y10y) offer favourable rate and vol roll for investors with a bearish view.	Sell gamma on spikes If bearish, buy payers in EUR 15y5y for favourable vol and rate roll Re-enter long EUR 3y2y receivers if 5yr swap rates go above 1.05%
SSA	ASW spreads in core agencies and supras remain relatively resilient and we would continue to buy on dips and trade the range in spreads to core sovereigns.	Maintain front-end KfW vs France over the medium term Prefer EU vs EIB in the sub 5yr sectors
For a list of outstanding trade recommendations please see the Tradesheet section of this report		

Duration Scorecard

Figure 2. Bund Weekly Cheat Sheet: 7th-13th June

Bund Directional Scorecard (1wk horizon)

RECOMMENDATION	Long
Conviction level	18%

RXM3 (EOD Thurs) = 143.82

CTD yield = 1.14% 10day del vol = 3.44%

SIGNAL STRENGTH (+/-2)

MACRO	-0.2	Weight = 28%
--------------	-------------	---------------------

ECB	-1	ECB less dovish than expected	10.0%
Fed and BOJ	-1	Market repricing the pace of tapering QE3	7.5%
Inflation	-1	Flash estimate indicates a bounce in May HICP	2.5%
Growth related data	0	Data showing modest signs of improvement	2.5%
Citi surprise	1	Citi Economic Surprise Index remains negative	2.5%
Middle East / Oil	0	Brent remains range-bound around \$103	2.5%

EURO MARKET FACTORS	0.4	Weight = 38%
----------------------------	------------	---------------------

Supply	2	€17bn redemption of Bund Jun13 available for reinvestment	10.0%
Risk appetite	1	Risk appetite losing momentum	7.5%
Positioning	1	Positioning in core is net short	2.5%
Equity	1	Equities selling off	7.5%
Sovereign credit	1	Peripheral spreads widening	7.5%
FX	-1	EUR effective exchange rate at 3 month highs	2.5%

EVENT RISK	0.0	Weight = 8%
-------------------	------------	--------------------

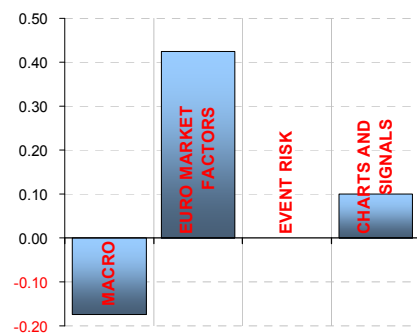
Politics	0	Political risks not a key driver at present	2.5%
3yr LTRO	0	Excess liquidity remains high and re-payments to slow	2.5%
Stability mechanisms	0	Unlikely to see ESM activation in the short-term	2.5%

CHARTS AND SIGNALS	0.1	Weight = 28%
---------------------------	------------	---------------------

Technicals	1	Near term bullish technical signals	7.5%
T-Note	1	Treasuries have rallied 7bps from recent peak	7.5%
CFTC	-1	Positioning down to close to neutral	5.0%
ARTS	0	Neutral	7.5%

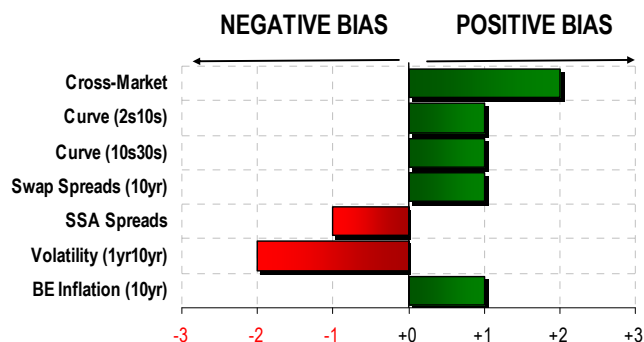
Source: Citi Research

Figure 3. Contribution to Bund Signals



Source: Citi Research

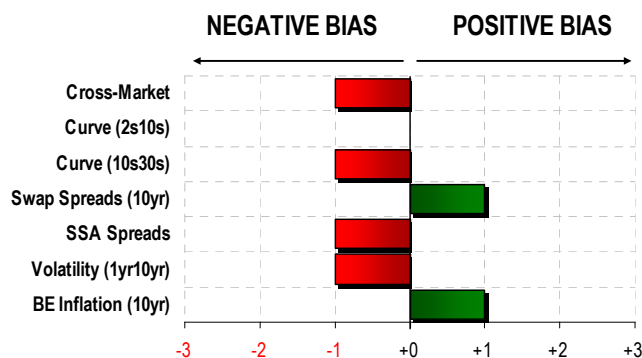
Figure 4. EURO AREA (Near-term Bias)



Source: Citi Research

POSITIVE bias = bullish vs UST, flattener curve, wider swap spreads, tighter SSA spreads, higher implied vol, wider BE inflation

Figure 5. UK (Near-term Bias)



Source: Citi Research

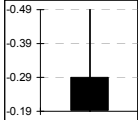
POSITIVE bias = bullish vs gilts, flattener curve, wider swap spreads, tighter SSA spreads, higher implied vol, wider BE inflation

Tradesheet

Record of Our Closed Trades

Figure 6. Record of our Closed Trades

Region	Trade	Levels	Rationale	
Europe	Buy Bundel23	Open -0.29%		
		Current -0.19%	Hit Stop 4 June 2013	
<i>Inflation</i>	Buy Bundel23 real yield at -0.29%	P&L -0.1%		
		Target -0.49%		
		Stop -0.19%	Euro Rates Weekly 23 May 2013	



Source: Citi Research

Record of Our Open Trades

Figure 7. Record of our Open Trades

Region	Trade	Levels	Rationale + Publication Date	
Europe	Buy Schatz ASW	Open -34bp		
		Current -31bp	Benefits from the discussion of negative depo rates suffering a setting back and further LTRO repayments	
<i>Swap Spread</i>	Buy Schatz 0.25% Mar15 ASW at -34bp	P&L -3bp		
		Target -42bp		
		Stop -30bp	European Interest Rate Strategy 8 May 2013	
Europe / US	EUR 10s30s flattener vs USD 10s30s steepener	Open -27bp		
		Current -27bp	Tapering of QE3 in Spetember, upcoming supply profile in EMU & UST and technical levels should be supportive for this trade	
<i>Cross Market</i>	Receive EUR 10s30s at 68bp Pay USD 10s30s at 95bp	P&L 0bp		
		Target -42bp		
		Stop -21bp	European Rates Weekly 25 April 2013	
Europe	Receive EUR 10y2y vs 12y3y	Open 4bp		
		Current 8bp	Cheapness of the sector due to legacy ASW positions. The trade offers a positive roll-down for relatively low volatility	
<i>Curve</i>	Receive EUR 10y2y at 3.1% Pay EUR 12y3y at 3.14%	P&L 4bp		
		Target 25bp		
		Stop -5bp	The Morning Call, 23 January 2013	
Europe	Receive EUR 30s50s	Open 18bp		
		Current 11bp	Long-end of EUR swap curve is pricing in more than required de-hedging by Dutch pension funds. CVA activity should support the trade.	
<i>Curve</i>	Receive EUR 50yr at 2.54% Pay EUR 30yr at 2.36%	P&L 7bp		
		Target 5bp		
		Stop 22bp	European Rates Weekly 11 October 2012	
Europe	Sell EUR 1y3yF ATMf straddle and buy ATMf-25 receiver	Open 63bp		
		Current 42bp	Fwd levels in front-end EUR swaps are too high in an environment where additional policy measures by the ECB are likely to be undertaken	
<i>Volatility</i>	Sell EUR 1y3yF ATMf (=1.36%) straddle for 98bp Buy EUR 1y3yF ATMf-25 receiver for 35bp	P&L 21bp		
		Target 30bp		
		Stop 73bp	IIRS 9 August 2012	
Europe	Long KfW 1.375% Feb17s vs OAT 5% Oct16s	Open 1bp		
		Current 2bp	Spread compression looking overdone and we look for KfW to outperform should the EMU crisis intensify	
<i>Cross Market</i>	Buy KfW 1.375% Feb17 at 0.62% Sell OAT 5% Oct16s at 0.63%	P&L 1bp		
		Target 20bp		
		Stop -10bp	IIRS 2 August 2012	
UK	Sell GBP 2y2y ATMf straddle	Open 76bp		
		Current 46bp	The fundamental backdrop in the UK supports selling GBP 2y2y vol	
<i>Volatility</i>	Sell GBP 2y2y ATMf (1.04%) straddle at 76bps	P&L 30bp		
		Target 0bp		
		Stop 114bp	IIRS 12 July 2012	

Source: Citi Research

EGB: Update on French Government Bonds

Alessandro Tentori
+44-20-7986-9224
alessandro.tentori@citi.com

We analyze the balance of demand and supply in the OAT market in light of the heavy positioning resulting from 2012's investment flow. The gap between valuation and deteriorating fundamentals is wide, but bond-specific factors make the OAT an asset in demand (for now).

Constant Flow to Support OATs, But...

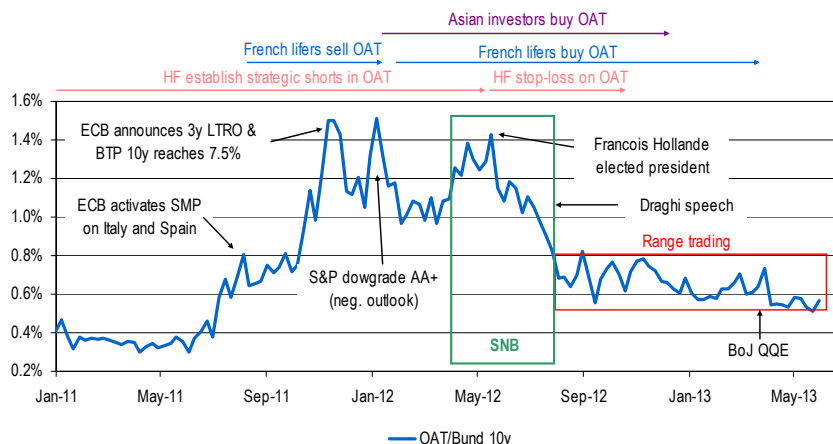
Flows dominate fundamentals

The market for French sovereign debt continues to be mainly driven by specific flows, rather than pricing in a vector of fundamental risks that seems to find a broad consensus among global investors. To be fair, the theme of diverging bond valuations and macro fundamentals applies to the EGB market more in general, providing us at times with some elements of a financial bubble.

No need for LTRO/OMT support

The OAT market is particular in the sense that ECB's non-standard tools have had only an indirect effect on valuation and in absence of distorting central bank action, the direct impact of investor flows (Figure 8) becomes more evident.

Figure 8. OAT/Bund: Flow driven



Source: Citi Research

Huge buying by domestic and international investors in 2012 has been reported

The main flows behind the 9.5% total return in 2012 have been:

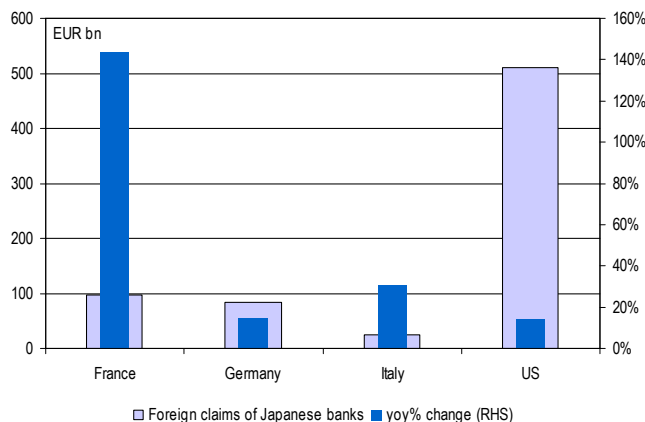
- Japanese investors: According to the BIS¹, the exposure of Japanese banks to the French public sector has jumped by EUR 57bn in 2012 (to 97bn). Exposure to Germany has increased by only EUR 11bn to EUR 83bn (Figure 9).
- Swiss National Bank: According to the Accountability Report², the SNB has purchased approximately EUR 42bn of AAA EGBs between Q2 and Q3 2012, in the context of their FX interventions.
- Domestic lifers: Net collection of French lifers has declined by 3.5bn in 2012, shy of the 50bn increases seen on average in 2009 and 2010 (Figure 10). One of the reasons was the shift from life insurance contracts to Livret A, as the OAT/Livret A spread dropped into negative territory (in addition to superior tax efficiency and an increased allocation cap). Nonetheless, lifers have continued to buy OATs in order to rebuild their core portfolio, which they had to lighten up in 2011 to cover losses on BTP and Bono holdings.

¹ http://www.bis.org/statistics/about_banking_stats.htm

² http://www.snb.ch/en/mmr/reference/annrep_2012_rechenschaft2/source

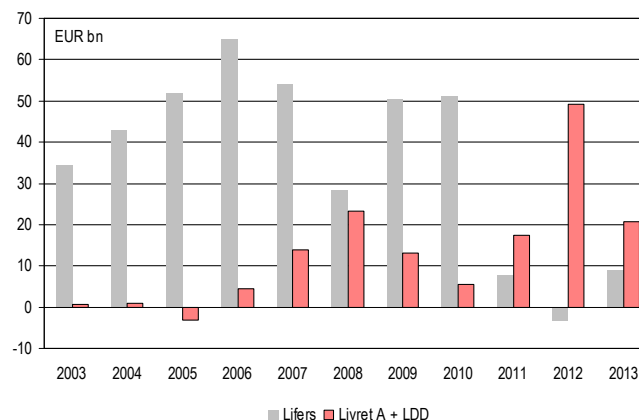
- Hedge funds: Anecdotal evidence suggests that leverage shorts in OATs (a very successful trading strategy in Q4 2011) were stopped, probably during Q2 2012 on the back of the sharp spread compression that reflects the two large flows described above.

Figure 9. Exposure of Japanese banks to public sector



Source: BIS, Citi Research

Figure 10. Net collection of French lifers vs Livret A



Source: Caisse des Depots, FFSA, Citi Research

Big numbers

Gross supply of French government bonds was EUR 201bn in 2012. Assuming 50% of SNB's intervention was allocated to France, the SNB and Japanese banks have been able to absorb almost 40% of gross supply. To put things into perspective, we estimate EUR 186bn of gross supply in France this year, with SNB support most likely to be zero given EUR/CHF is comfortably quoted above the 1.20 intervention floor.

Liquidity and rating are key parameters driving OAT demand

Leaving fundamentals behind, the OAT retains its dominant position in the context of global flows, i.e. mainly central bank flows. Typical reserve managers invest primarily into assets with a very high value preservation probability. Therefore, credit rating (currently, the French Republic is rated Aa1/AA+/AAA with negative outlook) and primary/secondary market liquidity are key requisites, while expected profitability is seen as a second-tier decision criterion.

We expect support from central banks and French lifers

We believe France remains the best if not the only alternative to Germany for central banks' EUR-portfolio investments. Furthermore, 20y OATs back into the 2.75%-3.05% range start to look very attractive to domestic investors (especially lifers) given a Livret A fixing of 1.75% and the prospect of a faster origination of new life insurance contracts.

Strategy: Outlook for the 2nd Half of 2013

We expect OAT/Bund spreads to gradually widen in the 2nd half

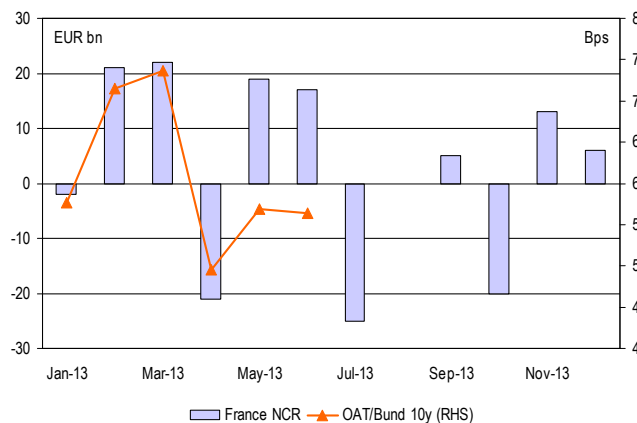
We see the risk of a moderate widening of OAT/Bund spreads going into the second-half of 2013: As outlined in the recent [Global Economic Outlook and Strategy](#), we expect OAT/Bund spreads to widen to 60bp in Q3 and 70bp in Q4. The forecast profile is mild on purpose and reflects the significant flow components discussed above.

Fundamentals & demand fatigue are the main drivers

The main reason to see a mild underperformance of France vs Germany from here is a composite of negative fundamentals in addition to possible symptoms of a buyers' fatigue. Can we safely project the demand seen in 2012 out of Tokyo and global central banks to continue also in 2013 with the same order or magnitude? To complicate matters, OAT/Bund spreads appear to be highly sensitive to the

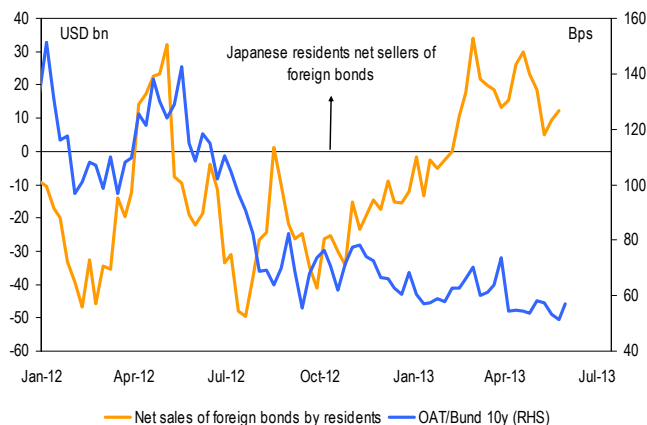
Republic's net cash requirement (NCR, i.e. net supply less redemptions). So far this year, we have witnessed a stunning relationship between supply and spread valuation (Figure 11). The sharp spread tightening in April should be seen not only as a result of BoJ's QQE effect on global flow expectations, but also as a consequence of the improvement in monthly financing conditions, i.e. NCR flipping from +22bn in March to -21bn in April (22bn of OAT redemptions). Year to date, EGBI France has returned +0.2% vs Germany @-0.6% and EMU @+1.6%.

Figure 11. French net cash requirement and OAT/Bund spreads



Source: Citi Research

Figure 12. Japanese resident flows and OAT/Bund spreads



Source: MoF, Citi Research

Japanese residents are net sellers of foreign bonds in 2013

In terms of support from Japan, residents have purchased USD 1.01 trillion of foreign bonds and notes in 2012 (Figure 12). The picture is quite different in 2013, as Japanese residents are net sellers of USD 251bn on foreign bonds (probably US Treasuries and EM investments) with approximately 50% of this flow in the aftermath of Mr. Kuroda's QQE announcement. Interestingly, the market is still pricing soft-core EGB spreads at/around mid-April levels, suggesting that the "Japan-buys-everything" expectations has not yet been removed from the grid.

Bund yield outlook and the ECB

Peter Goves

+44-20-7986-3215

peter.goves@citi.com

ECB policy remains accommodative and we expect a further cut in the main refi rate later this year. Given that the ECB only just cut rates in May, it was perhaps optimistic to expect further significant dovish signaling. The small upward revision in 2014 GDP forecast (from 1% to 1.1%) and that there is “no reason to act” on negative rates yet was enough to flush out crowded positions. Looking beyond the knee-jerk market reaction, fundamentally, the eurozone remains in a recessionary, low inflation environment. Domestic EMU factors are therefore unlikely to drive Bund yields significantly higher from here in our view. Bearish impetus from other markets could however. Focus will now swiftly turn to tomorrow’s US payroll data.

ECB keeps policy unchanged ... for now

Monetary policy unchanged

Perhaps unsurprisingly, the ECB meeting today was rather uneventful with no change in monetary policy: the deposit rate remains at 0%, the main refi rate at 0.5% and the marginal lending rate at 1% ([ECB to reassess its monetary policy stance after the summer](#)). Draghi re-iterated the ECB’s assessment that underlying price pressures are likely to remain subdued and that economic recovery is likely to occur, albeit at a slow pace.

Less hawkish components of the press conference include the small increase in GDP forecast for 2014 (from 1% to 1.1%) and the talk that on negative deposit rates, there “is no reason to act” at present. However, the market moves (Bund yields up around 3bp-5bp and bear steepening in the euribor strip) were also likely exacerbated by positioning, with longs under pressure and getting squeezed. While this may continue in the very near-term, wider fundamental factors – as Draghi also detailed – remain far from conducive for a sustained and structural move higher in core rates. Note that Citi continues to believe the ECB will likely cut again in Q4.

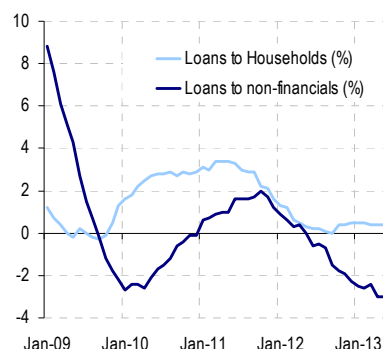
Excess liquidity still ample...

Excess liquidity is still ample (ultimately controlled by banks under the full allotment procedure), but the transmission mechanism remains impaired with historically low interest rates failing to feed through into realized credit flow to the private sector. Lending to non-financials in the euroarea remains negative (Figure 13) and senior loan officers still report a net fall in demand for financing ([Euro Economics Weekly](#)).

...but transmission mechanism remains impaired and credit demand weak

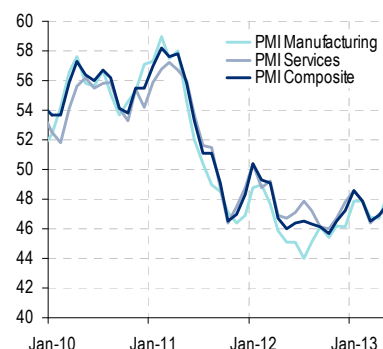
As we have previously argued ([European Rates Weekly - Trades for a Lost Decade](#)), it is credit demand that is central to the broader economic and market outlook in Europe. The ECB can supply liquidity, but it is much harder for central banks directly to influence private-decision making for the purposes of stimulating demand. This low growth environment was most recently underlined by euro area PMI data which continue to signal torpid economic activity (Figure 14).

Figure 13. MFI Loan YoY Growth Rates (%)



Source: Citi Research, Bloomberg, ECB

Figure 14. Euroarea PMIs (Index Level)



Source: Citi Research, Bloomberg

SMEs, the ECB and the EIB

Focus on SME finance likely to remain important

This weakness in credit demand has prompted a focus notably on SME financing, given their economic importance in much of Europe. Draghi stated that the ECB had discussed lots of non-standard measures, but that on the specifics of SME ABS and SME financing, any new policy is a “long-term proposition”. What is understood is that European authorities are acutely aware of the fragmentation of credit availability and are assessing ways to help revive SME financing. This could perhaps include institutions such as the EIB. In theory, the EIB could repo ABS securities to the ECB as EIB has been an eligible ECB counter party since July 2009. EIB is the only supranational to have access to such central bank liquidity. In addition, the EIB could also provide guarantees.

Consultation on how to revive SME financing

In this context, it's worth considering exactly what EIB does. EIB is the bank of the 27 EU member states (ie includes non-euroarea sovereigns) established under the Treaty of Rome. It was incorporated into the EU Treaty under Articles 308 and 309 essentially to facilitate EU wide project finance. As laid out in EIB's Statutes, the aggregate amount outstanding of loans and guarantees must not at any time exceed 250% of its subscribed capital (its gearing ratio). In their recent annual report, loans to credit institutions and customers totaled €451bn which is 186% of its total subscribed capital (now €242bn). This means that in theory, EIB has “capacity”. However, EIB has been consistent in affirming its core mandate. Its Corporate Operational Plan for 2012-2014 was designed to stabilise ratios “*by reducing activity from the extraordinary levels undertaken since 2009 back to historical levels and strengthening revenue generation and hence the capital base*” (2012 Report).

Following Draghi's comments, we will have to wait until further deliberations from European institutions about how exactly they are to shore up the SME sector. In our view, recent comments by ECB Governing Council members suggest that any formal policy on this matter is far from being imminent ([ECB Dampens Market Expectations of SME Lending Programme](#)). In the meantime, our broader arguments continue to suggest that the ECB won't be in a position to hike rates for a very long time. Domestic factors are therefore unlikely to provide a fundamental impetus to structurally higher Bund yields in the near-term in our view.

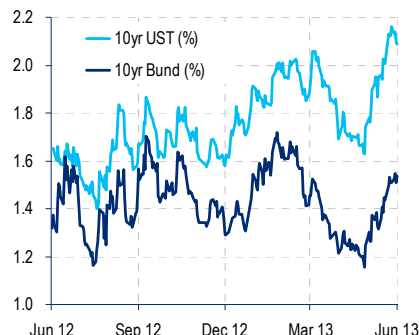
The slow down in austerity, ratings and yield impact

Downgrade risks have receded and spreads remain at relatively low levels

Another factor for core markets that is receiving attention is the effect that a relaxation on austerity targets might have. Insofar as a slower pace in budgetary consolidation could weaken debt metrics which in turn could raise downgrade risk, S&P recently stated in a report that “*under our criteria, we would not likely change our ratings if there were a temporary slippage in a sovereign's progress towards consolidation if we were to see evidence of a viable strategy to secure sustainable public finances and economic growth over the long-term*”³. In the same publication, S&P stated that they have reviewed their sovereign rating drivers and “*see no immediate effect on our ratings on eurozone sovereigns*”. Indeed, so far over 2012, S&P has “upgraded” the outlook on various sovereigns from “negative” to “stable” (such as Portugal, Austria and Ireland). Notwithstanding central bank action, we do not anticipate significant impact on core yields inspired by downgrade risk in the near-term.

³ “Is Austerity Being Relaxed In The Eurozone – And Does It Matter For Ratings” S&P, 4th June 2013

Figure 15. Bund yields remain in a range



Source: Citi Research

Conclusion: Bund yields in a range, but...

Today's ECB meeting underscores the point that the eurozone is in a distinctly different stage in both the business and monetary cycle when compared to the US. Yes, growth was slightly revised up for 2014 and the tone of the conference was perhaps less dovish than previously expected. However, the ECB only just *cut* rates in May and the door remains firmly open for additional loosening in the quarters ahead. Citi expects a further cut in the refi rate by 25bp in Q4 this year. Given sluggish growth, low inflation and a backdrop of private and public sector deleveraging, it is hard to provide European-centric arguments for structurally higher yields ([European Rates Weekly - Trades for a Lost Decade](#)).

At 1.54%, 10yr Bunds remain comfortably within the established 1.2%-1.7% range, unlike US Treasuries (Figure 15) which are contending with a mixture of economic recovery and Fed language about its QE programme (and "data driven performance" is perhaps more likely going forward [Market Impact of ADP and NFP Have Risen in 2013](#)). Positioning and the flushing out of longs may well mean that Bund yields creep higher in the very near term, but beyond that, we believe focus will likely more to drivers more global in character. Bunds have clearly not been immune to the rise in Treasury yields and the extent to which the US can dominate market moves in Europe will largely depend on the strength of macro data. Further evidence of the importance of this as a driver will be provided tomorrow. A strong non-farm payrolls print is clearly a key near-term risk for higher Bund yields still. Citi expects a 170K reading, close to the consensus expectation of 165K.

UK Rates: Impact of cash flows on gilts

Nishay Patel
+44-20-7986-1007
nishay.patel@citi.com

Following the recent release of the 2Q issuance calendar for FY2013/14 and tomorrow's settlement of £6.9bn gilt coupons (including DMO and BoE holdings) we take a look at the upcoming gilt cash flow profile and assess what this means for gilt yields.

Linker and conventional supply

Figure 16 below shows the upcoming profile for conventional and linker supply to end-September. There are a number of key points:

No linker issuance in the next four weeks but there will be a large amount of conventional supply during this period, particularly in the long-end.

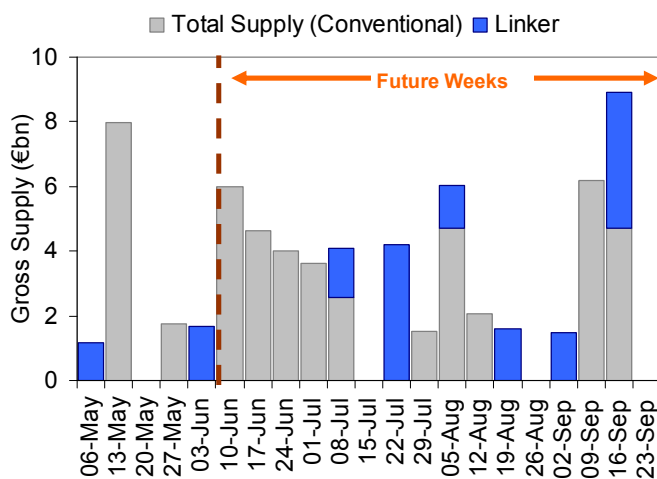
In the next 5 weeks:

(A) £9.6bn of gilt issuance in 10yrs+

(B) DV01 of conventional gilt supply is approximately £29million/bp

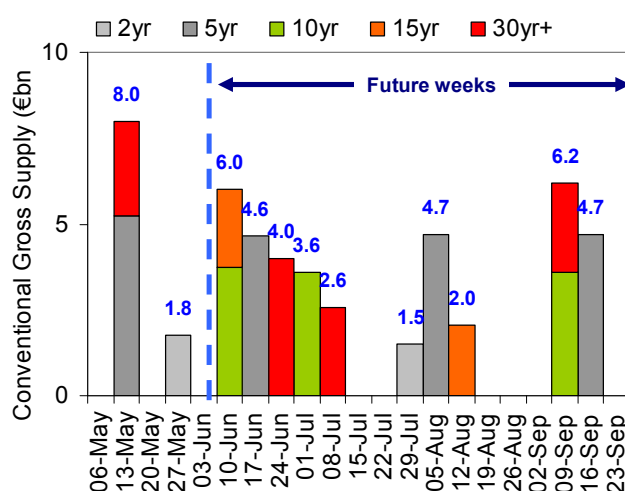
- **Pause in linker issuance:** Following this week's linker '24 supply there will be no linker supply in the next four weeks (the next linker auction is on 9 July).
- The lack of long-end syndications in the last quarter has been beneficial to long-dated gilt linkers. However, pressure on break-evens is likely to build as the market starts to price in two long-end syndications over the next quarter.
- **Long-end conventional supply:** After a one week break in conventional supply, there will be two conventional auctions next week. This will include issuance in 10yr+ for the first time in two months (Figure 17). It is also worth noting that there is a large block of 10yr+ issuance over the next five weeks (£9.6bn), particularly in the long-end which will feature a 50-60yr syndication in the second half of June and 30yr supply on 11 July.
- We would expect the large amount of long-end gilt supply to weigh on gilts over the next five weeks (£29million/bp), especially given the absence of coupons and redemptions (more in the next section).

Figure 16. Gilt issuance to end-Sept. No linker supply for five weeks but a large amount of conventional supply during this period



Source: Citi Research, DMO

Figure 17. Conventional gilt supply: There will be a sizeable amount of long-end issuance during the next five weeks (DV01 = £29million/bp)



Source: Citi Research, DMO

Cash flow profile for conventionals

No coupons or redemptions in the next 5 weeks

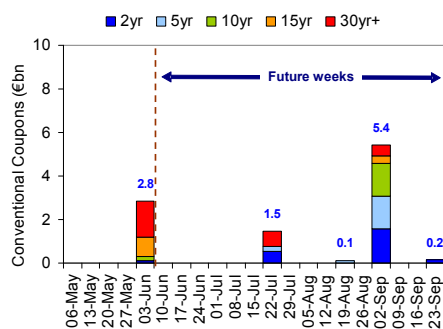
Coupons and net supply: As noted earlier, there will be a sizeable amount of conventional issuance in the next five weeks. Over this period there are no coupon payments or redemptions from conventionals: the next wave of coupon payments will be in the week beginning 22 July for only £1.5bn⁴ (Figure 18) and the next conventional redemption will not be until 27 September for £4.2bn⁴.

⁴ excluding DMO and BoE holdings

The upcoming cash flow profile is strong non-supportive for gilts due to the absence of coupon payments and redemptions

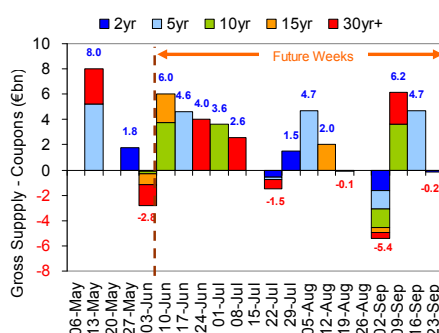
This can be seen in Figure 19 below (which shows gross supply less coupon payments) and in Figure 20 (gross supply less coupon payments and redemptions). The absence of coupons and redemptions results in a strongly non-supportive cash flow profile until the second half of July (Figure 20). All things being equal, the non-supportive cash flow profile should put upward pressure on gilt yields.

Figure 18. Coupon payments excluding DMO & BoE holdings. No gilt coupons until 22 July.



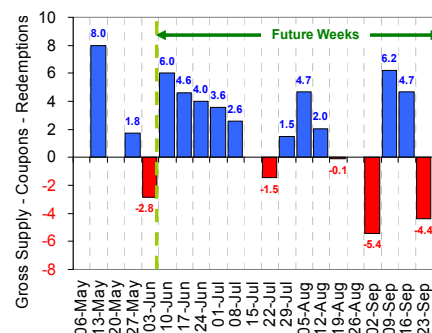
Source: Citi Research, DMO, Bloomberg

Figure 19. Net supply is strongly positive (non-supportive for gilts) over the next 5 weeks.



Source: Citi Research, DMO, Bloomberg

Figure 20. Next conventional gilt redemption is in the w/c 23 Sept (exc. DMO & BoE holdings)

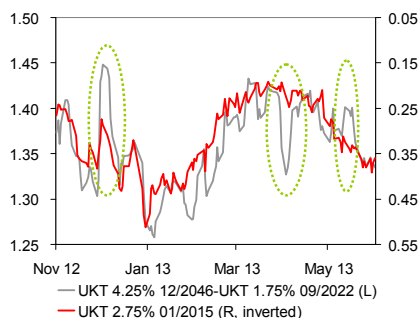


Source: Citi Research, DMO, Bloomberg

A non-supportive gilt cash flow profile & a Bund redemption next week provides a good entry point for short gilt vs Bund positions

The weight of supply could put steepening pressure on gilts but directionality is still the overriding driver

Figure 21. Gilt 10s30s continues to be directional. Dislocations between the curve and yields tend to be short-lived



Source: Citi Research

Trading strategies

Cross-market spreads

- **Gilt-Bunds:** We expect the resumption of conventional supply and the sizeable amount of the DV01 of issuance (£29million/bp) that will take place over the next five weeks to put upward pressure on gilt yields. The non-supportive cash flow profile during this period is likely to result in 10yr gilt underperforming Bunds (we prefer cross-market risk rather than outright short duration positions and curve trades). We reiterate our view that the 10yr gilt-Bund spreads will trade firmly between 50-80bp over the next few months⁵.
- **Timing:** In terms of timing short 10yr gilt vs Bund positions it is worth noting that tomorrow's settlement of gilt coupon payments (£2.8bn excluding DMO and BoE holdings) may provide some support for gilts for the remainder of this week⁶. We therefore recommend fading any outperformance of gilts vs Bunds during the remainder of this week and would look to increase risk over the course of next week when net cash flow positions are strongly non-supportive for gilts. There will also be a €17bn redemption in Germany next week which should also be supportive for short gilt and long Bund positions

Curve

- **Gilt 10s30s:** As we have discussed in [previous occasions](#), the price action in the 10s30s gilt curve is chiefly governed by market direction (bull-steepening and bear-flattening). That is not to say that the curve can't de-couple from the level of yields. The curve has dislocated from the level of yields in the past but these tend to be short lived and are normally associated with LDI-related headlines (Figure 21). The large weight of long-end issuance over the next few weeks could put some steepening pressure on the curve but we would expect the directionality of 10s30s to be the dominant driver of curve moves.

⁵ [European Rates Weekly, 16 May 2013](#)

⁶ A large portion of these may have been reinvested already given that the earlier date for reinvestment would have been today.

SSA Strategy

EFSF in June 2013: Au revoir, not adieu

Peter Goves

+44-20-7986-3215

peter.goves@citi.com

EFSF no longer active in new programmes: In accordance with the EFSF's Articles of Incorporation, "no new financing programme and no new loan facility agreements will be established or entered into after 30th June 2013". Since it was established as a vehicle under Luxembourgish law in June 2010, the EFSF has been involved in rescue packages for Ireland, Portugal, Greece and Spain (although the responsibilities regarding the Spanish bank assistance package has been transferred to the ESM). Details of its commitment history are provided below.

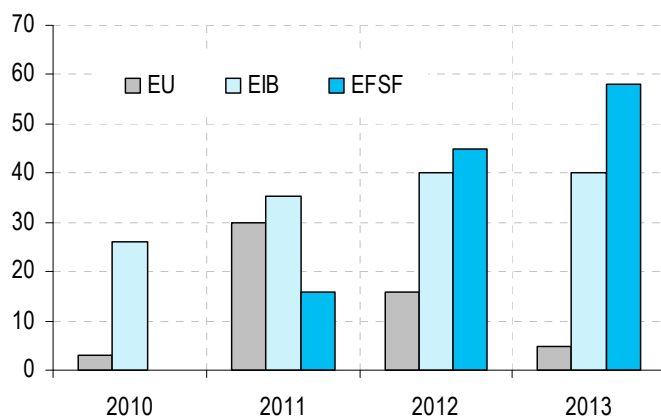
Figure 22. EFSF and ESM Commitment History and Details

Date	Sovereign	EFSF/ESM Commitments	EFSF/ESM	Details
Nov-10	Ireland	17.7	EFSF	EFSF commitments to the total €85bn Troika programme
May-11	Portugal	26	EFSF	EFSF commitments to the total €78bn Troika programme
Mar-12	Greece PSI	35.5		PSI bonds
		48		Bank recaps
		24.4		Funds carried over from 1st Greek bailout
		36.7		2nd Greek bailout funds
		144.6	EFSF	
Dec-12	Spain	100	Now ESM	Up to €100bn available for Spanish bank recap package Originally EFSF but later transferred to ESM
Mar-13	Cyprus	9	ESM	ESM commitments of €9bn, IMF contributions of €1bn
Total Agreed Commitments EFSF		192		Portugal, Ireland, Greece, includes €3.7bn cash buffer
Total Agreed Commitments ESM		109		Spain and Cyprus, remaining lending capacity €391bn

Source: Citi Research, EFSF/ESM

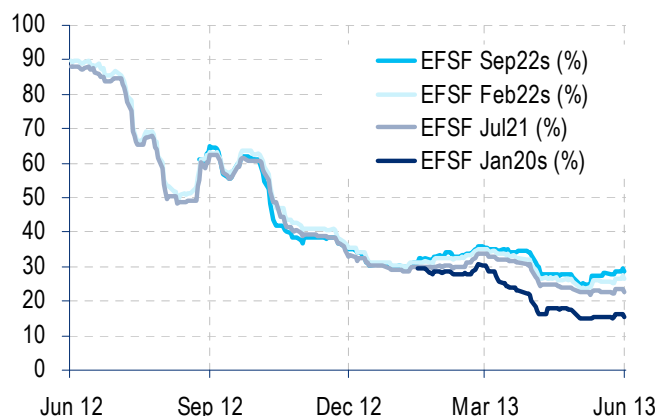
EFSF as an important SSA issuer: The EFSF's first bond was issued back in January 2011 in a €5bn 5yr transaction priced at mid-swaps +6bp and it has been a frequent issuer ever since. In fact, the EFSF will be the single largest supranational supplier of euro-denominated debt with issuance in 2013 set to be €58bn (Figure 24). The EIB has traditionally been the largest issuer and is set to issue around €70bn in 2013 across all currencies (euro denominated supply is usually around 40%-55%).

Figure 23. EUR denominated supranational supply (€bn)



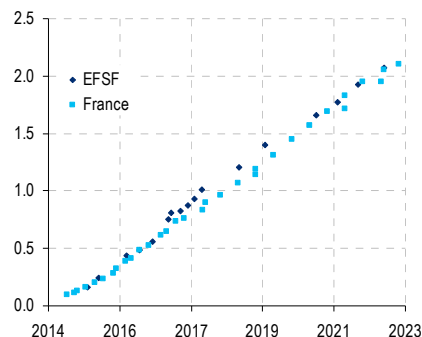
Source: Citi Research, Dealogic, EU, EIB, EFSF

Figure 24. EFSF 7yr-9yr ASW spread history (bp)



Source: Citi Research

Figure 25. EFSF and France Yields (%)



Source: Citi Research

Secondary market performance: Despite elevated levels of supply, spreads have performed. Over the course of 2012, the EFSF benefited from the hunt-for-yield environment and outperformed other portions of the SSA universe. In 2013, spreads remain around historic low levels and movements have generally been stable as shown in Figure 24. EFSF yields have also performed well relative to some EMU sovereigns such as France, with spreads now near the low-end of historic ranges. The current yields curves are shown in Figure 25.

EFSF will be around for a very long-time: The euro area's permanent financial stability mechanism is now the ESM (further details can be found in our piece, [Euro SSA Strategy - The EFSF and ESM in 2013](#)). However, going forward the EFSF will remain in existence and continue to refi debt for many years. It has a preliminary funding programme for 2014 for example of €35.3bn. The EFSF continues to issue to fulfil its Troika commitments but also to refi the bonds it issued. Note that the loans provided to programme countries have a maturity of around 12.5yrs (which looks set to be extended) and so EFSF bonds are rolled until the loans are all fully repaid.

Au-revoir, not adieu

Hence, although the EFSF may not enter into new programmes, it will continue to refi bonds for many years. It will therefore exist in an administrative capacity until all outstanding debt has been repaid. The longest dated bond outstanding is the EFSF 3.375% Apr 2037s, so although some of the EFSF's functions are set to cease next month, it's not really farewell completely.

Covered Bond Strategy

Michael Spies
+49-69-1366-8403
michael.spies@citi.com

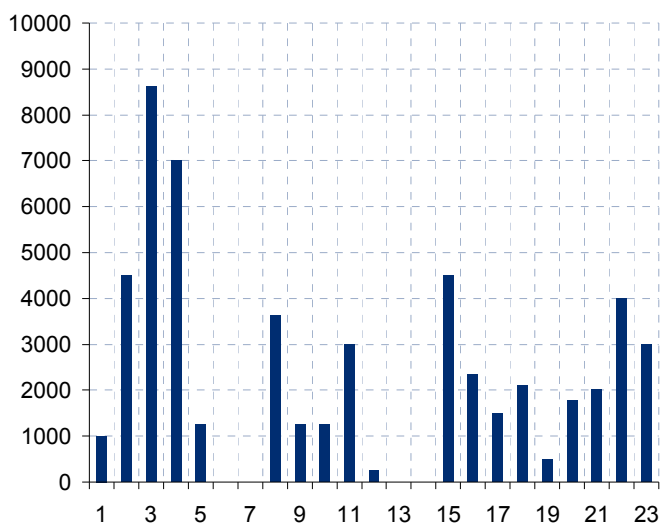
Few topics have been discussed with equal energy as Commerzbank's SME bond in the covered bond community. In the near future, the bank will likely show that it can also go the traditional way but the collateral will again display the bank's stance in Germany's SME market.

Commerzbank goes traditional

Primary market activity rebounded after a drought period

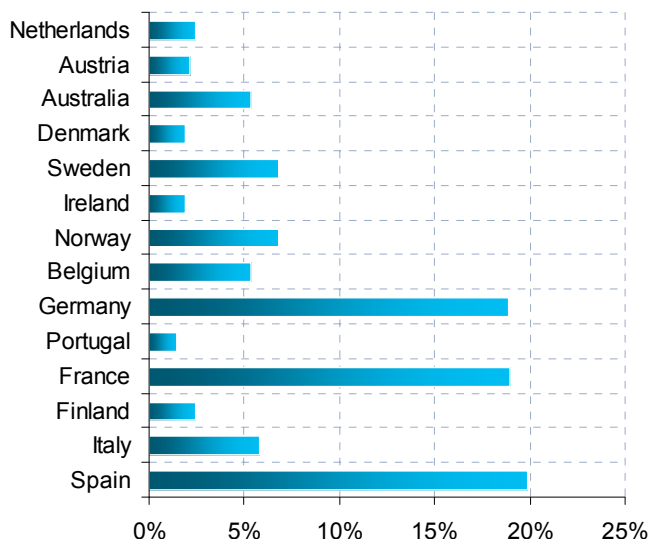
A wave of new issuances and announcements flooded the severely thin European covered bond primary market this week. Many issuers were waiting for the end of the various holidays in May to return to the market. However, this coincided with general higher volatility in world bond markets, although so far the effects on covered bonds have been fairly muted until today. Nevertheless, the probability of a steady comeback of new issue premiums increased as yield levels find themselves on very compressed levels now and investors' cautiousness increased. Within the issuers' attempts to step to the market, Bloomberg also reported an upcoming deal of Commerzbank. After the landmark issuance of a SME structured "covered" bond in February this year, the issuer plans to return to the market with a public sector pfandbrief.

Figure 26. New issuance per week, EURmn



Source: Citi Research

Figure 27. Germany again plays a determining role in covered bonds



Source: Citi Research; share of new issuance in %

CMZB will follow, probably in this month

Since 22nd of May 2012, CMZB officially has a license to issue public sector pfandbriefe as well as ship pfandbriefe given the finished merger of its 100% affiliate Deutsche Schiffsbank AG. The latter has been active in the pfandbrief market in the past. This is why CMZB has about €1bn of public sector pfandbriefe outstanding. However, at the same time the German bank has been working on becoming a frequent benchmark issuer itself and the work is about to be finished and the "inherited" pfandbrief structure can now be used. We expect the first benchmark public sector pfandbrief to be issued before the end of 2Q13. Apart from this, CMZB is working on its mortgage pfandbrief program. In this case, the issuer had to start from zero, although a first benchmark from this program is expected in 2013. One should clearly state that these new programs are set up independently from the outstanding pfandbriefe of its affiliate HYPFRA. The pfandbrief programs of this issuer are in a wind-down scenario and might see further changes as CMZB has discussions to sell some of its commercial real estate business in the UK which is currently also part of HYPFRA's mortgage cover pool.

The new collateral will be guaranteed export credit financings....

As CMZB has been through several restructurings, management decided to transfer public sector financing to its "non core assets" business. Therefore, traditional public sector financing should not come back as a core business. Against this backdrop, it is clear that the issuer's new public sector pfandbrief will not use the traditional assets as collateral. Instead, the already existing cover pool which mainly consists of claims to regional authorities in Germany (58%) will be mixed with claims which mirror the institution's stance in the SME market. According to the issuer, the new collateral will exclusively be export credit financings. These will be equipped with a guarantee of Euler Hermes. With this guarantee, export credit financing becomes eligible for public sector pfandbriefe. And this would also imply that the share of claims to bodies in Germany would rise from already high 86% of the current pool composition. At times of writing we haven't had an insight into the new cover pool composition. Therefore, we cannot give any statements on certain key figures.

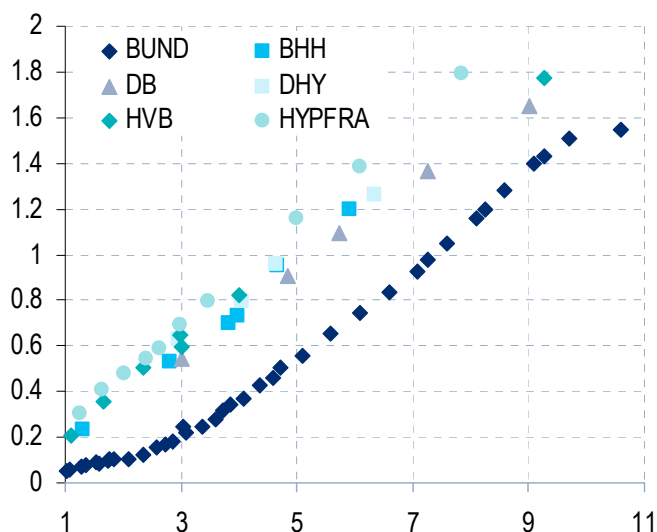
... which is not totally new to the covered bond market

Export credit financing as the main asset class in cover pools is not a new story. In Germany, however, this is the exception of the rule. Spain was the first country which even invented a new class of cédulas for such claims (Cédulas de internacionalización) which however haven't been brought to the market so far. Moreover, in France, some Obligations Foncières are mainly backed by this asset class but with a guarantee of certain sovereigns. Two examples of such SCF programs are the ones of BNP Paribas and Crédit Agricole.

A yield difference to HYPFRA will probably be given

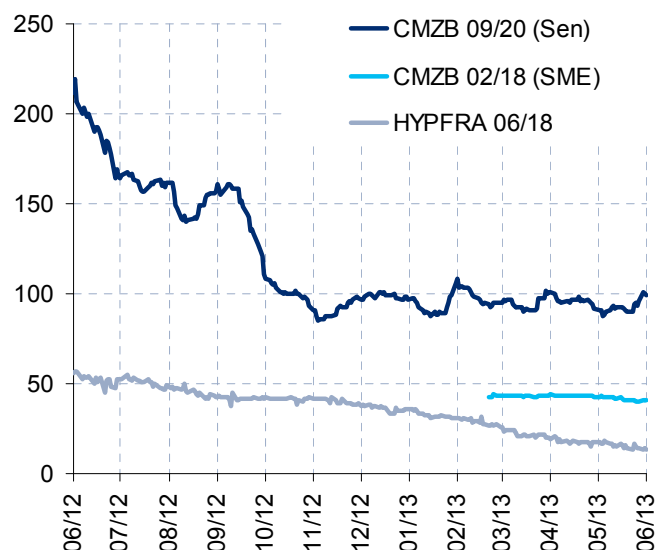
We think that a potential CMZB public sector pfandbrief will find tighter pricing levels than the outstanding pfandbriefe of its affiliate, HYPFRA. However, we would expect a yield premium to the lowest yielding pfandbriefe given the fact that it will be the inaugural pfandbrief deal on the one hand, but also that the issuer displays lower ratings than the pfandbrief issuers which trade tightest among the sector on the other hand.

Figure 28. Yield universe of selected German pfandbriefe and BUND, %



Source: Citi Research

Figure 29. The new pfandbrief should be the lowest yielding instrument in CMZB's capital structure, ASW-spread



Source: Citi Research

Bund Technical Analysis

Near-term Bullish Signals

Aman Bansal, CFA
+91-22-4277-5021
aman1.bansal@citi.com

We look at key technical indicators to identify emerging patterns in 10yr Bund yields. We are seeing bullish divergence and support from levels of RSI and stochastic oscillator, indicating a reversal in Bund yields. The last time these signals concurred was in June 2009 that led to a 50bps rally.

Figure 1 shows a candlestick chart of daily 10yr Bund yields. A white candle indicates that the closing level is above the opening level, and a blue candle indicates that the closing level is below the opening level. Wicks on both ends indicate intraday range.

RSI

- RSI crossed into oversold territory last week and has just started to reverse.

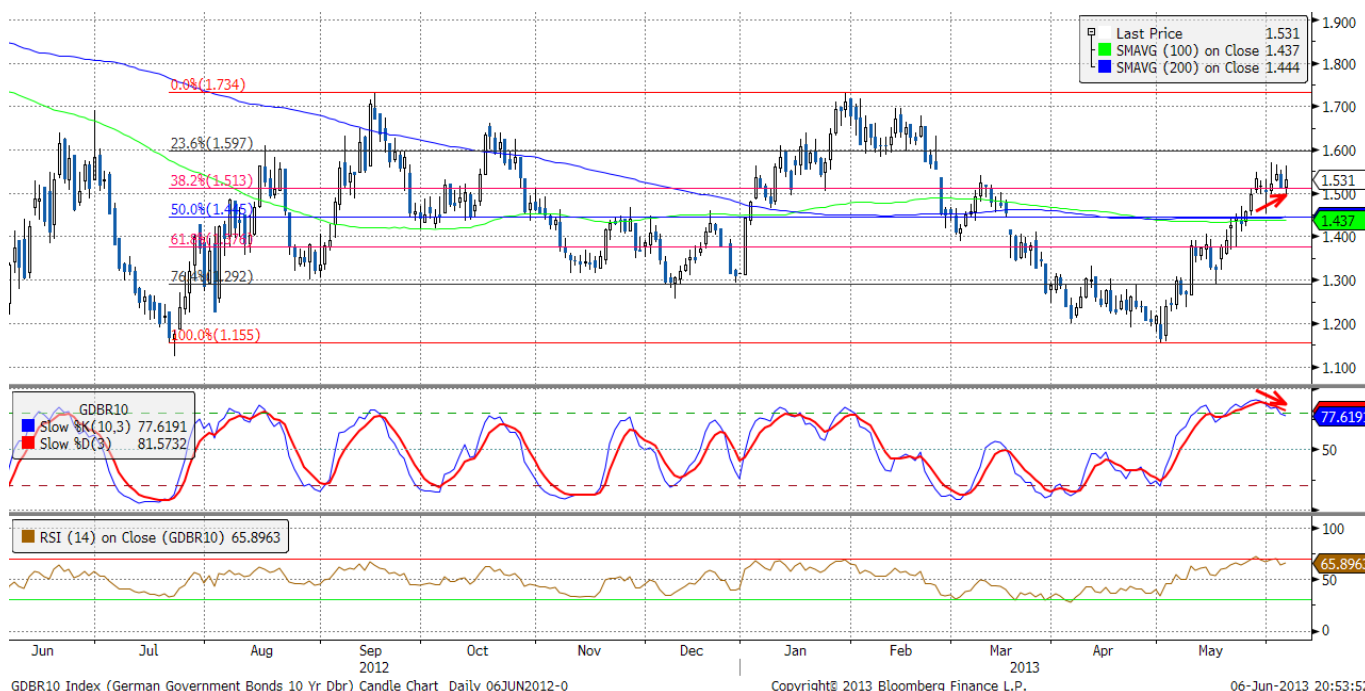
Stochastic oscillator

- More importantly, we have started to see divergence between the yield level and slow stochastic oscillator (indicated by red arrows in the figure). This is a near-term bullish signal. Furthermore, the oscillator has been above the 80 level since 21 May, but has now turned around and fallen below 80 yesterday. This lends strength to the signal.

Support and resistance

- We see first support at 1.60% at 23.6% Fibonacci retracement level from 1yr intraday highs. If this level is broken, the next support is 1.73%, which is the highest intraday level in a year and has been respected twice. We expect the first resistance level to be 1.44%, where 100 and 200 day moving averages converge. This is also the 50% retracement level.

Figure 30. 10yr Bund yield candlestick chart with 100/200 day moving average, slow stochastic (10,3,3) and RSI



Source: Bloomberg

EMU relative value trades

Mohit Aggarwal

+91-22-4277-5022

mohit1.aggarwal@citi.com

We highlight a number of relative value opportunities with attractive 3 month carry in the 2-5yr sectors of the French, Spanish and Dutch yield curves.

France: Taking advantage of cheapness of Feb16s or Jul17s

Buy Feb16s vs surrounding issues

■ Buy 2.25% Feb16 vs 2% Jul15 and 1.75% Feb17 (3m carry: +6.1bp) – Figure 30.

Or, Buy 2.25% Feb16 vs 2% Jul15 and 3.75% Apr17 (3m carry: +6.2bp) – Figure 31.

Buy Jul17s vs surrounding issues

■ Buy 1% Jul17 vs 3% Oct15 and 4.25% Oct18 (3m carry: +1.7bp) – Figure 32.

Figure 31. France: 2% Jul15, 2.25% Feb16, 1.75% Feb17 microfly (bp)



Source: Citi Research

Figure 32. France: 2% Jul15, 2.25% Feb16, 3.75% Apr17 microfly (bp)



Source: Citi Research

Figure 33. France: 3% Oct15, 1% Jul17, 4.25% Oct18 microfly (bp)



Source: Citi Research

Spain: 2s4s steepener

Switch into Oct15s

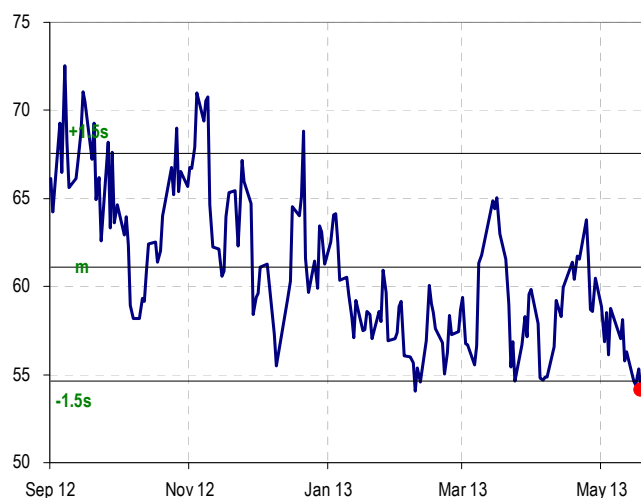
■ Switch from 3.8% Jan17 to 3.75% Oct15 at 55bp (3m carry: +13.3bp) - Figure 33.

The Netherlands: Fading the richness of Jan18s

Sell Jan18s vs surrounding issues

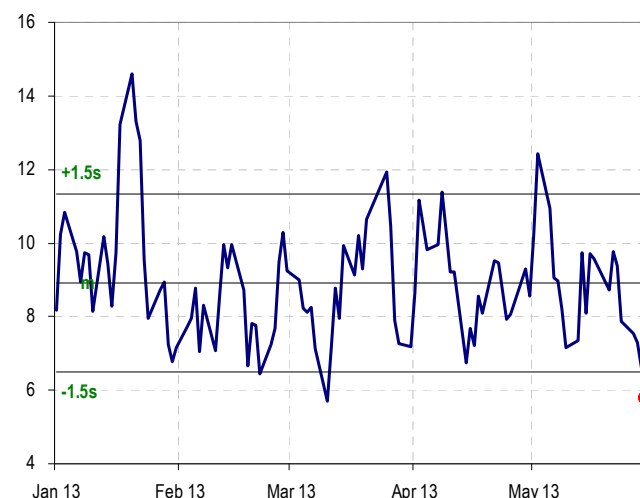
■ Sell 1.25% Jan18 vs 0% Apr16 and 4% Jul19 (3m carry: -0.7bp) - Figure 34.

Figure 34. Spain: 3.8% Jan17 – 3.75% Oct15 yield spread (bp)



Source: Citi Research

Figure 35. Netherlands: 0% Apr16, 1.25% Jan18, 4% Jul19 microfly (bp)



Source: Citi Research

Relative value tables

Regular readers will be familiar with the Relative Value Appendix showing individual bonds from the major EMU/UK markets in the context of their 6-month trading range relative to our fitted curve. We have expanded this approach and summarized the results below.

For example, Figure 35 shows the five cheapest and richest bonds in Germany relative to a fitted yield curve (shown on the left half of the page) and to the euro swap curve (right half of page). The table identifies benchmarks and CTDs and also gives the amount outstanding and initial issue date.

Figure 36. Yield Spread and CAS to Fitted Relative Value Curve (6m History)

GERMANY

Versus Govt Curve (CAS)					Versus Swap Curve (CAS)				
	Rank		ZScore	Issued		Rank		ZScore	Issued
Richest ↑	1	0.75 Feb17	-2.06	Jan12	Richest ↑	1	1.50 May23 (10y)	-1.73	May13
	2	5.50 Jan31	-1.89	Oct00		2	0.25 Apr18 (5y)	-1.27	Apr13
	3	6.25 Jan30	-1.69	Jan00		3	3.25 Jul21	-0.70	Apr11
	4	4.75 Jul34	-1.63	Jan03		4	3.00 Jul20	-0.68	Apr10
	5	3.25 Jul21	-1.54	Apr11		5	2.00 Jan22 (RX)	-0.66	Nov11
Cheapest ↓	5	3.50 Jul19	0.78	May09	Cheapest ↓	5	2.00 Feb16	0.90	Jan11
	4	1.50 Feb23	0.82	Jan13		4	2.75 Apr16	0.96	Apr11
	3	4.25 Jul39 (UB)	1.03	Jan07		3	3.50 Jan16	0.96	Nov05
	2	4.75 Jul40	1.20	Jul08		2	1.75 Oct15	1.06	Sep10
	1	0.25 Apr18 (5y)	1.51	Apr13		1	3.25 Jul15	1.12	May05

Source: Citi Research

Figure 36 (overleaf) looks at bonds of all maturities. For investors with maturity restrictions we have also provided another set of summary tables (Figure 37 and Figure 39) which looks at bonds shorter than 12 years and longer than 8 years, and uses the same criteria as Figure 36 to highlight the richest and cheapest bonds in these narrower maturity spectrums.

These summary tables should help facilitate efficient screening of bonds and, among other things, provide a selection of starting points when considering switches.

EMU relative value table – all maturities

Figure 37. Coupon Adjusted Spread to Fitted Curve and Swap Curve by Country (6m History); All bonds on each curve

		Versus Govt Curve (CAS)				Versus Swap Curve (CAS)			
Country	Rank	Coupon	ZScore	Issued	Direction	Rank	Coupon	ZScore	Issued
GERMANY	1	0.75 Feb17	-2.06	Jan12	Richest	1	1.50 May23 (10y)	-1.73	May13
	2	5.50 Jan31	-1.89	Oct00		2	0.25 Apr18 (5y)	-1.27	Apr13
	3	6.25 Jan30	-1.69	Jan00		3	3.25 Jul21	-0.70	Apr11
	4	4.75 Jul34	-1.63	Jan03		4	3.00 Jul20	-0.68	Apr10
	5	3.25 Jul21	-1.54	Apr11		5	2.00 Jan22 (RX)	-0.66	Nov11
	5	3.50 Jul19	0.78	May09	Cheapest	5	2.00 Feb16	0.90	Jan11
	4	1.50 Feb23	0.82	Jan13		4	2.75 Apr16	0.96	Apr11
	3	4.25 Jul39 (UB)	1.03	Jan07		3	3.50 Jan16	0.96	Nov05
	2	4.75 Jul40	1.20	Jul08		2	1.75 Oct15	1.06	Sep10
	1	0.25 Apr18 (5y)	1.51	Apr13		1	3.25 Jul15	1.12	May05
FRANCE	1	4.00 Apr18 (BTA)	-1.41	Apr07	Richest	1	4.25 Oct23	-1.12	Oct06
	2	3.50 Apr20	-1.27	Feb10		2	2.25 Oct22	-1.07	Oct11
	3	3.00 Oct15	-1.05	Oct04		3	3.00 Apr22 (OAT)	-1.05	Feb12
	4	4.25 Apr19	-1.02	Apr03		4	3.25 Oct21	-1.01	Oct10
	5	2.00 Jul15	-0.95	Jun10		5	3.75 Apr21	-0.99	Apr05
	5	3.75 Apr17	1.35	Apr06	Cheapest	5	5.00 Oct16	0.62	Oct00
	4	4.00 Apr55	1.68	Apr04		4	3.25 Apr16	0.78	Apr05
	3	3.50 Apr26	1.69	Apr10		3	2.50 Jul16	0.78	Jul10
	2	2.25 Feb16	1.92	Feb10		2	2.25 Feb16	1.49	Feb10
	1	4.00 Apr60	2.66	Apr09		1	0.25 Nov15 (2y)	2.37	Nov12
ITALY	1	4.00 Feb37	-2.56	Aug05	Richest	1	4.00 Feb37	-1.58	Aug05
	2	3.50 Nov17	-1.56	Nov12		2	5.75 Feb33	-1.18	Feb02
	3	5.00 Mar25	-1.35	Mar09		3	5.00 Aug34	-1.16	Aug03
	4	4.25 Feb19	-1.32	Feb03		4	4.75 Sep28	-1.11	Jan13
	5	4.50 Aug18	-1.22	Feb08		5	4.50 Mar26	-1.11	Sep10
	5	5.00 Aug34	1.33	Aug03	Cheapest	5	3.75 Aug16	-0.66	Feb06
	4	3.75 Aug16	1.64	Feb06		4	4.75 Sep16	-0.57	Sep11
	3	3.75 Aug15	1.91	Feb05		3	3.50 Jun18 (5y)	-0.50	Apr13
	2	4.75 Sep16	2.11	Sep11		2	2.25 May16	0.06	Apr13
	1	3.00 Nov15	2.51	Nov10		1	4.75 Sep44	1.01	Mar13
N'LANDS	1	4.00 Jan37	-2.11	Apr05	Richest	1	3.75 Jan23	-0.44	Jan06
	2	3.75 Jan23	-1.80	Jan06		2	3.50 Jul20	-0.36	Feb10
	3	3.50 Jul20	-0.98	Feb10		3	3.25 Jul21	-0.22	Mar11
	4	4.50 Jul17	-0.85	Jul07		4	2.25 Jul22	-0.12	Feb12
	5	4.00 Jul18	-0.60	Feb08		5	4.00 Jan37	-0.11	Apr05
	5	2.25 Jul22	0.06	Feb12	Cheapest	5	1.25 Jan18 (5y)	0.30	Jul12
	4	2.50 Jan33	0.58	Mar12		4	4.50 Jul17	0.62	Jul07
	3	2.50 Jan17	0.84	Jun11		3	2.50 Jan17	1.22	Jun11
	2	4.00 Jul19	0.96	Feb09		2	4.00 Jul16	1.38	Jul06
	1	3.75 Jan42 (30y)	1.46	May10		1	3.25 Jul15	1.67	Jun05
SPAIN	1	3.25 Apr16	-2.41	Nov10	Richest	1	5.85 Jan22 (FBB)	-1.25	Nov11
	2	4.90 Jul40	-1.53	Jun07		2	4.80 Jan24	-1.21	Sep08
	3	4.10 Jul18	-1.39	Feb08		3	4.65 Jul25	-1.20	Feb10
	4	5.85 Jan22 (FBB)	-1.11	Nov11		4	4.90 Jul40	-1.19	Jun07
	5	4.50 Jan18 (5y)	-0.94	Nov12		5	5.75 Jul32	-1.18	Jan01
	5	4.80 Jan24	1.89	Sep08	Cheapest	5	4.00 Jul15	-0.89	Jan12
	4	5.90 Jul26	2.06	Mar11		4	3.15 Jan16	-0.87	Sep05
	3	4.85 Oct20	2.48	Jul10		3	3.75 Oct15	-0.81	Sep12
	2	3.75 Oct15	2.71	Sep12		2	3.30 Jul16	0.02	Apr13
	1	4.00 Apr20	3.15	Jan10		1	4.40 Oct23	0.95	May13
BELGIUM	1	3.25 Sep16	-1.79	Jan06	Richest	1	4.25 Sep22	-0.36	Jan12
	2	4.00 Mar17	-1.05	Jan07		2	3.75 Sep20	-0.34	Jan10
	3	4.00 Mar18	-0.81	Jan08		3	4.25 Sep21	-0.31	Jan11
	4	5.00 Mar35	-0.45	May04		4	3.00 Sep19	-0.28	Apr12
	5	3.75 Sep20	-0.28	Jan10		5	4.50 Mar26	-0.25	Jun11
	5	2.25 Jun23 (10y)	0.62	Jan13	Cheapest	5	3.50 Jun17	0.14	Mar11
	4	4.00 Mar22	0.91	May06		4	4.25 Mar41 (30y)	0.27	Apr10
	3	4.00 Mar32	0.92	Mar12		3	3.75 Sep15	0.53	Mar05
	2	4.00 Mar19	1.33	Jan09		2	2.75 Mar16	0.56	Mar10
	1	4.25 Mar41 (30y)	1.42	Apr10		1	1.25 Jun18 (5y)	0.75	Feb13

Source: Citi Research

EMU relative value table – max 12yr maturity

Figure 38. Coupon Adjusted Spread to Fitted Curve and Swap Curve by Country (6m History); Bonds with a Maximum Maturity of 12yrs
Versus Govt Curve (CAS) Versus Swap Curve (CAS)

GERMANY

Rank		ZScore	Issued
1	0.75 Feb17	-2.06	Jan12
2	3.25 Jul21	-1.54	Apr11
3	1.25 Oct16	-1.53	Sep11
4	3.00 Jul20	-1.30	Apr10
5	2.25 Sep21	-1.24	Aug11
5	2.75 Apr16	0.67	Apr11
4	1.75 Jul22	0.72	Apr12
3	3.50 Jul19	0.78	May09
2	1.50 Feb23	0.82	Jan13
1	0.25 Apr18 (5y)	1.51	Apr13

Rank		ZScore	Issued
1	1.50 May23 (10y)	-1.73	May13
2	0.25 Apr18 (5y)	-1.27	Apr13
3	3.25 Jul21	-0.70	Apr11
4	3.00 Jul20	-0.68	Apr10
5	2.00 Jan22 (RX)	-0.66	Nov11
5	2.00 Feb16	0.90	Jan11
4	2.75 Apr16	0.96	Apr11
3	3.50 Jan16	0.96	Nov05
2	1.75 Oct15	1.06	Sep10
1	3.25 Jul15	1.12	May05

FRANCE

Rank		ZScore	Issued
1	4.00 Apr18 (BTA)	-1.57	Apr07
2	3.50 Apr20	-1.40	Feb10
3	1.75 May23 (10y)	-1.18	May12
4	3.00 Oct15	-1.18	Oct04
5	4.25 Apr19	-1.14	Apr03
5	2.25 Oct22	0.90	Oct11
4	0.25 Nov15 (2y)	1.05	Nov12
3	1.00 Jul17	1.16	Jul11
2	3.75 Apr17	1.19	Apr06
1	2.25 Feb16	1.81	Feb10

Rank		ZScore	Issued
1	4.25 Oct23	-1.12	Oct06
2	2.25 Oct22	-1.07	Oct11
3	3.00 Apr22 (OAT)	-1.05	Feb12
4	3.25 Oct21	-1.01	Oct10
5	3.75 Apr21	-0.99	Apr05
5	5.00 Oct16	0.62	Oct00
4	3.25 Apr16	0.78	Apr05
3	2.50 Jul16	0.78	Jul10
2	2.25 Feb16	1.49	Feb10
1	0.25 Nov15 (2y)	2.37	Nov12

ITALY

Rank		ZScore	Issued
1	3.50 Nov17	-1.57	Nov12
2	5.00 Mar25	-1.36	Mar09
3	4.25 Feb19	-1.32	Feb03
4	4.50 Aug18	-1.23	Feb08
5	4.50 Mar19	-0.96	Sep08
5	2.75 Dec15	1.32	Dec12
4	3.75 Aug16	1.63	Feb06
3	3.75 Aug15	1.91	Feb05
2	4.75 Sep16	2.10	Sep11
1	3.00 Nov15	2.51	Nov10

Rank		ZScore	Issued
1	5.00 Mar25	-1.10	Mar09
2	4.75 Aug23	-1.01	Feb08
3	3.00 Jun15 (BTS)	-0.99	Jun10
4	3.75 Aug21	-0.93	Feb06
5	4.50 Jul15	-0.93	Jul12
5	2.75 Dec15	-0.69	Dec12
4	3.75 Aug16	-0.66	Feb06
3	4.75 Sep16	-0.58	Sep11
2	3.50 Jun18 (5y)	-0.50	Apr13
1	2.25 May16	0.06	Apr13

N'LANDS

Rank		ZScore	Issued
1	3.75 Jan23	-2.03	Jan06
2	3.50 Jul20	-1.15	Feb10
3	4.50 Jul17	-0.89	Jul07
4	4.00 Jul18	-0.69	Feb08
5	3.25 Jul21	-0.57	Mar11
5	1.25 Jan18 (5y)	-0.40	Jul12
4	4.00 Jul16	-0.37	Jul06
3	3.25 Jul15	-0.30	Jun05
2	2.50 Jan17	0.80	Jun11
1	4.00 Jul19	0.85	Feb09

Rank		ZScore	Issued
1	3.75 Jan23	-0.47	Jan06
2	3.50 Jul20	-0.38	Feb10
3	3.25 Jul21	-0.24	Mar11
4	2.25 Jul22	-0.14	Feb12
5	4.00 Jul18	-0.09	Feb08
5	1.25 Jan18 (5y)	0.30	Jul12
4	4.50 Jul17	0.61	Jul07
3	2.50 Jan17	1.22	Jun11
2	4.00 Jul16	1.38	Jul06
1	3.25 Jul15	1.67	Jun05

SPAIN

Rank		ZScore	Issued
1	3.25 Apr16	-2.41	Nov10
2	4.10 Jul18	-1.39	Feb08
3	5.85 Jan22 (FBB)	-1.12	Nov11
4	4.50 Jan18 (5y)	-0.94	Nov12
5	4.40 Oct23	-0.93	May13
5	4.30 Oct19	1.72	Jun09
4	4.80 Jan24	1.88	Sep08
3	4.85 Oct20	2.46	Jul10
2	3.75 Oct15	2.71	Sep12
1	4.00 Apr20	3.14	Jan10

Rank		ZScore	Issued
1	5.85 Jan22 (FBB)	-1.25	Nov11
2	4.80 Jan24	-1.21	Sep08
3	5.50 Apr21	-1.15	Jan11
4	4.85 Oct20	-1.07	Jul10
5	4.10 Jul18	-1.05	Feb08
5	4.00 Jul15	-0.89	Jan12
4	3.15 Jan16	-0.87	Sep05
3	3.75 Oct15	-0.81	Sep12
2	3.30 Jul16	0.02	Apr13
1	4.40 Oct23	0.95	May13

BELGIUM

Rank		ZScore	Issued
1	3.25 Sep16	-1.87	Jan06
2	4.00 Mar17	-1.14	Jan07
3	4.00 Mar18	-0.91	Jan08
4	3.75 Sep20	-0.46	Jan10
5	4.25 Sep22	-0.40	Jan12
5	3.75 Sep15	0.51	Mar05
4	2.75 Mar16	0.51	Mar10
3	2.25 Jun23 (10y)	0.51	Jan13
2	4.00 Mar22	0.87	May06
1	4.00 Mar19	1.21	Jan09

Rank		ZScore	Issued
1	4.25 Sep22	-0.36	Jan12
2	3.75 Sep20	-0.35	Jan10
3	4.25 Sep21	-0.31	Jan11
4	3.00 Sep19	-0.29	Apr12
5	4.00 Mar18	-0.22	Jan08
5	5.50 Sep17	0.08	Jun02
4	3.50 Jun17	0.13	Mar11
3	3.75 Sep15	0.52	Mar05
2	2.75 Mar16	0.56	Mar10
1	1.25 Jun18 (5y)	0.73	Feb13

EMU relative value table – min 8yr maturity

Figure 39. Coupon Adjusted Spread to Fitted Curve and Swap Curve by Country (6m History); Bonds with a Minimum Maturity of 8yrs
Versus Govt Curve (CAS) Versus Swap Curve (CAS)

GERMANY

Richest ↑

Rank		ZScore	Issued
1	5.50 Jan31	-1.89	Oct00
2	6.25 Jan30	-1.69	Jan00
3	4.75 Jul34	-1.63	Jan03
4	3.25 Jul21	-1.54	Apr11
5	2.25 Sep21	-1.24	Aug11
5	1.50 Sep22	0.63	Sep12
4	1.75 Jul22	0.72	Apr12
3	1.50 Feb23	0.82	Jan13
2	4.25 Jul39 (UB)	1.03	Jan07
1	4.75 Jul40	1.20	Jul08

Cheapest ↓

Richest ↑

Rank		ZScore	Issued
1	1.50 May23 (10y)	-1.73	May13
2	3.25 Jul21	-0.70	Apr11
3	2.00 Jan22 (RX)	-0.66	Nov11
4	5.50 Jan31	-0.62	Oct00
5	2.25 Sep21	-0.61	Aug11
5	1.50 Feb23	-0.08	Jan13
4	3.25 Jul42	0.00	Jul10
3	2.50 Jul44 (30y)	0.04	Apr12
2	4.25 Jul39 (UB)	0.06	Jan07
1	4.75 Jul40	0.08	Jul08

Cheapest ↓

FRANCE

Richest ↑

Rank		ZScore	Issued
1	1.75 May23 (10y)	-1.00	May12
2	4.50 Apr41 (30y)	-0.90	Apr09
3	3.25 May45	-0.87	May12
4	4.00 Oct38	-0.72	Oct05
5	5.75 Oct32	-0.58	Oct00
5	2.25 Oct22	1.08	Oct11
4	2.75 Oct27	1.22	Oct11
3	4.00 Apr55	1.58	Apr04
2	3.50 Apr26	1.61	Apr10
1	4.00 Apr60	2.31	Apr09

Cheapest ↓

Richest ↑

Rank		ZScore	Issued
1	4.25 Oct23	-1.10	Oct06
2	2.25 Oct22	-1.06	Oct11
3	3.00 Apr22 (OAT)	-1.04	Feb12
4	3.25 Oct21	-1.00	Oct10
5	3.50 Apr26	-0.84	Apr10
5	4.50 Apr41 (30y)	-0.52	Apr09
4	4.00 Apr55	0.04	Apr04
3	4.00 Apr60	0.14	Apr09
2	1.75 May23 (10y)	0.42	May12
1	3.25 May45	0.61	May12

Cheapest ↓

ITALY

Richest ↑

Rank		ZScore	Issued
1	4.00 Feb37	-2.56	Aug05
2	5.00 Mar25	-1.32	Mar09
3	4.75 Aug23	-0.92	Feb08
4	5.50 Nov22 (IK)	-0.49	May12
5	4.50 May23 (10y)	-0.39	Mar13
5	5.00 Sep40 (30y)	0.41	Sep09
4	4.75 Sep21	0.47	Mar11
3	5.00 Aug39	0.49	Aug07
2	4.75 Sep28	0.74	Jan13
1	5.00 Aug34	1.37	Aug03

Cheapest ↓

Richest ↑

Rank		ZScore	Issued
1	4.00 Feb37	-1.59	Aug05
2	5.75 Feb33	-1.18	Feb02
3	5.00 Aug34	-1.16	Aug03
4	4.75 Sep28	-1.11	Jan13
5	4.50 Mar26	-1.11	Sep10
5	4.50 May23 (10y)	-0.90	Mar13
4	5.50 Sep22	-0.88	Mar12
3	5.00 Mar22	-0.87	Sep11
2	4.75 Sep21	-0.84	Mar11
1	4.75 Sep44	1.01	Mar13

Cheapest ↓

N'LANDS

Richest ↑

Rank		ZScore	Issued
1	4.00 Jan37	-2.44	Apr05
2	3.75 Jan23	-1.98	Jan06
3	3.25 Jul21	-0.51	Mar11
3	2.25 Jul22	-0.34	Feb12
2	2.50 Jan33	-0.19	Mar12
1	3.75 Jan42 (30y)	0.29	May10

Cheapest ↓

Richest ↑

Rank		ZScore	Issued
1	3.75 Jan23	-0.46	Jan06
2	3.25 Jul21	-0.23	Mar11
3	2.25 Jul22	-0.13	Feb12
3	4.00 Jan37	-0.12	Apr05
2	3.75 Jan42 (30y)	0.08	May10
1	2.50 Jan33	0.17	Mar12

Cheapest ↓

SPAIN

Richest ↑

Rank		ZScore	Issued
1	4.90 Jul40	-1.53	Jun07
2	5.85 Jan22 (FBB)	-1.12	Nov11
3	4.40 Oct23	-0.92	May13
4	5.75 Jul32	0.18	Jan01
5	5.40 Jan23 (10y)	0.28	Jan13
5	4.20 Jan37	0.31	Jan05
4	4.70 Jul41 (30y)	0.40	Sep09
3	4.65 Jul25	1.04	Feb10
2	4.80 Jan24	1.89	Sep08
1	5.90 Jul26	2.04	Mar11

Cheapest ↓

Richest ↑

Rank		ZScore	Issued
1	5.85 Jan22 (FBB)	-1.25	Nov11
2	4.80 Jan24	-1.21	Sep08
3	4.65 Jul25	-1.20	Feb10
4	4.90 Jul40	-1.19	Jun07
5	5.75 Jul32	-1.18	Jan01
5	4.70 Jul41 (30y)	-1.17	Sep09
4	4.20 Jan37	-1.17	Jan05
3	5.90 Jul26	-1.15	Mar11
2	5.40 Jan23 (10y)	-1.03	Jan13
1	4.40 Oct23	0.95	May13

Cheapest ↓

BELGIUM

Richest ↑

Rank		ZScore	Issued
1	5.00 Mar35	-0.59	May04
2	4.25 Sep22	-0.55	Jan12
3	4.25 Mar41 (30y)	-0.03	Apr10
4	4.50 Mar26	0.09	Jun11
4	4.25 Sep21	0.19	Jan11
3	4.00 Mar32	0.26	Mar12
2	2.25 Jun23 (10y)	0.45	Jan13
1	4.00 Mar22	0.86	May06

Cheapest ↓

Richest ↑

Rank		ZScore	Issued
1	4.25 Sep22	-0.37	Jan12
2	4.25 Sep21	-0.32	Jan11
3	4.50 Mar26	-0.27	Jun11
4	4.00 Mar22	-0.19	May06
4	4.00 Mar32	-0.12	Mar12
3	5.00 Mar35	-0.10	May04
2	2.25 Jun23 (10y)	-0.09	Jan13
1	4.25 Mar41 (30y)	0.25	Apr10

Cheapest ↓

UK relative value table

Figure 40. Coupon Adjusted Spread to Fitted Curve and Swap Curve by Country (6m History)

		Versus Govt Curve (CAS)				Versus Swap Curve (CAS)			
		Rank		ZScore		Rank		ZScore	
		Issued				Issued			
ALL	Richest	1	3.75 Sep20	-1.73	Jun10	1	3.75 Sep19	-0.60	Jul09
		2	4.25 Mar36	-1.65	Feb03	2	5.00 Mar18 (WX)	-0.57	May07
		3	4.25 Sep39	-1.52	Mar09	3	3.75 Sep20	-0.50	Jun10
		4	4.50 Dec42	-1.19	Jun07	4	4.50 Mar19	-0.50	Sep08
		5	5.00 Sep14	-1.12	Jul02	5	1.75 Jan17	-0.50	Aug11
	Cheapest	5	1.00 Sep17	0.77	Mar12	5	5.00 Mar25 (G)	1.68	Sep01
		4	4.25 Jun32	0.77	May00	4	4.75 Dec30	1.71	Oct07
		3	3.25 Jan44 (30y)	0.86	Oct12	3	4.50 Sep34	1.79	Jun09
		2	4.25 Dec27	0.96	Sep06	2	4.25 Dec27	1.93	Sep06
		1	4.00 Mar22	1.07	Feb09	1	4.25 Jun32	1.98	May00
2yr - 7yr	Richest	1	1.75 Jan17	-0.81	Aug11	1	3.75 Sep19	-0.60	Jul09
		2	1.25 Jul18 (5y)	-0.77	Feb13	2	5.00 Mar18 (WX)	-0.57	May07
		3	4.75 Sep15	-0.76	Sep03	3	4.50 Mar19	-0.50	Sep08
		4	3.75 Sep19	-0.57	Jul09	4	1.75 Jan17	-0.50	Aug11
		5	5.00 Mar18 (WX)	-0.56	May07	5	4.75 Mar20	-0.49	Mar05
	Cheapest	5	4.75 Mar20	-0.47	Mar05	5	1.00 Sep17	-0.44	Mar12
		4	4.00 Sep16	0.20	Mar06	4	1.25 Jul18 (5y)	-0.36	Feb13
		3	4.50 Mar19	0.26	Sep08	3	4.00 Sep16	-0.35	Mar06
		2	2.00 Jan16	0.61	Nov10	2	4.75 Sep15	-0.20	Sep03
		1	1.00 Sep17	0.77	Mar12	1	2.00 Jan16	-0.03	Nov10
7yr - 15yr	Richest	1	3.75 Sep20	-1.73	Jun10	1	3.75 Sep20	-0.50	Jun10
		2	1.75 Sep22 (10y)	-0.42	Jun12	2	3.75 Sep21	0.14	Mar11
		3	3.75 Sep21	0.69	Mar11	3	4.00 Mar22	0.53	Feb09
		4				4			
		5				5			
	Cheapest	5				5			
		4				4			
		3	5.00 Mar25 (G)	0.72	Sep01	3	1.75 Sep22 (10y)	0.68	Jun12
		2	4.25 Dec27	0.96	Sep06	2	5.00 Mar25 (G)	1.68	Sep01
		1	4.00 Mar22	1.07	Feb09	1	4.25 Dec27	1.93	Sep06
>15yr	Richest	1	4.25 Mar36	-1.65	Feb03	1	4.25 Sep39	1.40	Mar09
		2	4.25 Sep39	-1.52	Mar09	2	4.25 Mar36	1.44	Feb03
		3	4.50 Dec42	-1.19	Jun07	3	4.50 Dec42	1.44	Jun07
		4	4.75 Dec30	-0.86	Oct07	4	4.25 Dec40	1.46	Jun10
		5	4.75 Dec38	-0.75	Apr04	5	4.75 Dec38	1.46	Apr04
	Cheapest	5	4.25 Dec46	-0.04	May06	5	4.25 Dec46	1.56	May06
		4	4.50 Sep34	0.40	Jun09	4	4.00 Jan60	1.59	Oct09
		3	4.00 Jan60	0.57	Oct09	3	4.75 Dec30	1.71	Oct07
		2	4.25 Jun32	0.77	May00	2	4.50 Sep34	1.79	Jun09
		1	3.25 Jan44 (30y)	0.86	Oct12	1	4.25 Jun32	1.98	May00

Source: Citi Research

Supply Analysis and Forecasts

This is an excerpt from our latest [Weekly Supply Monitor](#) published today. For further details (upcoming coupon payments, redemptions and longer term supply forecasts) please see the original note.

Figure 41. Provisional Auction Calendar for the Next Four Weeks, Gross Issuance (Billions), DV01 (USD Millions)

Date	Country	Nominal Size (Local Ccy, bn)	Issue Details	DV01 \$million/bp	Approx. Number 10yr Futures		
					TYU3 (UST)	G U3 (Gilt)	RXU3 (Bund)
10 Jun (Mon)	US	1 - 1.5	Outright TIPS Purchases: 15/7/2017 - 15/2/2043		-25k		
11 Jun (Tue)	Germany	1.0	Bundei '23 reopening (issue and size confirmed)				8k
11 Jun (Tue)	Netherlands	3.3	DSL Apr16 reopening (issue confirmed, size €2.5-3.5bn)				5k
11 Jun (Tue)	UK	3.8	New 2¼% Treasury Gilt 2023 (issue and size confirmed)			33k	
11 Jun (Tue)	US	32.0	3-Year		78k		
11 Jun (Tue)	US	1.25 - 1.75	Outright Treasury Coupon Purchases: 15/2/2036 - 15/5/2043		-36k		
12 Jun (Wed)	Germany	5.0	Schatz Jun15 reopening (issue and size confirmed)				8k
12 Jun (Wed)	US	21.0	10-Year (re-opening)		229k		
12 Jun (Wed)	US	0.75 - 1	Outright Treasury Coupon Purchases: 15/8/2023 - 15/2/2031		-15k		
13 Jun (Thu)	Italy	4.5	BTP 3yr, 10yr and 15yr (estimated tenors and size)				26k
13 Jun (Thu)	Italy	1.3	CCTeu (estimated size)				5k
13 Jun (Thu)	UK	2.3	4¼% Treasury Stock 2032 (issue and size confirmed)			35k	
13 Jun (Thu)	US	13.0	30-year (re-opening)		296k		
13 Jun (Thu)	US	2.75 - 3.5	Outright Treasury Coupon Purchases: 15/8/2020 - 15/5/2023		-29k		
14 Jun (Fri)	US	1.25 - 1.75	Outright Treasury Coupon Purchases: 15/2/2036 - 15/5/2043		-36k		
Weekly \$DV01 of Issuance				57.3			
Total Number of Futures Contracts					462k	68k	52k

Date	Country	Nominal Size (Local Ccy, bn)	Issue Details	DV01 \$million/bp	Approx. Number 10yr Futures		
					TYU3 (UST)	G U3 (Gilt)	RXU3 (Bund)
17 Jun (Mon)	US	4.75 - 5.75	Outright Treasury Coupon Purchases: 31/3/2018 - 28/2/2019		-27k		
18 Jun (Tue)	US	1.25 - 1.75	Outright Treasury Coupon Purchases: 15/2/2036 - 15/5/2043		-36k		
19 Jun (Wed)	Germany	5.0	Bund May23 reopening (issue and size confirmed)				38k
20 Jun (Thu)	Spain	4.0	Obligaciones 2yr, 5yr and 10yr (estimated tenors and size)				18k
20 Jun (Thu)	France	10.0	BTAN, OAT 2yr and 5yr / OATI (estimated tenors and size)				40k
20 Jun (Thu)	UK	4.6	1¼% Treasury Gilt 2018 (issue confirmed, estimated size)			22k	
20 Jun (Thu)	US	7.0	30-year TIPS (re-opening)		84k		
20 Jun (Thu)	US	2.75 - 3.5	Outright Treasury Coupon Purchases: 15/8/2020 - 15/5/2023		-29k		
21 Jun (Fri)	US	1.25 - 1.75	Outright Treasury Coupon Purchases: 15/2/2036 - 15/5/2043		-36k		
Weekly \$DV01 of Issuance				15.3			
Total Number of Futures Contracts					-45k	22k	96k

Date	Country	Nominal Size (Local Ccy, bn)	Issue Details	DV01 \$million/bp	Approx. Number 10yr Futures		
					TYU3 (UST)	G U3 (Gilt)	RXU3 (Bund)
24 Jun (Mon)	Belgium	3.3	OLO 5yr, 10yr and 15yr (estimated size and tenors). We believe that this auction will be cancelled as we expect Belgium to do a 30yr syndication in June.				27k
24 Jun (Mon)	US	3 - 3.75	Outright Treasury Coupon Purchases: 31/3/2019 - 31/5/2020		-21k		
25 Jun (Tue)	Netherlands	5.0	New DSL 5yr via DDA (estimate size, tenor and date confirmed)				20k
25 Jun (Tue)	Italy	2.5	CTZ (estimated size)				4k
25 Jun (Tue)	Italy	1.0	BTPei (estimated size)				8k
25 Jun (Tue)	UK	4.0	Syndication of long conventional gilt (50-60 year maturity, to be held in second half of June, estimated date and size)			96k	
25 Jun (Tue)	US	35.0	2-Year		86k		
25 Jun (Tue)	US	1.25 - 1.75	Outright Treasury Coupon Purchases: 15/2/2036 - 15/5/2043		-36k		
26 Jun (Wed)	US	35.0	5-Year		206k		
26 Jun (Wed)	US	2.75 - 3.5	Outright Treasury Coupon Purchases: 15/8/2020 - 15/5/2023		-29k		
27 Jun (Thu)	Italy	6.0	BTP 5yr and 10yr (estimated tenor and size)				35k
27 Jun (Thu)	US	29.0	7-Year		235k		
27 Jun (Thu)	US	4.25 - 5.25	Outright Treasury Coupon Purchases: 30/6/2017 - 28/2/2018		-18k		
28 Jun (Fri)	US	1.25 - 1.75	Outright Treasury Coupon Purchases : 15/2/2036 - 15/5/2043		-36k		
Weekly \$DV01 of Issuance				62.2			
Total Number of Futures Contracts					384k	96k	94k

Date	Country	Nominal Size (Local Ccy, bn)	Issue Details	DV01 \$million/bp	Approx. Number 10yr Futures		
					TYU3 (UST)	G U3 (Gilt)	RXU3 (Bund)
02 Jul (Tue)	Austria	1.5	RAGB 10yr and 30yr (estimated size and tenors). We believe that this auction will be cancelled as we expect Austria to do a 5yr syndication in July.				21k
02 Jul (Tue)	UK	3.6	2¼% Treasury Gilt 2023 (issue confirmed, estimated size)			31k	
04 Jul (Thu)	Spain	3.8	Bono 2yr, 5yr and 15yr (estimated tenors and size)				21k
04 Jul (Thu)	France	7.8	OAT 5yr, 10yr and 15yr (estimated tenors and size)				64k
Weekly \$DV01 of Issuance				22.1			
Total Number of Futures Contracts					0k	31k	106k

The next release of the tentative outright Treasury operation schedule will be at 3 p.m. on June 28, 2013. Therefore we have only provided details of Fed buybacks up to 28 June. The auction calendar above does not include auctions for the Netherlands and Germany after 30th June as their auction calendars for 3Q13 have not yet been announced. Additional issues expected in June: Belgium 30yr (€4bn). Finland 5yr and 10yr (€1.5bn). Additional issues expected in July: Austria 5yr (€4bn). Ireland 5yr and 10yr (€1.3bn). These are not included in the cash flow tables or gross supply charts of this report as the timing of these supply events have not been announced.

Source: DMOs, Citi estimates

EUR: Coupons & Redemptions (next 3 mths)

Figure 42. EMU-10 Redemptions over the next three months (€bn)

Redemptions = €151bn											
Redemptions	DEU 39	FRA 36	NLD 16	ITA 39	ESP 15	BEL 0	AUT 0	FIN 6	PRT 0	GRC 0	IRL 0
(Fri) 14-Jun-13	17.0										
(Mon) 01-Jul-13				14.3							
(Thu) 04-Jul-13	22.0							6.0			
(Fri) 12-Jul-13		17.7									
(Mon) 15-Jul-13			16.0								
(Thu) 25-Jul-13		18.7									
(Tue) 30-Jul-13					14.9						
(Thu) 01-Aug-13				24.7							

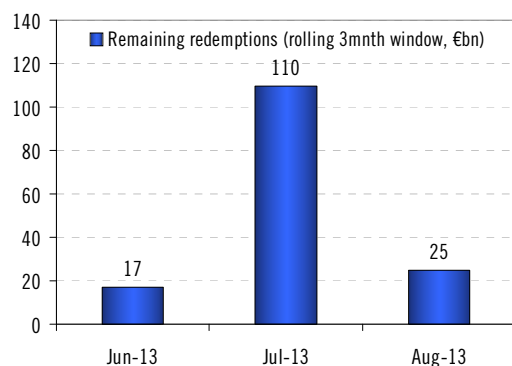
Source: DMOs, Bloomberg, Citi Research

Figure 43. EMU-10 Coupon Payments over the next three months (€bn)

Coupons = €57bn											
Coupons	DEU 14	FRA 6	NLD 6	ITA 17	ESP 8	BEL 1	AUT 2	FIN 1	PRT 1	GRC 0	IRL 0
(Fri) 14-Jun-13	0.3								0.4		
(Sat) 15-Jun-13				0.9					0.7		
(Sun) 16-Jun-13									0.3		
(Tue) 18-Jun-13							0.1				0.3
(Thu) 20-Jun-13	0.2						0.1				
(Sat) 22-Jun-13						0.3					
(Fri) 28-Jun-13						0.5					
(Mon) 01-Jul-13				0.5							
(Thu) 04-Jul-13	12.1							1.2			
(Fri) 12-Jul-13		2.3									
(Mon) 15-Jul-13			5.7	0.4			1.8				
(Sat) 20-Jul-13											0.0
(Thu) 25-Jul-13		4.0									
(Tue) 30-Jul-13					8.4						
(Thu) 01-Aug-13				8.9							
(Sun) 18-Aug-13											0.0
(Sun) 01-Sep-13				6.5							
(Wed) 04-Sep-13	1.0										

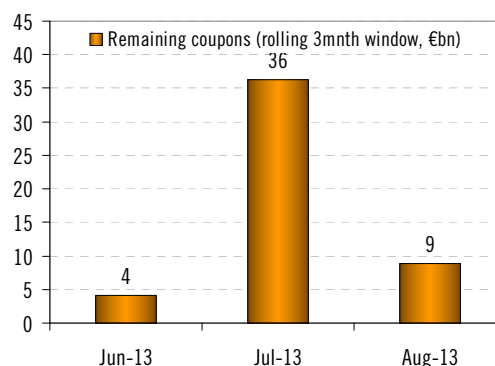
Source: DMOs, Bloomberg, Citi Research

Figure 44. EMU-10 remaining redemptions over the next 3 months (€bn)



Source: DMOs, Bloomberg, Citi Research

Figure 45. EMU-10 remaining coupons over the next 3 months (€bn)



Source: DMOs, Bloomberg, Citi Research

ESP and ITA Bill Issuance Projections

This page contains our projections for Spanish and Italian bill supply in 2013.

Auction calendar for the next four weeks

Figure 46. Provisional Bill Auction Calendar for the Next Four Weeks, Gross Issuance (Billions), DV01 (EUR Million/bp)

Week	Date	Country	Issue Details	Total Size (€bn)
Week 1	12 Jun (Wed)	Italy	12 month (13 June 2014; issue confirmed, estimated size)	8.25
Total Size in Week 1				8.3
Week 2	18 Jun (Tue)	Spain	6month (13 December 2013), 12month (20 June 2014) - tenors confirmed, estimated issue and size	5.25
Total Size in Week 2				5.3
Week 3	25 Jun (Tue)	Spain	3month (20 September 2013), 9month (14 March 2014) - tenors confirmed, estimated issue and size	3.5
	26 Jun (Wed)	Italy	6 month (31 Dec 2013; issue confirmed, estimated size)	9
Total Size in Week 3				12.5

Italy announces issue size 3 business days before the auction

Spain announces issue details 1 business day before the auction

Source: DMOs, Citi Research

2013 projections for bill supply

Figure 47. 2013 Italy and Spain Bill Supply – Citi Forecast (Euro Billion)

SPAIN	3m	6m	9m	12m	18m	Gross Supply	Redemptions	NCR
Jan	1.3	1.8		3.2	2.5	9	5	3
Feb	1.0	2.9	3.7	3.6		11	9	2
Mar	1.8	2.3	2.6	4.0		11	12	-2
Apr	0.9	1.3	2.2	4.6		9	8	1
May	0.9	1.2	2.6	3.3		8	6	2
Jun	1.0	1.8	2.5	3.5		9	10	-1
Jul	1.0	1.8	2.5	3.5		9	5	4
Aug	1.0	1.8	2.5	3.5		9	11	-2
Sep	1.0	1.8	2.5	3.5		9	7	2
Oct	1.0	1.5	2.3	3.3		8	4	4
Nov	1.0	1.5	2.3	3.3		8	9	-1
Dec	1.0	1.5	2.3	3.3		8	9	-1
Total	12.9	21.0	27.8	42.6	2.5	107	95	12
ITALY	3m*	6m	9m	12m	Flexible BOT	Gross Supply	Redemptions	NCR
Jan		9.8		9.8		20	21	-2
Feb		10.1		9.7		20	19	
Mar		9.4		7.8		17	19	-2
Apr	3.0	9.2		8.9		21	18	3
May		9.2		7.0	3.0	19	16	4
Jun		9.0		8.3		17	16	1
Jul		9.0		8.3		17	20	-3
Aug		9.0		8.3		17	18	-1
Sep	3.0	9.0		8.3		20	20	
Oct		9.0		8.3		17	17	
Nov		8.5		7.5		16	16	
Dec		10.0		7.5		18	22	-5
Total	6.0	111.2		99.3	3.0	219	223	-4

*3month bills will be issued only for specific cash needs. In this case, auctions shall be held on the 12 month BOT auction dates

Source: DMOs, Bloomberg, Citi estimates

Inflation Forecasts, Carry & Weekly Changes

Figure 48. Citi Inflation Forecasts

Month	EUR HICPxT			France CPIxT			UK RPI			US CPURNSA		
	Index	MoM	YoY	Index	MoM	YoY	Index	MoM	YoY	Index	MoM	YoY
	Forecast	Change	Change	Forecast	Change	Change	Forecast	Change	Change	Forecast	Change	Change
Apr 13	116.83	-0.1	1.1	125.50	-0.2	0.6	249.50	0.3	2.9	232.53	-0.1	1.1
May 13	116.91	0.1	1.3	125.59	0.1	0.7	250.10	0.2	3.2	233.10	0.2	1.4
Jun 13	117.01	0.1	1.5	125.72	0.1	0.8	250.60	0.2	3.6	233.10	0.0	1.6
Jul 13	116.53	-0.4	1.6	125.32	-0.3	0.9	250.30	-0.1	3.4	232.80	-0.1	1.6
Aug 13	116.75	0.2	1.4	125.77	0.4	0.6	251.20	0.4	3.4	233.00	0.1	1.1
Sep 13	117.25	0.4	1.1	125.48	-0.2	0.6	252.10	0.4	3.2	233.30	0.1	0.8

Source: Citi Research, Bloomberg

Shaded = Already released

Figure 49. US TIPS Inflation- Linked Carry (based on forecasts above) – One week changes

Bond	RY (%)	Chg (bp)	Carry-adj chg	Carry: RY (bp)			Ref	BE (bp)	Chg (bp)	Carry-adj chg	Carry: BE (bp)			ZC Swap - BE Spread (bp)	Chg (bp)
				1 Jul	1 Aug	1 Sep					1 Jul	1 Aug	1 Sep		
Repo (%)				0.11	0.11	0.11									
TIPS 7/14	-1.09	-1	-1	-16	-2	-14	US-2.625-07/31/14	127	1	-2	-16	-3	-16	22	-4
TIPS 1/15	-1.01	-4	-4	-10	-1	-8	US-2.250-01/31/15	126	5	2	-11	-2	-10	18	-5
TIPS 4/15	-1.00	-13	-13	-9	0	-6	US-2.500-04/30/15	129	13	11	-9	-2	-9	9	-13
TIPS 7/15	-1.35	-5	-5	-9	-3	-10	US-4.250-08/15/15	169	4	2	-10	-5	-13	8	-4
TIPS 1/16	-1.10	-3	-3	-7	-1	-5	US-2.625-02/29/16	153	2	-0	-7	-3	-8	22	1
TIPS 4/16	-1.03	-6	-6	-6	0	-4	US-2.000-04/30/16	151	6	4	-7	-2	-7	21	-3
TIPS 7/16	-1.22	-6	-6	-6	-1	-6	US-4.875-08/15/16	177	5	4	-7	-4	-9	21	-1
TIPS 1/17	-1.02	5	5	-5	0	-3	US-3.125-01/31/17	169	-5	-6	-6	-3	-7	26	10
TIPS 4/17	-0.93	1	1	-4	0	-2	US-0.875-04/30/17	170	2	1	-5	-3	-7	21	4
TIPS 7/17	-1.08	2	2	-4	-1	-3	US-4.750-08/15/17	189	-0	-1	-5	-3	-8	22	6
TIPS 1/18	-0.91	8	8	-3	0	-2	US-3.500-02/15/18	185	-6	-7	-5	-3	-7	24	12
TIPS 4/18	-0.84	1	1	-3	0	-1	US-0.625-04/30/18	187	2	1	-4	-3	-6	21	4
TIPS 7/18	-0.94	3	3	-3	0	-2	US-4.000-08/15/18	198	-0	-1	-4	-3	-7	25	6
TIPS 1/19	-0.74	3	3	-3	1	-1	US-2.750-02/15/19	194	-0	-1	-4	-3	-6	26	6
TIPS 7/19	-0.77	6	6	-2	0	-1	US-3.625-08/15/19	207	-3	-4	-4	-3	-6	24	8
TIPS 1/20	-0.56	7	7	-2	1	0	US-3.625-02/15/20	197	-5	-6	-3	-2	-5	32	9
TIPS 7/20	-0.55	4	4	-2	1	0	US-2.625-08/15/20	212	-2	-3	-3	-3	-5	25	5
TIPS 1/21	-0.39	7	7	-2	1	1	US-3.625-02/15/21	205	-5	-6	-3	-2	-5	30	8
TIPS 7/21	-0.34	7	7	-1	1	1	US-2.125-08/15/21	215	-5	-6	-3	-2	-5	27	7
TIPS 1/22	-0.19	6	6	-1	1	1	US-2.000-02/15/22	211	-4	-5	-3	-2	-4	29	6
TIPS 7/22	-0.17	5	5	-1	1	1	US-1.625-08/15/22	219	-3	-4	-3	-2	-4	26	5
TIPS 1/23	-0.04	3	3	-1	1	1	US-2.000-02/15/23	213	-2	-3	-2	-2	-4	31	3
TIPS 1/25	0.17	6	6	-1	2	2	US-7.625-02/15/25	209	-5	-6	-2	-2	-4	43	5
TIPS 1/26	0.27	7	7	-1	2	2	US-6.000-02/15/26	216	-6	-6	-2	-2	-4	39	5
TIPS 1/27	0.36	8	8	-1	2	2	US-6.625-02/15/27	217	-7	-7	-2	-2	-4	42	5
TIPS 1/28	0.47	8	8	0	2	2	US-6.125-11/15/27	216	-7	-7	-2	-2	-4	45	4
TIPS 4/28	0.44	7	7	-1	2	2	US-5.500-08/15/28	226	-6	-6	-2	-2	-4	34	3
TIPS 1/29	0.52	8	8	0	2	2	US-5.250-02/15/29	223	-6	-7	-2	-2	-4	41	4
TIPS 4/29	0.50	8	8	0	2	2	US-5.250-02/15/29	224	-6	-6	-2	-2	-4	38	3
TIPS 4/32	0.66	8	8	0	2	2	US-5.375-02/15/31	219	-6	-7	-2	-2	-3	50	3
TIPS 2/40	0.92	7	7	0	1	2	US-4.625-02/15/40	224	-6	-6	-1	-1	-3	52	4
TIPS 2/41	0.94	7	7	0	1	2	US-4.750-02/15/41	223	-6	-6	-1	-1	-3	53	4
TIPS 2/42	1.01	7	7	0	1	1	US-3.125-02/15/42	226	-6	-7	-1	-1	-3	51	5
TIPS 2/43	1.03	6	6	0	1	1	US-3.125-02/15/43	224	-6	-6	-1	-1	-3	52	5

Source: Citi Research, Bloomberg

Figure 50. EUR Inflation- Linked Carry (based on forecasts above)- One week changes

Bond	RY (%)	Chg (bp)	Carry-adj chg	Carry: RY (bp)			Ref	BE (bp)	Chg (bp)	Carry-adj chg	Carry: BE (bp)			ZC Swap - BE Spread (bp)	Chg (bp)
				1 Jul	1 Aug	1 Sep					1 Jul	1 Aug	1 Sep		
Repo (%)				0.09	0.08	0.08									
BTPei14	0.42	-1	-1	-4	5	17	BTP 8/14	56	0	-3	-8	-8	-6	56	15
OATei15	-0.86	10	10	-6	-6	-6	FFRG 4/15	108	-7	-9	-6	-8	-8	31	17
BUNDei16	-0.61	13	13	-4	-3	-2	BUND 1/16	78	-8	-9	-4	-4	-3	22	9
BTANi16	-0.77	8	8	-5	-5	-4	FFRG 4/16	121	-4	-6	-6	-7	-7	31	-1
BTPei16	1.56	13	13	1	7	15	BTP 8/16	72	-9	-10	-4	-4	-4	62	8
OATi17	-0.64	8	8	-4	-3	-2	FFRG 4/17	132	-6	-7	-4	-6	-6	31	1
BTPei17	1.89	14	14	1	7	13	BTP 8/17	90	-10	-11	-3	-4	-5	54	6
BOBLei18	-0.59	11	11	-2	-2	-1	BUND 1/18	106	-7	-8	-3	-3	-3	26	3
OATei18	-0.41	9	9	-2	-1	0	FFRG 4/18	128	-8	-9	-3	-4	-4	32	6
BTPei18	2.03	14	14	1	6	11	BTP 8/18	103	-7	-8	-3	-4	-4	50	4
OATi19	-0.33	11	11	-2	-2	0	FFRG 4/19	143	-9	-10	-3	-4	-5	40	7
BTPei19	2.05	12	12	1	5	10	BTP 9/19	130	-4	-5	-3	-4	34	31	0
BUNDei20	-0.48	10	10	-1	-1	-1	BUND 1/20	132	-6	-7	-2	-3	-3	21	2
OATei20	-0.13	10	10	-1	0	1	FFRG 4/20	148	-8	-9	-2	-3	-4	25	7
OATi21	0.05	12	12	-1	0	1	FFRG 4/21	156	-9	-10	-2	-4	-4	43	6
BTPei21	2.51	9	9	1	5	9	BTP 9/20	104	-2	-3	-2	-3	28	72	23
OATei22	0.21	9	9	-1	0	1	FFRG 4/21	139	-7	-7	-2	-3	-4	48	5
BUNDei23	-0.12	11	11	-1	0	1	BUND 1/22	140	-8	-9	-2	-2	-3	40	6
OATi23	0.31	12	12	-1	0	1	FFRG 10/23	184	-9	-10	-2	-3	-4	28	6
BTPei23	2.82	9	9	1	4	8	BTP 8/23	130	-2	-3	-2	-3	-4	60	-1
OATei24	0.49	7	7	0	1	2	FFRG 10/23	165	-4	-5	-2	-3	-4	34	3
BTPei26	2.91	-1	-1	1	4	7	BTP 3/26	138	9	8	-2	-2	20	66	-12
OATei27	0.65	9	9	0	1	2	FFRG 4/26	183	-5	-5	-2	-3	-3	26	4
OATi29	0.58	13	13	-1	0	1	FFRG 4/29	210	-10	-11	-2	-3	-4	20	8
OATei32	0.83	13	13	0	1	2	FFRG 10/32	201	-9	-10	-1	-2	-3	16	7
BTPei35	2.93	6	6	1	2	4	BTP 8/34	185	2	1	-1	-3	-4	33	-5
OATei40	0.93	12	12	0	1	1	FFRG 10/38	215	-8	-9	-1	-2	-3	11	5
BTPei41	3.20	10	10	1	2	4	BTP 9/40	170	-4	-5	-1	-2	14	56	-0

Source: Citi Research

Figure 51. UK Gilts Inflation- Linked Carry (based on forecasts above)- One Week Changes

Bond	RY (%)	Chg (bp)	Carry-adj chg	Carry: RY (bp)			Ref	BE (bp)	Chg (bp)	Carry-adj chg	Carry: BE (bp)			ZC Swap - BE Spread (bp)	Chg (bp)
				1 Jul	1 Aug	1 Sep					1 Jul	1 Aug	1 Sep		
Repo (%)				0.43	0.42	0.41									
UKTi Jul16	-2.11	12	12	1	2	4	UKT 9/16	267	-9	-8	1	1	2	32	-4
UKTi Nov17	-1.91	15	14	2	3	4	UKT 3/18	286	-10	-9	2	2	1	14	-1
UKTi Apr20	-1.34	19	18	1	3	5	UKT 3/20	277	-11	-11	0	0	0	31	4
UKTi Nov22	-0.99	17	16	2	3	4	UKT 3/22	288	-9	-9	1	0	0	34	-1
UKTi Mar24	-0.69	16	16	2	3	4	UKT 3/25	301	-7	-7	0	0	-1	23	-1
UKTi Jul24	-0.69	16	15	1	3	4	UKT 3/25	302	-7	-7	0	0	0	32	1
UKTi Nov27	-0.47	14	14	1	3	4	UKT 12/27	312	-5	-5	0	0	-1	33	-0
UKTi Mar29	-0.33	12	12	1	2	3	UKT 12/30	318	-4	-4	0	0	-1	28	-0
UKTi Jul30	-0.38	11	11	1	2	4	UKT 6/32	334	-3	-3	0	0	-1	20	-1
UKTi Nov32	-0.28	11	11	1	2	3	UKT 6/32	324	-3	-3	0	-1	-1	34	-0
UKTi Mar34	-0.20	9	9	1	2	3	UKT 9/34	327	-2	-2	0	-1	-1	32	0
UKTi Jan35	-0.22	9	9	1	2	3	UKT 3/36	335	-2	-2	0	-1	-1	25	-1
UKTi Nov37	-0.16	9	9	1	2	3	UKT 12/38	336	-2	-2	0	-1	-2	28	-1
UKTi Mar40	-0.11	8	8	1	2	2	UKT 9/39	335	-1	-1	0	-1	-2	29	-1
UKTi Nov42	-0.11	8	8	1	2	2	UKT 12/42	340	-1	-1	0	-1	-2	29	-1
UKTi Mar44	-0.04	8	7	1	1	2	UKT 1/44	342	-1	-1	0	-1	-2	25	-10
UKTi Nov47	-0.05	8	7	1	1	2	UKT 12/46	342	-1	-1	0	-1	-2	28	-1
UKTi Mar50	-0.03	7	7	1	1	2	UKT 12/49	342	-1	-1	0	-1	-2	28	-0
UKTi Mar52	-0.01	7	7	1	1	2	UKT 7/52	343	-2	-2	0	-1	-2	26	-1
UKTi Nov55	-0.05	7	7	1	1	2	UKT 12/55	344	-2	-2	0	-1	-2	26	-1
UKTi Mar62	-0.04	7	7	1	1	1	UKT 1/60	344	-2	-2	0	-1	-2	27	-1

Source: Citi Research

Summary of Recent Publications

Date	Publication	Topic	Page	Region
03-Jun-13	NOTE	Flow Monitor: Strong Demand for the Long End in Both Core and Non-Core	-	EUR
31-May-13	NOTE	UK Rates Strategy: Carney trades': implications of forward guidance for UK rates	-	UK
30-May-13	European Weekly	Countdown to Carney: Forward Guidance	7	UK
		Re-examining default risks in Europe	12	EUR
		SSA Strategy: supras vs covereds & govies	17	EUR
		Covered Bond Strategy	18	EUR
		Update on EUREX Calendar Rolls M3/U3	20	EUR
		Analysis of Recent EMU Flow	21	EUR
		EMU-10: June Supply Outlook	22	EUR
30-May-13	NOTE	Weekly Supply Monitor: Euro, UK and US Supply Outlook	-	Global
30-May-13	NOTE	Euro SSA and Covered Bond Monthly: The Dutch and Austrian markets in focus	-	EUR
29-May-13	NOTE	European Rates Strategy: Update: EUREX Calendar Rolls M3/U3	-	EUR
29-May-13	NOTE	Rates Strategy: EMU-10 Supply in June: Cash Flows Are Non-Supportive for OATs	-	EUR
29-May-13	NOTE	European Flow Monitor: Selling of core to buy non-core	-	EUR
23-May-13	European Weekly	Monthly Forecast Update: No more Grexit, but more "Low for Longer"	8	Global
		EMU Rates: Improving prospects for Ireland	10	EUR
		Euro Inflation Strategy: Linker underperformance likely to reverse in the near-term	15	EUR
		Covered Bond Strategy	16	EUR
		End-May EGBI Projection	22	EUR
		EMU Inflation-Linked Index projection	23	EUR
23-May-13	NOTE	Weekly Supply Monitor: Euro, UK and US Supply Outlook	-	Global
22-May-13	NOTE	Euro Rates Strategy: Bund Technical Flash - Watch Out for Support at 144.22	-	EUR
22-May-13	NOTE	Euro Inflation-Linked Index Projection: Changes supportive for French real yields	-	EUR
22-May-13	NOTE	Month-end Index Projections: EGBI changes very supportive for peripheries	-	EUR
20-May-13	NOTE	Flow Monitor: Another week of strong demand for the long-end of non-core	-	EUR
16-May-13	European Weekly	Overview: Bunds have very little in common with USTs and JGBs	8	Global
		Focus on Spanish and Italian Issuance	9	EUR
		UK Rates: sell gilts into any strength	10	UK
		EUREX and LIFFE Calendar Rolls M3/U3: A first look	13	Global
		Tracking demand patterns in SSAs	14	EUR
		Covered Bonds and Bail-in	16	EUR
16-May-13	NOTE	Weekly Supply Monitor: Euro, UK and US Supply Outlook	-	Global
16-May-13	NOTE	EUREX and LIFFE Calendar Rolls M3/U3: A first look	-	Global
14-May-13	NOTE	European Flow Monitor: Selling of Bunds slowing. Bears using OATs instead	-	EUR
13-May-13	NOTE	Covered Bond Strategy: Moody's 4Q12 Update, New iBoxx Indices, Rating actions	-	EUR

Notes

Appendix A-1

Analyst Certification

The research analyst(s) primarily responsible for the preparation and content of this research report are named in bold text in the author block at the front of the product except for those sections where an analyst's name appears in bold alongside content which is attributable to that analyst. Each of these analyst(s) certify, with respect to the section(s) of the report for which they are responsible, that the views expressed therein accurately reflect their personal views about each issuer and security referenced and were prepared in an independent manner, including with respect to Citigroup Global Markets Inc and its affiliates. No part of the research analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendation(s) or view(s) expressed by that research analyst in this report.

IMPORTANT DISCLOSURES

Peter Goves, Strategist, holds a long position in the securities of United Kingdom.

Within the past 12 months, Citigroup Global Markets Inc. or its affiliates has acted as manager or co-manager of an offering of securities of Spain, France, Netherlands, United Kingdom.

Citigroup Global Markets Inc. or its affiliates has received compensation for investment banking services provided within the past 12 months from Spain, France, Germany, Netherlands, United Kingdom.

Citigroup Global Markets Inc. or its affiliates expects to receive or intends to seek, within the next three months, compensation for investment banking services from Spain, France, Germany.

Citigroup Global Markets Inc. or an affiliate received compensation for products and services other than investment banking services from Spain, France, Germany, Netherlands, United Kingdom in the past 12 months.

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as investment banking client(s): Spain, France, Germany, Netherlands, United Kingdom.

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as clients, and the services provided were non-investment-banking, securities-related: Spain, France, Germany, Netherlands, United Kingdom.

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as clients, and the services provided were non-investment-banking, non-securities-related: Spain, France, Germany, Netherlands, United Kingdom.

Analysts' compensation is determined based upon activities and services intended to benefit the investor clients of Citigroup Global Markets Inc. and its affiliates ("the Firm"). Like all Firm employees, analysts receive compensation that is impacted by overall firm profitability which includes investment banking revenues.

For important disclosures (including copies of historical disclosures) regarding the companies that are the subject of this Citi Research product ("the Product"), please contact Citi Research, 388 Greenwich Street, 28th Floor, New York, NY, 10013, Attention: Legal/Compliance [E6WYB6412478]. In addition, the same important disclosures, with the exception of the Valuation and Risk assessments and historical disclosures, are contained on the Firm's disclosure website at https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures. Valuation and Risk assessments can be found in the text of the most recent research note/report regarding the subject company. Historical disclosures (for up to the past three years) will be provided upon request.

NON-US RESEARCH ANALYST DISCLOSURES

Non-US research analysts who have prepared this report (i.e., all research analysts listed below other than those identified as employed by Citigroup Global Markets Inc.) are not registered/qualified as research analysts with FINRA. Such research analysts may not be associated persons of the member organization and therefore may not be subject to the NYSE Rule 472 and NASD Rule 2711 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account. The legal entities employing the authors of this report are listed below:

Citigroup Global Markets Ltd	Alessandro Tentori; Jamie Searle; Peter Goves; Nishay Patel
Citigroup Global Markets Deutschland AG	Michael Spies
Citigroup Global Markets India Private Limited	Aman Bansal, CFA; Mohit Aggarwal

OTHER DISCLOSURES

Citigroup Global Markets Inc. and/or its affiliates has a significant financial interest in relation to Spain, Germany. (For an explanation of the determination of significant financial interest, please refer to the policy for managing conflicts of interest which can be found at www.citiVelocity.com.)

For securities recommended in the Product in which the Firm is not a market maker, the Firm is a liquidity provider in the issuers' financial instruments and may act as principal in connection with such transactions. The Firm is a regular issuer of traded financial instruments linked to securities that may have been recommended in the Product. The Firm regularly trades in the securities of the issuer(s) discussed in the Product. The Firm may engage in securities transactions in a manner inconsistent with the Product and, with respect to securities covered by the Product, will buy or sell from customers on a principal basis.

Securities recommended, offered, or sold by the Firm: (i) are not insured by the Federal Deposit Insurance Corporation; (ii) are not deposits or other obligations of any insured depository institution (including Citibank); and (iii) are subject to investment risks, including the possible loss of the principal amount invested. Although information has been obtained from and is based upon sources that the Firm believes to be reliable, we do not guarantee its accuracy and it may be incomplete and condensed. Note, however, that the Firm has taken all reasonable steps to determine the accuracy and completeness of the disclosures made in the Important Disclosures section of the Product. The Firm's research department has received assistance from the subject company(ies) referred to in this Product including, but not limited to, discussions with management of the subject company(ies). Firm policy

prohibits research analysts from sending draft research to subject companies. However, it should be presumed that the author of the Product has had discussions with the subject company to ensure factual accuracy prior to publication. All opinions, projections and estimates constitute the judgment of the author as of the date of the Product and these, plus any other information contained in the Product, are subject to change without notice. Prices and availability of financial instruments also are subject to change without notice. Notwithstanding other departments within the Firm advising the companies discussed in this Product, information obtained in such role is not used in the preparation of the Product. Although Citi Research does not set a predetermined frequency for publication, if the Product is a fundamental research report, it is the intention of Citi Research to provide research coverage of the/those issuer(s) mentioned therein, including in response to news affecting this issuer, subject to applicable quiet periods and capacity constraints. The Product is for informational purposes only and is not intended as an offer or solicitation for the purchase or sale of a security. Any decision to purchase securities mentioned in the Product must take into account existing public information on such security or any registered prospectus.

Investing in non-U.S. securities, including ADRs, may entail certain risks. The securities of non-U.S. issuers may not be registered with, nor be subject to the reporting requirements of the U.S. Securities and Exchange Commission. There may be limited information available on foreign securities. Foreign companies are generally not subject to uniform audit and reporting standards, practices and requirements comparable to those in the U.S. Securities of some foreign companies may be less liquid and their prices more volatile than securities of comparable U.S. companies. In addition, exchange rate movements may have an adverse effect on the value of an investment in a foreign stock and its corresponding dividend payment for U.S. investors. Net dividends to ADR investors are estimated, using withholding tax rates conventions, deemed accurate, but investors are urged to consult their tax advisor for exact dividend computations. Investors who have received the Product from the Firm may be prohibited in certain states or other jurisdictions from purchasing securities mentioned in the Product from the Firm. Please ask your Financial Consultant for additional details. Citigroup Global Markets Inc. takes responsibility for the Product in the United States. Any orders by US investors resulting from the information contained in the Product may be placed only through Citigroup Global Markets Inc.

Important Disclosures for Morgan Stanley Smith Barney LLC Customers: Morgan Stanley & Co. LLC (Morgan Stanley) research reports may be available about the companies that are the subject of this Citi Research research report. Ask your Financial Advisor or use smithbarney.com to view any available Morgan Stanley research reports in addition to Citi Research research reports.

Important disclosure regarding the relationship between the companies that are the subject of this Citi Research research report and Morgan Stanley Smith Barney LLC and its affiliates are available at the Morgan Stanley Wealth Management disclosure website at www.morganstanley.com/online/researchdisclosures.

For Morgan Stanley and Citigroup Global Markets, Inc. specific disclosures, you may refer to www.morganstanley.com/researchdisclosures and https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures.

This Citi Research research report has been reviewed and approved on behalf of Morgan Stanley Smith Barney LLC. This review and approval was conducted by the same person who reviewed this research report on behalf of Citi Research. This could create a conflict of interest.

The Citigroup legal entity that takes responsibility for the production of the Product is the legal entity which the first named author is employed by. The Product is made available in **Australia** through Citi Global Markets Australia Pty Ltd. (ABN 64 003 114 832 and AFSL No. 240992), participant of the ASX Group and regulated by the Australian Securities & Investments Commission. Citigroup Centre, 2 Park Street, Sydney, NSW 2000. The Product is made available in Australia to Private Banking wholesale clients through Citigroup Pty Limited (ABN 88 004 325 080 and AFSL 238098). Citigroup Pty Limited provides all financial product advice to Australian Private Banking wholesale clients through bankers and relationship managers. If there is any doubt about the suitability of investments held in Citigroup Private Bank accounts, investors should contact the Citigroup Private Bank in Australia. Citigroup companies may compensate affiliates and their representatives for providing products and services to clients. The Product is made available in **Brazil** by Citigroup Global Markets Brasil - CCTVM SA, which is regulated by CVM - Comissão de Valores Mobiliários, BACEN - Brazilian Central Bank, APIMEC - Associação dos Analistas e Profissionais de Investimento do Mercado de Capitais and ANBID - Associação Nacional dos Bancos de Investimento. Av. Paulista, 1111 - 11º andar - CEP. 01311920 - São Paulo - SP. If the Product is being made available in certain provinces of **Canada** by Citigroup Global Markets (Canada) Inc. ("CGM Canada"), CGM Canada has approved the Product. Citigroup Place, 123 Front Street West, Suite 1100, Toronto, Ontario M5J 2M3. This product is available in **Chile** through Banchile Corredores de Bolsa S.A., an indirect subsidiary of Citigroup Inc., which is regulated by the Superintendencia de Valores y Seguros. Agustinas 975, piso 2, Santiago, Chile. The Product is made available in **France** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. 1-5 Rue Paul Cézanne, 8ème, Paris, France. The Product is distributed in **Germany** by Citigroup Global Markets Deutschland AG ("CGMD"), which is regulated by Bundesanstalt fuer Finanzdienstleistungsaufsicht (BaFin). CGMD, Reuterweg 16, 60323 Frankfurt am Main. Research which relates to "securities" (as defined in the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong)) is issued in **Hong Kong** by, or on behalf of, Citigroup Global Markets Asia Limited which takes full responsibility for its content. Citigroup Global Markets Asia Ltd. is regulated by Hong Kong Securities and Futures Commission. If the Research is made available through Citibank, N.A., Hong Kong Branch, for its clients in Citi Private Bank, it is made available by Citibank N.A., Citibank Tower, Citibank Plaza, 3 Garden Road, Hong Kong. Citibank N.A. is regulated by the Hong Kong Monetary Authority. Please contact your Private Banker in Citibank N.A., Hong Kong, Branch if you have any queries on or any matters arising from or in connection with this document. The Product is made available in **India** by Citigroup Global Markets India Private Limited, which is regulated by Securities and Exchange Board of India. Bakhtawar, Nariman Point, Mumbai 400-021. The Product is made available in **Indonesia** through PT Citigroup Securities Indonesia. 5/F, Citibank Tower, Bapindo Plaza, Jl. Jend. Sudirman Kav. 54-55, Jakarta 12190. Neither this Product nor any copy hereof may be distributed in Indonesia or to any Indonesian citizens wherever they are domiciled or to Indonesian residents except in compliance with applicable capital market laws and regulations. This Product is not an offer of securities in Indonesia. The securities referred to in this Product have not been registered with the Capital Market and Financial Institutions Supervisory Agency (BAPEPAM-LK) pursuant to relevant capital market laws and regulations, and may not be offered or sold within the territory of the Republic of Indonesia or to Indonesian citizens through a public offering or in circumstances which constitute an offer within the meaning of the Indonesian capital market laws and regulations. The Product is made available in **Israel** through Citibank NA, regulated by the Bank of Israel and the Israeli Securities Authority. Citibank, N.A. Platinum Building, 21 Ha'arba'ah St, Tel Aviv, Israel. The Product is made available in **Italy** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. Via dei Mercanti, 12, Milan, 20121, Italy. The Product is made available in **Japan** by Citigroup Global Markets Japan Inc. ("CGMJ"), which is regulated by Financial Services Agency, Securities and Exchange Surveillance Commission, Japan Securities Dealers Association, Tokyo Stock Exchange and Osaka Securities Exchange. Shin-Marunouchi Building, 1-5-1 Marunouchi, Chiyoda-ku, Tokyo 100-6520 Japan. If the Product was distributed by SMBC Nikko Securities Inc. it is being so distributed under license. In the event that an error is found in an CGMJ research report, a revised version will be posted on the Firm's Citi Velocity website. If you have

questions regarding Citi Velocity, please call (81 3) 6270-3019 for help. The Product is made available in **Korea** by Citigroup Global Markets Korea Securities Ltd., which is regulated by the Financial Services Commission, the Financial Supervisory Service and the Korea Financial Investment Association (KOFIA). Citibank Building, 39 Da-dong, Jung-gu, Seoul 100-180, Korea. KOFIA makes available registration information of research analysts on its website. Please visit the following website if you wish to find KOFIA registration information on research analysts of Citigroup Global Markets Korea Securities Ltd. <http://dis.kofia.or.kr/fs/dis2/fundMgr/DISFundMgrAnalystPop.jsp?companyCd2=A03030&pageDiv=02>. The Product is made available in Korea by Citibank Korea Inc., which is regulated by the Financial Services Commission and the Financial Supervisory Service. Address is Citibank Building, 39 Da-dong, Jung-gu, Seoul 100-180, Korea. The Product is made available in **Malaysia** by Citigroup Global Markets Malaysia Sdn Bhd (Company No. 460819-D) ("CGMM") to its clients and CGMM takes responsibility for its contents. CGMM is regulated by the Securities Commission of Malaysia. Please contact CGMM at Level 43 Menara Citibank, 165 Jalan Ampang, 50450 Kuala Lumpur, Malaysia in respect of any matters arising from, or in connection with, the Product. The Product is made available in **Mexico** by Acciones y Valores Banamex, S.A. De C. V., Casa de Bolsa, Integrante del Grupo Financiero Banamex ("Accival") which is a wholly owned subsidiary of Citigroup Inc. and is regulated by Comisión Nacional Bancaria y de Valores. Reforma 398, Col. Juárez, 06600 Mexico, D.F. In **New Zealand** the Product is made available to 'wholesale clients' only as defined by s5C(1) of the Financial Advisers Act 2008 ('FAA') through Citigroup Global Markets Australia Pty Ltd (ABN 64 003 114 832 and AFSL No. 240992), an overseas financial adviser as defined by the FAA, participant of the ASX Group and regulated by the Australian Securities & Investments Commission. Citigroup Centre, 2 Park Street, Sydney, NSW 2000. The Product is made available in **Pakistan** by Citibank N.A. Pakistan branch, which is regulated by the State Bank of Pakistan and Securities Exchange Commission, Pakistan. AWT Plaza, 1.1. Chundrigar Road, P.O. Box 4889, Karachi-74200. The Product is made available in the **Philippines** through Citicorp Financial Services and Insurance Brokerage Philippines, Inc., which is regulated by the Philippines Securities and Exchange Commission. 20th Floor Citibank Square Bldg. The Product is made available in the Philippines through Citibank NA Philippines branch, Citibank Tower, 8741 Paseo De Roxas, Makati City, Manila. Citibank NA Philippines NA is regulated by The Bangko Sentral ng Pilipinas. The Product is made available in **Poland** by Dom Maklerski Banku Handlowego SA an indirect subsidiary of Citigroup Inc., which is regulated by Komisja Nadzoru Finansowego. Dom Maklerski Banku Handlowego S.A. ul.Senatorska 16, 00-923 Warszawa. The Product is made available in the **Russian Federation** through ZAO Citibank, which is licensed to carry out banking activities in the Russian Federation in accordance with the general banking license issued by the Central Bank of the Russian Federation and brokerage activities in accordance with the license issued by the Federal Service for Financial Markets. Neither the Product nor any information contained in the Product shall be considered as advertising the securities mentioned in this report within the territory of the Russian Federation or outside the Russian Federation. The Product does not constitute an appraisal within the meaning of the Federal Law of the Russian Federation of 29 July 1998 No. 135-FZ (as amended) On Appraisal Activities in the Russian Federation. 8-10 Gasheka Street, 125047 Moscow. The Product is made available in **Singapore** through Citigroup Global Markets Singapore Pte. Ltd. ("CGMSPL"), a capital markets services license holder, and regulated by Monetary Authority of Singapore. Please contact CGMSPL at 8 Marina View, 21st Floor Asia Square Tower 1, Singapore 018960, in respect of any matters arising from, or in connection with, the analysis of this document. This report is intended for recipients who are accredited, expert and institutional investors as defined under the Securities and Futures Act (Cap. 289). The Product is made available by The Citigroup Private Bank in Singapore through Citibank, N.A., Singapore Branch, a licensed bank in Singapore that is regulated by Monetary Authority of Singapore. Please contact your Private Banker in Citibank N.A., Singapore Branch if you have any queries on or any matters arising from or in connection with this document. This report is intended for recipients who are accredited, expert and institutional investors as defined under the Securities and Futures Act (Cap. 289). This report is distributed in Singapore by Citibank Singapore Ltd ("CSL") to selected Citigold/Citigold Private Clients. CSL provides no independent research or analysis of the substance or in preparation of this report. Please contact your Citigold/Citigold Private Client Relationship Manager in CSL if you have any queries on or any matters arising from or in connection with this report. This report is intended for recipients who are accredited investors as defined under the Securities and Futures Act (Cap. 289). Citigroup Global Markets (Pty) Ltd. is incorporated in the **Republic of South Africa** (company registration number 2000/025866/07) and its registered office is at 145 West Street, Sandton, 2196, Saxonwold. Citigroup Global Markets (Pty) Ltd. is regulated by JSE Securities Exchange South Africa, South African Reserve Bank and the Financial Services Board. The investments and services contained herein are not available to private customers in South Africa. The Product is made available in **Spain** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. 29 Jose Ortega Y Gasset, 4th Floor, Madrid, 28006, Spain. The Product is made available in the **Republic of China** through Citigroup Global Markets Taiwan Securities Company Ltd. ("CGMTS"), 14 and 15F, No. 1, Songzhi Road, Taipei 110, Taiwan and/or through Citibank Securities (Taiwan) Company Limited ("CSTL"), 14 and 15F, No. 1, Songzhi Road, Taipei 110, Taiwan, subject to the respective license scope of each entity and the applicable laws and regulations in the Republic of China. CGMTS and CSTL are both regulated by the Securities and Futures Bureau of the Financial Supervisory Commission of Taiwan, the Republic of China. No portion of the Product may be reproduced or quoted in the Republic of China by the press or any third parties [without the written authorization of CGMTS and CSTL]. If the Product covers securities which are not allowed to be offered or traded in the Republic of China, neither the Product nor any information contained in the Product shall be considered as advertising the securities or making recommendation of the securities in the Republic of China. The Product is for informational purposes only and is not intended as an offer or solicitation for the purchase or sale of a security or financial products. Any decision to purchase securities or financial products mentioned in the Product must take into account existing public information on such security or the financial products or any registered prospectus. The Product is made available in **Thailand** through Citicorp Securities (Thailand) Ltd., which is regulated by the Securities and Exchange Commission of Thailand. 18/F, 22/F and 29/F, 82 North Sathorn Road, Silom, Bangkok, Bangkok 10500, Thailand. The Product is made available in **Turkey** through Citibank AS which is regulated by Capital Markets Board. Tekfen Tower, Eski Büyükdere Caddesi # 209 Kat 2B, 23294 Levent, Istanbul, Turkey. In the **U.A.E.**, these materials (the "Materials") are communicated by Citigroup Global Markets Limited, DIFC branch ("CGML"), an entity registered in the Dubai International Financial Center ("DIFC") and licensed and regulated by the Dubai Financial Services Authority ("DFSA") to Professional Clients and Market Counterparties only and should not be relied upon or distributed to Retail Clients. A distribution of the different Citi Research ratings distribution, in percentage terms for Investments in each sector covered is made available on request. Financial products and/or services to which the Materials relate will only be made available to Professional Clients and Market Counterparties. The Product is made available in **United Kingdom** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. This material may relate to investments or services of a person outside of the UK or to other matters which are not regulated by the FSA and further details as to where this may be the case are available upon request in respect of this material. Citigroup Centre, Canada Square, Canary Wharf, London, E14 5LB. The Product is made available in **United States** by Citigroup Global Markets Inc, which is a member of FINRA and registered with the US Securities and Exchange Commission. 388 Greenwich Street, New York, NY 10013. Unless specified to the contrary, within EU Member States, the Product is made available by Citigroup Global Markets Limited, which is regulated by Financial Services Authority. Pursuant to Comissão de Valores Mobiliários Rule 483, Citi is required to disclose whether a Citi related company or business has a commercial relationship

with the subject company. Considering that Citi operates multiple businesses in more than 100 countries around the world, it is likely that Citi has a commercial relationship with the subject company.

Many European regulators require that a firm must establish, implement and make available a policy for managing conflicts of interest arising as a result of publication or distribution of investment research. The policy applicable to Citi Research's Products can be found at https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures.

Compensation of equity research analysts is determined by equity research management and Citigroup's senior management and is not linked to specific transactions or recommendations.

The Product may have been distributed simultaneously, in multiple formats, to the Firm's worldwide institutional and retail customers. The Product is not to be construed as providing investment services in any jurisdiction where the provision of such services would not be permitted.

Subject to the nature and contents of the Product, the investments described therein are subject to fluctuations in price and/or value and investors may get back less than originally invested. Certain high-volatility investments can be subject to sudden and large falls in value that could equal or exceed the amount invested. Certain investments contained in the Product may have tax implications for private customers whereby levels and basis of taxation may be subject to change. If in doubt, investors should seek advice from a tax adviser. The Product does not purport to identify the nature of the specific market or other risks associated with a particular transaction. Advice in the Product is general and should not be construed as personal advice given it has been prepared without taking account of the objectives, financial situation or needs of any particular investor. Accordingly, investors should, before acting on the advice, consider the appropriateness of the advice, having regard to their objectives, financial situation and needs. Prior to acquiring any financial product, it is the client's responsibility to obtain the relevant offer document for the product and consider it before making a decision as to whether to purchase the product. With the exception of our product that is made available only to Qualified Institutional Buyers (QIBs) and other product that is made available through other distribution channels only to certain categories of clients to satisfy legal or regulatory requirements, Citi Research concurrently disseminates its research via proprietary and non-proprietary electronic distribution platforms. Periodically, individual Citi Research analysts may also opt to circulate research posted on such platforms to one or more clients by email. Such email distribution is discretionary and is done only after the research has been disseminated via the aforementioned distribution channels. Citi Research simultaneously distributes product that is limited to QIBs only through email distribution.

The level and types of services provided by Citi Research analysts to clients may vary depending on various factors such as the client's individual preferences as to the frequency and manner of receiving communications from analysts, the client's risk profile and investment focus and perspective (e.g. market-wide, sector specific, long term, short-term etc.), the size and scope of the overall client relationship with Citi and legal and regulatory constraints. Citi Research product may source data from dataCentral. dataCentral is a Citi Research proprietary database, which includes Citi estimates, data from company reports and feeds from Reuters and Datastream.

© 2013 Citigroup Global Markets Inc. Citi Research is a division of Citigroup Global Markets Inc. Citi and Citi with Arc Design are trademarks and service marks of Citigroup Inc. and its affiliates and are used and registered throughout the world. All rights reserved. Any unauthorized use, duplication, redistribution or disclosure of this report (the "Product"), including, but not limited to, redistribution of the Product by electronic mail, posting of the Product on a website or page, and/or providing to a third party a link to the Product, is prohibited by law and will result in prosecution. The information contained in the Product is intended solely for the recipient and may not be further distributed by the recipient to any third party. Where included in this report, MSCI sourced information is the exclusive property of Morgan Stanley Capital International Inc. (MSCI). Without prior written permission of MSCI, this information and any other MSCI intellectual property may not be reproduced, redisseminated or used to create any financial products, including any indices. This information is provided on an "as is" basis. The user assumes the entire risk of any use made of this information. MSCI, its affiliates and any third party involved in, or related to, computing or compiling the information hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability or fitness for a particular purpose with respect to any of this information. Without limiting any of the foregoing, in no event shall MSCI, any of its affiliates or any third party involved in, or related to, computing or compiling the information have any liability for any damages of any kind. MSCI, Morgan Stanley Capital International and the MSCI indexes are services marks of MSCI and its affiliates. The Firm accepts no liability whatsoever for the actions of third parties. The Product may provide the addresses of, or contain hyperlinks to, websites. Except to the extent to which the Product refers to website material of the Firm, the Firm has not reviewed the linked site. Equally, except to the extent to which the Product refers to website material of the Firm, the Firm takes no responsibility for, and makes no representations or warranties whatsoever as to, the data and information contained therein. Such address or hyperlink (including addresses or hyperlinks to website material of the Firm) is provided solely for your convenience and information and the content of the linked site does not in anyway form part of this document. Accessing such website or following such link through the Product or the website of the Firm shall be at your own risk and the Firm shall have no liability arising out of, or in connection with, any such referenced website.

ADDITIONAL INFORMATION IS AVAILABLE UPON REQUEST
