26 February 2015 | 45 pages

Developed Markets
Western Europe

European Rates Weekly

Yield collapse still in train

- **Outlook: (1) Long duration and even longer periphery. Bunds levels are no accident and negative rates allied to excess reserves, as well as direct QE effects, should take yields lower. Even more bullish on periphery where the performance potential is still massive. (2) Greece's deal buys 3m clear road for periphery performance but Germany wins too well and tension could rise into a new programme in the summer. (3) Expect the recent Bund correlation drop to Treasuries to continue. (4) ECB QE starts in March. We give you a cheat sheet on operational details, likely ECB tactics and impact surveys, as well as a flow/stock metrics across countries.**

- **The complexity of QE:** We expand our series of QE-related articles with some thoughts about the complexity of the decision-making process that dealers will face.

- **Why we like long-end Portugal:** For various fundamental and technical reasons - not least the impact of ECB QE - we see merit in long 30yr PGB vs Bunds.

- **Forward implied vol:** We search for the sweet spot in forward vol space via a scan of 12,600 triangles and find some long forward vol strategies attractive.

- **Euro inflation:** Seasonals point to wider break-evens in March, but this is largely a function of negative carry. Risks are still to the downside, in our view.

- **UK linkers:** 5yr IL gilt break-evens are lagging the widening seen in other markets. Entry levels, and other supports, point to buying 5yr IL gilts vs euro/TIPS.

- **Why not go sub-sovereign?** The German Laender market is one of the few highly rated public sector debt markets which the ECB will most probably not buy.

- **Are Norway's covered bonds at risk?** Concerns over high house and low oil prices are likely overdone; we prefer Norwegian to core EMU covered bonds.

- **New yield forecasts:** We forecast 10y Bunds at 0.15% in Q2, much tighter EMU spreads and lower gilts yields (reversing the February sell-off).

- **EMU RV:** We highlight four positive carry relative value trade opportunities in the sub-10yr sector of the French, German and Spanish yield curves.

- **Supply:** EGB supply next week comes from Austria (€1.1bn), France (estimated €9bn) and Spain (estimated €5bn). There is no UST supply next week. In the UK, the DMO will issue £3.5bn of the 2% Treasury Gilt 2020 next Tuesday.

- **New trades this week**: **#1** Long Bund ASW; **#2** Long 30y BTP from 5y BOBL; **#3** Buy 30yr PGB vs Bunds; **#4** Buy IL19 vs Bundei20 break-even.

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

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Long duration and even longer periphery

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The European yield collapse is not done in our view. That includes core rates on the power of negative rates with upsized excess reserves, as well as the more direct effects of ECB QE. Periphery performance is however expected to be the dominant feature of H1-2015 global FI returns, and the size of the opportunity remains massive.

This week we assess:

1. Buy. We outline new forecasts and the rationale for lower Bund yield projections and aggressive periphery performance.

2. The Greece deal: the game-plan shifts to aggressive longs because it clears the road for QE effects for 3-months. We question whether Germany won too well for this to be a happy equilibrium for Greece.

3. Fed is not in a hurry which supports global FI. Do Bunds care? We expect the recent fall in correlation to be a trend.

4. The ECB should present details on QE and start buying in March. We give you a cheat sheet on operational details and flow metrics.

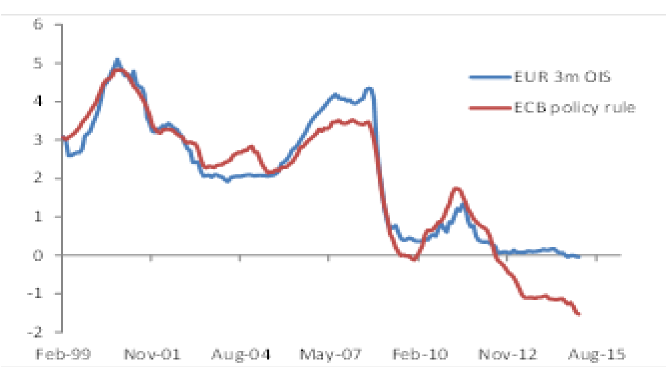
1. Buy.

We have new yield forecasts as outlined in **The Global Low Yield Environment**, which looks at structural factors behind low global yields and comes to the conclusion that these are still in play for low and lower yields medium term.

Our 10y Bunds target is a rally to 0.15% initially and high probability of moving to zero/negative rates because of the powerful combination of negative rates and soon to be much larger excess reserves, as well as the direct effect of ECB QE.

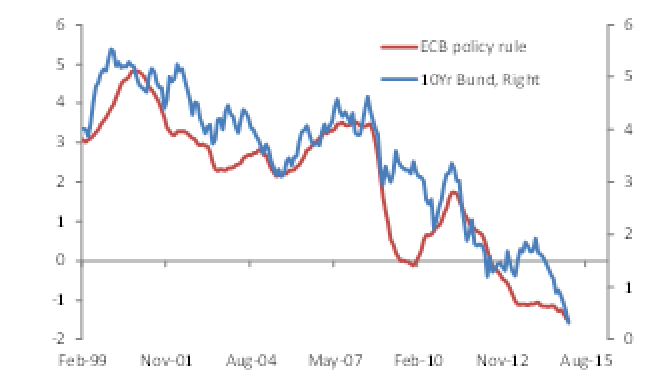
One reason is that the ECB rate should be close to -1.5%. This is the fundamental cause of a flat yield curve. On a more technical level, there was a time when investors used to ask, who was buying 2y Schatz at -6bp. This seemingly odd phenomena has given way to deeper negative rates for the short end – because it is the opportunity cost of -20bp on the ECB Deposit Facility that is the true benchmark, as well as flows that seek positive return further up the curve.

Figure 1. ECB rates should be deeply negative (-1.5%)….



Source: Citi Research

Figure 2. ... and Bunds are merely tracking this lower bound problem



Source: Citi Research

That has led to German rates being negative out to 6y and we think that as excess reserves at the ECB grow via QE, then the flow effect seeking non-zero paper will see a another gradual flattening of the curve.

– Our initial 0.15% target also reflects ASW widening with net supply becoming deeply negative over the next year. We added a new trade for wider Bund ASW in 10y Bund by some 20bp. There will also be direct effects from the ECB QE on the scarcity of bonds which should be most visible in negative and more negative repo, which gives then risk of 10y Bunds trading negative.

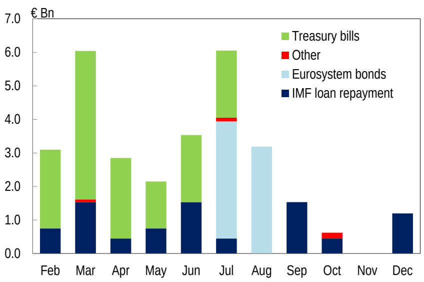
Our view on periphery is even more bullish and we see a yield collapse, taking outright 10y BTP yields for instance, well below 1% and favor 30-years, as sellers to the ECB will be more reluctant here. Our favorite market? Peter Goves discusses below, why we think Portugal is the best performer.

2. Greece clears the road for periphery longs for 3m. Did Germany win too well? Yes, so many issues have been deferred not gone.

Greece's willingness to essential only re-label the existing memorandum and tweak the reform agenda, in the face of capital control risks, had a deal not been done last week, has bought time.

How much time? The dissent from the Syriza coalition has been muted but the contours of the deal have not been outlined in detail. Given that the Greek parliament may not vote on all aspects of the agreement it is likely that Greece sees the deal as in effect buying time for negotiations proper to begin in earnest ahead of the large July/August redemptions (Figure 3).

Figure 3. Greek debt repayment flows – Eurogroup holds the power



Source: Citi Research

That brings new volatility into the discussion because the same risk that markets faced (Grexit, capital controls) could feasibly be seen in the 4-month deal, with the period designed to keep the pressure on the Greece, given the redemption schedule.

– The concern here is that Germany may have won too well in so far as even a revised primary balance target, for instance of 2% (v. 3% in the memorandum) for 2015 infers further austerity, given that the budget is now off-track.

– Nevertheless, headline risk is substantially reduced in the next 3-months and provides a key tail wind for long periphery allocations, where investors had been shy of adding to portfolio given the uncertainty over Greece.

3. Fed: ready to move but not to act. Bunds decoupling is likely to be the trend.

Our read on Janet Yellen's testimony this week is that the Fed is not ready to move but is ready to act, see **U.S. Macro Flash: FOMC Edition**. In essence, the Fed is data dependent and the view here is that data will not be sufficiently robust to warrant an early lift off. Citi continues to see Dec-15 as the most likely time for a hike.

Does this move the needle on global and European FI? The message was on the surface sufficiently bland to suggest USD rates are in a range and that as data comes in we may see a rise in volatility.

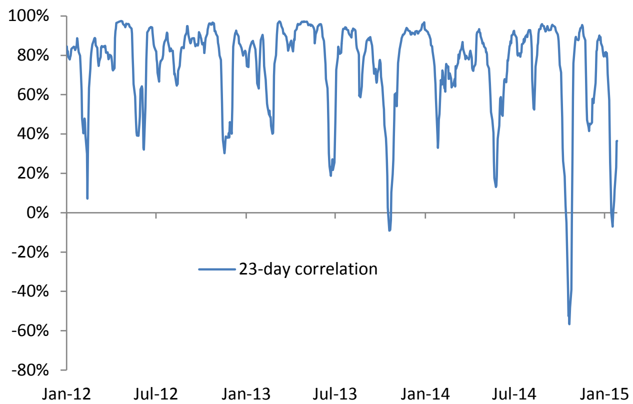
Under the hood, however, there are remaining risks in that one of the key reasons for early lift-off is financial stability. As we made clear in The Global Low Yield Environment, this risks a policy error, in the way that (a) The fed has missed the downside bias of core CPI prints and (b) the markets would price some risk that the Fed is repeating the Riksbanks error of not being sufficiently attuned to the disinflation risk.

European impact from USD rates received some support from the testimony but a bigger story is evolving. The last few weeks are essentially a taster of weaker correlation to come in our view, when a large sell-off in long bonds saw Bunds as unresponsive.

The correlation of 10y Bunds to Treasuries briefly became negative recently and remains low, despite the fact that European data has been more buoyant than expected relative to US data, as the gap between the respective Citi surprise indices reaches lows.

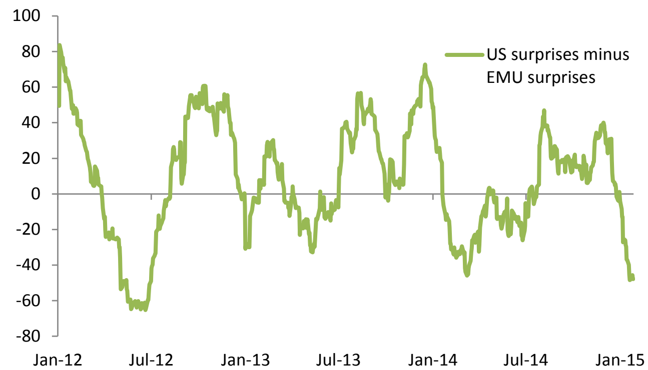
- Correlations in other words support our thesis that Bunds can rally and trade much more like a commodity in so far as supply/demand is dominant factor.

Figure 4. 10y Treasury-Bund correlation dropping…



Source: Citi Research

Figure 5. …and not responding to economic surprises



Source: Citi Research

4. ECB QE: how will it be done?

Mario Draghi had said that operational details of QE will be published by the end of February. Time is running low but there are some things we can say on how the ECB will operate, when it starts buying in March.

The Figures below provide cheat sheets on our thoughts on what ECB can do with regards to operational details and some important flow metrics on ECB buying.

Figure 6. Cheat sheet on ECB operational details, tactics and impact surveys

ECB QE size, the capital key and when will buying start?

* The ECB will buy EUR 60bn in assets per month, which translates to c. 43bn in EGBs, so EUR11.2bn per month in German paper on our estimates.
* The capital key will be adhered to, but there is some flexibility given that some countries have little debt
* The capital key has been defined on a monthly basis with flexibility to allow temporary deviations.
* The limit on bond ownership is 25% (33% for a market) to avoid a blocking vote in CACs.
* The buying will start in March. We think Monday 09-March. Draghi said details on buying technicalities will be presented before March.
* Note that the buying refers to monetary value, so high coupons could be favoured.
* To prevent monetary financing there will be a black-out period for certain paper around new primary sovereign issues> It is unlikely that the although the details will be made public, because this is in line with the ECB's previous buying in EGBs.

Maturity preferences, will they buy negative yields, how about yields below the Deposit Facility rate?

* The ECB's goal is to limit market impact. ECB's Coeure: "In terms of the maturity allocation within a given sovereign bond universe, it will be broadly based on market outstandings"... "There is very little leeway for discussion or readjustment," and "we want to create as little market distortion as possible". Other ECB commentary suggests an aim towards ex-ante market neutrality which means avoiding specific dislocations in EGB curves within the agreed maturity range. Note that ex-ante is very different to ex-post.
* The ECB approach to any market distortions is not likely to be static and should evolve over the QE operation, especially in early periods.
* Draghi has said the ECB will buy at negative yields.
* However, we expect core NCBs will be **reluctant to buy below the ECB Deposit rate -0.20%,** which currently means they buy from Apr-19s paper onwards to 30y. That **REDUCES the eligible pool by 19%** by market value (21% of notional outstanding) - and clearly this will get higher if buying is focused longer on the curve. As such this is very important to watch.
* The ECB plans to start buying in March. We think Monday 9th March is the most likely date. Draghi said details on buying technicalities will be presented before March.

Reverse auctions or like the SMP, CBPP3

* In our view, the ECB is likely to execute QE most akin the CBPP3. This means execution via electronic tickets and especially to execute on axes. It is technically feasible to execute axes via voice too.
* We do not think it is technically feasible for the NCBs to use reverse auctions at this stage.

Market impact surveys.

* Citi surveys suggest a large portion of the market will be unwilling/unable to sell to the ECB
* It is likely that active funds and non Euro accounts will be the most willing to sell.
* Some investors have indicated that they may displace core euro bonds with swaps, perhaps at wider levels.

A study presented at the ECB bond market contact group (BMCG) suggests that just 38% of Euro core FI is in free-float, with the remainder in passive (indexed) funds and others at central banks.

* We find it curious that not enough investors are talking about how the negative ECB depo rate allied to upsized excess reserves will keep valuations at extreme levels, on a historic basis. Instead, most investors are focused on the direct skewing of price behaviour.

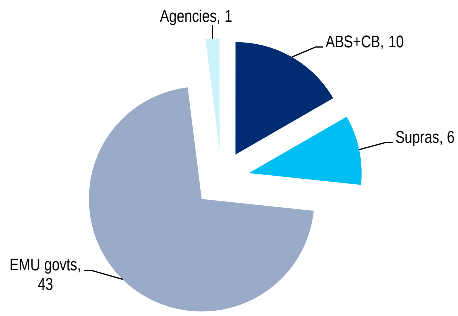
Securities lending

* There has been a positive surprise in purchase volumes for covered bonds in CBPP3 and market functioning.
* Nevertheless, there is a need for collateral via core paper and markets need to be attuned to ECB securities lending programmes.
* In our view, repo facilities between the ECB and dealers will be the main and perhaps only vehicle to deal with market distortion, and are unlikely to be ready at the start of QE.
* Dealer balance sheet restrictions may prevent smooth market functioning.

Source: Citi Research

Cheat sheet: The ECB shopping list and flow metrics

Figure 7. Estimated split of monthly QE purchases



Source: Citi Research

Figure 8. Eligible EGBs vs assumed QE purchases (snapshot of market value, €bn)

Country	Capital keys	Assumed QE purchases*	Of which, Linkers	Eligible market value (25% of 2-30yrs)**	What's left***
Germany	25.6%	215	11	**275**	61
France	20.1%	169	18	**380**	211
Netherlands	5.7%	48		**76**	28
Italy	17.5%	147	10	**399**	252
Spain	12.6%	106	2	**202**	96
Belgium	3.5%	29		**81**	51
Austria	2.8%	23		**48**	24
Finland	1.8%	15		**20**	5
Ireland	1.6%	13		**31**	18
Portugal	2.5%	21		**27**	6
Greece	2.9%	2		**7**	6
Total	**96.9%**	**788**	**41**	**1546**	**758**

Source: Citi Research, Bloomberg. * *Assuming €43bn/month of government bond purchases. We expect Greek purchases of around €1-2bn, the rest of EMU-11 according to the capital key **Adjusted for issuance/redemptions during QE. ***Amount available for any extension of QE beyond September 16.*

Figure 9. EMU-11 net supply for 2015 adjusted for QE purchases (€bn)*

	A	B	A - B	C	D	A - B - C - D
Country	Gross Supply	Coupons	Supply - Coupons	Redemptions	Assumed Purchases	Net Supply
DEU	159	27	132	155	113	-136
FRA	214	41	173	117	89	-33
ITA	243	56	187	197	77	-87
ESP	142	29	113	84	56	-27
NLD	48	9	39	40	25	-26
BEL	33	11	21	21	15	-16
AUT	18	7	11	13	12	-13
FIN	10	2	8	5	8	-5
PRT	14	4	9	6	11	-7
IRL	14	4	9	2	7	-0
GRC	6	1	5	0	1	4
EMU-11	900	192	707	640	415	-346

Source: Citi Research, DMOs, Bloomberg. **2015 purchases are estimated at €430bn across the whole EMU-19, €415bn of which are assumed to be in EMU-11*

Figure 10. Net cash requirement of EMU-11 on a monthly basis (€bn, absolute changes greater than €10bn highlighted)*

Month	DEU	FRA	ITA	ESP	NLD	BEL	AUT	FIN	IRL	PRT	GRC	EMU-11
Jan	**-15**	8	-3	-10	-10	5	0	0	4	6	0	**-14**
Feb	-5	**19**	2	**16**	3	4	1	1	2	2	-1	**43**
Mar	**-16**	**11**	**15**	-2	7	**-15**	2	-1	-1	-0	1	**1**
Apr	**-14**	**-24**	**-10**	**-20**	-9	1	-0	2	-2	-1	-0	**-77**
May	-1	9	**11**	5	2	1	-0	-1	-1	-1	1	**26**
Jun	**-15**	**13**	**-21**	8	2	-0	-0	-1	-0	-2	-0	**-15**
Jul	**-28**	**-30**	**-32**	**-24**	**-15**	2	**-15**	-7	0	-0	1	**-146**
Aug	1	-9	**-14**	1	-3	-2	-1	3	-1	-1	-0	**-25**
Sep	**-10**	**11**	**13**	7	-2	**-13**	2	-1	0	-0	1	**8**
Oct	**-13**	**-31**	-10	**-15**	0	1	-1	0	-2	-8	-0	**-78**
Nov	1	-7	-10	5	0	1	-0	-1	0	-1	-0	**-12**
Dec	**-21**	-2	**-30**	1	-3	-2	1	-1	-1	-1	-0	**-58**
Total	**-136**	**-33**	**-87**	**-27**	**-26**	**-16**	**-13**	**-5**	**-0**	**-7**	**4**	**-346**

Source: Citi Research, DMOs, Bloomberg.

ECB: The Complexity of QE

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We conclude our series of QE-related articles with some thoughts about the complexity of the decision-making process that dealers will face when interacting with the ECB.

Beliefs and expectations are complex objects. Standard economic models deal with complexity by assuming full rationality: All agents decide on the back of complete information about the past, the present and the future and optimise their behaviour with infinite computing power. On the other hand, not even the highly trained brain of a chess Grand Master can anticipate more than say 10-15 moves. Quoting Garry Kasparov "Botvinnik ... used to call chess a typical inexact problem similar to those which people are always having to solve in everyday life".

Students of so-called bounded rationality draw from the fields of cognitive sciences as well as experimental economics. For example, the human brain is excellent in recognising patterns to solve inexact, ill-defined problems, while at the same time having troubles making purely deductive decisions. The "El Farol" problem[1] is the standard example of ill-defined decision problems that propel the agent "into a world of induction.

If you've made it to this point, you are probably thinking that the author's rationality is likely to be very bounded. Allow us to reformulate the decision problem above in terms of monetary policy: There is a central bank that every day is in the market looking for offers in government bonds and whose only objective is to increase inflation towards 2%. Dealers, who must form expectations about the future in order to decide which price to show, like to offer bonds to this central bank, but they also know that if too many or too few offers show up, then prices may become too volatile and influence negatively their market-making capability. In the context of ECB's QE, we have dealt with inventory bottlenecks, net supply and the price sensitivity of different investor types in previous research[2].

In our version of the "El Farol" problem, the two limit cases are:

- If dealers think that QE works perfectly (i.e. the central bank achieves its inflation target), then everybody will offer bonds and interest rates will rise.
- If dealers think that QE does not work at all, then nobody will offer bonds and interest rates will fall.

Interestingly, we might have just witnessed the second-limit case in real time: Despite an unprecedented series of conventional and unconventional measures, the market has seriously challenged ECB's inflation target. The result is a sharp decline in market and survey based inflation expectations, as well as in HICP fixings. Nominal yields have been repriced lower.

Earlier generalised versions of the problem have been analysed by means of computer simulations. Also, more specific version have been used to analyse the complex dynamics within the model and the resulting equilibria (if any)[3]. Studying the complex dynamics of this model, we make the following - perhaps expected - discovery: Initial conditions and the "early history" of the process matter for the convergence to one or another equilibrium. In other words, the price process is heavily path dependent.

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[1] Arthur (1994), "Inductive Reasoning and Bounded Rationality"

[2] Citi Euro Rates (2015), "Will Banks Offer Bonds to the ECB?" and Citi Euro Rates (2015), "Will foreign investors sell to the ECB?"

[3] Dosi/Ermoliev/Kaniovski (1994), "Generalized Urn Schemes and Technological Dynamics"

The “El Farol” problem in context of QE

What does it mean for our QE-version of the "El Farol" problem? What can we say about the complexity of dealers' decision-process into QE? Several points are interesting:

1) The ECB has chosen to go for a large version of QE straight away. This strategy is consistent with the finding that the "early history" of the complex process underlying price expectations does dominate the ultimate outcome.

2) Paradoxically, a further decline in yields (all else equal) could be interpreted as a limit case of the decision making problem, thus sending the wrong message that dealers do not believe at all in QE.

3) Vice versa, a rapid increase in yields - QE is "too successful" in influencing inflation expectations - might conflict with broader policy objectives.

4) Ideally, the central bank should aim to face a mixed ecology of beliefs and expectations, such that it can influence the price process in its early history. By doing so, the central bank could force the market towards an equilibrium that minimises both its own policy loss function as well as losses resulting from a too volatile price environment. Hence, a fully transparent QE-strategy might not be optimal in the world of bounded rationality.

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Why we like long-end Portugal

Given that recent Greek bailout extension provides a degree of temporary relief to this specific event risk (*Euro Area - Greece Extension Agreement Provides Temporary Relief*), we believe the door is now open for further yield collapse in the periphery (*The Global Low Yield Environment*).

Long-end Portugal set to perform further

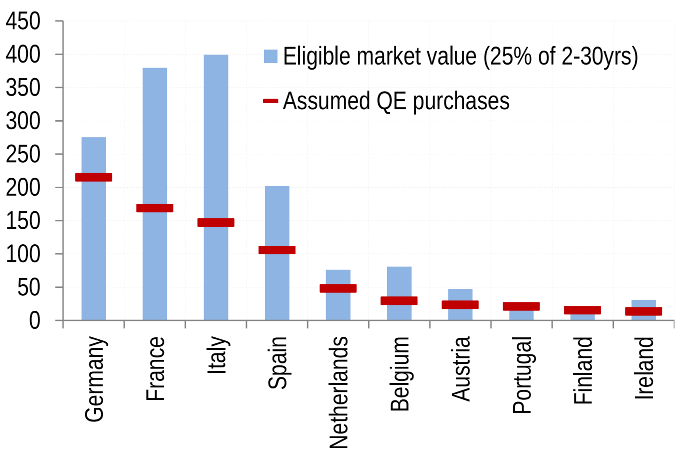
The hunt for yield clearly remains intense: Extending on curves or moving down in credit quality are likely to remain popular themes to generate returns in an otherwise low yield environment. Buying long dated Portugal tries to capture both strategies. For fundamental and technical reasons, we think the long-end of Portugal is set to perform further.

QE impact is huge on this (relatively small) market

ECB buying: For the ECB's government bond purchasing programme, details of eligible market sizes per sovereign (25% of the 2yr-30yr euro debt) together with total assumed purchases are shown in Figure 11. For Portugal, the eligible pool is around €26bn (25% of the 2yr-30yr PGB market) of which the ECB looks set to buy around €21bn (as defined as Portugal's capital key, 2.5%, of total QE purchases). Complete details can be found in our *How 'open-ended' is QE really?*.

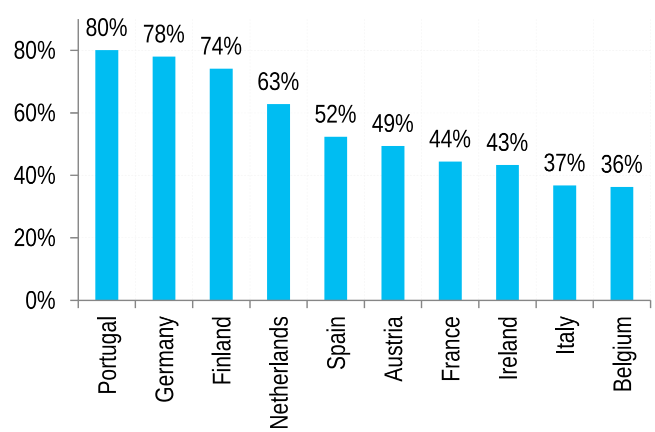
Bottom line – stock effect is large: This means that out of a total market size, the ECB looks set to buy around 80% of the eligible PGB market (after the 25% rule is taken into account). As a proportion, this is highest for EMU-10 sovereigns (Figure 12). In this sense, Portugal (and Germany and Finland) could see the biggest technical squeezes as a result of ECB QE.

Figure 11. Assumed total ECB QE purchases out of the 25% eligible 2yr-30yr bonds (€bn)



Source: Citi Research, DMOs, Bloomberg, ECB

Figure 12. Purchases as a proportion of the 25% eligible universe (%)

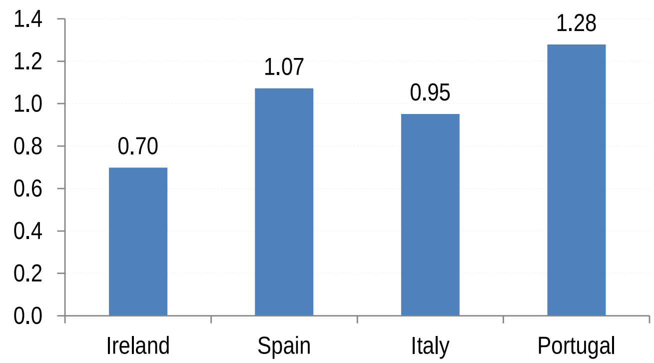


Source: Citi Research, DMOs, Bloomberg, ECB

High beta within the periphery

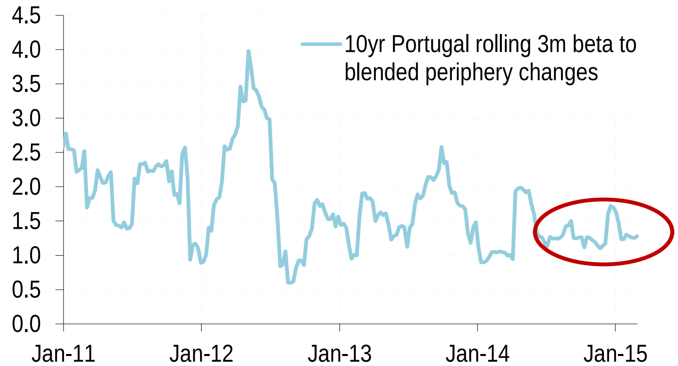
Relatively stable beta and limited contagion: In terms of market behaviour within the periphery, Portugal is high beta. One way to see this is shown in Figure 13 which uses betas to the average yield change of Ireland, Spain, Italy and Portugal. Perhaps more importantly, this beta has been relatively stable throughout the recent Greek event risk (Figure 14). We have noted this lack of contagion on several occasions (*European Rates Weekly*). Given ECB QE and previous policies such as OMT, the successful establishment of the EFSF/ESM and wider EMU fundamental improvements, we believe this market dynamic will persist over the medium term.

Figure 13. 10yr Beta to the periphery*



Source: Citi Research, Bloomberg *Based on 3m of weekly changes in 10yr yields vs the average change in Ireland, Spain, Italy and Portugal.

Figure 14. Rolling beta of Portugal to the periphery



Source: Citi Research, Bloomberg

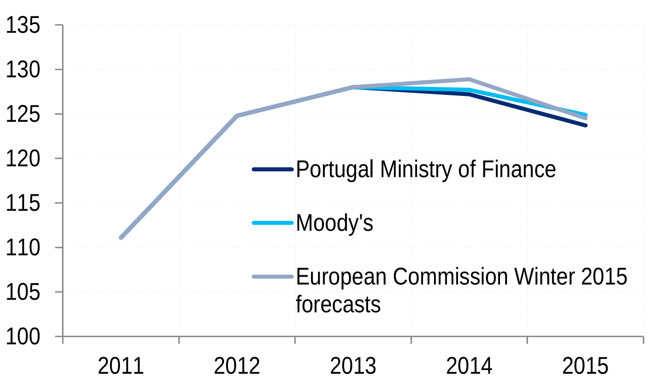
Fundamental improvements

Citi revises growth forecasts up: Although risks remain (highlighted most recently by the European Commission, *Europe - Sovereign Debt Update*), fundamentally, our economists point to several improvements. Citi has revised up growth forecasts for Portugal to 1.9% YoY (previously 1.7%) for 2015 citing improvements in financial conditions, lower oil prices and rising consumer confidence (*Global Economic Outlook and Strategy*). This is above the euro area average, matching Citi's growth forecast for Germany in 2015 with only Ireland (3.4%) and Spain (2.5%) expected to outperform. Another and associated credit positive is the stabilisation in debt to GDP. Various forecasters see the trajectory falling this year (Figure 15).

Debt structure and strong market access: Private sector government bond outstanding amounts stood at about €93bn (November 2014, Finance Ministry, Figure 16). This forms 43% of Portugal's wider debt structure (€218bn) with a large official sector component (€78bn from the EU/IMF). In terms of bond supply to date, Portugal has issued an impressive €8.3bn (out of an expected €14bn for 2015) including €2bn in a new 30yr benchmark. The funding and liquidity environment has improved significantly over recent years (10yr PGB now trading sub-2%). Note also Portugal reported €10.2bn in its year-end cash position for 2014.

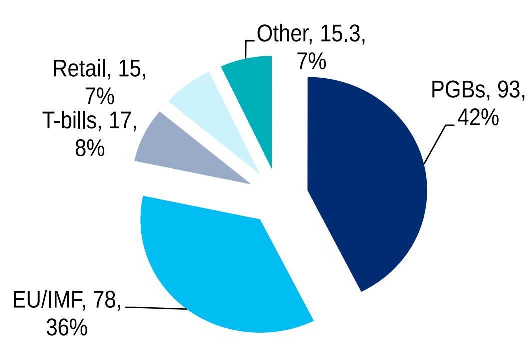
IMF repayment is credit positive: Following a similar action by Ireland, Portugal intends to repay around €14bn out of its €26.5bn IMF programme early. This has already been noted as credit positive by Moody's (23rd February).

Figure 15. Stabilising debt to GDP (%)



Source: Citi Research, European Commission, Portugal Finance Ministry, EC

Figure 16. Portugal's debt structure

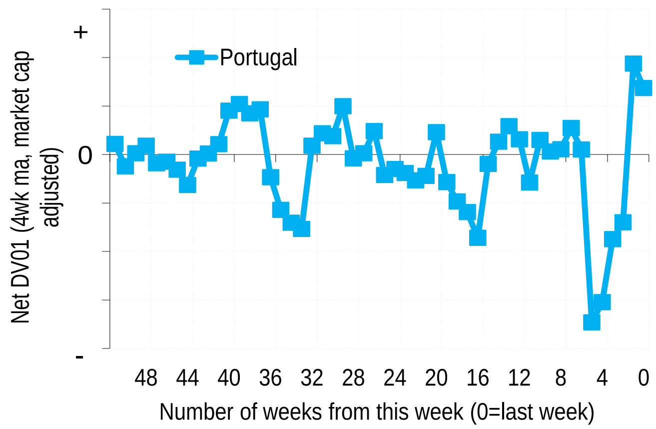


Source: Citi Research, Portugal Finance Ministry Investor Presentation.

Flows indicate good appetite for Portugal

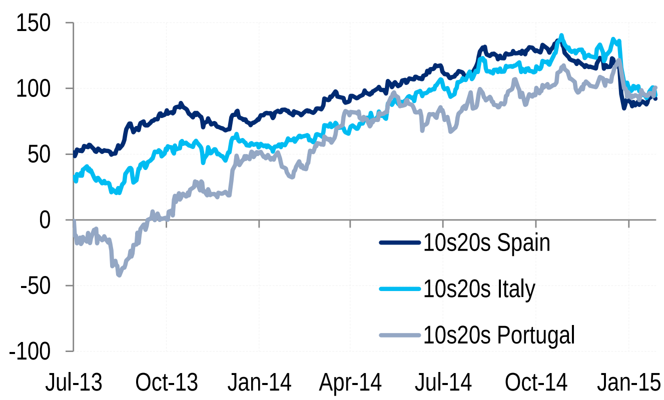
As detailed in our recent *European Flow Monitor*, net demand for Portugal has been strong recently. Figure 17 indicates net DV01 of flows for Portugal using a rolling 4 week average. In terms of curvature, the 10yr sector has benefited from yield seeking behaviours, with 5s10s bull flattening. Further out the curve, levels remain steeper (such as 10s20s, Figure 18). With the proportion of negatively yielding debt continuing to expand and engulf a variety of sovereigns up to the 6yr sector, reallocations up the curve look set to continue in our view.

Figure 17. 4 wk average of net DV01 flows for Portugal



Source: Citi Research, as published in the latest Cit iFlow Monitor

Figure 18. Longer date sectors still offer value in our view (bp)



Source: Citi Research

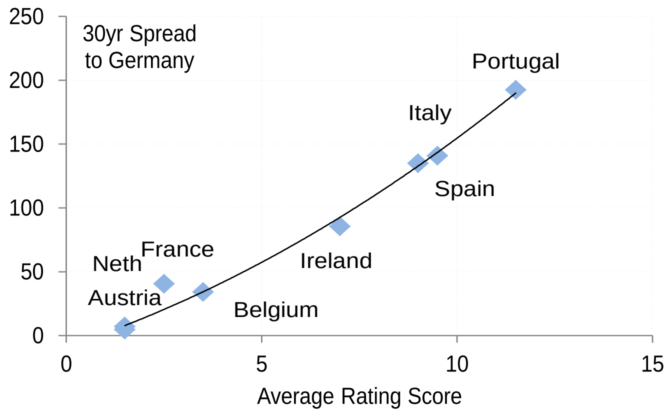
Trade ideas and strategies

We believe periphery spreads will tighten further given ECB QE. This should also continue to flatten the EMU credit curve which is shown using 30yr spreads to Germany (Figure 19). For the various reasons outlined – not least with 10yr Portugal now trading below 2% - we see merit in being long 30yr PGBs vs Bunds.

Buy PGB 4.1% Feb45s vs DBR 2.5% Aug46s at 192bp. Target 152bp. Stop 212bp

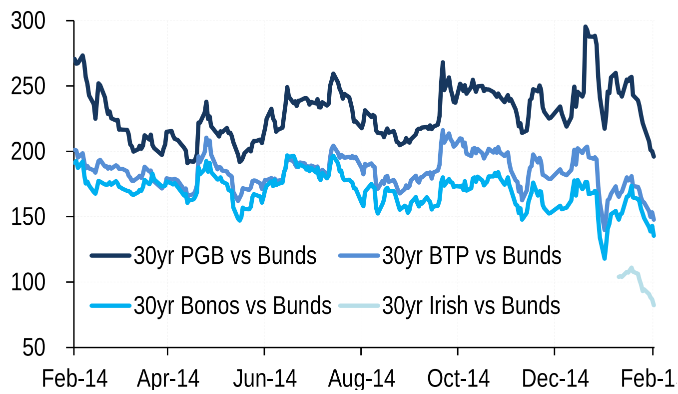
As we have noted (*The Global Low Yield Environment*), the long periphery trade also looks compelling in forward space such as 5y5y or 10yr20yr.

Figure 19. 30yr EMU credit curve (30yr spreads to Germany, bp, vs average S&P/Moody's rating score)



Source: Citi Research, Moody's, S&P

Figure 20. Generic 30yr spreads to Bunds (bp)



Source: Citi Research

Cheap forward top-right implied volatility

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Positively rolling long vega positions: forward vol more attractive than spot vol!

Long volatility positions are costly in the current market environment: with the Greek crisis having again settled in a temporary equilibrium and, more fundamentally, monetary policy capping the level of rates, the forwards are not delivering (with the notable exception of ultra-long dated forwards, e.g. 25y10y implied vol is cheap vs. realized vol).

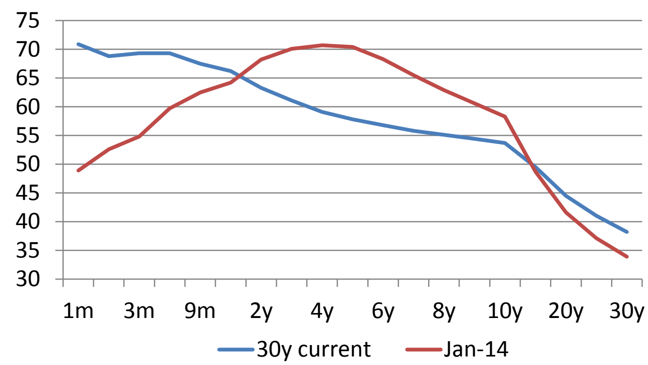
Moreover, rolldown for long ATMF straddle positions is negative, again with the exception of ultra-long dated straddles, as shown in Figure 21.

Figure 21. One-year rolldown PnL for EUR ATMF swaption straddles (in terms of spot premia): slightly positive for long-dated vol only

	1y	2y	3y	4y	5y	6y	7y	8y	9y	10y	15y	20y	30y
1y	-97%	-76%	-63%	-57%	-55%	-56%	-59%	-62%	-66%	-70%	-79%	-85%	-90%
2y	-33%	-34%	-33%	-32%	-31%	-30%	-29%	-28%	-27%	-26%	-26%	-26%	-25%
3y	-24%	-24%	-23%	-22%	-21%	-19%	-19%	-18%	-18%	-17%	-15%	-15%	-14%
4y	-19%	-18%	-16%	-16%	-15%	-15%	-15%	-14%	-14%	-12%	-11%	-10%	-9%
5y	-14%	-13%	-12%	-12%	-12%	-12%	-11%	-11%	-10%	-10%	-9%	-9%	-7%
6y	-9%	-10%	-10%	-10%	-10%	-9%	-9%	-9%	-8%	-8%	-8%	-7%	-6%
7y	-8%	-7%	-8%	-8%	-8%	-7%	-7%	-7%	-7%	-7%	-6%	-6%	-5%
8y	-6%	-7%	-7%	-7%	-7%	-6%	-6%	-6%	-6%	-6%	-5%	-5%	-4%
9y	-5%	-5%	-5%	-5%	-5%	-5%	-5%	-5%	-5%	-5%	-4%	-3%	-4%
10y	-4%	-4%	-4%	-4%	-4%	-4%	-4%	-4%	-4%	-4%	-4%	-3%	-3%
15y	0%	0%	0%	-1%	-1%	-1%	-1%	-1%	-1%	0%	0%	0%	-1%
20y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%
30y	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%

Source: Citi Research

Figure 22. 30y swap implied vol term structure: flat/inverted shape making long calendar spread positions attractive



Source: Citi Research

Meanwhile, the flattening bias of the implied volatility term structures, in particular on long swap tenors allows for positively rolling attractive long vega exposure on short expiries via forward volatility positions. In fact, observe that, currently, the 30y term structure is inverted (Figure 22).

The search of the sweet spot in forward vol space via a simple data mining exercise

We have scanned 12,600 swaption triangles (from the set: 1y1y1y, 1y1y2y, … , 30y30y29y, 30y30y30y) and ranked them in decreasing order, according to one-year rolldown. The top 15 triangles are shown in Figure 23. In other words, at present, the sweet spot for long forward vol positions via swaption triangles is the 1y1y29y point.

We highlight the following facts: the decomposition of the forward volatility into three swaption points follows from simple algebraic arguments. At same time, with the front-end of the curve anchored, the real engine of the strategy is the 2y29y/1y30y calendar spread. Also, 2y30y, being more liquid than 2y29y in the market, should be considered as a possible alternative in the construction of the triangle.

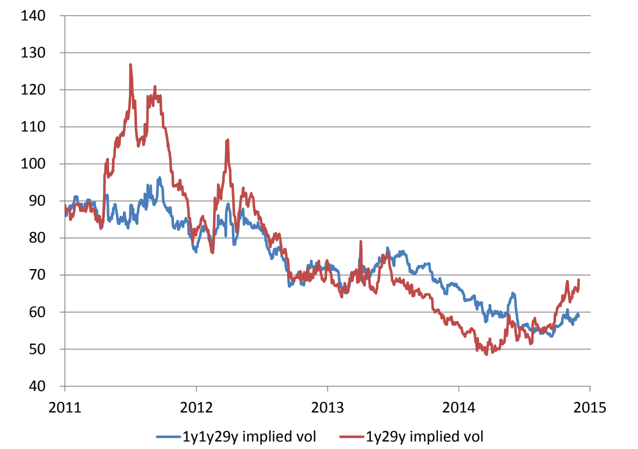
In Figure 24 we plot the evolution of 1y1y29y implied vol vs. 1y29y implied vol: it can be readily seen that forward vol is historically cheap and trades at a discount to spot implied vol.

Figure 23. Excerpt from the data-mining analysis: the top triangles

Forward Vol	Triangle			Rolldown per annum
1y1y29y	2y 29y	1y 1y	1y 30y	174%
1y1y28y	2y 28y	1y 1y	1y 29y	172%
1y1y30y	2y 30y	1y 1y	1y 31y	170%
1y1y27y	2y 27y	1y 1y	1y 28y	169%
1y1y26y	2y 26y	1y 1y	1y 27y	167%
1y1y25y	2y 25y	1y 1y	1y 26y	164%
1y1y24y	2y 24y	1y 1y	1y 25y	162%
1y1y23y	2y 23y	1y 1y	1y 24y	160%
1y1y22y	2y 22y	1y 1y	1y 23y	157%
1y1y21y	2y 21y	1y 1y	1y 22y	154%
1y1y20y	2y 20y	1y 1y	1y 21y	151%
1y1y19y	2y 19y	1y 1y	1y 20y	148%
1y1y18y	2y 18y	1y 1y	1y 19y	143%
1y1y17y	2y 17y	1y 1y	1y 18y	138%
1y1y16y	2y 16y	1y 1y	1y 17y	133%

Source: Citi Research

Figure 24. Evolution of 1y1y29y vol vs. 1y29y vol: forward vol is cheap vs. spot



Source: Citi Research

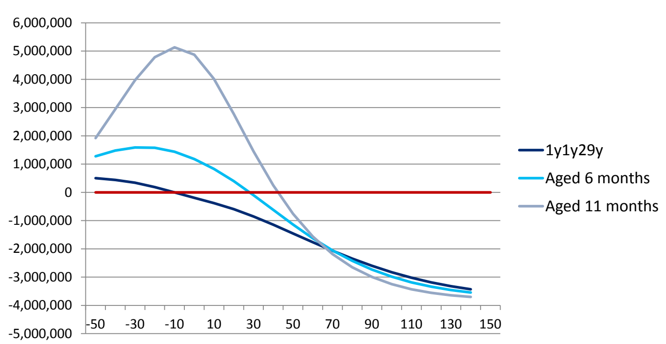
Gamma vs. vega in the triangle

In Figure 25, assuming EUR 100mn notional for each vertex of the swaption triangle, we exhibit the PnL profile of a long 1y1y29y position for different level of rates and at different points in time (with level of vol kept constant).The increasing PnL in an unchanged environment vividly illustrates the positive rolldown of the strategy.

Assuming no change in vol, at 11 month horizon, more than 50bp of sell-off would be required to incur in a loss. More likely, the long vega exposure, which is EUR 85k at inception, would increase the breakeven at a higher rate, in the reasonable scenario where a sell-off is followed by an implied volatility rally.

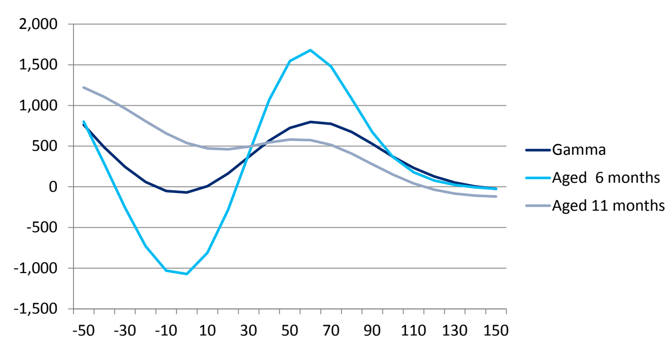
The risk to the position is the negative gamma profile. We show the gamma risk of the strategy in Figure 26: the long triangle position is short gamma at inception and becomes initially yet shorter over the first six months of the trade, assuming unchanged rates.

Figure 25. 1y1y29y PnL profile for 100mn notional on each vertex of the triangle: a dynamic view of the positive rolldown



Source: Citi Research

Figure 26. With unch. rates, gamma exposure from a long 1y1y29y position is negative at inception and over the first months of the trade



Source: Citi Research

Conclusion

Investors who want to own positively rolling long vega positions should buy 1y1y29y vol via the swaption triangle construction which yields one-year rolldown of 174%. More detailed risk and sensitivity analysis is available upon request.

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Euro inflation: don't buy into a March rally

- **Seasonals point to wider euro break-evens (and lower real yields) in March.** But, this is largely a function of negative carry and should not be believed. We advise against buying into a March rally, both literally and figuratively.

- **The negative carry presents a very high hurdle for long positions in real yields and break-evens.** This is especially true in the front-end. A strong conviction is required to take it on.

- **Carry is not the only headwind to break-evens:** In addition, we expect that the rally in oil prices may be short-lived; that nominal yields are likely to fall further; and that break-evens may, in any case, fail to gain any widening momentum until actual inflation moves higher. All of this suggests that the risk-reward favours shorts in the near-term, despite ECB QE.

- **Trading implications:** Be wary of the front-end, favour cross-market positions (carry-neutral) to outright exposure. In particular, a major index event at end-March and broader spread compression should favour 10yr BTPei vs OATei.

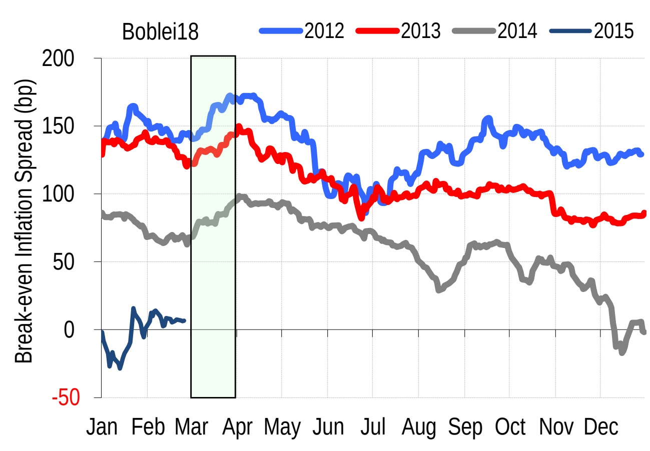
Explaining the seasonal widening

This week's final HICP release confirmed the large negative carry on euro linkers in March. This has long been anticipated by inflation markets, but the implications may not be so well understood by the wider market. This is particularly relevant given the current focus on market-implied inflation expectations thanks to the ECB and QE.

Euro break-even inflation spreads are likely to widen in March (and real yields fall), at least optically. This seasonality is illustrated in Figure 27 using Boblei18. This is largely a function of the seasonality in the underlying inflation index. The month-on-month change in inflation in January tends to be negative; over the last 10 years, it has averaged -0.8% for HICPxT (Figure 28). This year, it is even more negative at -1.6% MoM, largely thanks to the fall in oil prices.

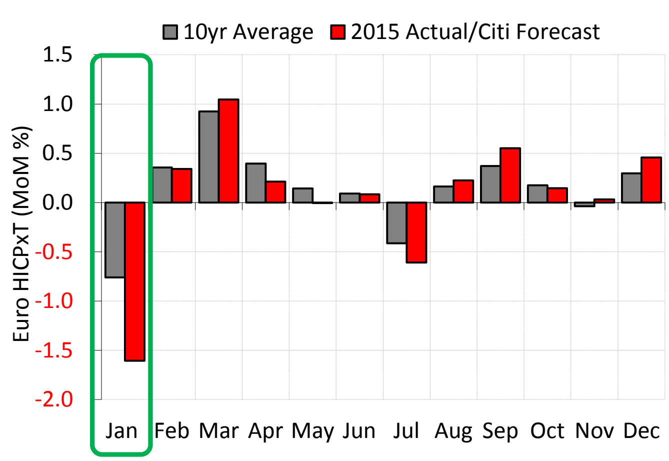
This translates into negative carry on euro linkers over the month of March (owing to the three-month lag). For example, break-even carry on Boblei18 between now and 1 April is -54bp. The market tends to price-in the negative carry ahead of time and offset it as it is realized. In other words, break-evens tend to gravitate towards the forwards. The 1 April forward for Boblei18 break-even is shown in Figure 29.

Figure 27. Break-evens consistently widen in March



Source: Citi Research, Blooomberg.

Figure 28. Seasonal fall in January particularly large this year



Source: Citi Research, Blooomberg.

Does carry drive performance?

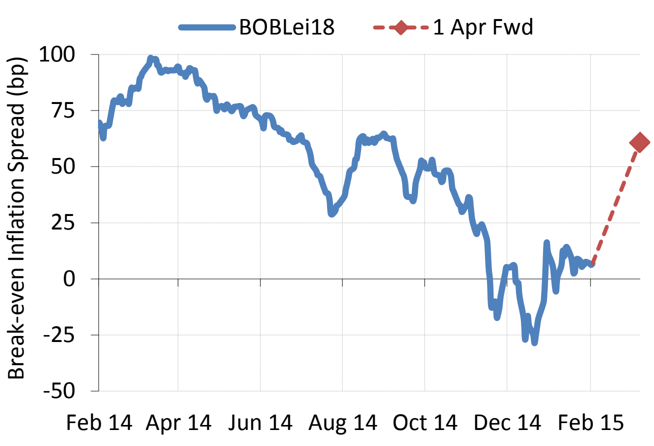
The market tends to compensate for carry as it is realized, but not perfectly (and there is no consistent performance bias during positive or negative carry). Markets don't stand still and break-evens constantly have to adjust to whatever else is happening. So while we can be relatively confident that break-evens (especially in the front-end) will optically widen in March, and gravitate towards the forward, we can be less sure about the carry-adjusted performance. A judgment is needed on whether break-evens will widen beyond the forwards or fall short.

Why break-evens are unlikely to overcome the carry

Figure 27 shows just how negative the carry is this March. A strong conviction is required to take it on. The risk-reward for longs looks poor in our view:

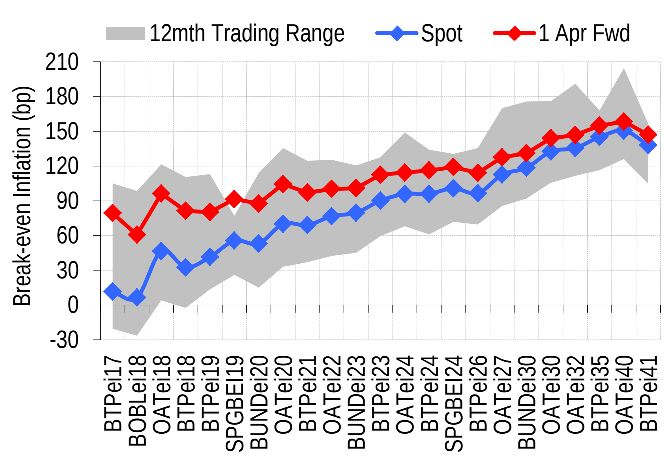
- **Break-evens not as cheap as they first seem:** Figure 30 puts the 1 April forwards in the context of the 1yr trading range; all are in the richer-half.
- **The near-term outlook depends heavily on oil prices:** Our commodity strategists warn that renewed weakness is likely (see the latest Energy Weekly).
- **Lower nominal yields:** We have revised our Bund yield forecast down to 0.15% (see The Global Low Yield Environment). It is difficult for break-evens to widen when nominal yields are being pressured lower by demand-supply imbalances.
- **Inflation is likely to remain negative in the coming months:** Break-evens reflect expectations, but are sensitive to realized inflation. A sustained widening trend is unlikely until annual inflation is trending higher.

Figure 29. Negative carry presents a hurdle for break-even wideners



Source: Citi Research, Bloomberg.

Figure 30. Euro break-evens are not as cheap as spot suggests



Source: Citi Research, Bloomberg.

Trades and takeaways

- The sheer size of the negative carry in March, coupled with other downside risks to break-evens, suggests avoiding outright positions, especially in the front-end.
- Our favourite (carry-neutral) trade is long 10yr BTPei vs OATei ahead of a major index event at end-March (our existing position targets 60bp vs 105bp currently).
- Don't confuse any front-end break-even widening in March with QE success. Inflation swap forwards will offer a better guide.

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UK Linkers: 5yr cheap cross-market

- **Front-end lagging:** 5yr IL gilt break-evens are lagging the widening in longer maturities on the domestic curve and the same maturity on a cross-market basis.
- **Buy 5yr IL gilt vs euro/TIPS:** The lackluster performance of 5yr IL gilts may reflect the negative carry in March, but carry is negative in all the main markets. Current levels offer a good opportunity to buy IL gilts vs euro/TIPS, in our view.

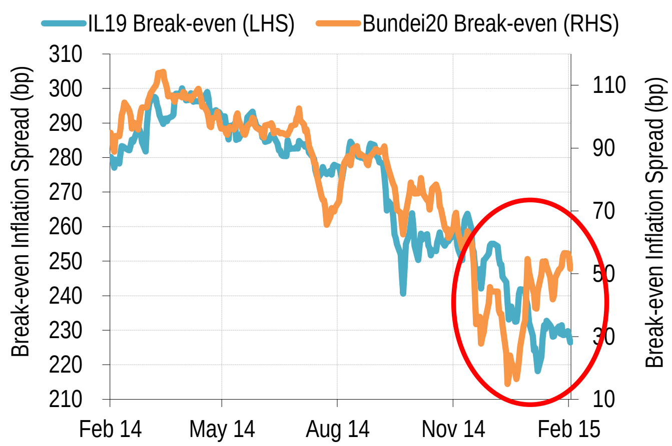
5yr IL gilts break-evens lagging vs other markets

Oil prices have bounced around 25% in February, but 5yr IL gilt break-even inflation spreads are still languishing near the lows. This may partly reflect a reluctance to buy ahead of the negative carry in March. But, euro and the US inflation markets also face negative carry and break-evens here have bounced quite strongly. This could just be interpreted as a reversal of the previous richness of the UK vs the other markets, but cross-market differentials have now reached interesting levels.

5yr UK vs euro: carry advantage

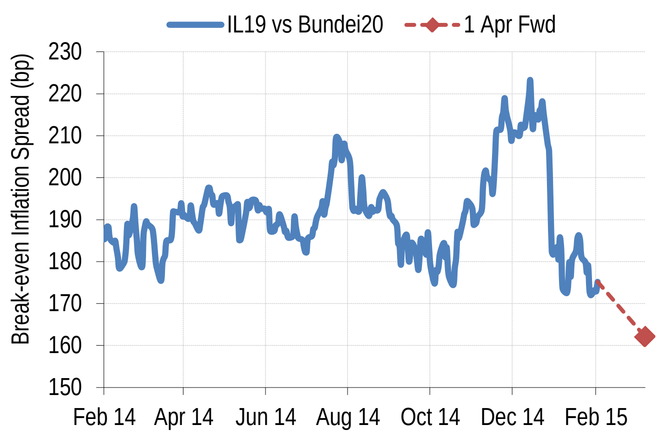
Figure 31 shows the de-coupling between 5yr UK and euro break-evens. The latter have received a boost from the inclusion of linkers in QE by the ECB, but further gains will be harder with euro inflation set to remain negative in the coming months. The break-even box has quickly reversed and is now at interesting historical levels (Figure 32). Moreover, while the carry to 1 April may be negative for IL19 (-22bp), it is even worse for Bundei20 (-35bp) – see the euro inflation section for more discussion. As shown, this makes the entry levels even more appealing. Given the relative starting points, we would also expect 5yr UK break-evens to be more protected than euro break-evens from any renewed weakness in oil prices.

Figure 31. 5yr UK vs euro break-evens....



Source: Citi Research

Figure 32. ....the box (with 1 April forward)



Source: Citi Research

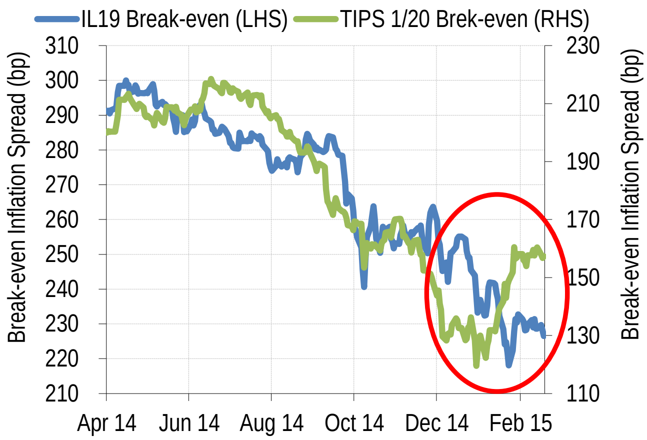
5yr UK vs US: best expressed in real yields

A similar picture can be seen when comparing the UK with US break-evens, confirming that it is a laggard. Figure 33 shows the break-evens individually and Figure 34 the box which has moved by around 50bp since the start of the year. In this example the carry favours TIPS with the Jan20 facing negative carry of an estimated 15bp to 1 April (vs -22bp for IL19). But, in the context of how much the box has moved the carry disadvantage does not seem insurmountable.

This is especially true as US inflation/TIPS are generally more sensitive to oil prices so would suffer more if there is further weakness in the near-term as our commodity strategists suggest (see the latest Energy Weekly). Moreover, US inflation is likely to continue to head lower in the near-term whereas our RPI profile suggests that February could be the low (0.9%) in the UK. Thereafter, RPI could pick-up relatively quickly to about 1.4% in May, according to our forecasts.

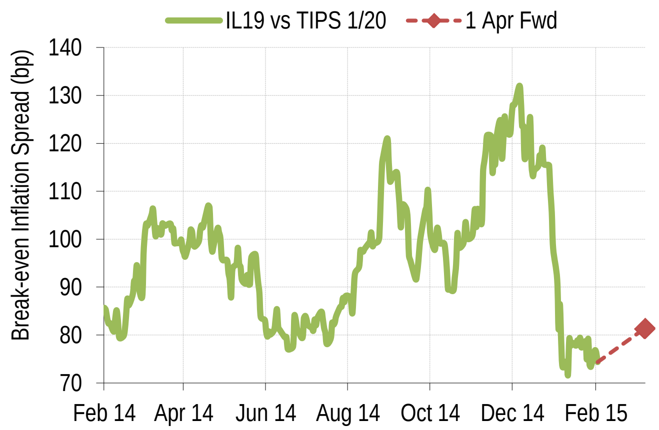
A long position in IL gilts vs TIPS can be expressed more simply in real yields. This also fits with our latest yield forecasts which show UK yields being pulled lower by Bund yields while US yields face upward pressure (see the just published Global Economic Outlook and Strategy).

Figure 33. 5yr UK vs US break-evens....



Source: Citi Research, Bloomberg.

Figure 34. ....the box (with 1 April forward)



Source: Citi Research, Bloomberg.

Possible explanations for the relative weakness

The reluctance of 5yr IL gilt break-evens to rally may reflect a hangover from the January RPI print released on 17 February which surprised to the downside (1.1% YoY vs median 1.3%). The negative carry in March is particularly punitive, but then it is in other markets too. There could also be some weakness in this part of the curve in anticipation of IL20 falling out of the 5yr+ index on 16 April, but we would expect this to be quite specific to that bond. It also can't really be explained by nominals given that euro break-evens have managed to rally despite lower nominal yields. It may simply be the case that the front-end of the UK is a bit overlooked given the dominance of long-end investors in this market. The relative value now on offer may make it a bit more noticeable.

Trades

- **Buy IL19 vs Bundei20 break-even box (or real yield):** A tactical trade which benefits from positive carry in March (entry 175bp, target 190bp, carry +13bp to 1 April, stop 155bp).
- **Buy IL19 vs TIPS 1/20 on a real yield basis:** Guards against further weakness in oil prices. This also offers an alternative to nominals for those looking for further widening in gilt-Treasury spreads given the greater exposure of the UK to European disinflation.

Euro SSA Strategy

German Laender: Why not go sub-sovereign?

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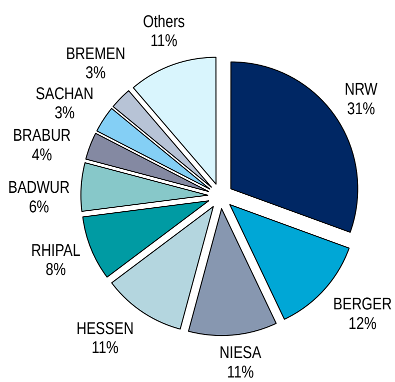
In the following, we want to shed some more light on this market but concentrate on the wholesale funding market. For the main legal fundamentals and characteristics, please refer to our primer on German Laender, published in 2013 (*German Länder, post-Fed relative value and the spread outlook*).

Market structure

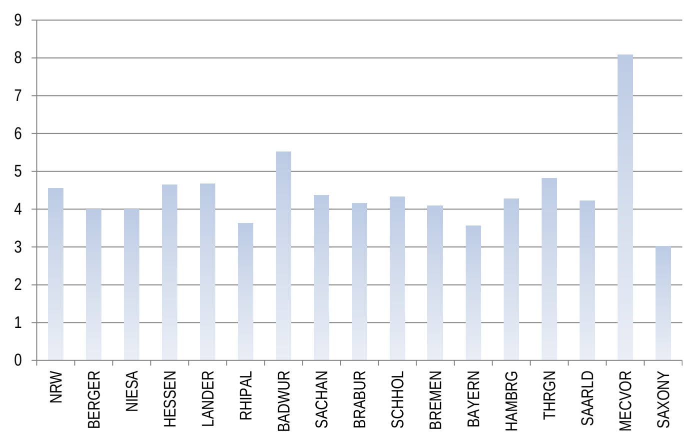
Three Laender are good for 50% of the total outstanding debt: Total bond debt outstanding of the German Laender market is around €313bn (excluding debt jointly issued by Bund and Laender and commonly issued municipality bonds) according to Bloomberg. This compares to the German sovereign debt market of €1.12tn and the German pfandbrief market of €452bn (in 2013). Within the German Laender segment, debt distribution is relatively skewed as three issuers are good for more than 50% of the outstanding volume (Figure 35). NRW has the biggest amount of bonds outstanding (€95.6bn), followed by the State of Berlin (€38.6bn) and the State of Lower-Saxony (€35.2bn). On the other side, sub-sovereigns like the State of Saarland (SAARLD) and the State of Saxony (SAXONY) are not very active on the wholesale market. Yet, in terms of weighted average maturity, the differences are relatively small (except MECVOR, Figure 36). The low activity of Saxony is also shown in the low average weighted maturity as the issuer has been active in 2011 for the last time.

Figure 35. Market share by outstanding volume, %



Source: Bloomberg, Citi Research

Figure 36. Weighted average maturity of Laender debt (years)

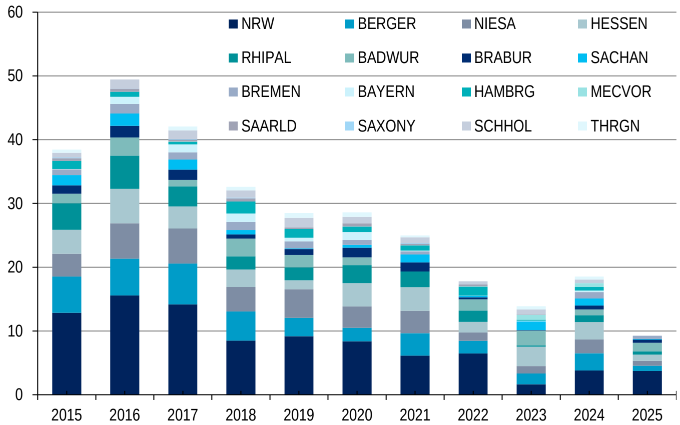


Source: Bloomberg, Citi Research

Redemptions peak this year and in 2016: The redemption profile is seen in Figure 37. During the first months of the year, a substantial volume of principal has already been paid back while around €38bn will mature in the coming ten months. 2016 redemptions will total €49.4bn which is less than the 2015 amount. In the years ahead, total redemptions volumes decrease steadily. Not surprisingly, NRW will record the lion's share, followed by BERGER and NIESA.

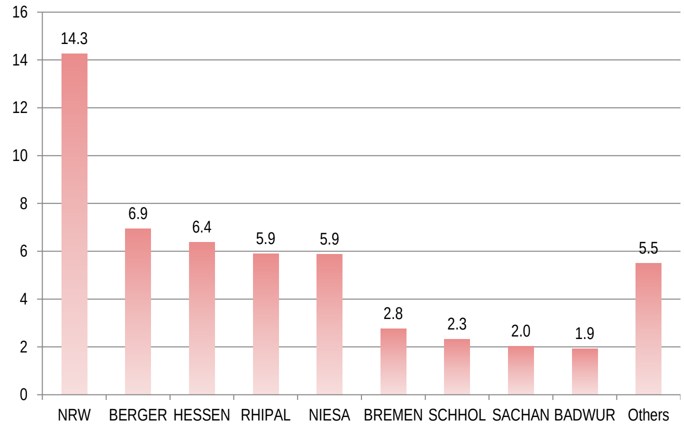
Strong start into the year: Looking ahead and at 2015 funding expectations, there are several things to note. Firstly, 2014 primary market activity as shown in Figure 38 totalled €53.8bn, with around €14bn issued by NRW only. 15 of the 16 German Laender were active in the wholesale market with an average volume of €3.6bn. Secondly, 2015 primary market activity year-to-date has been relatively strong, with an overall volume of €13.4bn, outpacing the volumes recorded in the years before (Figure 40). Hence, this might point to a break to the longer lasting trend of decreasing primary market issuance (Figure 39).

Figure 37. Redemption profile German Laender, €bn



Source: Bloomberg, Citi Research

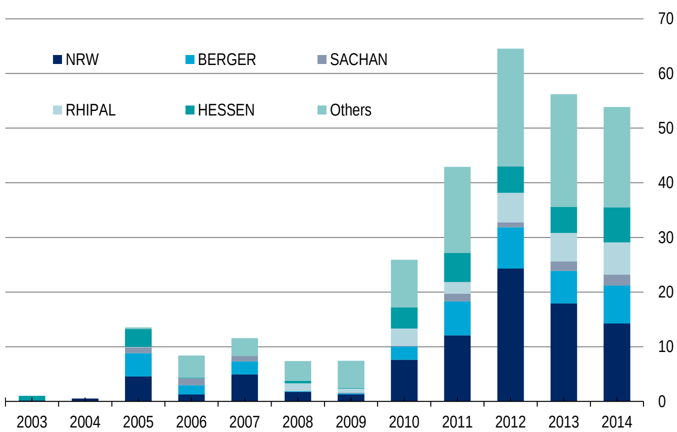
Figure 38. 2014 funding volumes of German Laender, €bn



Source: Dealogic, Citi Research

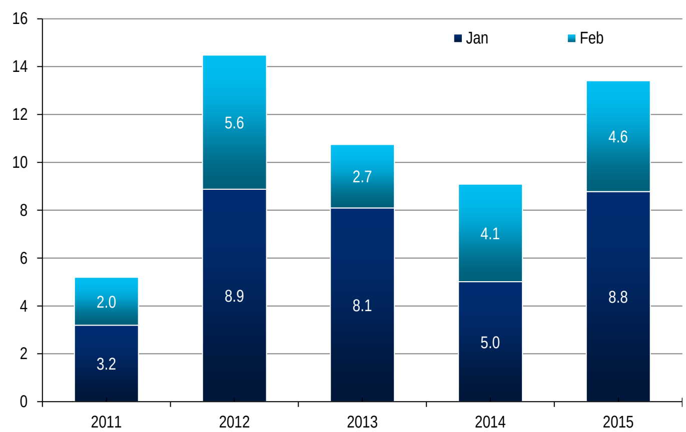
Flat gross issuance for 2015: Laender have several funding channels at hand, these data sets can only give some guidance on the amount of wholesale funding for each year. Apart from bank loans to the public sector, Laender can opt to participate in joint German Laender bonds (total volume outstanding: €21.7bn) or Bund-Laender bonds (€3bn). For 2015, we expect total issuance volumes to remain flat compared to 2014 volumes, despite the strong start into the year. Eventually, this would also mean that the trend of decreasing cumulative volumes could be stopped after three years of lower volumes

Figure 39. Issuance volumes per year, €bn



Source: Bloomberg, Citi Research

Figure 40. Issuance activity in the first two months of the year, €bn



Source: Bloomberg, Citi Research

Relative value opportunities

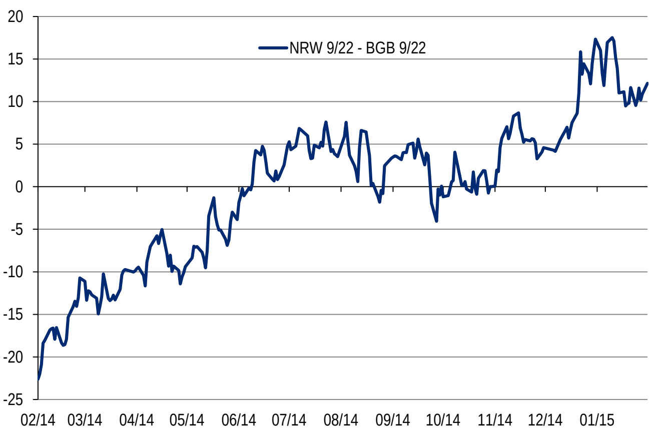
As already outlined above, sub-sovereign markets currently are in the specific role of not being purchased by the ECB in its quantitative easing programs. At the same time, sub-sovereign debt is often treated in line with sovereign debt under many regulatory regimes. Yet, this is largely a function of the guarantee mechanism. For German Laender, the situation is quite clear within all different regulatory schemes. In terms of capital treatment under CRR and Solvency II, its treatment in the LCR but also its categorization of the ECB for repo operations, there is no difference in treatment. This means that to a large extent spread pick-ups versus Bunds are driven by the different liquidity in both markets, being a function of bond sizes, total volumes outstanding and free float. In our opinion, it could particularly be the latter

which dampens secondary market liquidity as many investors in the German Laender market are buy-and-hold investors. Yet, current relative valuations are not only driven by inferior liquidity but to a much larger extent by the different eligibility treatment of asset classes under QE programs conducted by the ECB.

i) Laender versus sovereign bonds

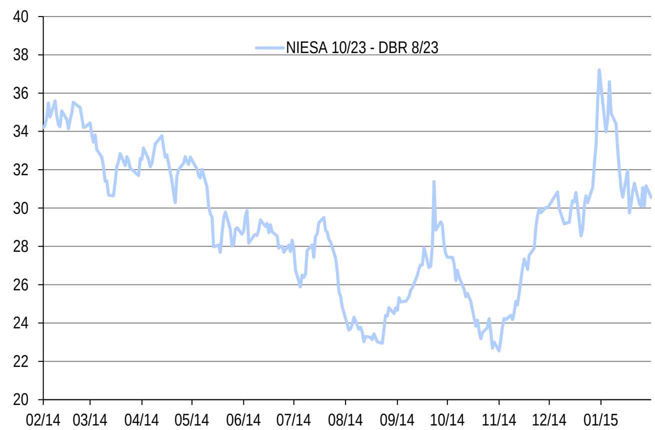
Although the underperformance is remarkable when comparing versus the domestic reference government bond market, it is even more interesting to compare versus other (semi-)core sovereign bond markets. Figure 41 shows the cumulative 35bp underperformance on a yearly basis. While one might argue that BGBs are more liquid one has to take into account the rating difference between both issuers. It's particularly the underperformance since November 2014 which is nearly exclusively driven by QE (and its expectations) ahead of the announcement. Yet, one also has to acknowledge that in some cases there has already been a price correction to a certain extent during the last weeks, particularly versus the German sovereign (Figure 42).

Figure 41. Yield spread: NRW versus Belgium, 7yr area, bp



Source: Citi Research

Figure 42. Yield spread: NIESA versus Germany, 8yr area, bp

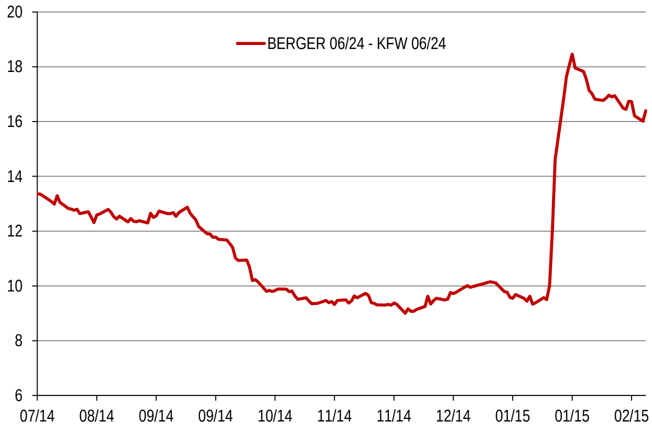


Source: Citi Research

ii) Laender versus agency and supra bonds

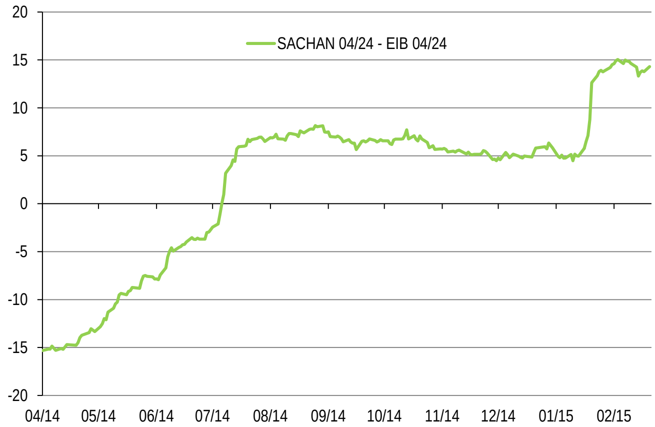
Apart from the sub-sovereign space, the ECB will also back away from certain agencies which they don't qualify as eligible agencies for the purchase program (we expect liquidity category 2 agencies to be eligible, decreasing the number of agencies quite substantially, see here). Similar to the moves versus government bond markets, German Laender also underperformed ECB QE eligible agency debt. And similarly to intra-country and cross-country spreads seen above, valuations are already near pre-QE announcement levels when comparing with domestic agencies where there seems to be a broad consensus in markets that the Eurosystem will also buy the outstanding debt, like KFW (Figure 43). Yet, more interestingly, spreads versus supranational issuers currently still look attractive. As an example, Figure 44 displays the yield spread between BERGER and EIB which is still at its all-time wides at around 15bp. Although German Laender lack the ECB bid, we think that these issuers will be supported indirectly by the market presence of the Eurosystem. Eventually, an increasing number of investors will opt for the higher yielding issuer in the similar (or higher) credit quality spectrum. At current stage, we would recommend investors to switch into German Laender, particularly from semi-core sovereigns and supranational issuers.

Figure 43. Yield spread BERGER vs KFW, bp



Source: Citi Research

Figure 44. Yield spread SACHAN vs EIB, bp



Source: Citi Research

Conclusion

German Laender were moved into spotlight as investors increasingly look for liquid and highly rated alternatives which the ECB is not about to buy under its large scale asset purchase program. Yet, while increasing interest has already been recorded during the last weeks, we think that German Laender still look cheap, particularly if compared to semi-core sovereign bond markets and in comparison to European supranational issuers. Given the Laender's credit quality and the guarantee mechanism in Germany, we think that it's not wrong to leave those markets which can rely on the strong ECB bid but rather an interesting opportunity to get the extra yield while not stepping down in credit quality.

This is an excerpt of our latest SSA publication: Euro SSA Strategy: German Laender – An Update

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Covered Bond Strategy

High House & Low Oil Prices: Norway's covered bonds at risk?

Norwegian Dystopia? It might sound like a perfect storm for Norway: sustained low oil prices negatively impact unemployment levels. Additionally, the oil price induced recession leads to a severe price correction on the housing market. Eventually, an increasing number of unemployed people are unable to repay their loans in this environment which ultimately leads a substantial deterioration of cover pool quality. Not a pleasant scenario. But we think that such concerns are overdone. Yet, we have to acknowledge that the housing market will remain the country's weak spot, particularly given our base case of an even more dovish central bank policy in the months ahead. That said, we should note that while low oil prices might have some negative effects on the country's unemployment rate, similar developments in other jurisdictions had very limited effects on the quality of covered bond programs.

The economic situation: The latest economic sentiment data which was published recently generally surprised to the downside. On Wednesday, Norway's consumer confidence dropped to 7.4 which is the lowest level since 2Q 2009. Yet, current "hard" economic data generally support a more positive tone. On February 11th, Statistics Norway published Q4 GDP numbers (0.9% QoQ), outpacing market consensus (0.6% QoQ). In general Citi economists think that Norway is well prepared to handle lower oil prices amid the country's large wealth fund and strong fiscal rules (fiscal policy can be loosened despite reduced revenues from oil production).

Figure 45. Norway, Economic Forecasts 2014-2016F

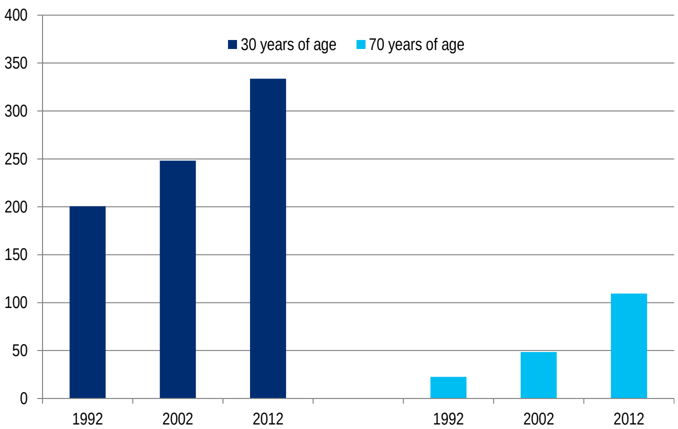
Key characteristics		2014F	2015F	2016F
Real GDP	YoY	2.3	1.6	1.9
Final Domestic Demand	YoY	2.2	1	1.8
Private Consumption	YoY	2.2	1.8	2
Government Consumption	YoY	2.5	2.4	2.4
Investment (Ex Stocks)	YoY	1.8	-2.4	0.5
Exports	YoY	2.7	3.5	3.8
Imports	YoY	1.7	1	1.8
CPI (Average)	YoY	2	2.4	2.6
Unemployment Rate	%	3.5	4	4.2
Current Account	% of GDP	9.3	9.8	10.1
General Govt Balance	% of GDP	9.7	9	9.3
General Govt Debt	% of GDP	NA	NA	NA

Source: Citi Research

Where will the oil price go? Even so, the low oil price will inevitably weigh on growth for a period. Eventually, the low oil price should lead to a steady increase of the unemployment rate (*Global Economic Outlook and Strategy*, Figure 45), taking into account Citi's view on the oil price development during the next months (*Alphabet Soup: L, U, V, or W? - What's the likely shape of the oil price recovery?*), albeit remaining at very low levels, with 4.2% in 2016. However, we note that some regions of Norway could be affected more negatively by the low oil price developments and hence display a more substantial number of people becoming unemployed, particularly as investment growth in the petroleum sector not only decreased substantially but is even expected *to turn to an abrupt drop this year*. In general, however, we think that Norway is characterized by strong economic fundamentals, being able to withstand low oil prices with very flexible fiscal policy at hand.

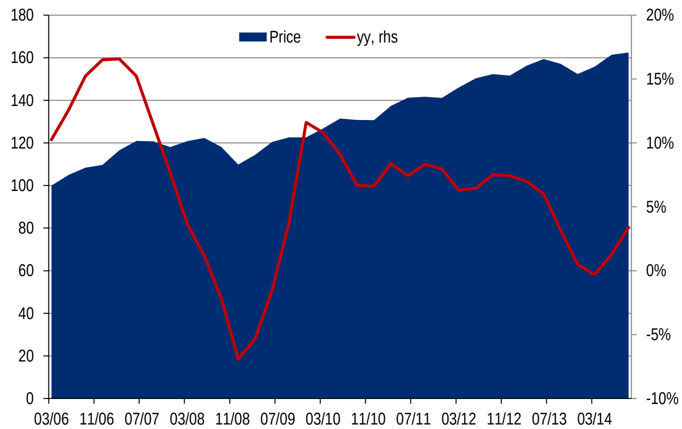
Housing market, macroprudential measures and central bank policy: The Norwegian problem is found somewhere else. There is a general consensus that house prices are very elevated with the FSA and Norges Bank warning frequently on potential imbalances due to an all-time high indebtedness of Norwegian households and incessant house price increases. The central bank expects that *"in the case of a downturn that leads to higher unemployment, the high debt levels will prove uncomfortable for many households. Should house prices fall at the same time, the degree of discomfort will increase. If house prices fall by 30 percent, one in four households will hold debt in excess of the value of their dwelling."*[4]

Figure 46. Household debt to disposable income by age, %



Source: Statistics Norway, Norges Bank, Citi Research; Home-owning households (excluding self-employed) where the main income earner is respectively 30 and 70 years of age

Figure 47. Eurostat House Price Index Norway, 1Q06 = 100



Source: Eurostat, Citi Research

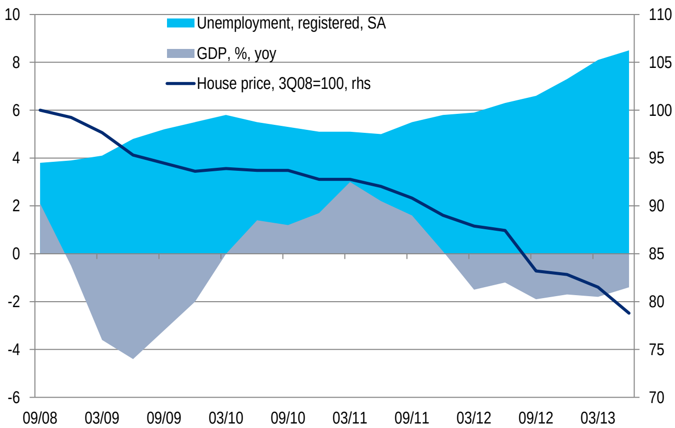
New interest rate path at Norges Bank: Being well aware of the general risks stemming from the housing market and the high household indebtedness, the supervisor introduced several macroprudential measures during the last years. This has been necessary in the past but regained importance just recently after the central bank temporarily suspended the inflation target of 2.5%, impressively proven by the surprising rate cut in December. Ever since, Norges Bank lays more focus on the country's economic development which is obviously to a big extent subject to oil price development. Citi economists expect that as the government and Norges Bank still have room to ease further one should expect fiscal policy to turn moderately more expansionary while forecasting a 25bp rate cut in both March and May. This obviously means that even lower interest rates will probably increase the risk that "debt and asset prices reach unsustainable levels" according to central bank's governor Øystein Olsen. That's why countercyclical measures are extremely important in these surroundings.

FSA guidelines: During the last years, the FSA issued several guidelines which should help to mitigate the longer-term trends of rising house prices and higher indebtedness while at the same time ensure that Norwegian banks could withstand any potential shocks linked to the mortgage market. On the one hand, the FSA set out lending guidelines. Firstly, the maximum LTV should only be 85%, for interest-only loans it should even be lower, at 70%. Secondly, the ability of debt servicing is stress-tested, taking into account a 5pp increase in interest rates. On the other hand, CET-1 requirements will be increased to 13% in 2016 for domestic systemically important banks and 11% for others while IRB risk weights on mortgages are risen from an average of 10% to 20-25%.

[4] http://www.norges-bank.no/en/Published/Speeches/2015/12_02_2015_Olsen_annual_address/

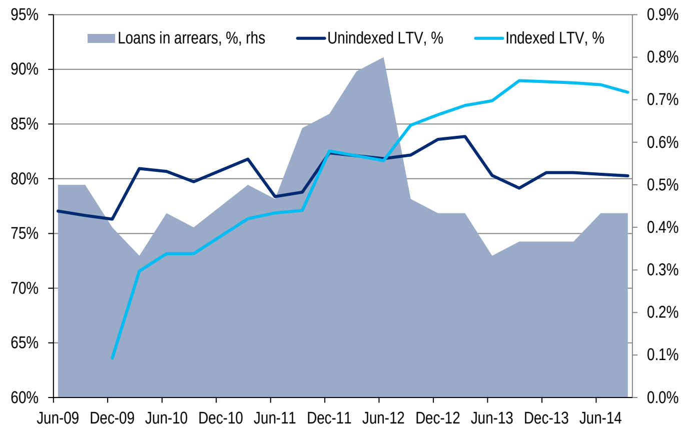
Case study Netherlands: How bad were covered bonds affected by economic downturns, house price corrections and higher unemployment rates in the past in other jurisdictions? The most appropriate example probably is the Netherlands. House prices plummeted from its highs reached in September 2008 by 21% until it bottomed out in July 2013, according to the Dutch Statistics office. During the same period, the Dutch unemployment rate rose from 3.7% to 8.6% while the economy ran through a recession in the meantime (Figure 48). In our opinion, this can be seen as a valid stress scenario for the Norwegian economy and its housing market. For Dutch cover pools, however, these developments did not have any negative effect (Figure 49).

Figure 48. The Netherlands: unemployment rate, GDP and house price development



Source: Dutch Statistics Office, Bloomberg, Citi Research

Figure 49. Development of cover pool key figures: Dutch aggregate, %

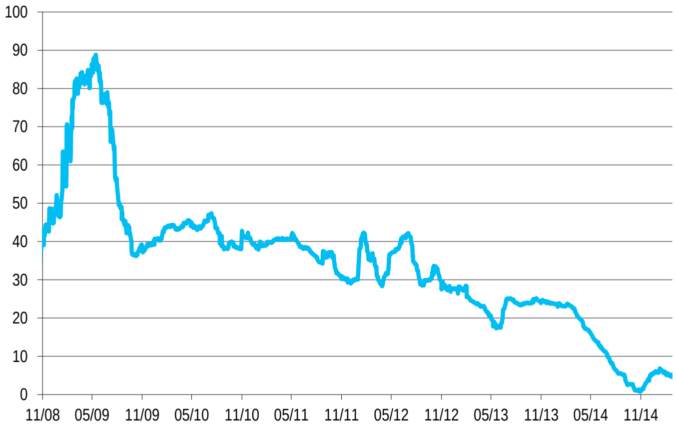


Source: Moody's, Citi Research

The advantage of covered bonds: Indeed, loans in arrears in Dutch cover pools were never above 1% on an aggregate level. However, it should not surprise that average LTV figures were constantly on the rise given the drop in valuations. Most interesting – and perfectly exemplifying the advantage of a dynamic cover pool – is the development of loans in arrears on an issuer level. As an example, in the case of SNS, the figure dropped from 1.7% to 0.6%, after some changes to the cover pool composition. Focusing on Norway, similar developments should probably be expected. One should however add that Norway can rely on a strong social system which would cushion the effect of an equally severe downturn as recorded in the Netherlands.

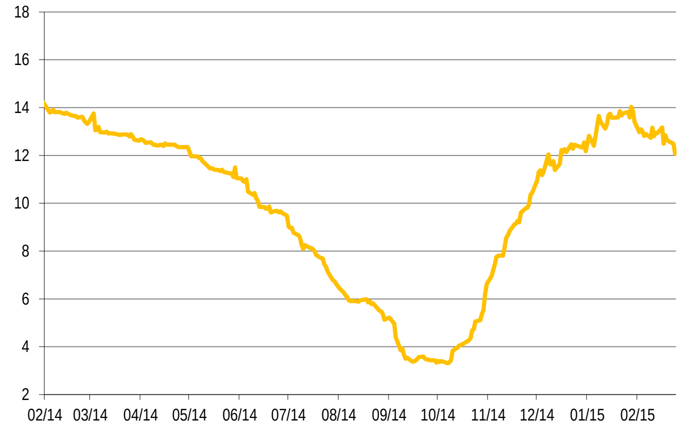
Effects on pricing: Given the rather limited effects of the economic stress on Dutch cover pools, spreads to core segments were not affected. In the aftermath of the Lehman collapse, spreads widened significantly. Yet, the economic downturn, the housing market correction and the increasing unemployment rate counterintuitively went in hand with spread tightening as of May 2009 (Figure 50).

Figure 50. Spreads between Dutch covered bonds and German pfandbriefe, asw, bp



Source: Markit, Citi Research

Figure 51. Spreads between Norwegian covered bonds and German pfandbriefe, asw, bp



Source: Moody's, Citi Research

Prefer Norwegian covered bonds to German pfandbriefe: If one were to assume similar scenarios in Norway at the current stage, we would not expect severe pressure on spreads despite the lack of the ECB bid via CBPP3. Indeed, our base case is clearly different. On the one hand, we share the general concerns on the challenge in the housing market, particularly if taking into account the future central bank rate path. Yet, with unemployment rates at very low levels and only limited pressure in the upcoming months, we don't think that the cover pool quality of Norwegian covered bonds is at risk. Even for cover pools with a high exposure to oil dependent regions (i.e. Sparebanken Vest Blogkreditt, 90%) pressure should be relatively limited. Indeed, due to the ECB induced price distortions, we think that current valuations of Norwegian covered bonds look attractive and we prefer these bonds to pfandbriefe at this stage (Figure 51).

European Rates Strategy Yield Outlook

Core Europe: We expect that the combination of negative rates and QE will be a powerful driving force for lower core yields. The impact of negative yields can already be seen before QE impacts actual flows as investors look to defend themselves from negative short-end rates and move further up the curve. We believe this rolling flattening can take 10y Bunds to 0.15%. If we add in the prospect of ECB demand taking a substantial amount of duration away from end-users, and the negative repo rates, given that banks will not have balance sheet to offer in any ECB lending programme, then rates can feasibly go negative even in 10y.

EMU Periphery: ECB QE remains our central driver of periphery markets in 2015, and we expect further tightening of the periphery in coming quarters. We forecast 10yr BTP-Bund spreads of 90bp and 10yr Bono-Bund spreads of 75bp in Q2. Fundamentally, we maintain that relative prospects are likely to keep Spain trading at a tighter 10yr spread to Germany. However, political uncertainty may weigh on Spanish performance later in the year and we forecast a flat BTP/Bono spread in Q3/Q4. We expect Ireland to continue its gravitation to the core, forecasting a 40bp spread and also see prospects for 10yr Portuguese spreads to tighten to around 140bp by year-end.

UK: Long-end gilt yields have risen sharply over the last month, but we doubt that this is the start of a bearish trend. In fact, we have revised our forecasts for gilt yields lower from last month, mainly reflecting our more bullish Bunds view. Gilts are being pulled in different directions by Treasuries and Bunds, but we expect that delayed rate hikes from the MPC, ECB QE and greater exposure to Europe's disinflation will mean that Bunds pull the hardest in the near term. Our forecasts imply a strong flattening trend in 2s10s, with bull-flattening in the near quarters giving way to bear-flattening further ahead.

Figure 52. Interest Rate and Bond Market Forecasts as of 25 February 2015

		Quarterly Average (Unless Specified)					
	Current	2Q 15F	3Q 15F	4Q 15F	1Q 16F	2Q 16F	3Q 16F
Euro Area							
Policy Rate End Quarter	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Overnight Rate (EONIA)	-0.05	-0.10	-0.15	-0.15	-0.15	-0.15	-0.15
3-Month (EURIBOR)	0.02	0.03	0.03	0.03	0.03	0.03	0.03
2 Year Schatz Yield	-0.22	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25
5 Year Bobl Yield	-0.08	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15
10 Year Bund Yield	0.34	0.15	0.15	0.20	0.25	0.30	0.30
30 Year Bund Yield	1.02	0.75	0.65	0.70	0.75	0.85	0.85
2-10 Year Bund Curve, bp	56	40	40	45	50	55	55
10 Year BTP-Bund Spread, bp	112	90	80	75	75	75	75
10 Year Bono-Bund Spread, bp	104	75	80	75	65	65	65
2 Year BTP-Schatz Spread, bp	46	40	35	30	30	30	30
2 Year Bono Schatz Spread, bp	40	40	35	30	30	30	30
10 Year OAT-Bund Spread, bp	26	20	20	20	20	20	20
10 Year Swap Spread (Swap Less Govt.), bp	35	45	50	55	55	55	55
10 Year Breakeven Inflation, bp	96	125	125	125	125	125	125
5y5y Implied Vol, bp	62	60	55	65	65	65	65
UK							
Policy Rate End Quarter	0.50	0.50	0.50	0.50	0.75	1.00	1.25
3-Month Libor	0.56	0.55	0.55	0.55	1.00	1.25	1.40
2 Year Treasury Yield	0.40	0.50	0.90	1.20	1.55	1.85	2.10
5 Year Treasury Yield	1.11	1.00	1.15	1.30	1.65	1.85	2.10
10 Year Treasury Yield	1.69	1.55	1.70	1.80	2.10	2.15	2.20
30 Year Treasury Yield	2.39	2.25	2.30	2.35	2.50	2.55	2.60
2-10 Year Treasury Curve, bp	130	105	80	60	55	30	10
10 Year Swap Spread (Swap Less Govt.), bp	8	10	15	15	20	20	25
10 Year Breakeven Inflation, bp	252	245	270	280	300	310	315

Source: Citi Research

Tradesheet

Recommended Trades

Figure 53. Open Trades

Trade	Dv01 (EUR k)	PC1	Entry date	Entry level	Live	Target	Stop	Carry 3m (bp)	Carry 3m (EUR k)	PnL (bp)	PnL (EUR k)
Buy PGB Feb45 vs DBR Aug46	15	Neutral	26-Feb-15	192	192	152.0	212.0	2.4	36	0.1	2
Buy IL19 vs Bundei20 break-even	12.5	Neutral	26-Feb-15	175.0	174.0	190.0	155.0		0	-1.0	-13
Buy BTP Sep44 vs Bobl Apr20	25	Long	24-Feb-15	268.0	246.1	200.0	290.0	4.0	100	21.9	547
Long 10yr Bund swap spread	25	Long	24-Feb-15	39.0	35.1	60.0	29.0	3.0	75	-3.9	-98
Buy Bono Apr20s vs BTP Mar20s	20	Neutral	18-Feb-15	4.0	0.4	-10.0	11.0	-0.6	-12	3.6	72
Buy BTPei24 real yield vs OATei24	12.5	Neutral	05-Feb-15	110.0	107.3	60.0	135.0	1.8	23	2.7	34
Buy Bund Jul28 vs RFGB Jul28	15	Neutral	15-Jan-15	15.0	14.2	25.0	10.0	0.1	2	-0.8	-12
Sell EUR 5y5y ATMF payer (PnL)	15	Long	11-Dec-14	0.0		800.0	-100.0	0.2	3	50.1	751
Pay 2y1y GBP vs USD	12.5	Neutral	11-Dec-14	-46.0	-36.0	15.0	-75.0	5.0	63	10.0	125
Buy Bund Aug24 vs UKT Sep24	12.5	Neutral	11-Dec-14	119.0	143.5	160.0	98.0	-1.7	-21	24.5	306
Buy DSL Jul20 vs BNG Sep20	15	Long	05-Dec-14	18.0	17.3	30.0	10.0	1.6	24	-0.7	-11
Buy Bono Jan17 vs ICO Jan17	10	Long	05-Dec-14	11.0	9.3	20.0	5.0	1.1	11	-1.7	-17
Buy IL Mar24 breakeven vs 10yr RPI	25	Neutral	04-Dec-14	37.0	37.0	20.0	45.0		0	0.0	0
Buy RAGB Jul20 vs OLO Sep20	20	Neutral	04-Dec-14	4.0	4.1	15.0	-1.0	-1.0	-20	0.1	2
EUR HICPxT 5s10s flattener (PnL)	25	Neutral	03-Dec-14	0.0		20.0	-10.0		0	9.2	231
Buy UKT Jul68 vs Jan44	50	Short	23-Oct-14	-0.7	-2.1	-4.5	1.2	-0.8	-40	1.4	70
Buy CCTeu Jun17 z-spread vs BTP Jun17	25	Neutral	06-Aug-14	15.0	7.6	0.0	25.0	-0.9	-23	7.4	185
Pay GBP 1y1y vs 3y1y	25	Long	24-Apr-14	132.0	84.3	50.0	170.0	-4.0	-100	47.7	1194
Please refer to original publications for details											
Book PnL										170.6	3367
Book Dv01 (PC1 weighted, EUR k)	40										
Book 3m carry								10	119		

Source: Citi Research

Closed Trades

Figure 54. Closed trades this week

Trade	Dv01 (EUR k)	PC1	Close Date	Entry level	Closing Level	Target	Stop	Carry 3m (bp)	Carry 3m (EUR k)	PnL (bp)	PnL (EUR k)
Sell IL Mar24 real yield vs TIPS Jan24	12.5	Neutral	Taking Profit 26 Feb 2015	135.0	102.8	100.0	153.0		0	32.2	403
Buy Ireland Jun19 vs OAT May19	25	Neutral	Hit Target 24 Feb 2015	35.0	20.0	20.0	43.0	4.9	123	15.0	375
Buy gilt Sep24 vs BTP Sep24	12.5	Neutral	Hit Stop 21 Feb 2015	4.0	25.0	-35.0	25.0	-2.3	-29	-21.0	-263

Source: Citi Research

Relative Value Trades

We highlight four relative value trade opportunities in the sub-10yr sector of the French, German and Spanish yield curves.

France: fade the richness of Apr22s and Oct22s

- Sell 3% Apr22 vs 2.5% Oct20 and 4.25% Oct23 (3m carry: 0.8bp) - Figure 55
- Sell 2.25% Oct22 vs 3.75% Apr21 and 2.25% May24 (3m carry: 0.9bp) - Figure 56

Figure 55. France: 2.5% Oct20, 3% Apr22, 4.25% Oct23 microfly (bp)

Source: Citi Research

Figure 56. France: 3.75% Apr21, 2.25% Oct22, 2.25% May24 microfly (bp)

Source: Citi Research

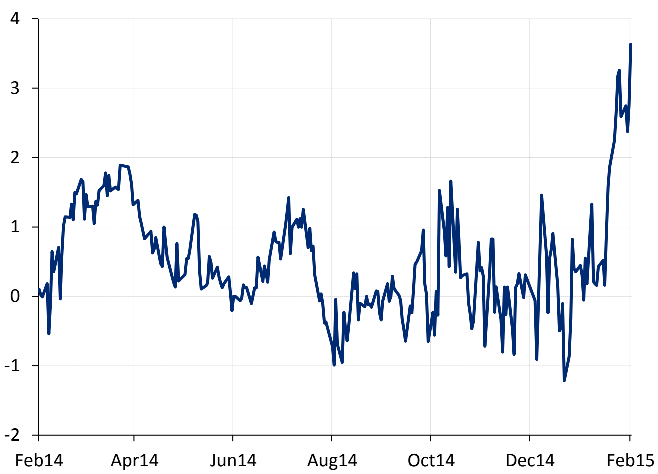
Germany: take advantage of cheapness of Apr16s

- Buy 2.75% Apr16 vs 2% Feb16 and 4% Jul16 (3m carry: 0.7bp) - Figure 57

Spain: fade the richness of Jan18s

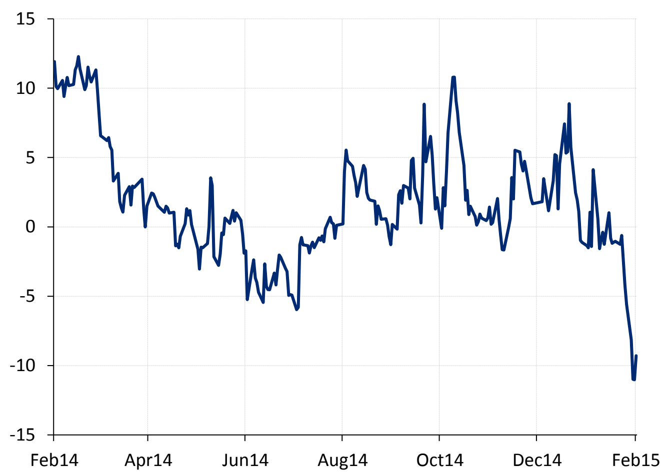
- Sell 4.5% Jan18 vs 3.3% Jul16 and 4.3% Oct19 (3m carry: 1bp) - Figure 58

Figure 57. Germany: 2% Feb16, 2.75% Apr16, 4% Jul16 microfly (bp)



Source: Citi Research

Figure 58. Spain: 3.3% Jul16, 4.5% Jan18, 4.3% Oct19 microfly (bp)



Source: Citi Research

Euro Relative Value Screen – All Maturities

Figure 59. Coupon adjusted spread (CAS) to fitted curve and swap curve by country (6m history) - all bonds on each curve

GERMANY

Versus Govt Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	1.75 Feb24	-3.03	Jan14	18
	2	2.00 Aug23	-1.71	Sep13	18
	3	0.50 Apr17	-1.46	May12	18
	4	3.25 Jan20	-1.38	Nov09	22
	5	0.50 Apr19	-1.33	May14	16
	5	3.75 Jan19	1.33	Nov08	24
	4	5.50 Jan31	1.39	Oct00	17
	3	0.50 Feb25	1.95	Jan15	9
	2	4.75 Jul34	2.18	Jan03	20
Cheapest	1	4.00 Jan37	2.70	Jan05	23

Versus Swap Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	3.25 Jan20	-2.12	Nov09	22
	2	3.00 Jul20	-2.08	Apr10	22
	3	0.50 Feb18	-2.08	Jan13	17
	4	4.25 Jul17	-2.06	May07	19
	5	0.50 Oct17	-2.06	Sep12	16
	5	6.25 Jan30	-1.34	Jan00	9
	4	4.75 Jul34	-1.30	Jan03	20
	3	0.00 Apr20	-0.36	Jan15	9
	2	0.50 Feb25	-0.35	Jan15	9
Cheapest	1	0.00 Mar17	1.21	Feb15	5

FRANCE

Versus Govt Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	3.00 Apr22	-2.17	Feb12	34
	2	3.25 Oct21	-1.71	Jun11	39
	3	3.75 Apr21	-1.55	May05	36
	4	2.25 Oct22	-1.41	Oct12	25
	5	2.50 May30	-1.29	May14	24
	5	4.25 Oct18	1.23	Oct08	28
	4	1.75 Feb17	1.31	Feb12	28
	3	4.75 Apr35	1.53	Apr04	22
	2	2.25 May24	1.58	Nov13	28
Cheapest	1	0.50 May25	2.52	Feb15	5

Versus Swap Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	3.00 Apr22	-2.09	Feb12	34
	2	3.75 Apr21	-2.07	May05	36
	3	3.25 Oct21	-2.04	Jun11	39
	4	2.50 Oct20	-1.98	Oct10	35
	5	2.25 Oct22	-1.97	Oct12	25
	5	4.25 Oct17	-1.18	Sep07	35
	4	3.75 Apr17	-1.08	Jan07	37
	3	1.00 Jul17	-1.04	Jul12	21
	2	1.75 Feb17	-0.95	Feb12	28
Cheapest	1	0.00 May20	-0.35	Feb15	5

ITALY

Versus Govt Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	3.50 Jun18	-2.21	Apr13	20
	2	4.50 Feb18	-1.98	Sep07	25
	3	4.75 Jun17	-1.96	Jun12	16
	4	4.75 May17 (BTS)	-1.96	Feb12	14
	5	4.50 Mar26	-1.73	Sep10	21
	5	4.25 Sep19	1.58	May09	25
	4	3.75 May21	1.58	Oct13	18
	3	4.00 Sep20	1.63	Apr10	25
	2	4.50 Mar24 (IK)	1.64	Aug13	23
Cheapest	1	1.35 Apr22	1.77	Feb15	5

Versus Swap Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	3.50 Dec18	-2.33	Sep13	20
	2	1.50 Aug19	-2.31	Jul14	16
	3	3.50 Jun18	-2.29	Apr13	20
	4	4.50 Mar19	-2.29	Nov08	24
	5	2.50 May19	-2.28	Feb14	15
	5	4.50 Mar24 (IK)	-1.87	Aug13	23
	4	1.35 Apr22	-1.28	Feb15	5
	3	3.25 Sep46	-1.05	Jan15	7
	2	0.00 Feb17	0.25	Feb15	4
Cheapest	1	1.50 Jun25	1.00	Mar15	0

N'LANDS

Versus Govt Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	3.75 Jan42	-2.80	May10	15
	2	3.25 Jul21	-2.59	Mar11	16
	3	3.50 Jul20	-1.47	Feb10	15
	4	2.25 Jul22	-0.80	Feb12	15
	5	4.00 Jan37	-0.77	Apr05	14
	5	4.50 Jul17	1.32	Jul07	15
	4	0.50 Apr17	1.73	Jan14	15
	3	1.75 Jul23	1.76	Mar13	16
	2	2.50 Jan33	1.92	Mar12	10
Cheapest	1	2.75 Jan47	3.26	Feb14	7

Versus Swap Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	3.25 Jul21	-1.94	Mar11	16
	2	3.50 Jul20	-1.87	Feb10	15
	3	1.25 Jan18	-1.86	Jul12	15
	4	1.25 Jan19	-1.86	Jun13	15
	5	2.25 Jul22	-1.86	Feb12	15
	5	4.50 Jul17	-1.54	Jul07	15
	4	0.50 Apr17	-1.46	Jan14	15
	3	4.00 Jan37	-1.43	Apr05	14
	2	2.50 Jan33	-1.38	Mar12	10
Cheapest	1	0.00 Apr18	-0.54	Jan15	3

SPAIN

Versus Govt Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	5.90 Jul26	-2.67	Mar11	14
	2	4.50 Jan18	-1.73	Nov12	19
	3	0.50 Oct17	-1.60	Sep14	11
	4	5.15 Oct44	-1.57	Oct13	8
	5	2.10 Apr17	-1.52	Nov13	22
	5	4.40 Oct23	1.90	May13	20
	4	4.80 Jan24	2.00	Sep08	15
	3	4.20 Jan37	2.14	Jan05	17
	2	5.75 Jul32	2.27	Jan01	16
Cheapest	1	3.80 Apr24	2.33	Jan14	21

Versus Swap Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	0.50 Oct17	-2.57	Sep14	11
	2	4.50 Jan18	-2.44	Nov12	19
	3	1.40 Jan20	-2.33	Jul14	14
	4	4.10 Jul18	-2.27	Feb08	19
	5	2.75 Apr19	-2.24	Jan14	22
	5	4.80 Jan24	-1.73	Sep08	15
	4	3.80 Apr24	-1.72	Jan14	21
	3	1.60 Apr25	-0.78	Jan15	12
	2	1.95 Jul30	0.00	Mar15	7
Cheapest	1	4.00 Oct64	0.00	Sep14	1

BELGIUM

Versus Govt Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	4.25 Mar41	-2.65	Apr10	14
	2	4.25 Sep22	-2.53	Jan12	15
	3	4.00 Mar22	-2.44	May06	14
	4	4.25 Sep21	-1.97	Jan11	15
	5	3.50 Jun17	-1.85	Mar11	13
	5	3.00 Sep19	2.34	Apr12	12
	4	4.50 Mar26	2.49	Jun11	9
	3	4.00 Mar32	3.42	Mar12	8
	2	3.00 Jun34	3.55	Mar14	6
Cheapest	1	3.75 Jun45	3.76	Sep13	5

Versus Swap Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	1.00 Jun31	-2.39	Feb15	4
	2	2.60 Jun24	-2.09	Jan14	16
	3	2.25 Jun23	-2.04	Jan13	14
	4	4.25 Sep22	-2.04	Jan12	15
	5	4.00 Mar22	-2.03	May06	14
	5	3.00 Sep19	-1.59	Apr12	12
	4	1.25 Jun18	-1.56	Feb13	12
	3	4.00 Mar19	-1.44	Jan09	12
	2	4.00 Mar18	-1.37	Jan08	11
Cheapest	1	0.80 Jun25	-1.10	Jan15	5

Source: Citi Research

Euro Relative Value Screen – Sub-12yr

Figure 60. Coupon adjusted spread (CAS) to fitted curve and swap curve by country (6m history) - bonds with a maximum maturity of 12yrs

GERMANY

Versus Govt Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	1.75 Feb24	-3.03	Jan14	18
	2	2.00 Aug23	-1.71	Sep13	18
	3	0.50 Apr17	-1.46	May12	18
	4	3.25 Jan20	-1.38	Nov09	22
	5	0.50 Apr19	-1.33	May14	16
	5	2.50 Jan21	1.12	Nov10	19
	4	1.00 Aug24	1.25	Sep14	18
	3	4.25 Jul18	1.30	May08	21
	2	3.75 Jan19	1.33	Nov08	24
Cheapest	1	0.50 Feb25	1.95	Jan15	9

Versus Swap Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	3.25 Jan20	-2.12	Nov09	22
	2	3.00 Jul20	-2.08	Apr10	22
	3	0.50 Feb18	-2.08	Jan13	17
	4	4.25 Jul17	-2.06	May07	19
	5	0.50 Oct17	-2.06	Sep12	16
	5	1.00 Feb19	-1.79	Jan14	16
	4	1.00 Aug24	-1.75	Sep14	18
	3	0.00 Apr20	-0.36	Jan15	9
	2	0.50 Feb25	-0.35	Jan15	9
Cheapest	1	0.00 Mar17	1.21	Feb15	5

FRANCE

Versus Govt Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	3.00 Apr22	-2.17	Feb12	34
	2	3.25 Oct21	-1.71	Jun11	39
	3	3.75 Apr21	-1.55	May05	36
	4	2.25 Oct22	-1.41	Oct12	25
	5	4.25 Oct23 (OAT)	-1.17	May07	33
	5	0.00 May20	1.03	Feb15	5
	4	4.25 Oct18	1.23	Oct08	28
	3	1.75 Feb17	1.31	Feb12	28
	2	2.25 May24	1.58	Nov13	28
Cheapest	1	0.50 May25	2.52	Feb15	5

Versus Swap Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	3.00 Apr22	-2.09	Feb12	34
	2	3.75 Apr21	-2.07	May05	36
	3	3.25 Oct21	-2.04	Jun11	39
	4	2.50 Oct20	-1.98	Oct10	35
	5	2.25 Oct22	-1.97	Oct12	25
	5	4.25 Oct17	-1.18	Sep07	35
	4	3.75 Apr17	-1.08	Jan07	37
	3	1.00 Jul17	-1.04	Jul12	21
	2	1.75 Feb17	-0.95	Feb12	28
Cheapest	1	0.00 May20	-0.35	Feb15	5

ITALY

Versus Govt Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	3.50 Jun18	-2.21	Apr13	20
	2	4.50 Feb18	-1.98	Sep07	25
	3	4.75 Jun17	-1.96	Jun12	16
	4	4.75 May17 (BTS)	-1.96	Feb12	14
	5	4.50 Mar26	-1.73	Sep10	21
	5	4.25 Sep19	1.58	May09	25
	4	3.75 May21	1.58	Oct13	18
	3	4.00 Sep20	1.63	Apr10	25
	2	4.50 Mar24 (IK)	1.64	Aug13	23
Cheapest	1	1.35 Apr22	1.77	Feb15	5

Versus Swap Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	3.50 Dec18	-2.33	Sep13	20
	2	1.50 Aug19	-2.31	Jul14	16
	3	3.50 Jun18	-2.29	Apr13	20
	4	4.50 Mar19	-2.29	Nov08	24
	5	2.50 May19	-2.28	Feb14	15
	5	1.05 Dec19	-1.89	Dec14	10
	4	4.50 Mar24 (IK)	-1.87	Aug13	23
	3	1.35 Apr22	-1.28	Feb15	5
	2	0.00 Feb17	0.25	Feb15	4
Cheapest	1	1.50 Jun25	1.00	Mar15	0

N'LANDS

Versus Govt Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	3.25 Jul21	-2.59	Mar11	16
	2	3.50 Jul20	-1.47	Feb10	15
	3	2.25 Jul22	-0.81	Feb12	15
	4	0.00 Apr18	-0.43	Jan15	3
	5	2.00 Jul24	-0.41	Mar14	15
	5	0.25 Jan20	0.44	Sep14	8
	4	4.00 Jul18	1.11	Feb08	15
	3	4.50 Jul17	1.32	Jul07	15
	2	0.50 Apr17	1.73	Jan14	15
Cheapest	1	1.75 Jul23	1.75	Mar13	16

Versus Swap Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	3.25 Jul21	-1.94	Mar11	16
	2	3.50 Jul20	-1.87	Feb10	15
	3	1.25 Jan18	-1.86	Jul12	15
	4	1.25 Jan19	-1.86	Jun13	15
	5	2.25 Jul22	-1.86	Feb12	15
	5	3.75 Jan23	-1.70	Feb06	11
	4	0.25 Jan20	-1.55	Sep14	8
	3	4.50 Jul17	-1.54	Jul07	15
	2	0.50 Apr17	-1.46	Jan14	15
Cheapest	1	0.00 Apr18	-0.54	Jan15	3

SPAIN

Versus Govt Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	5.90 Jul26	-2.69	Mar11	14
	2	4.50 Jan18	-1.73	Nov12	19
	3	0.50 Oct17	-1.60	Sep14	11
	4	5.50 Jul17	-1.52	Mar02	20
	5	2.10 Apr17	-1.52	Nov13	22
	5	2.75 Oct24	1.51	Jun14	24
	4	4.30 Oct19	1.67	Jun09	21
	3	4.40 Oct23	1.88	May13	20
	2	4.80 Jan24	1.96	Sep08	15
Cheapest	1	3.80 Apr24	2.25	Jan14	21

Versus Swap Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	0.50 Oct17	-2.57	Sep14	11
	2	4.50 Jan18	-2.44	Nov12	19
	3	1.40 Jan20	-2.33	Jul14	14
	4	4.10 Jul18	-2.27	Feb08	19
	5	2.75 Apr19	-2.24	Jan14	22
	5	2.75 Oct24	-1.83	Jun14	24
	4	4.40 Oct23	-1.74	May13	20
	3	4.80 Jan24	-1.73	Sep08	15
	2	3.80 Apr24	-1.72	Jan14	21
Cheapest	1	1.60 Apr25	-0.78	Jan15	12

BELGIUM

Versus Govt Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	4.25 Sep22	-2.52	Jan12	15
	2	4.00 Mar22	-2.45	May06	14
	3	4.25 Sep21	-1.97	Jan11	15
	4	3.50 Jun17	-1.85	Mar11	13
	5	5.50 Sep17	-1.66	Jun02	8
	5	4.00 Mar18	0.96	Jan08	11
	4	2.25 Jun23	1.14	Jan13	14
	3	4.00 Mar19	2.23	Jan09	12
	2	3.00 Sep19	2.35	Apr12	12
Cheapest	1	4.50 Mar26	2.47	Jun11	9

Versus Swap Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	2.60 Jun24	-2.09	Jan14	16
	2	2.25 Jun23	-2.04	Jan13	14
	3	4.25 Sep22	-2.04	Jan12	15
	4	4.00 Mar22	-2.03	May06	14
	5	4.50 Mar26	-1.99	Jun11	9
	5	3.00 Sep19	-1.59	Apr12	12
	4	1.25 Jun18	-1.56	Feb13	12
	3	4.00 Mar19	-1.44	Jan09	12
	2	4.00 Mar18	-1.37	Jan08	11
Cheapest	1	0.80 Jun25	-1.10	Jan15	5

Source: Citi Research

Euro Relative Value Screen – 8yr+

Figure 61. Coupon adjusted spread (CAS) to fitted curve and swap curve by country (6m history) - bonds with a minimum maturity of 8yrs

GERMANY

Versus Govt Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	1.75 Feb24	-3.03	Jan14	18
	2	2.00 Aug23	-1.71	Sep13	18
	3	2.50 Jul44	-1.32	Apr12	16
	4	1.50 May23	-1.20	May13	18
	5	4.75 Jul40	-0.78	Jul08	16
	5	1.00 Aug24	1.25	Sep14	18
	4	5.50 Jan31	1.39	Oct00	17
	3	0.50 Feb25	1.95	Jan15	9
	2	4.75 Jul34	2.18	Jan03	20
Cheapest	1	4.00 Jan37	2.70	Jan05	23

Versus Swap Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	1.75 Feb24	-1.90	Jan14	18
	2	1.50 May24	-1.88	May14	18
	3	2.00 Aug23	-1.85	Sep13	18
	4	1.50 May23	-1.82	May13	18
	5	1.00 Aug24	-1.75	Sep14	18
	5	4.00 Jan37	-1.44	Jan05	23
	4	5.50 Jan31	-1.43	Oct00	17
	3	6.25 Jan30	-1.34	Jan00	9
	2	4.75 Jul34	-1.30	Jan03	20
Cheapest	1	0.50 Feb25	-0.35	Jan15	9

FRANCE

Versus Govt Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	2.50 May30	-1.29	May14	24
	2	4.25 Oct23 (OAT)	-1.17	May07	33
	3	3.50 Apr26	-1.01	Jul10	30
	4	4.00 Apr60	-0.67	Mar10	8
	5	1.75 May23	-0.07	May13	29
	5	2.75 Oct27	0.91	Sep12	33
	4	4.00 Oct38	1.19	Sep06	24
	3	4.75 Apr35	1.53	Apr04	22
	2	2.25 May24	1.58	Nov13	28
Cheapest	1	0.50 May25	2.52	Feb15	5

Versus Swap Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	1.75 May23	-1.92	May13	29
	2	4.25 Oct23 (OAT)	-1.83	May07	33
	3	1.75 Nov24	-1.75	Jun14	30
	4	2.50 May30	-1.73	May14	24
	5	4.00 Apr60	-1.72	Mar10	8
	5	2.75 Oct27	-1.67	Sep12	33
	4	4.50 Apr41	-1.67	Jun09	24
	3	4.75 Apr35	-1.65	Apr04	22
	2	4.00 Apr55	-1.64	Feb05	15
Cheapest	1	0.50 May25	-1.29	Feb15	5

ITALY

Versus Govt Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	4.50 Mar26	-1.74	Sep10	21
	2	5.00 Mar25	-1.71	Jul09	22
	3	4.75 Sep28	-1.68	Jan13	18
	4	4.50 May23	-1.36	Mar13	18
	5	4.75 Aug23	-0.60	Apr08	25
	5	4.75 Sep44	1.15	May13	15
	4	2.50 Dec24	1.23	Sep14	20
	3	4.00 Feb37	1.37	Oct05	26
	2	1.50 Jun25	1.38	Mar15	0
Cheapest	1	4.50 Mar24 (IK)	1.65	Aug13	23

Versus Swap Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	4.00 Feb37	-2.26	Oct05	26
	2	5.00 Aug39	-2.24	Oct07	19
	3	5.00 Aug34	-2.24	Sep03	22
	4	4.75 Sep44	-2.22	May13	15
	5	3.50 Mar30	-2.20	May14	16
	5	2.50 Dec24	-2.01	Sep14	20
	4	3.75 Sep24	-1.92	Mar14	20
	3	4.50 Mar24 (IK)	-1.87	Aug13	23
	2	3.25 Sep46	-1.05	Jan15	7
Cheapest	1	1.50 Jun25	1.00	Mar15	0

N'LANDS

Versus Govt Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	3.75 Jan42	-2.83	May10	15
	2	4.00 Jan37	-0.79	Apr05	14
	3	2.00 Jul24	-0.42	Mar14	15
	3	1.75 Jul23	1.75	Mar13	16
	2	2.50 Jan33	1.85	Mar12	10
Cheapest	1	2.75 Jan47	2.94	Feb14	7

Versus Swap Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	2.00 Jul24	-1.81	Mar14	15
	2	1.75 Jul23	-1.72	Mar13	16
	3	2.75 Jan47	-1.63	Feb14	7
	3	3.75 Jan42	-1.56	May10	15
	2	4.00 Jan37	-1.43	Apr05	14
Cheapest	1	2.50 Jan33	-1.38	Mar12	10

SPAIN

Versus Govt Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	5.90 Jul26	-2.72	Mar11	14
	2	5.15 Oct44	-1.62	Oct13	8
	3	4.65 Jul25	-0.96	Feb10	14
	4	1.95 Jul30	0.00	Mar15	7
	5	4.00 Oct64	0.00	Sep14	1
	5	4.40 Oct23	1.88	May13	20
	4	4.80 Jan24	1.94	Sep08	15
	3	4.20 Jan37	2.13	Jan05	17
	2	5.75 Jul32	2.25	Jan01	16
Cheapest	1	3.80 Apr24	2.25	Jan14	21

Versus Swap Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	5.90 Jul26	-2.09	Mar11	14
	2	4.65 Jul25	-1.97	Feb10	14
	3	4.70 Jul41	-1.96	Sep09	12
	4	5.15 Oct44	-1.96	Oct13	8
	5	4.90 Jul40	-1.96	Jun07	13
	5	4.80 Jan24	-1.73	Sep08	15
	4	3.80 Apr24	-1.72	Jan14	21
	3	1.60 Apr25	-0.78	Jan15	12
	2	1.95 Jul30	0.00	Mar15	7
Cheapest	1	4.00 Oct64	0.00	Sep14	1

BELGIUM

Versus Govt Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	4.25 Mar41	-2.74	Apr10	14
	2	5.00 Mar35	-1.02	May04	19
	3	1.00 Jun31	0.67	Feb15	4
	4	0.80 Jun25	0.74	Jan15	5
	5	2.60 Jun24	0.86	Jan14	16
	5	2.25 Jun23	1.15	Jan13	14
	4	3.75 Jun45	2.30	Sep13	5
	3	4.50 Mar26	2.44	Jun11	9
	2	4.00 Mar32	3.37	Mar12	8
Cheapest	1	3.00 Jun34	3.43	Mar14	6

Versus Swap Curve (CAS)

	Rank	Bond	ZScore	Issued	Size (€bn)
Richest	1	1.00 Jun31	-2.39	Feb15	4
	2	2.60 Jun24	-2.09	Jan14	16
	3	2.25 Jun23	-2.04	Jan13	14
	4	4.50 Mar26	-1.99	Jun11	9
	5	3.75 Jun45	-1.93	Sep13	5
	5	4.00 Mar32	-1.93	Mar12	8
	4	3.00 Jun34	-1.93	Mar14	6
	3	4.25 Mar41	-1.93	Apr10	14
	2	5.00 Mar35	-1.92	May04	19
Cheapest	1	0.80 Jun25	-1.10	Jan15	5

Source: Citi Research

UK Relative Value Screen

Figure 62. Coupon adjusted spread (CAS) to fitted curve and swap curve by maturity (6m history)

Versus Govt Curve (CAS)

ALL

	Rank		ZScore	Issued	Size (€bn)
Richest	1	3.75 Sep19	-1.94	Jul09	28
	2	4.50 Mar19	-1.68	Sep08	36
	3	4.75 Mar20	-1.56	Mar05	33
	4	3.75 Sep21	-1.43	Mar11	28
	5	5.00 Mar18	-1.30	May07	35
	5	3.50 Jul68	1.38	Jun13	14
	4	2.25 Sep23	1.43	Jun13	27
	3	4.50 Sep34	1.55	Jun09	30
	2	3.75 Jul52	1.67	Sep11	22
Cheapest	1	4.25 Jun32	1.79	May00	35

2yr - 7yr

	Rank		ZScore	Issued	Size (€bn)
Richest	1	3.75 Sep19	-1.88	Jul09	28
	2	4.50 Mar19 (WX)	-1.64	Sep08	36
	3	4.75 Mar20	-1.51	Mar05	33
	4	3.75 Sep21	-1.38	Mar11	28
	5	5.00 Mar18	-1.26	May07	35
	5	2.00 Jul20	0.00	Mar15	0
	4	2.00 Jul20	0.08	Sep14	0
	3	1.00 Sep17	0.37	Mar12	32
	2	1.25 Jul18	0.79	Feb13	34
Cheapest	1	2.00 Jul20	1.38	Jan15	0

7yr - 15yr

	Rank		ZScore	Issued	Size (€bn)
Richest	1	5.00 Mar25 (G)	-1.13	Sep01	35
	2	4.00 Mar22	-1.06	Feb09	38
	3	2.75 Sep24	-0.80	Mar14	27
	4				
	5				
	5				
	4				
	3	4.25 Dec27	0.08	Sep06	31
	2	1.75 Sep22	1.14	Jun12	29
Cheapest	1	2.25 Sep23	1.54	Jun13	27

>15yr

	Rank		ZScore	Issued	Size (€bn)
Richest	1	4.75 Dec30	-0.60	Oct07	32
	2	4.25 Mar36	-0.51	Feb03	26
	3	4.25 Dec55	-0.43	May05	24
	4	4.25 Dec46	-0.06	May06	21
	5	4.50 Dec42	0.14	Jun07	26
	5	4.25 Jun32	1.98	May00	35
	4	4.50 Sep34	2.01	Jun09	30
	3	3.75 Jul52	2.47	Sep11	22
	2	3.50 Jan45	3.28	Sep14	0
Cheapest	1	3.50 Jul68	4.30	Jun13	14

Versus Swap Curve (CAS)

ALL

	Rank		ZScore	Issued	Size (€bn)
Richest	1	3.75 Sep21	-1.55	Mar11	28
	2	1.75 Jan17	-1.53	Aug11	29
	3	1.25 Jul18	-1.51	Feb13	34
	4	3.75 Sep19	-1.49	Jul09	28
	5	4.00 Mar22	-1.46	Feb09	38
	5	4.50 Sep34	0.43	Jun09	30
	4	4.25 Dec40	0.50	Jun10	25
	3	4.75 Dec38	0.54	Apr04	25
	2	4.25 Sep39	0.54	Mar09	20
Cheapest	1	3.50 Jul68	0.56	Jun13	14

2yr - 7yr

	Rank		ZScore	Issued	Size (€bn)
Richest	1	3.75 Sep21	-1.55	Mar11	28
	2	1.25 Jul18	-1.51	Feb13	34
	3	3.75 Sep19	-1.49	Jul09	28
	4	4.50 Mar19 (WX)	-1.46	Sep08	36
	5	5.00 Mar18	-1.44	May07	35
	5	3.75 Sep20	-1.34	Jun10	24
	4	2.00 Jul20	-1.28	Sep14	16
	3	2.00 Jul20	-1.16	Sep14	0
	2	2.00 Jul20	0.00	Mar15	0
Cheapest	1	2.00 Jul20	0.03	Jan15	0

7yr - 15yr

	Rank		ZScore	Issued	Size (€bn)
Richest	1	4.00 Mar22	-1.46	Feb09	38
	2	4.25 Dec27	-1.25	Sep06	31
	3	5.00 Mar25 (G)	-1.21	Sep01	35
	4				
	5				
	5				
	4				
	3	1.75 Sep22	-1.16	Jun12	29
	2	2.25 Sep23	-1.06	Jun13	27
Cheapest	1	2.75 Sep24 (10y)	-0.95	Nov14	0

>15yr

	Rank		ZScore	Issued	Size (€bn)
Richest	1	4.75 Dec30	-0.87	Oct07	32
	2	4.25 Dec55	0.13	May05	24
	3	4.25 Jun32	0.14	May00	35
	4	4.25 Dec49	0.16	Sep08	20
	5	3.75 Jul52	0.18	Sep11	22
	5	4.50 Sep34	0.43	Jun09	30
	4	4.25 Dec40	0.50	Jun10	25
	3	4.75 Dec38	0.54	Apr04	25
	2	4.25 Sep39	0.54	Mar09	20
Cheapest	1	3.50 Jul68	0.56	Jun13	14

Source: Citi Research

4 Week Auction Calendar: Euro, UK and US

This is an excerpt from our latest *Weekly Supply Monitor* published earlier today. For further details (such as a breakdown of upcoming coupon payments, redemptions and our longer term supply forecasts) please see the full note.

Figure 63. Auction calendar for the next four weeks (provisional): gross issuance (local currency, billions) and DV01 (USD million/bp)

Date	Country	Nominal Size	Issue Details	DV01	Approx. Number 10yr Futures		
		(Local Ccy, bn)		$million/bp	TYH5 (UST)	G H5 (Gilt)	RXH5 (Bund)
03 Mar (Tue)	Austria	1.1	RAGB 0.25% Oct19 and 1.65% Oct24 (issue and size confirmed)				6k
03 Mar (Tue)	UK	3.5	2% Treasury Gilt 2020 (issue and size confirmed)			18k	
05 Mar (Thu)	France	9.0	OAT >7yr (estimated size)				103k
05 Mar (Thu)	Spain	5.0	Bono 5yr, 10yr and 30yr (estimated tenors and size)				38k
			Weekly $DV01 of Issuance	24.9			
			Total Number of Futures Contracts		0k	18k	146k

Date	Country	Nominal Size	Issue Details	DV01	Approx. Number 10yr Futures		
		(Local Ccy, bn)		$million/bp	TYH5 (UST)	G H5 (Gilt)	RXH5 (Bund)
10 Mar (Tue)	Netherlands	3.0	DSL Apr18 re-opening (issue confirmed, size €2.5-3.5bn)				5k
10 Mar (Tue)	Germany	1.0	Bundei (estimated size)				7k
10 Mar (Tue)	UK	2.2	3.5% Treasury Gilt 2068 (issue confirmed, estimated size)			49k	
10 Mar (Tue)	US	24.0	3-Year		76k		
11 Mar (Wed)	Germany	5.0	Schatz Mar17 re-opening (issue and size confirmed)				8k
11 Mar (Wed)	US	21.0	10-Year (re-opening)		226k		
12 Mar (Thu)	Ireland	1.0	Ireland 2.4% May30 (estimated issue and size)				13k
12 Mar (Thu)	Italy	7.8	BTP 0.75% Jan18, Apr22 and 30yr (estimated issue and size)				48k
12 Mar (Thu)	Spain	5.0	Bono 3yr, 5yr and 15yr (estimated tenors and size)				23k
12 Mar (Thu)	UK	1.4	1.125% Index-linked Treasury Gilt 2037 (issue confirmed, estimated size)			20k	
12 Mar (Thu)	US	13.0	30-year (re-opening)		287k		
			Weekly $DV01 of Issuance	73.0			
			Total Number of Futures Contracts		589k	70k	104k

Date	Country	Nominal Size	Issue Details	DV01	Approx. Number 10yr Futures		
		(Local Ccy, bn)		$million/bp	TYH5 (UST)	G H5 (Gilt)	RXH5 (Bund)
18 Mar (Wed)	Germany	4.0	Bund Feb25 re-opening (issue and size confirmed)				30k
19 Mar (Thu)	France	10.0	OAT 2yr-7yr, index-linked OAT (estimated size)				37k
19 Mar (Thu)	UK	3.1	New Treasury Gilt Sep25 (issue confirmed, estimated size)			29k	
19 Mar (Thu)	US	13.0	10-Year TIPS (re-opening)		149k		
			Weekly $DV01 of Issuance	26.4			
			Total Number of Futures Contracts		149k	29k	66k

Date	Country	Nominal Size	Issue Details	DV01	Approx. Number 10yr Futures		
		(Local Ccy, bn)		$million/bp	TYH5 (UST)	G H5 (Gilt)	RXH5 (Bund)
23 Mar (Mon)	Belgium	3.5	OLO 5yr, 10yr and 30yr (estimated tenors and size)				41k
24 Mar (Tue)	Netherlands	6.0	New DSL Jul25 via DDA (issue confirmed, min size €5bn)				45k
24 Mar (Tue)	US	26.0	2-year		82k		
25 Mar (Wed)	US	13.0	2-Year FRN (re-opening)		41k		
25 Mar (Wed)	US	35.0	5-year		186k		
26 Mar (Thu)	Italy	3.0	CTZ Feb17 (estimated size)				4k
26 Mar (Thu)	Italy	1.5	BTPei (estimated size)				10k
26 Mar (Thu)	US	29.0	7-year		220k		
			Weekly $DV01 of Issuance	57.1			
			Total Number of Futures Contracts		529k	0k	100k

Additional issue expected in March: SPGBei (15yr). This issue is not included in the table above as the timing of this supply event has not been announced.

Source: DMOs, Citi Research

EMU: Coupons & Redemptions (Next 3mths)

Figure 64. EMU-11 Bond redemptions over the next three months (€bn)

	Redemptions = €154bn										
Redemptions	**DEU 51**	**FRA 20**	**NLD 13**	**ITA 30**	**ESP 29**	**BEL 11**	**AUT 0**	**FIN 0**	**PRT 0**	**GRC 0**	**IRL 0**
(Fri) 27-Feb-15	17.0										
(Sun) 01-Mar-15				12.4							
(Fri) 13-Mar-15	15.0										
(Sat) 28-Mar-15						11.0					
(Tue) 31-Mar-15					10.5						
(Fri) 10-Apr-15	19.0										
(Wed) 15-Apr-15			12.8	17.3							
(Sat) 25-Apr-15		20.2									
(Thu) 30-Apr-15					18.8						

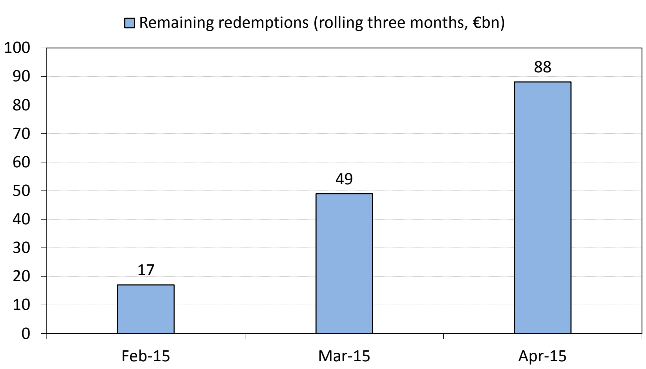
Source: DMOs, Bloomberg, Citi Research *This table is on a calendar-date basis*

Figure 65. EMU-11 Coupon payments over the next three months (€bn)

	Coupons = €57bn										
Coupons	**DEU 3**	**FRA 19**	**NLD 0**	**ITA 18**	**ESP 6**	**BEL 6**	**AUT 2**	**FIN 1**	**PRT 1**	**GRC 0**	**IRL 2**
(Fri) 27-Feb-15	0.4										
(Sun) 01-Mar-15				8.0							
(Wed) 11-Mar-15	0.0										
(Fri) 13-Mar-15	0.0										0.6
(Sun) 15-Mar-15				1.9			1.4				0.0
(Wed) 18-Mar-15											0.3
(Fri) 20-Mar-15											0.2
(Sat) 28-Mar-15						6.1					
(Tue) 31-Mar-15					0.3						
(Tue) 07-Apr-15	0.1										
(Wed) 08-Apr-15	0.5										
(Fri) 10-Apr-15	0.4										
(Sun) 12-Apr-15	0.1										
(Mon) 13-Apr-15	0.0										
(Wed) 15-Apr-15	0.7		0.2	0.8				0.8	0.6		
(Fri) 17-Apr-15										0.1	
(Sat) 18-Apr-15											0.9
(Mon) 20-Apr-15							0.3				
(Wed) 22-Apr-15				0.4							
(Thu) 23-Apr-15				0.2							
(Sat) 25-Apr-15		16.0									
(Mon) 27-Apr-15				0.0							
(Thu) 30-Apr-15					5.5						
(Fri) 01-May-15				6.0							
(Tue) 12-May-15				0.2							
(Fri) 15-May-15	0.5			0.5							0.1
(Wed) 20-May-15											0.0
(Sat) 23-May-15							0.1				
(Mon) 25-May-15		2.7									

Source: DMOs, Bloomberg, Citi Research *This table is on a calendar-date basis*

Figure 66. EMU-11 remaining redemptions over the next 3 months (€bn)



Source: DMOs, Bloomberg, Citi Research *This chart is on a calendar-date basis*

Figure 67. EMU-11 remaining coupons over the next 3 months (€bn)

Source: DMOs, Bloomberg, Citi Research *This chart is on a calendar-date basis*

ESP and ITA Bill Issuance Projections

This page contains our projections for Spanish and Italian bill supply in 2015.

Auction calendar for the next four weeks

Figure 68. 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 2	10 Mar (Tue)	Spain	6month (18 Sep 2015) and 12month (11 Mar 2016) - issue confirmed, estimated size	4.5
	11 Mar (Wed)	Italy	12 month (14 March 2016) - issue confirmed, estimated size	7.5
			Total Size in Week 2	12.0
Week 3	17 Mar (Tue)	Spain	3month (19 Jun 2015) and 9month (11 Dec 2015) - issue confirmed, estimated size	3
			Total Size in Week 3	3.0
Week 4	27 Mar (Fri)	Italy	6 month (30 September 2015) - issue confirmed, estimated size	8
			Total Size in Week 4	8.0

Italy announces issue size 3 business days before the auction
Spain announces issue details 1 business day before the auction

Source: DMOs, Citi Research *This table is on a calendar-date basis*

2015 projections for bill supply

Figure 69. 2015 Italy and Spain Bill Supply – Citi Forecast (Euro Billion)

SPAIN	3m	6m	9m	12m	18m	Gross Supply	Redemptions	NCR
Jan	0.6	0.9	2.1	5.0		8	7	1
Feb		0.6	2.1	4.7		8	9	-1
Mar	1.0	1.0	2.0	4.0		8	9	-1
Apr	1.0	1.0	2.0	3.5		8	7	
May	1.0	1.0	2.0	3.5		8	8	
Jun	1.0	1.0	3.0	4.0		9	9	
Jul	1.0	1.0	2.0	4.0		8	9	-1
Aug	1.0	1.0	2.0	3.5		8	8	-1
Sep	1.0	1.0	3.0	4.0		9	8	1
Oct	1.0	1.0	3.0	3.0		8	7	1
Nov	1.0	1.0	3.0	3.5		9	10	-1
Dec	1.0	1.0	3.0	3.0		8	8	
Total	11.0	11.4	29.1	45.6		97	100	-2

ITALY	3m*	6m	9m	12m	Flexible BOT	Gross Supply	Redemptions	NCR
Jan		7.7		8.4		16	16	
Feb		7.0		7.7		15	16	-1
Mar		8.0		7.5		16	15	
Apr		7.5		7.5		15	14	1
May		7.5		8.0		16	13	2
Jun		8.0		7.5		16	15	1
Jul		7.0		7.5		15	14	
Aug		7.5		7.5		15	15	
Sep		7.5		8.5		16	17	-1
Oct		7.0		7.5		15	16	-1
Nov		7.0		7.0		14	14	
Dec		6.5		5.5		12	14	-2
Total		88.2		90.1		178	178	-0

Source: DMOs, Bloomberg, Citi Research *This table is on a calendar-date basis*

Inflation Forecasts, Carry & Weekly Changes

Figure 70. Citi Inflation Forecasts

	EUR HICPxT			France CPIxT			UK RPI			US CPURNSA		
Month	Index Forecast	MoM Change	YoY Change	Index Forecast	MoM Change	YoY Change	Index Forecast	MoM Change	YoY Change	Index Forecast	MoM Change	YoY Change
Jan 15	115.13	-1.6	-0.7	124.53	-1.0	-0.4	255.40	-0.8	1.1	233.70	-0.5	-0.1
Feb 15	115.65	0.4	-0.5	125.57	0.8	-0.1	256.50	0.4	0.9	234.41	0.3	-0.2
Mar 15	117.03	1.2	-0.3	126.49	0.7	0.2	257.30	0.3	1.0	235.90	0.6	-0.2
Apr 15	117.26	0.2	-0.3	126.40	-0.1	0.1	258.40	0.4	1.1	236.40	0.2	-0.3
May 15	117.22	-0.0	-0.2	126.58	0.1	0.2	259.40	0.4	1.4	236.90	0.2	-0.4
Jun 15	117.29	0.1	-0.2	126.55	-0.0	0.3	259.90	0.2	1.4	237.00	0.0	-0.6

Source: Citi Research, Bloomberg

Shaded = Already released

Figure 71. US TIPS Inflation-linked Carry (based on forecasts above) – One week changes

Bond	RY (%)	Chg (bp)	Carry-adj chg	Carry: RY (bp) 1 Apr	1 May	1 Jun	*Reference Conventional*	BE (bp)	Chg (bp)	Carry-adj chg	Carry: BE (bp) 1 Apr	1 May	1 Jun	ZC Swap - BE Spread (bp)	Chg (bp)
Repo (%)				*0.13*	*0.13*	*0.13*									
TIPS 0.125% 4/16	-0.77	-27	-13	-57	-38	22	*T-2.000-04/30/16*	110	27	13	-59	-42	16	41	20
TIPS 2.5% 7/16	-1.20	-26	-14	-50	-37	7	*T-4.875-08/15/16*	165	25	12	-52	-42	0	40	15
TIPS 2.375% 1/17	-0.79	-21	-13	-34	-22	12	*T-3.125-01/31/17*	139	18	9	-36	-27	4	30	-0
TIPS 0.125% 4/17	-0.63	-20	-13	-29	-18	12	*T-0.875-04/30/17*	134	17	9	-31	-23	4	30	4
TIPS 2.625% 7/17	-0.95	-19	-12	-27	-19	7	*T-4.750-08/15/17*	176	14	7	-30	-24	-2	18	5
TIPS 1.625% 1/18	-0.56	-19	-14	-21	-13	9	*T-3.500-02/15/18*	156	12	6	-24	-18	1	24	4
TIPS 0.125% 4/18	-0.39	-18	-13	-18	-10	10	*T-0.625-04/30/18*	147	12	7	-21	-16	2	25	2
TIPS 1.375% 7/18	-0.60	-19	-14	-18	-11	8	*T-4.000-08/15/18*	172	11	6	-21	-16	-1	21	2
TIPS 2.125% 1/19	-0.36	-19	-15	-15	-8	8	*T-2.750-02/15/19*	164	10	6	-18	-14	0	19	1
TIPS 0.125% 4/19	-0.21	-17	-14	-14	-7	9	*T-1.625-04/30/19*	156	8	4	-16	-12	0	22	2
TIPS 1.875% 7/19	-0.37	-18	-14	-14	-7	7	*T-3.625-08/15/19*	175	7	3	-16	-13	-1	19	3
TIPS 1.375% 1/20	-0.19	-18	-15	-12	-6	8	*T-3.625-02/15/20*	165	7	3	-14	-11	0	23	2
TIPS 1.25% 7/20	-0.22	-19	-16	-11	-5	7	*T-2.625-08/15/20*	180	7	3	-13	-11	-1	17	1
TIPS 1.125% 1/21	-0.07	-19	-17	-9	-4	7	*T-3.625-02/15/21*	174	8	5	-12	-10	-1	16	-3
TIPS 0.625% 7/21	-0.08	-19	-16	-9	-4	6	*T-2.125-08/15/21*	183	6	3	-11	-9	-1	18	1
TIPS 0.125% 1/22	0.03	-18	-16	-8	-3	6	*T-2.000-02/15/22*	174	5	2	-10	-8	-1	23	2
TIPS 0.125% 7/22	0.02	-18	-16	-7	-3	6	*T-1.625-08/15/22*	180	5	3	-9	-8	-1	24	0
TIPS 0.125% 1/23	0.09	-18	-17	-7	-3	5	*T-2.000-02/15/23*	176	4	2	-9	-7	-1	24	0
TIPS 0.375% 7/23	0.09	-18	-16	-6	-3	5	*T-2.500-08/15/23*	180	3	1	-8	-7	-1	27	2
TIPS 0.625% 1/24	0.16	-19	-17	-6	-2	5	*T-2.750-02/15/24*	177	5	3	-8	-6	-1	27	0
TIPS 0.125% 7/24	0.13	-18	-16	-6	-2	5	*T-2.375-08/15/24*	184	4	2	-8	-6	-1	27	1
TIPS 2.375% 1/25	0.20	-18	-17	-6	-2	5	*T-7.625-02/15/25*	173	4	2	-8	-6	-1	34	-1
TIPS 0.25% 1/25	0.19	-18	-17	-5	-2	5	*T-2.000-02/15/25*	179	4	2	-7	-6	-1	28	-1
TIPS 2% 1/26	0.27	-19	-18	-5	-2	5	*T-6.000-02/15/26*	175	4	2	-7	-6	-1	36	-0
TIPS 2.375% 1/27	0.33	-19	-17	-5	-2	5	*T-6.625-02/15/27*	175	3	2	-7	-6	-1	38	-0
TIPS 1.75% 1/28	0.38	-19	-18	-4	-1	4	*T-6.125-11/15/27*	176	4	2	-6	-5	-1	38	-1
TIPS 3.625% 4/28	0.38	-19	-18	-5	-2	4	*T-5.500-08/15/28*	180	3	2	-6	-5	-1	33	-0
TIPS 2.5% 1/29	0.42	-20	-18	-4	-1	4	*T-5.250-02/15/29*	180	3	2	-6	-5	-1	35	-2
TIPS 3.875% 4/29	0.42	-20	-18	-4	-1	4	*T-5.250-02/15/29*	179	3	2	-6	-5	-1	35	-0
TIPS 3.375% 4/32	0.50	-20	-19	-4	-1	4	*T-5.375-02/15/31*	177	3	2	-5	-4	-1	40	-1
TIPS 2.125% 2/40	0.61	-18	-17	-2	-1	3	*T-4.625-02/15/40*	189	2	1	-4	-3	-1	33	0
TIPS 2.125% 2/41	0.61	-18	-17	-2	-1	3	*T-4.750-02/15/41*	188	2	1	-4	-3	-1	34	-1
TIPS 0.75% 2/42	0.65	-19	-19	-2	-1	2	*T-3.125-02/15/42*	189	3	3	-3	-3	-1	32	-3
TIPS 0.625% 2/43	0.65	-18	-18	-2	0	2	*T-3.125-02/15/43*	191	2	1	-3	-3	-1	31	-1
TIPS 1.375% 2/44	0.65	-17	-17	-2	-1	2	*T-3.625-02/15/44*	191	1	0	-3	-3	-1	32	-0

Source: Citi Research, Bloomberg

Figure 72. EUR Inflation-linked Carry (based on forecasts above) – One week changes

Bond	RY (%)	Chg (bp)	Carry-adj chg	Carry: RY (bp) 1 Apr	Carry: RY (bp) 1 May	Carry: RY (bp) 1 Jun	*Reference Conventional*	BE (bp)	Chg (bp)	Carry-adj chg	Carry: BE (bp) 1 Apr	Carry: BE (bp) 1 May	Carry: BE (bp) 1 Jun	ZC Swap - BE Spread (bp)	Chg (bp)
Repo (%)				*-0.05*	*-0.06*	*-0.07*									
BUNDei16	0.72	1	6	-147	-106	29	*DBR 1/16*	-95	-4	-9	-145	-102	36	15	14
BOBLei18	-0.30	-2	0	-53	-40	0	*DBR 1/18*	7	-0	-3	-52	-39	2	17	3
BUNDei20	-0.69	-1	1	-33	-26	-2	*DBR 1/20*	53	-3	-4	-33	-25	-2	9	3
BUNDei23	-0.82	-6	-5	-20	-16	-1	*DBR 1/22*	81	-1	-2	-20	-16	-2	13	1
BUNDei30	-0.66	-6	-5	-11	-8	-1	*DBR 1/30*	120	-2	-3	-12	-9	-2	19	1
OATei18	-0.59	-6	-3	-48	-37	-2	*FRTR 4/18*	48	1	-1	-48	-37	-1	17	1
OATei20	-0.69	-4	-2	-32	-25	-2	*FRTR 4/20*	71	-3	-5	-32	-25	-2	17	3
OATei22	-0.67	-8	-7	-23	-17	-1	*FRTR 4/21*	76	-2	-3	-23	-18	-2	28	1
OATei24	-0.61	-14	-13	-17	-13	-1	*FRTR 10/23*	96	1	-0	-18	-14	-2	21	-1
OATei27	-0.47	-12	-12	-14	-11	0	*FRTR 4/26*	112	-0	-1	-15	-12	-2	22	-1
OATei30	-0.37	-9	-9	-11	-8	0	*FRTR 5/30*	130	-3	-4	-12	-9	-2	17	2
OATei32	-0.36	-11	-11	-11	-8	0	*FRTR 10/32*	135	-1	-2	-12	-10	-2	18	-1
OATei40	-0.25	-14	-13	-7	-5	0	*FRTR 4/41*	151	2	2	-8	-7	-2	18	-4
BTANi16	-0.54	-2	-0	-78	-19	40	*FRTR 4/16*	39	-0	-2	-77	-18	42	9	7
OATi17	-0.62	3	5	-45	-11	20	*FRTR 4/17*	48	-7	-8	-45	-11	21	17	7
OATi19	-0.73	-7	-7	-25	-6	10	*FRTR 4/19*	67	2	1	-25	-6	10	19	-4
OATi21	-0.76	-8	-8	-17	-4	6	*FRTR 4/21*	85	-1	-2	-17	-5	6	22	-0
OATi23	-0.67	-11	-10	-13	-3	6	*FRTR 10/23*	102	-3	-3	-14	-4	4	20	2
OATi25	-0.53	-	-	-10	-2	5	*FRTR 5/25*	110	-	-	-11	-3	3	16	-
OATi29	-0.46	-14	-14	-8	-2	4	*FRTR 4/29*	129	1	1	-9	-3	2	22	-4
BTPei16	0.31	-21	-17	-107	-79	13	*BTPS 8/16*	-15	10	5	-108	-81	8	34	1
BTPei17	0.12	-17	-14	-65	-47	5	*BTPS 8/17*	13	3	0	-66	-50	1	27	2
BTPei18	0.03	-17	-15	-46	-34	3	*BTPS 8/18*	33	0	-2	-47	-36	-1	23	2
BTPei19	0.07	-21	-19	-37	-26	2	*BTPS 9/19*	45	2	-0	-38	-29	-1	26	-0
BTPei21	0.21	-23	-22	-26	-18	2	*BTPS 9/21*	70	-0	-2	-27	-21	-2	22	1
BTPei23	0.28	-28	-27	-20	-14	2	*BTPS 8/23*	92	1	0	-22	-17	-3	16	-1
BTPei24	0.37	-26	-25	-18	-12	2	*BTPS 9/24*	98	1	-0	-19	-15	-2	16	-0
BTPei26	0.49	-27	-26	-15	-11	2	*BTPS 3/26*	99	0	-1	-17	-13	-2	28	0
BTPei35	0.66	-24	-24	-9	-6	1	*BTPS 8/34*	144	-2	-3	-10	-9	-3	14	1
BTPei41	0.96	-22	-22	-7	-5	2	*BTPS 9/40*	137	-2	-3	-8	-7	-2	33	1
SPGBEI19	-0.07	-18	-17	-34	-25	2	*SPGB 10/19*	58	-4	-5	-35	-27	-2	14	3
SPGBEI24	0.19	-28	-27	-17	-12	2	*SPGB 4/24*	105	2	1	-19	-15	-3	10	-2

Source: Citi Research

Figure 73. UK Gilts Inflation-linked Carry (based on forecasts above) – One week changes

Bond	RY (%)	Chg (bp)	Carry-adj chg	Carry: RY (bp) 1 Apr	Carry: RY (bp) 1 May	Carry: RY (bp) 1 Jun	*Reference Conventional*	BE (bp)	Chg (bp)	Carry-adj chg	Carry: BE (bp) 1 Apr	Carry: BE (bp) 1 May	Carry: BE (bp) 1 Jun	ZC Swap - BE Spread (bp)	Chg (bp)
Repo (%)				*0.45*	*0.45*	*0.45*									
UKTi Jul16	-1.97	-2	-3	4	8	12	*UKT 9/16*	237	1	-0	4	8	13	-17	-48
UKTi Nov17	-1.32	-1	-1	-37	-27	-21	*UKT 9/17*	200	-2	-2	-38	-29	-24	49	-22
UKTi Nov19	-1.15	-2	-3	-20	-14	-11	*UKT 9/19*	228	-1	-1	-22	-17	-15	40	-15
UKTi Apr20	-1.25	-2	-3	2	5	7	*UKT 3/20*	246	-2	-2	1	2	2	14	-15
UKTi Nov22	-0.95	-7	-7	-13	-9	-6	*UKT 3/22*	239	1	0	-14	-12	-10	45	-12
UKTi Mar24	-0.82	-8	-8	-10	-7	-4	*UKT 3/25*	253	-1	-1	-12	-9	-8	26	-13
UKTi Jul24	-0.94	-8	-8	2	3	5	*UKT 3/25*	265	-1	-1	0	1	1	25	-8
UKTi Nov27	-0.77	-9	-9	-8	-5	-3	*UKT 12/27*	268	-2	-2	-9	-8	-7	35	-7
UKTi Mar29	-0.72	-9	-9	-7	-4	-3	*UKT 12/30*	279	-2	-2	-8	-7	-6	23	-8
UKTi Jul30	-0.82	-10	-10	1	2	4	*UKT 12/30*	289	-1	-1	0	0	0	24	-7
UKTi Nov32	-0.76	-9	-9	-6	-4	-2	*UKT 6/32*	293	-2	-3	-7	-6	-6	27	-5
UKTi Mar34	-0.71	-9	-9	-5	-3	-2	*UKT 9/34*	296	-3	-3	-6	-5	-5	23	-7
UKTi Jan35	-0.79	-8	-8	1	2	3	*UKT 3/36*	309	-4	-4	0	0	-1	15	-5
UKTi Nov37	-0.74	-8	-9	-4	-3	-2	*UKT 12/38*	307	-3	-3	-6	-5	-5	22	-4
UKTi Mar40	-0.73	-8	-8	-4	-2	-2	*UKT 12/40*	311	-3	-4	-5	-4	-5	17	-5
UKTi Nov42	-0.75	-8	-8	-4	-2	-1	*UKT 12/42*	313	-4	-4	-5	-4	-4	19	-3
UKTi Mar44	-0.71	-8	-9	-3	-2	-1	*UKT 1/44*	313	-4	-4	-4	-4	-4	16	-4
UKTi Nov47	-0.73	-8	-8	-3	-2	-1	*UKT 12/46*	312	-4	-4	-4	-4	-4	19	-2
UKTi Mar50	-0.72	-8	-8	-3	-2	-1	*UKT 12/49*	311	-4	-4	-4	-3	-4	18	-4
UKTi Mar52	-0.72	-8	-8	-3	-2	-1	*UKT 7/52*	312	-4	-4	-3	-3	-3	16	-3
UKTi Nov55	-0.74	-8	-8	-3	-2	-1	*UKT 12/55*	311	-4	-4	-3	-3	-3	18	-2
UKTi Mar58	-0.71	-8	-8	-2	-1	-1	*UKT 1/60*	309	-4	-4	-3	-3	-3	18	-3
UKTi Mar62	-0.73	-8	-8	-2	-1	-1	*UKT 1/60*	311	-4	-4	-3	-3	-3	17	-3
UKTi Mar68	-0.73	-8	-8	-2	-1	-1	*UKT 7/68*	313	-4	-4	-2	-2	-3	16	-3

Source: Citi Research

Summary of Recent Publications

Date	Publication	Topic	Page	Region
25-Feb-15	NOTE	Euro SSA Strategy: German Laender – An Update	-	EUR
24-Feb-15	NOTE	Euro Rates Strategy: Bund, Bobl and Schatz Calendar Roll: H5-M5	-	EUR
24-Feb-15	NOTE	EUR Rates Strategy: BTP, OAT and Gilt Calendar Rolls: H5-M5	-	EUR
23-Feb-15	NOTE	European Flow Monitor: Net selling of EGBs: a pause before QE?	-	EUR
20-Feb-15	NOTE	Rates Strategy Presentations: Trade Analysis: USD/EUR 5y5y Spread	-	EUR
20-Feb-15	NOTE	UK Rates Strategy: What's driven the sell-off and will it last?	-	UK
20-Feb-15	NOTE	Covered Bond Strategy: Net Shrinkage, CBPP3 Purchases and Price Distortions	-	EUR
19-Feb-15	European Weekly	ECB: More Thoughts On QE	3	EUR
		Greece – positive news, but hurdles remain	5	EUR
		Long Spain vs Italy supported by likely upgrade	7	EUR
		UK: What's driven the sell-off and will it last?	9	UK
		Why and how to express a bearish view at the EUR long-end	13	EUR
		SSA spreads at tights? Not in the wings	15	EUR
		Covered Bond Strategy	17	EUR
19-Feb-15	NOTE	Weekly Supply Monitor: Euro, UK and US Supply Outlook	-	Global
18-Feb-15	NOTE	Euro SSA Strategy: Spreads at tights? Not necessarily in the wings	-	EUR
18-Feb-15	NOTE	Euro Inflation-linked Index Projections: Relative support for Italy & Germany	-	EUR
18-Feb-15	NOTE	Euro Rates Strategy: Spain: could an upgrade stem the market weakness?	-	EUR
17-Feb-15	NOTE	Euro Inflation Strategy: New OATi25: new maturity month offers diversification	-	EUR
17-Feb-15	NOTE	Covered Bond Strategy: Scope Rating enters the covered bond market	-	EUR
17-Feb-15	NOTE	European Flow Monitor: Strong dip buying of Italy	-	EUR
16-Feb-15	NOTE	EMU Month-end Index Projections	-	EUR
16-Feb-15	NOTE	France Chartpack: Macro and OATs	-	EUR
13-Feb-15	NOTE	Technical Flash: A pivotal moment for gilt technicals	-	UK
12-Feb-15	European Weekly	ECB: Will Foreign Investors Offer Bonds?	3	EUR
		Greece – the near term event calendar	6	EUR
		EGBs: Implementation risks of QE	7	EUR
		UK: Forget the QIR, worry about Greece	9	UK
		Swap basis premia still too high vs. QE	11	EUR
		SSA Strategy – French Local Financing I	13	EUR
		Covered Bonds – French Local Financing II	16	EUR
12-Feb-15	NOTE	Weekly Supply Monitor: Euro, UK And US Supply Outlook	-	Global
11-Feb-15	NOTE	UK Rates Strategy: Buy gilts on a (likely) neutral Inflation Report	-	UK

Appendix A-1

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