

## Global Hybrid Outlook

# New capital, new opportunities

*This is an excerpt from the Global Credit Outlook, published on 6 December 2013.*

### US banks and insurance

- While preferreds sold off in 2013 as Treasury yields increased, further downside appears limited. We believe that the equilibrium level for preferreds yields is only about 50bp wider than current levels even in a significantly higher interest rate environment.
- Managing duration risk will be critical in 2014. We recommend buying recently issued perpNC10 fixed-to-float preferreds, which have limited extension risk and should be able to absorb most of rates move expected next year. However, many fixed-for-life securities still appear rich and could fall further in a rising rate environment.
- We expect US bank preferred supply of \$15-20bn in 2014. Additionally, a significant portion of European bank CoCo issuance is likely to come in USD. After shrinking for three years, the universe of US bank capital securities is likely to grow in 2014.
- We believe the most attractive hybrids in the insurance space are the recently issued 40NC10 fixed-to-float hybrids with wide reset coupons that limit their extension risk. Hybrids with 30y non-call periods also appear attractive on a Treasury-hedged basis.

### European banks and insurance

- We expect European bank T1s and LT2s to generate 8.5-10.5% and 2-3.5%, respectively, in total returns in 2014.
- We prefer T1s and LT2s over senior unsecured bank credit. We recommend positioning for further performance in bank capital via French high-coupon T1s, select short-call T1s and CoCos.
- We think that further peripheral/core compression is likely to be one of the sources of value in 2014.
- We expect European insurance hybrids to return 7-9% in 2014 (in total return terms). We maintain our call to take advantage of still-attractive valuations and a positive fundamental outlook in the Insurance sector via longs in hybrids. We think there is still value in the perps-dated sub compression trade.

### European corporates

- We forecast 2014 total returns of 4-5.5% for European corporate hybrids.
- We think corporate hybrids generally look cheap relative to comparable credit sectors, including matched senior debt, bank LT2s, peripheral non-financials and HY credit.
- As the economic cycle in Europe finally turns, there should be an increasing proportion of new hybrids issued to fund growth capex and acquisitions and relatively less issuance driven purely by weakening ratings.
- We expect the vast majority of the short-call hybrids to be called despite adverse economics in some cases. Exceptions are possible in names that face material deterioration in fundamentals.

**PLEASE SEE ANALYST CERTIFICATIONS AND IMPORTANT DISCLOSURES STARTING AFTER PAGE 22**

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## Hybrids versus credit universe

The unique structure of hybrids means that they have a very different risk profile than the traditional corporate bond universe. Hybrids are deeply subordinated securities that combine features of debt and equity. Many of them are perpetual (with initial non-call periods of 5-10 years) and have deferrable coupons, and CoCos issued by European banks can be written down/converted to equity. Even after adjusting for differences in recovery and deferral risks, we believe hybrids appear cheap relative to senior debt in the US and Europe. In excess return terms, we expect hybrids to outperform senior debt on an absolute- and beta-adjusted basis. With the bulk of the hybrid universe comprising bank securities, strengthening fundamentals should support valuations down the capital structure.

As hybrid yields have backed up with the Treasury sell-off, comparisons with lower-rated segments of the credit market have also become compelling from a total return perspective. In the US, bank preferreds appear attractive compared with high yield bonds, as the S&P preferred stock index (average rating BB+) yields<sup>1</sup> almost 1% more than BBs in the HY index. Preferred valuations have typically been more volatile than BBs, explaining part of their cheapness; however, the difference in return volatility has gradually declined to pre-crisis levels after rising during 2008-09. Even as volatility has normalized, yields have not, considering preferreds traded through BBs prior to the crisis (Figure 1).

FIGURE 1  
Average difference in return volatility\* and yield\*\* between preferreds and BBs



Note: \*Annualized based on trailing 6m daily total returns. \*\* Current yield. Source: Barclays Research

While we remain comfortable with the credit risk in preferreds, these securities have significant duration risk, owing to their perpetual nature. With interest rates expected to rise in 2014 as the Fed begins to taper asset purchases, managing duration risk remains critical. We recommend buying recently issued perpNC10 fixed-to-float preferreds to protect against this risk. These securities yield 6.5-7.0% to the first call date and have limited downside, in our view, if rates were to rise moderately. Indeed, we expect these securities to generate 5-6% of total returns in 2014, higher than our base case forecast of 3-4% total return for HY.

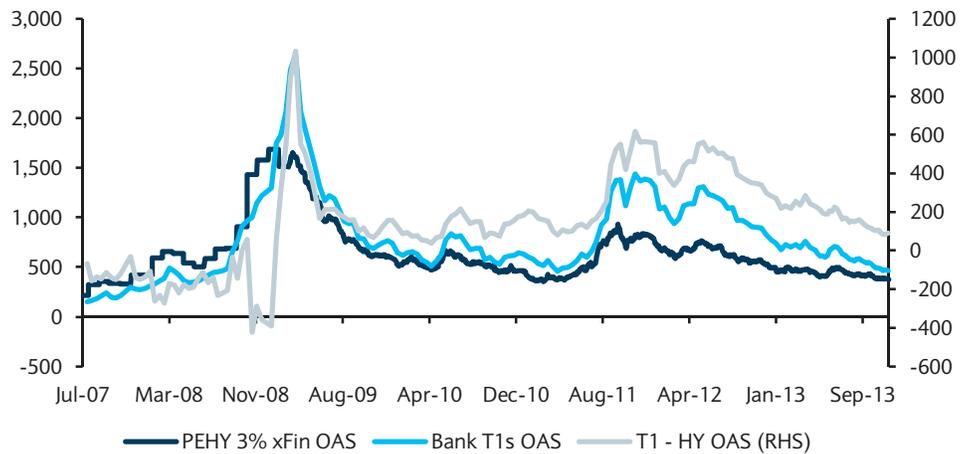
The basis between European bank Tier 1s (average rating BB+) and high yield debt has continued to compress this year, although the former still yield about 90bp more (Figure 2). Prior to the crisis, Tier 1s traded through high yield, suggesting there is further room for compression in the basis. Tier 1 valuations are likely to be supported by strong fundamentals of core European banks, as capital ratios have risen and asset quality has

<sup>1</sup> In current yield terms.

improved. Further, with traditional Tier 1s losing capital treatment, we expect many of them to be redeemed in the medium term, lowering their effective duration. Therefore, adjusted for credit and duration risk, hybrids still appear attractive compared with HY.

FIGURE 2

### European bank hybrids still trade wide of high yield debt (bp)



Source: Barclays Research

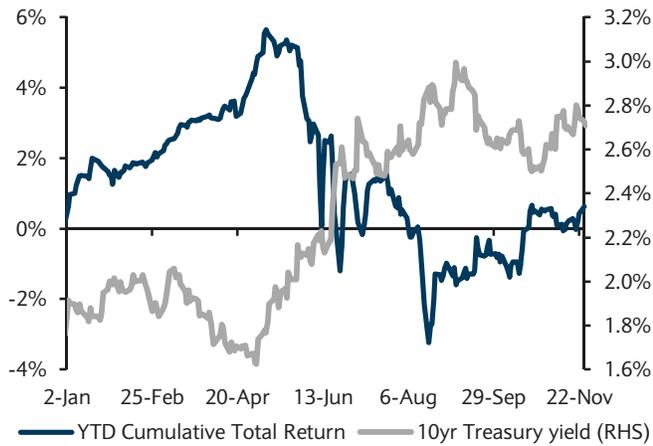
Compared with traditional hybrids, European bank CoCos – with explicit write-down/equity conversion language – have a worse structure from the investor’s perspective and are lower rated. Further, with a more limited buyer base, CoCo valuations are likely to be more volatile and could come under pressure from a significant pickup in supply. That said, USD-denominated Tier 1 CoCos yield 7-8%, in line with CCC bonds in the HY index (which yield 7.5%). Relative to the latter, CoCos are more subordinated in the capital structure and have conversion risk; however, we believe this is more than offset by better underlying fundamentals of core European banks than generic CCC credits. Therefore, we believe Tier 1 CoCos offer an attractive alternative. In particular, we recommend buying CoCos with high back-end coupons and near-term call dates, owing to their limited duration and extension risk.

## US bank hybrids

Preferreds staged a significant rally to begin the year, with the S&P preferred stock index returning more than 5% through mid-May (Figure 3). With 10y yields dropping to about 1.6%, a reach for yield, combined with a strong fundamental backdrop, drove the rally. Retail inflows into preferred funds remained strong, with the shares outstanding of PFF, an ETF of preferred stocks, growing more than 12% through mid-May. However, since May, as concerns about Fed tapering of asset purchases have led Treasury yields to rise, preferreds have sold off significantly. Recently issued retail fixed-for-life securities are down about 20pts on average. 10y non-call fixed to float preferreds have fared slightly better but are still down 9pts, while older vintage securities callable in the next 4-5 years are only about 3pts lower (Figure 4).

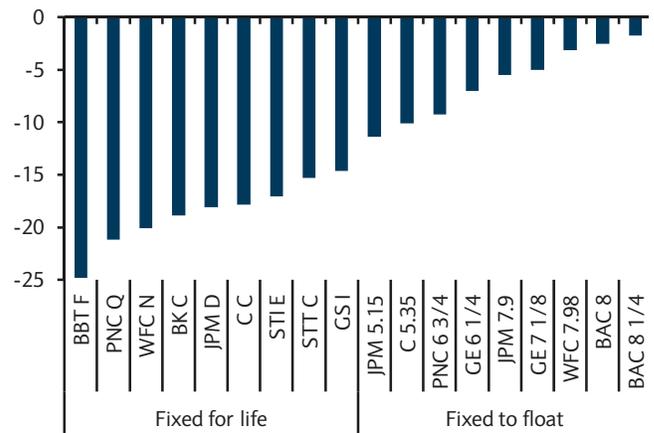
Not surprisingly, the sensitivity of preferred valuations to interest rates has increased meaningfully since May. Prior to the rates sell-off, preferreds had a low positive correlation with rates – as Treasury yields increased, valuations improved, with both being driven essentially by broader macroeconomic conditions, in our view (Figure 5). Since May 2013, the correlation between preferreds prices and rates has become negative – preferred prices drop when rates increase – and the relationship has become stronger (R-squared has increased from 11% to 55%). The average empirical duration of PFF (which includes many near-term callable securities) has been about 5.7, although the duration of some of the recently issued fixed-for-life securities has been much higher (11-17).

FIGURE 3  
Preferreds underperformed as Treasuries have sold off



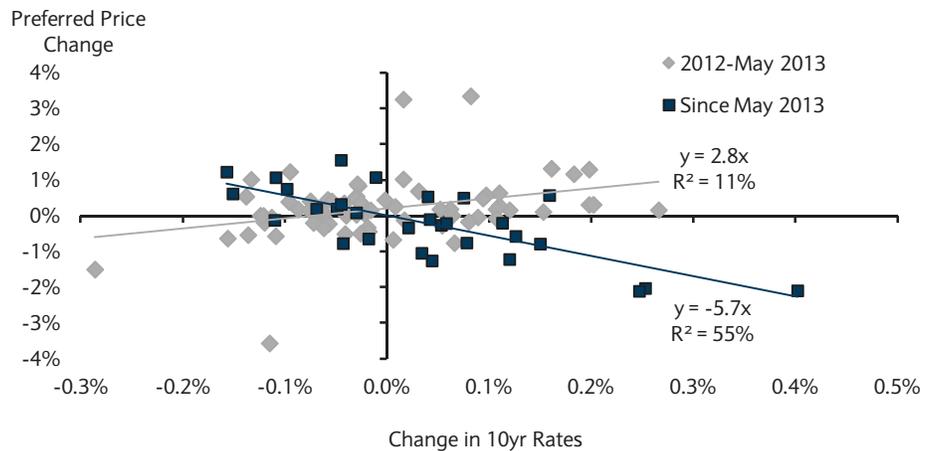
Source: Bloomberg, Barclays Research

FIGURE 4  
Price change of select preferreds since May 1 (pts)



Source: Bloomberg, Barclays Research

FIGURE 5  
Preferred duration has changed significantly since May



Source: Barclays Research

**2014 outlook: Preferred valuations near a bottom**

Given the high empirical duration of preferreds in the rate sell-off, the exposure to further moves in Treasury yields remains a key concern, with the Fed likely to begin tapering asset purchases in 2014. However, with preferred yields already 6-7%, further downside is limited in our view. In particular, we believe that the equilibrium level for yields is only about 50bp wider than current levels even in a significantly higher interest rate environment.

This view is premised on preferred valuations during 2005-06: with issuance picking up only in the mid-2000s, we believe this period is appropriate for estimating preferred valuations in a high and rising rate environment. Overall, credit spreads were much tighter in 2005-06 (the US corporate OAS was, on average, 90bp) but interest rates were higher, with 10y yields at 4.0-5.3%. During this period, preferred yields were 6-7%. While bank fundamentals have consistently improved since the credit crisis and appear much stronger than in 2005-06, the overhang of issuance, concerns about the changing buyer base and generic aversion to duration risk could weigh on valuations. Consequently, we believe preferreds could trade wide of the pre-crisis range; specifically, we expect yields to settle about 50bp back of the 2005-06 levels implying a yield range of 6.5-7.5%.

With many parts of the preferred market already trading in this range, this view implies that further increases in Treasury yields will be offset to a large extent by tightening in preferred spreads. While there is no precedent for a negative correlation between hybrids spreads and rates in a rising rate environment – spreads prior to the crisis were too tight, leaving little room for further compression when rates rose – this view is based on the spread and rates relationship in the high yield market. Similar to hybrids, the high yield buyer base tends to be more yield/total-return focused, which has historically led to a negative correlation between high yield spreads and rates.

Compression in preferred spreads is also likely to be supported by their fairly wide levels. In particular, 10y senior spreads for the six largest banks are 110-150bp. Assuming 40% recovery for senior and 0% for preferreds, the ratio of preferred to senior spreads should be 1.7x. The risk premium for other preferred features, such as non-cumulative coupon deferrals and no maturity, tends to be more variable and dependent on broader risk appetite. However, given banks' strong fundamentals, we expect this premium to be less than 50bp for most credits. Therefore, we estimate that the fair level of preferred spreads is 240-310bp (Figure 6). This has different implications for different parts of the market.

FIGURE 6  
Estimating fair preferred spreads

	Spread (bp)
Range of 10y senior spreads for six largest banks	110-150
Premium for worse recovery	80-110
Premium for deferral risk/perpetual nature	50
Estimated fair preferred spread	240-310

Source: Barclays Research

- **Fixed-to-float securities:** Many fixed-to-float preferreds already trade in our expected yield range and appear attractive, in our view. With the exception of the GECC hybrids (which are much higher rated), the perpNC10 securities in Figure 7 yield 6.5-7.0% when priced to the call date and 7-8% on a yield-to-perp basis. Given their wide spread levels – these securities trade at 350-400bp to the first call date, nearly 2.5-3.0x senior spreads – we believe that tightening in spreads should offset most of any further increase in Treasury yields.

Assuming our house view on Treasury yields is realized –our rates strategists forecast 10y yields to increase to 3.5% by Q4 14 – we expect yields on these preferreds to back up 10-20bp, with the rest of rates move being absorbed by a compression in spreads. This corresponds to a total return of 5-6% for the year.

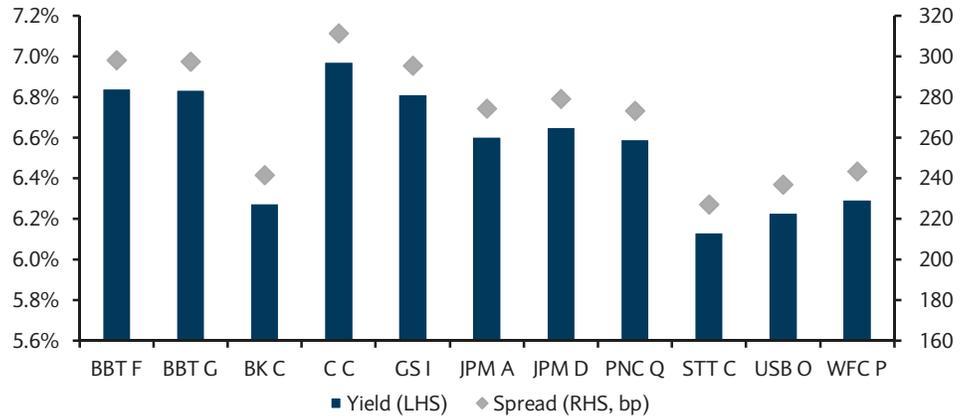
FIGURE 7  
Select perpNC10 fixed-to-float preferred securities

Security	Next call date	Reset spread	Price	Priced to call		Priced to perpetuity	
				Yield	Spread (bp)	Yield	Spread (bp)*
BAC 5.2	Jun-23	L + 313.5bp	\$91.0	6.5%	386	7.1%	320
C 5.35	May-23	L + 346.6bp	\$89.8	6.8%	423	7.4%	354
C 5.95	Jan-23	L + 406.8bp	\$94.5	6.8%	429	7.7%	382
C K**	Nov-23	L+413bp	\$100.3	6.9%	412	7.7%	382
GECC 5.25	Jun-23	L + 296.7bp	\$95.0	5.9%	338	6.7%	286
GECC 6.25	Dec-22	L + 470.4bp	\$104.5	5.6%	314	7.4%	357
GS J**	May-23	L+364bp	\$90.8	6.9%	419	7.5%	364
JPM 6	Aug-23	L + 330bp	\$97.5	6.4%	368	7.1%	320
JPM 5.15	May-23	L + 325bp	\$90.8	6.5%	387	7.1%	326
WFC Q**	Sep-23	L + 309bp	\$96.2	6.4%	359	7.0%	309

\* Over 30y Treasuries. \*\*\$25 par securities; price based on \$100 notional. Source: Barclays Research

- Fixed-for-life securities:** Despite the significant sell-off in fixed-for-life preferreds since May, we believe they appear rich compared with the fixed-to-float securities highlighted above. The former have a longer duration, in our view (given their low coupons, we expect them to be extended well beyond their first call date) and yield less than the fixed-to-floats on a yield-to-perpetuity basis (Figure 8). Therefore, we believe that the fixed-for-life preferreds, particularly some of the lower yielding securities such as the BK Cs and STT Cs, could be exposed to further downside in a rising rate environment – assuming yields stabilize around 7%, prices could be 5-10pt lower.

FIGURE 8  
Valuation of select \$25-par preferreds



Source: Barclays Research

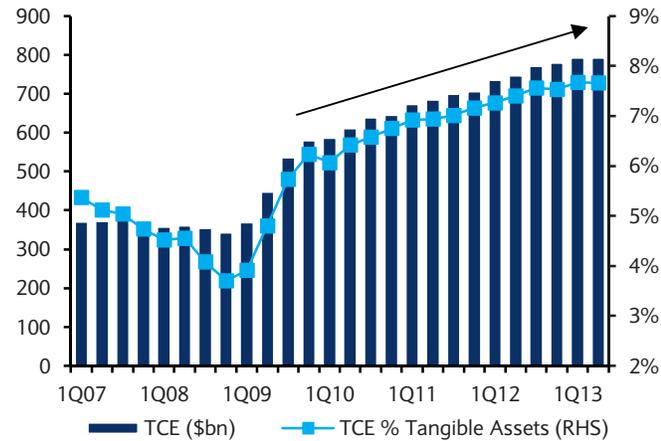
### Higher capital is key fundamental protection for preferreds

The US banking sector has experienced a dramatic improvement in capital, liquidity, asset quality, and risk appetite since the pre-crisis period. In light of these improvements, we have an Overweight rating on the sector and expect senior spreads to tighten, reflecting positive fundamental trends. This should provide support for tighter preferred levels.

In aggregate, the 25 largest US banks have increased tangible common equity as a percentage of tangible assets to 7.7%, from 5.4% in Q1 07 (Figure 9). On a bank-by-bank basis, this has represented a significant increase in the absolute amount of common equity (that is subordinated to preferred stock). For example, Citigroup’s tangible common equity base amounted to only \$64bn heading into the crisis (as of Q1 07), fell to a low in the low-\$50bn range in late 2008, but has since risen to \$142bn – more than 2x the pre-crisis run rate (Figure 10). Admittedly, the asset base for many of these names has risen due to crisis-period mergers and post-crisis deposit inflows, but the increase in capital has still clearly outstripped the increase in assets or risk.

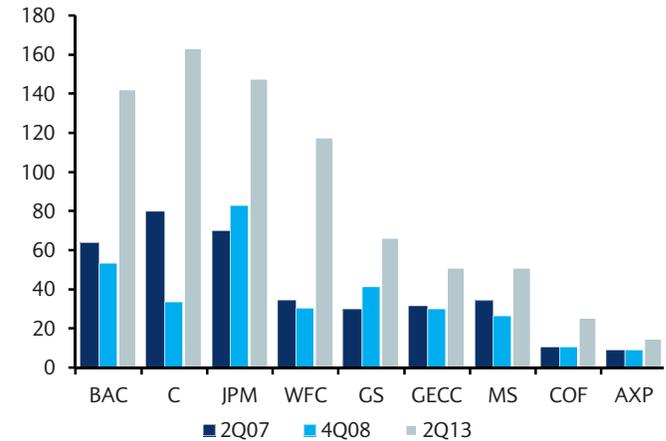
Further, we believe that more stringent regulations mean that the fundamental improvements – higher capital ratios, better liquidity – are unlikely to be reversed in the medium term. The Basel III capital standards have increased capital requirements to such a degree that banks will not be able to re-leverage meaningfully in better economic times. Yes, they will gradually optimize risk allocation under this new capital constraint (or any other constraint that regulators impose), but we believe that this larger base of common capital represents a significant improvement from before the crisis and a meaningful buffer that should limit the likelihood of preferred losses.

FIGURE 9  
Aggregate tangible common equity, 25 US bank aggregate



Source: Company reports, SNL, Barclays Research

FIGURE 10  
Tangible common equity by firm (\$bn)



Source: Company reports, SNL, Barclays Research

### Can demand keep up with supply?

The universe of bank capital securities continues to evolve as banks adapt to the new capital guidelines. As they replace TruPS with perpetual preferreds, the ability of the buyer base to absorb the significant supply remains a key risk, in our view.

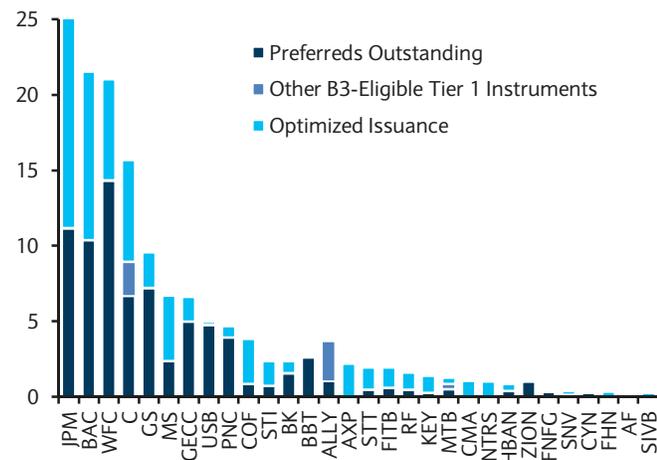
#### Supply

Basel III capital rules encourage US banks to issue non-cumulative preferreds in an amount equal to 1.5% of risk-weighted assets (RWAs), as the lowest-cost means to fulfill the non-common portion of Tier 1 capital requirements. US banks have responded by issuing about \$40bn in preferreds since 2011, with \$19bn in 2013. However, continuing the trend from the past two years, net supply of US bank securities was once again negative this year, owing to more than \$24bn of redemptions (of which nearly \$14bn were TruPS).

For 2014, most of the larger issuers have significant room for further issuance under the upcoming regulatory regime (Figure 11). We expect the current ~\$80bn US preferred market to increase to \$145bn by the time the new capital rules are fully phased in (2018). Of the \$65bn of US bank preferred supply expected through the end of 2018, we believe \$15-20bn could come in 2014. Importantly, after shrinking for the past three years, the US bank hybrid universe is likely to grow in 2014 as the pace of TruPS calls/buybacks slows meaningfully. In addition, we expect European banks to issue about €40bn of capital securities in 2014, a substantial portion of which is likely to be in USD.

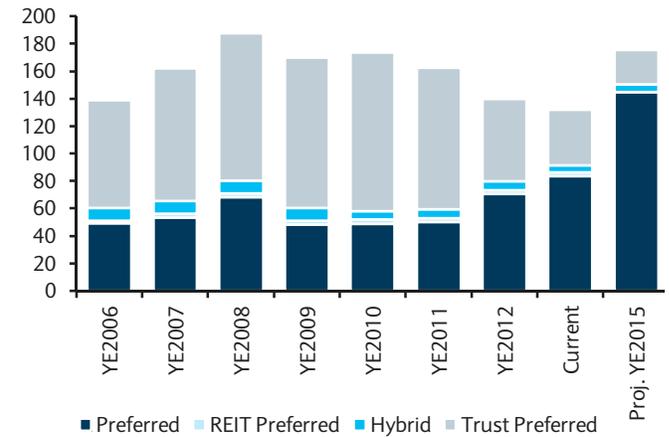
While the preferred universe will be growing, we do not expect the US bank hybrid market to exceed 2008 levels, when \$110bn of TruPS and \$70bn of preferreds resulted in \$180bn of total hybrids. Instead, we expect the mix of securities to shift from TruPS to perpetual preferreds (Figure 12).

FIGURE 11  
Potential room for preferred issuance in bank capital structures



Source: Barclays Research

FIGURE 12  
US bank and finance company capital securities outstanding (\$bn)



Source: Barclays Research

*Demand*

Even though the overall bank capital universe will not surpass 2008 levels, in our view, the shift in the mix of bank hybrids has important implications for demand. Insurance companies were large buyers of TruPS during the pre-crisis years, as these securities’ final maturity and cumulative coupon features, index eligibility, investment grade rating, and spread pickup made them attractive investments. TruPS price volatility during the financial crisis led some insurers to exit the asset class, and many have not yet returned. Furthermore, preferreds have no final maturity date, are not index eligible, and are generally not investment grade rated, making them less attractive to this investor group.

Retail and high yield investors have stepped in to fill the gap created by some of the lost demand. The market capitalization of PFF grew from less than 4% of the S&P preferred stock index in 2011 to more than 7% earlier this year (Figure 13). However, retail flows have been negative lately: investor redemptions have reduced PFF’s shares outstanding by more than 23% since May amid increased aversion to duration risk (Figure 14). With preferred yields nearing 7% (about 9% on a tax-equivalent basis accounting for the QDI-treatment), we expect retail investors to return to the space, although a rapid/substantial increase in interest rates next year could exacerbate retail outflows.

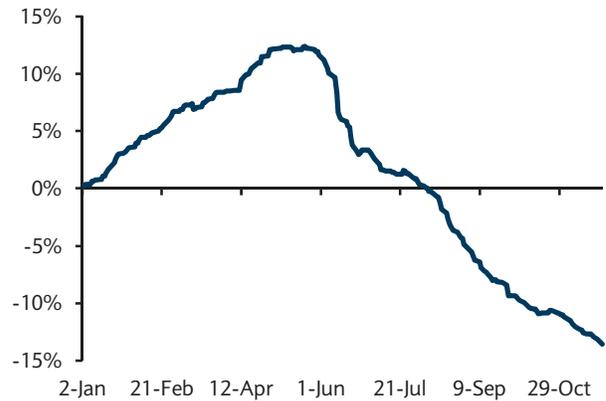
The demand for bank hybrids from HY investors has also picked up, as valuations appear compelling relative to the traditional HY universe. For instance, benchmark perPNC10 preferreds, rated BB or better, yield 6.5-7%, much higher than the 4.7% yield of the BB index. These securities do have a longer duration than the index, but we believe that is more that offset by strong US bank fundamentals.

**FIGURE 13**  
**PFF market cap as % of S&P Preferred Stock Index**



Source: Bloomberg, Barclays Research

**FIGURE 14**  
**YTD change in PFF shares outstanding**

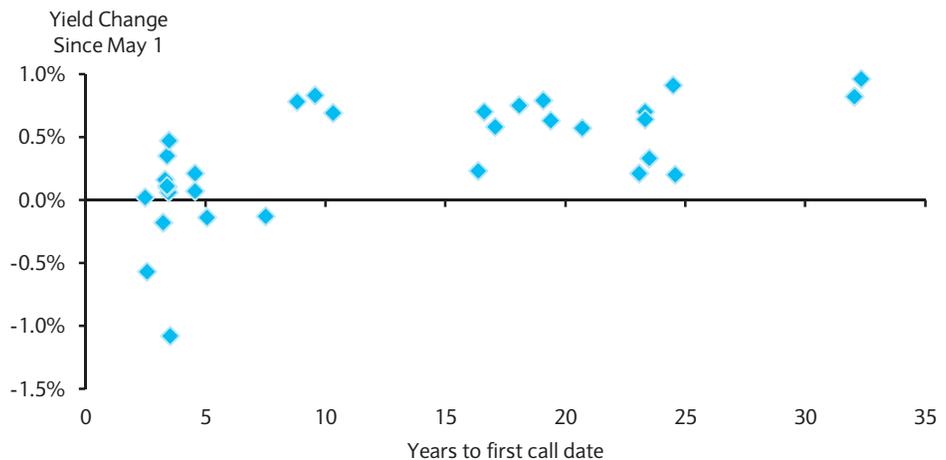


Source: Bloomberg, Barclays Research

## US insurance

Insurance hybrids have dropped in price since May as interest rates have risen, even as the tightening in spreads has absorbed some of the move in rates. The securities are about 5pts lower on average over that period. Increasing aversion to duration has caused longer non-call hybrids to underperform: on average, the yield of securities with less than 5 years to the first call date is unchanged, compared with the nearly 55bp increase in yield for hybrids with longer non-call periods (Figure 15).

**FIGURE 15**  
**Longer duration insurance hybrids have underperformed**



Source: Barclays Research

As evidenced in the recent rate move, hybrids with near-term call dates have lower interest rate risk, as they are priced to be redeemed on the first call date. However, many of these have relatively low back-end coupons and could be extended beyond the first call date. While the hybrids generally offer a substantial spread pickup over senior debt, even when priced to maturity, their payoff profiles are negatively convex; the upside is capped in a rally but they have significant downside if spreads widen. Of the securities listed in Figure 16, we believe ALL 6.125s, LNC 6.05s and 7s have the worst payoff profiles, owing to their low YTC and tight reset coupons relative to senior spreads. Hybrids with lower extension risk trade at a tighter spread when priced to the first call date, but have better risk/reward profiles, in our view. In particular, we believe HIG 8.125s, PRU 8.875s and the two ZURNVX hybrids appear attractive.

FIGURE 16  
Near-term callable insurance hybrids

Security	Call date	Back-end coupon	Price	To first call date		To maturity	
				Yield	Spread	Yield	Spread
ALL 6.125	May-17	L+193.5 bp	\$105.0	4.6%	381 bp	5.9%	204 bp
CB 6.375	Apr-17	L+225 bp	\$109.0	3.5%	283 bp	5.9%	208 bp
GNW 6.15	Nov-16	L+200.25 bp	\$90.5	9.9%	938 bp	6.9%	307 bp
HIG 8.125	Jun-18	L+460.25 bp	\$117.0	4.0%	283 bp	7.3%	346 bp
HIG 6.505	Feb-17	L+212.5 bp	\$97.0	7.6%	693 bp	6.6%	275 bp
LIBMUT 7	Mar-17	L+290.5 bp	\$103.0	6.0%	531 bp	6.9%	308 bp
LNC 6.05	Apr-17	L+204 bp	\$101.0	5.7%	501 bp	6.2%	238 bp
LNC 7	May-16	L+235.75 bp	\$103.5	5.5%	506 bp	6.3%	248 bp
PRU 8.875	Jun-18	L+500 bp	\$122.0	3.6%	242 bp	7.4%	353 bp
XL 6.5	Apr-17	L+245.75 bp	\$99.3	6.7%	604 bp	6.8%	289 bp
ZURNVX 6.45	Jun-16	L+200 bp	\$108.5	3.0%	254 bp	5.7%	184 bp
ZURNVX 6.5	May-17	L+228.5 bp	\$107.0	4.3%	357 bp	6.1%	222 bp

Source: Barclays Research

The longer non-call securities have minimal extension risk but obviously a longer duration. These securities appear cheap on a spread basis, although we recommend hedging their interest rate exposure (Figure 17). The ALL 6.5s and MET 7.875s offer the highest spread pickup over senior debt.

We believe the most attractive hybrids in the insurance space are the recently issued 40NC10 fixed-to-float hybrids with wide reset coupons, owing to their limited extension risk. Further, their interest rate duration is lower than 30y non-call securities, as the former switch into floating coupons after 10 years. We believe the ALL 5.1s (\$25 par) and PRU 5.625s appear attractive, trading 3.1x and 2.8x wider than corresponding senior debt, respectively.

FIGURE 17  
Longer non-call insurance hybrids

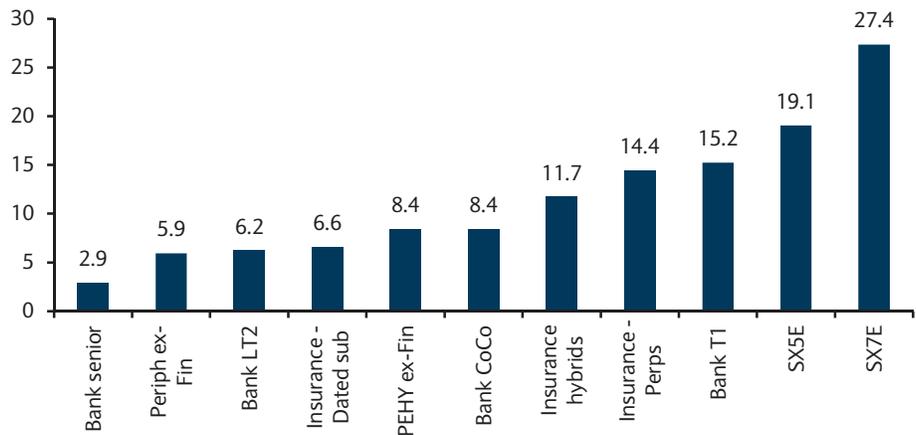
Security	Call date	Back-end spread	Price	Yield to call	Hybrid spread	Comp. snr spread	Hybrid/snr spread ratio
Hybrids with long con-call periods							
AIG 8.175	May-38	L+419.5 bp	\$ 121.0	6.5%	290 bp	168 bp	1.7
ALL 6.5	May-37	L+212 bp	\$ 106.0	6.0%	252 bp	90 bp	2.8
LIBMUT 10.75	Jun-38	L+712 bp	\$ 152.0	6.5%	293 bp	193 bp	1.5
LIBMUT 7.8	Mar-37*	L+357.6bp	\$ 110.0	6.9%	343 bp	193 bp	1.8
MET 10.75	Aug-34	10.75%**	\$ 149.3	6.4%	306 bp	113 bp	2.7
MET 6.4	Dec-31	6.4%**	\$ 103.5	6.1%	286 bp	113 bp	2.5
MET 7.875	Dec-32	7.875%**	\$ 115.5	6.4%	318 bp	113 bp	2.8
Recently issued perpNC10 hybrids							
ALL 5.1***	Jan-23	L+316.5 bp	\$ 97.0	5.6%	288 bp	94 bp	3.1
ALL 5.75	Aug-23	L+293.8 bp	\$ 102.5	5.4%	274 bp	94 bp	2.9
PRU 5.2	Mar-24	L+304 bp	\$ 97.0	5.6%	284 bp	110 bp	2.6
PRU 5.625	Jun-23	L+392 bp	\$ 99.0	5.8%	311 bp	110 bp	2.8
PRU 5.875	Sep-22	L+417.5 bp	\$ 102.3	5.5%	310 bp	110 bp	2.8

Note: \*Scheduled maturity. \*\*Coupon to scheduled maturity; it switches to floating if the bond is extended beyond that date. \*\*\* \$25 par. Source: Barclays Research

## European bank hybrids

With a total return of 15.2%, European bank hybrids have had the strongest performance among the higher-beta parts of the European credit market so far in 2013 (Figure 18). This was driven by names that started the year with heavily discounted prices, including discount perps, low back-end securities with near-term calls and some of the peripheral T1s. CoCos came second, with a total return of 8.4%, led by the UK bank issues. Finally, bank LT2s clocked in at 6.2%, lower than Pan-Euro High HY Index but slightly more than corporate hybrids and peripheral ex-financials. As in the case of T1s, the performance in LT2s was driven by high-low beta compression, with the total return strongly correlated with the spread level at the beginning of the year.

FIGURE 18  
Bank capital versus other high beta sectors, YTD total returns, %



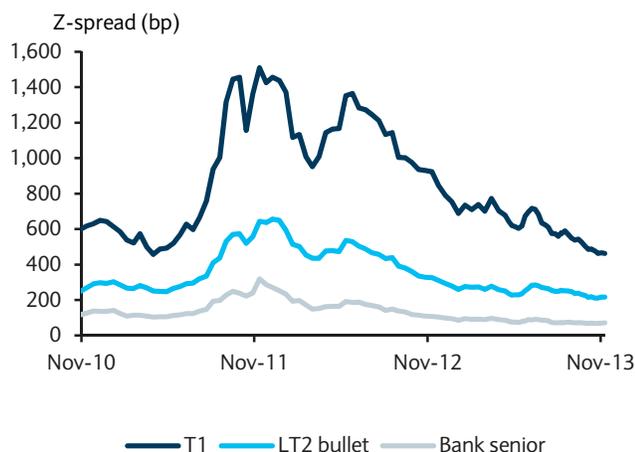
Source: Bloomberg, Barclays Research

While subordinated spreads have compressed relative to senior debt in absolute terms (Figure 19), the T1/senior and LT2/senior spread ratios have remained historically high for most of 2013 (Figure 20). The ratios started to decrease when the market rebounded in July but are still well above 2010-11 levels, and we see room for further compression in 2014.

Subordinated valuations are likely to be supported by a strong fundamental backdrop. As Q3 earnings indicated capital ratios continue to improve, with the Core Tier 1 ratio rising to its highest on record at 12.7%. We expect them to continue to increase, driven primarily by more stringent regulatory requirements. Asset quality has been mixed, with an ongoing negative trend in Spain and Italy, but we expect this to stabilise in 2014, with a slight chance of improvement. Profitability remains weak: in Q3, return on equity was poor in the banking sector, marred by fines, low FICC trading volumes, and cost-reduction programmes, although this is more of an equity concern for now, in our view.

The technical backdrop for traditional Tier 1s is also positive, with negative net supply as banks continue to replace old-style hybrids with CoCos. Wider-spread segments also provide significant spread cushion against rising rates, while the tighter-spread paper appears to be nearing the spread floor.

FIGURE 19  
Spread performance across banks' capital structures



Source: Barclays Research

FIGURE 20  
Hybrid/senior spreads finally started to compress in August



Source: Barclays Research

### 2014 return forecast and key themes

Given our expectation for compression in subordinate spreads versus senior debt, we expect T1s and LT2s to generate total returns of 8-11.5% and 2-3.5%, respectively (Figure 21). We base the forecast on an assumption that senior unsecured bank debt spreads tighten c.15bp by the end of 2014 (in line with our mid-point forecast of 20bp tightening in the average IG spread) and a compression in T1/senior and LT2/senior spread ratios from 6.5x and 3x to 4.75-5.75x and 2.5-3x at the end of 2014 (the ratio ranges prevailing in 2011-12). While an overall forecast is helpful for those looking to allocate to the sector, we think high performance dispersion will remain.

FIGURE 21  
Total and excess return forecasts for T1s and LT2s

	Current		Expected change			Expected return	
	Spread (bp)	Yield (%)	Spread (bp)	Rate (bp)	Yield (%)	Excess (%)	Total (%)
T1	463	5.6	150-200 tighter	65 higher	0.7-1.5 lower	10-12	8.5-10.5
LT2	216	3.7	50-75 tighter	80 higher	0-0.3 higher	5-6.5	2-3.5

Note: We assumed average durations in T1s and LT2s of 3.8 and 5.8, respectively. Based on this, we assume 66bp and 80bp moves up in rates for T1s and LT2s, respectively, implied from our Rates Strategy team's view on rates at the end of 2014. Source: Barclays Research

We recommend positioning for further performance in bank capital via French high-coupon T1s, select short-call T1s and CoCos.

- **French high coupon T1s.** The cheapness in French bank Tier 1s has been an ongoing theme in the European Tier 1 market over the past few months. Although the bonds have put in a good performance over the summer, we still view the ACAFP and SOCGEN T1s as offering the best risk/reward balance in the broader T1 space, thanks to relatively high yields, very low extension risk and strong fundamentals (for more details, please see *European hybrids: High-low beta compression to continue*, 18 October 2013).
- **Short-call T1s.** Among the T1s with short-term calls, we see the best value in high-coupon securities and those issued by very strong banks. We view the upside/downside as unfavourable in low back-end short-call T1s, despite the high likelihood that they will be called. For more details, please see *European hybrids: Positioning in short-call bank T1s*, 15 November 2013.

- **CoCos.** We believe that CoCos offer an attractive spread pick-up over corresponding non-convertible T1 and T2 securities. CoCos with shorter non-call periods (up to 5y) and high back-end coupons (that are likely to be redeemed on the first call date) look particularly attractive. By the time the CoCo space grows enough to make the non-default conversion scenarios more than a negligible risk, these securities would be near their first call dates and have limited credit exposure. Their key risk, in our view, is still a relatively small buyer base, which leads to limited liquidity and increased volatility (for more details, please see *European hybrids: CoCos – Refining the relative value approach*, 19 September 2013).

### Supply forecast

We forecast issuance in the bank hybrid space of about €40bn in 2014 (Figure 22), with the supply split into three types of securities: AT1 CoCos, LT2 CoCos and non-CoCo LT2s. However, net issuance is likely to be flat, with about €39bn of redemption of traditional capital securities.

The AT1 CoCo issuance will likely be driven by banks' willingness to maximise the proportion of CoCos within the Basel 3 minimum of 1.5% of RWAs for AT1 instruments. While they could meet this requirement with common equity, they would likely favour CoCos as a cheaper form of capital. The first AT1 CoCos have been issued this year in Europe, as a result of more clarity regarding the EU and national-level capital requirements.

Tier 2 CoCos issuance is likely to continue to come from the Swiss banks (we estimate the potential size of this market at €37bn), where regulators require CoCos as part of the solvency requirement, and potentially from the UK and the Nordic countries (potential size of about €50bn). In addition, there may be more T2 CoCo issuance aimed at supporting credit ratings, an example being the recent ACAFP LT2 CoCo. We expect more non-CoCo issuance in jurisdictions where CoCos are not required by the regulators.

On redemptions, €39bn of bonds are callable or mature in 2014 and we think most of these securities will be redeemed. Notably, the outlook for calls has improved substantially since last year following further improvement in the bank debt valuations and the EBA's clarification in July that T1s containing step-ups would not qualify as T2 capital after the step-up.

In addition, we expect more redemptions via tenders and exchanges as banks continue to adjust the capital structures to the new regulatory requirements, but this theme should be more limited compared with the LME activity over the past three years.

For more details, please see *2014 supply forecasts*, 4 October 2013.

FIGURE 22

#### Current total outstanding and projected issuance (€bn)

	Outstanding (as of Q3 2013)	Expected gross issuance 2014	Expected redemptions 2014	Expected net issuance 2014
Financials	554	50	44	6
Banks	454	40	39	1
Old style	425	0	39	-39
- LT2	246	0	13	-13
- UT2	27	0	2	-2
- T1	152	0	25	-25
New style*	29	40	0	40
Insurance	99	10	5	5
Dated sub	46	6	2	4
Perp	53	4	3**	1
Corporate hybrids	66	15	3	12

Note: \* Includes non-CoCo T2s. \*\* There is €5bn insurance perps coming up for calls in 2014, but €1.5bn of that is Aegon's perps, which the company has been indicating would be extended. Source: Dealogic, Barclays Research

## Themes to watch in 2014

### Hybrid calls

The rise in hybrid bond extensions has been among the main themes in the bank capital sector since the beginning of the crisis. This dynamic has now started to reverse, evidenced by a drop in the proportion of bonds not being called on the first call date this year (Figure 23 and 24). This is a natural consequence of the recovery in fundamentals and valuations and the phase-out/disqualification from capital treatment of old-style securities under new regulatory rules starting to take effect. Both factors have generally improved the call economics.

Another key theme during the crisis has been the shift away from the reputation-driven “call-all” approach towards an economically driven capital management. Recently, this dynamic has also stalled, with no “new” banks declaring plans to call on an economic basis.<sup>2</sup> It is unlikely that any of the banks that stated the intention to call on economic basis would reverse this policy shift in the foreseeable future.

Looking at European bank T1s coming up for calls in the next 2.5 years, we find that of 29 securities in our sample, 22 are highly likely to be called on the first call dates. In most cases, our view is based on 1) the expectation that the banks that used to “call all” securities will stick to this policy and/or 2) the presence of coupon step-up, although we also expect the high-coupon non-steps to be taken out.

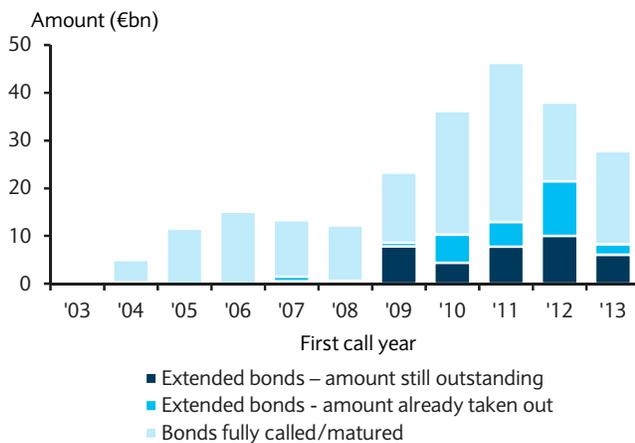
We discussed our views on short-call T1s in detail in *European hybrids: Positioning in short-call bank T1s*, 15 November 2013.

### Peripheral/core compression

Peripheral/core relative value remains a key theme in the bank space and we think that positioning for further compression is likely to be one of the sources of value in 2014.

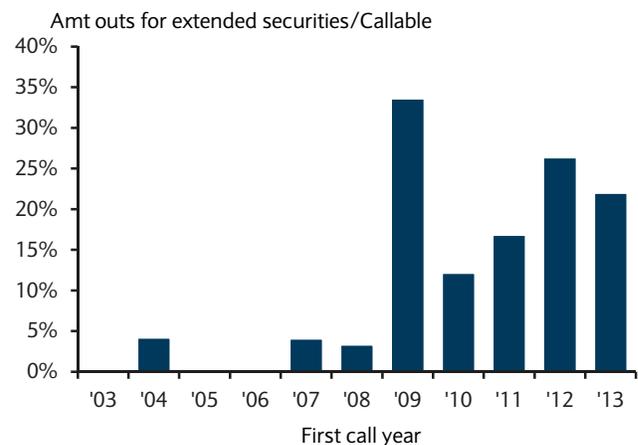
So far in 2013, peripherals have materially compressed versus core in seniors and T1s, with the average spread differential dropping from c.170bp to 90bp and from c.225bp to c.150bp, respectively. Somewhat surprisingly, this has not really happened in the LT2 space, with the peripheral-core spread differential trading range-bound over the past 10 months and remaining relatively unchanged year-to-date, despite a material tightening in spreads overall.

FIGURE 23  
How much of the bonds that became callable are still outstanding?



Source: Barclays Research

FIGURE 24  
Proportion of callable securities that were extended



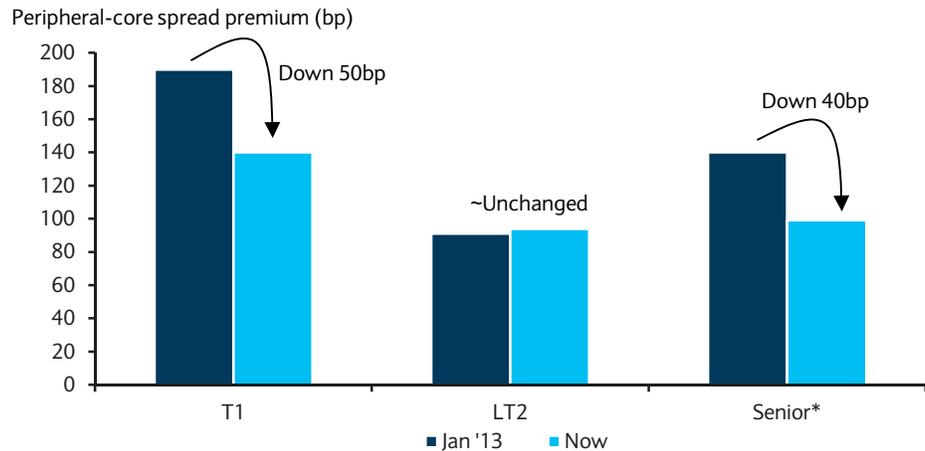
Source: Barclays Research

<sup>2</sup> INTNED is one exception, given that in the recent LME (6 November), the bank stated that call decisions will be based on economics. However, this announcement was not a surprise, given that the bank has been extending most of its bonds throughout the crisis and its capital management remains under close scrutiny of the European Commission.

On a risk-adjusted basis, the average peripheral-core premium looks much higher in seniors than in LT2 or T1s: a 100bp average peripheral-core pickup in senior unsecured looks high versus 90bp in LT2s and 140bp in T1s if we take into account the materially higher risk of impairments in the sub debt (Figure 25).

FIGURE 25

On a risk-adjusted basis, the average peripheral premium is the highest in senior debt



Source: Barclays Research

On that basis, we recommend positioning for the peripheral/core compression in senior bank debt, where the premium for peripheral risk is by far the most attractive on a risk-adjusted basis. In sub debt, we think it is better to position for compression in LT2s, given that in this sector, the premium has not compressed this year, despite a material tightening in Spain and Italy spreads, and it now looks more attractive on a risk-adjusted basis than in T1s. For details on our view of peripheral/core relative value in bank debt, please see *Peripheral vision*, 25 October 2013.

### CoCos

**Divergence in structures, convergence in valuations.** The CoCo structures have continued to evolve in 2013, driven by global capital rules, but also by local regulatory demands and rating agency requirements. Notably, recent issues reveal a growing divergence in CoCo structures, rather than the progressive convergence that most investors had hoped for. While there are many moving parts, we believe that for AT1 CoCos perpNC5 structures with fixed-to-float coupons, CT1/PONV triggers and equity conversion language are likely to appeal to both regulators and investors. Despite the growing diversity in the structures and difficulties in valuation cited by many investors, current market prices indicate that the bonds are priced consistently. The key valuation factor is the amount of capital cushion above the CoCo trigger.

We discussed the growing diversity of the CoCo universe and our valuation framework in *European Banks: CoCo Handbook*, 19 September 2013.

**Demand for CoCos to increase.** The growth of the CoCo asset class continues to be hindered by its exclusion from major fixed-income indices. As our Index Research colleagues explained in *Technical note: Eligibility of contingent convertible capital securities*, 4 March 2011, CoCos with regulatory capital-driven triggers – those with equity conversion and those with principal write-down – are not eligible for Barclays bond indices. However, we think that factors including the increased pace of new CoCo issuance in 2014, the large potential size of the asset class and the replacement of old-style bank capital securities with CoCos are likely to lead to a pickup in demand.

*Regulation*

Following formal adoption of CRD IV and CRR by the European Council in June 2013 with the implementation date set for 1 January 2014, the regulatory landscape from the hybrid capital perspective is now relatively clear. That said, it is important to keep an eye on the EBA Single Rulebook Q&A process, which continues to provide more clarity on technical implementation details of CRD/R; the tax treatment of AT1 CoCos in jurisdictions in which the treatment is not entirely clear (France) and those where AT1 CoCos are not tax-deductible (Germany, the Netherlands); and BCBS's consultation on the eligibility of AT1 capital for the calculation of leverage ratios.

**European insurance hybrids**

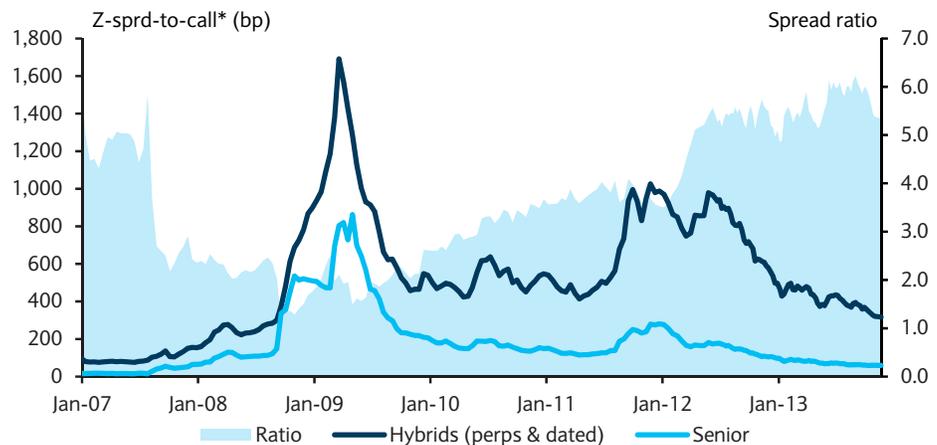
Insurance hybrids have performed strongly so far in 2013, showing exceptional resilience to market shocks (eg, the taper-talk sell-off) compared with other higher beta credit sectors, particularly bank capital. The sector recorded a total return of 11.7% (Figure 18), split into 14.4% for perpetual hybrids (just slightly less than bank T1s) and 6.6% for dated subs (broadly in line with bank LT2 performance). Unsurprisingly, the performance was driven primarily by the securities that started the year with the lower prices and higher spreads.

Despite a compression in the sub-senior spread differential, the insurance hybrid/senior ratio has remained range-bound at levels near its historical highs (Figure 26). This signals to us that insurance senior debt looks increasingly tight versus hybrids and that the upside/downside in hybrids has improved even further relative to that in seniors.

At the same time, the fundamental backdrop remains supportive of the sector. The key fundamental trends that transpired in the Q3 13 results for European insurers were low combined ratios, strong earnings, improved solvency, and declining leverage (see *European Insurance: More of the same*, 14 November 2013). If growth in the eurozone gains momentum in 2014, we would expect strong earnings to continue in the sector. With no significant changes in regulation expected next year, capital ratios should stay near current levels. Our analysts have an Overweight recommendation on the sector.

We maintain our call to take advantage of still-attractive valuations and a positive fundamental outlook in the Insurance sector via longs in the hybrids.

**FIGURE 26**  
**Hybrid/senior ratio has remained range-bound at levels near historical highs**



Note: Hybrids represents the average spread of a basket of 104 actively traded insurer perps and dated subs. \*We use z-spread-to-worst for the following perps: CCAMA €6.298, CCAMA €4.375, FRIPRO £6.875, FRIPRO £6.292, PEALLN €6.5864 and RLMI 6.125; these securities price in high risk of extension, in our view. Source: Barclays Research

### 2014 return forecast

Given our expectation for compression in sub spreads versus senior debt, we expect insurance hybrids to generate total return of 7-9% (Figure 27). We base the forecast on an assumption of 10bp tightening in senior unsecured insurance debt spreads in 2014 and a compression in sub/senior spread ratio from 5.5x down to 3.5-4.5x at the end of 2014 (the ratio range prevailing in 2011).

FIGURE 27  
Total and excess return forecasts for perps and dated subs

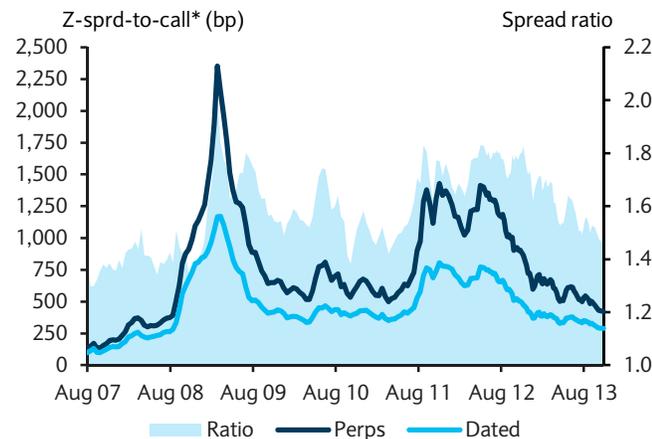
	Current		Expected change			Expected return	
	Spread (bp)	Yield (%)	Spread (bp)	Rate (bp)	Yield (%)	Excess (%)	Total (%)
Insurance hybrids	346	4.8	120-170 tighter	80 higher	0.4-0.9 lower	9.5-11.5	7-9

Note: We assumed an average duration in insurance hybrids of 4.8. Given the ~5y average duration of the insurance hybrids bond basket, we assume an 80bp move up in rates based on our Rates Strategy team's view on 5y rates at the end of 2014. Source: Barclays Research

Following a substantial compression in insurance perps versus dated subs (Figure 28), we still see an extra premium of 50-60bp in perps (after adjusting for differences in composition and the structural risk of the perps and dated subs in our baskets). We think that to some extent, this reflects the higher risk of non-calls in perps, given that they have much lower back-end spreads on average, which makes the extensions more economical on the margin. That said, we think that overall the risk of extensions in insurance perps is very low and does not justify the size of the extra premium: insurers' call/extension decisions over the past seven years suggest the majority of issuers have been calling the securities regardless of the economics and continued to do so even at the height of the financial crisis. On that basis, we think there is still value in the perps-dated sub compression trade.

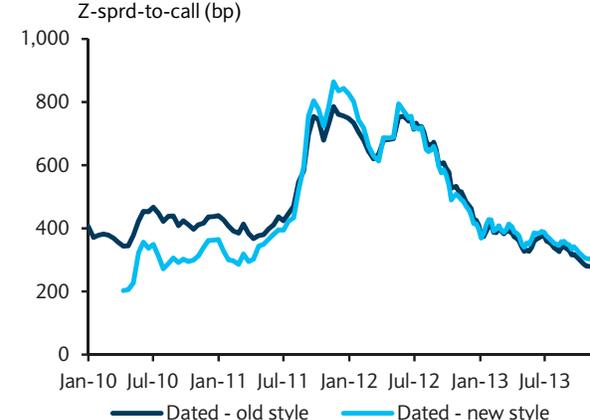
Within the dated sub space, the old-style securities (issued pre-crisis) have continued to trade more or less in line with new-style bonds (Solvency 2 compliant T2 securities issued since 2010, Figure 29). There have been very modest signs of the new-old style spread decompression - a dynamic that we think is likely to prevail as the old-style bucket benefits from sliding down the curve and being gradually replaced with new-style securities.

FIGURE 28  
Perps versus dated subs (2006-present)



Note: *Perps* and *Dated* are based on baskets of 45 and 59 actively traded insurer perps and dated subs, respectively. \*We use z-spread-to-worst for the following perps: CCAMA €6.298, CCAMA €4.375, FRIPRO £6.875, FRIPRO £6.292, PEALLN €6.5864 and RLMI 6.125 - these securities price in high risk of extension in our view. Source: Barclays Research

FIGURE 29  
Dated subs: old style versus new style (2010-present)



Note: *Dated - old-style* and *Dated - new style* are based on baskets of 24 and 35 actively traded insurer old-style and new-style dated subs, respectively. Source: Barclays Research

## Supply forecast

We estimate €3bn of net supply from European insurers in 2014 (Figure 22), which reflects €10bn of gross issuance offsetting €7bn of redemptions. Following a surge in new-style T2 issuance over the past three years, we expect dated subordinated debt supply to be driven primarily by refinancing in 2014. The introduction of Solvency 2 is encouraging insurers to hold more and higher quality capital. Although the implementation date for Solvency 2 is not until 2016, insurers have been issuing eligible subordinated debt with enhanced loss absorption features and retiring old-style debt, which will eventually no longer qualify as Solvency 2 capital. This pattern will likely continue in 2014. That said, the issuance of Tier 1 perpetual debt is unlikely to pick up until the regulatory requirements for this type of capital are clarified.

## Themes to watch in 2014

### Regulation

The pace of regulatory change in the insurance space remains slow, but we believe the pace will pick up. Solvency 2 is expected to come into force on 1 January 2016. A high level provisional agreement of the Omnibus 2 Directive was reached on 13 November 2013 by the European Parliament, the European Commission and the EU council. The agreement included a final conclusion on provisions of the long-term guarantee package. The Directive will now be subject to a final approval from the European Council and a plenary vote by the European Parliament, currently expected to take place on 3 February 2014, before it can be approved into European legislation.

Official publication of the Level II text, which will fix most of the technical applications of the Solvency 2 framework, could follow later in 2014. Most of the basic features of Solvency 2 eligible capital securities, notably Tier 2, seem to be clear and insurers have been issuing these Solvency 2 compliant Tier 2s since 2010. Tier 1 structures require further clarification at the EU and local level, including tax treatment. We summarize the main capital securities in Figure 30.

FIGURE 30

### New-style insurance sub structures

	Tier 3	Tier 2	Tier 1
<b>Maturity</b>	3y or NC3	10y or 10NC5	PerpNC5 or 30NC5
<b>Step-up</b>	Yes - "limited" – y3	Yes - "limited" – y10	No
<b>Interest deferral</b>	MCR breach - cumulative	SCR breach - cumulative	Optional – non-cumulative SCR breach – Non-cumulative
<b>Dividend pusher/stopper</b>	Yes / Yes	Yes / Yes	No / No
<b>Maturity lock-in</b>	SCR breach	SCR breach	N/a (perpetual) / SCR-breach (dated)
<b>Subordination</b>	Subordinated to senior	Subordinated to Senior	Subordinated to Senior, Tier 3 and Tier 2
<b>Writedown / share conversion</b>	-	-	Capital ≤ 75% SCR or (b) Capital ≤ MCR
<b>Tax / regulatory call</b>	If before y 3, only if funded with new Tier 3 (or higher) capital	If before y 5, only if funded with new Tier 2 (or higher) capital	If before y 5, only if funded with new Tier 1 capital
<b>Amortisation</b>	-	-	-

Note: MCR – Minimum Capital Requirement, SCR – Solvency Capital Requirement. Source: Barclays Research

## European corporate hybrids

Corporate hybrids returned 6.1% so far in 2013 (Figure 18). As in the case of bank and insurance hybrids, the key determinant of the year-to-date performance has been the spread at the beginning of the year, highlighting the systemic nature of the price action.

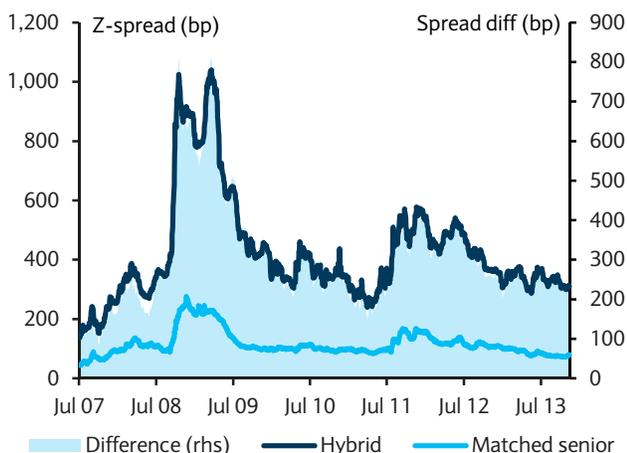
At 6.1% total return, corporate hybrids come in line with bank LT2s and peripheral ex-financials. What we find surprising in this context is that corporate hybrids started the year at a significantly higher average spread of 360bp, versus 295bp and 276bp in LT2s and peripheral non-fins, respectively, but tightened only 50bp versus 85bp in LT2s and 55bp in peripheral non-fins. At this point, corporate hybrids not only offer better carry but also have more room for further spread performance, and given that all three sectors have similar average ratings (BBB/BBB-), we see significantly more value in corporate hybrids.

More broadly, corporate hybrids are the only sector that remains materially wide of the 2011 tights compared with all other higher beta credit sectors (even after adjusting for the large amount of new corporate hybrid issuance in 2013). This is evident in various cross-sector comparisons. For example, the average hybrid-senior premium is still in excess of 200bp, well above the pre-crisis 100-150bp (Figure 31). Furthermore, hybrids appear wide relative to HY credit (PEHY 3% ex-Fin), given that the HY index has compressed substantially towards our hybrid basket, even though in absolute terms the spreads are still well off the pre-crisis levels (Figure 32). A spread gap of 50bp appears tight if we consider that on average, corporate hybrids are rated BBB/BBB-, versus an average of BB-/B+ for the HY index (both the index and our hybrid basket have an average duration of about 4.0).

Disappointing performance in corporate hybrids thus far can to some extent be explained by the riskier structure of the bonds (coupon deferral language in corporate hybrids) and exceptionally large amount of issuance in 2013. That said, we continue to think that deferral risk is very low in the sector and that potential downside is mitigated by the cumulative nature of the deferral features. As for the supply/demand technical, we think it is likely to moderate in 2014, with smaller new issuance (as we discuss below) and growing demand as investors get more familiar with the sector and the hunt for excess returns intensifies.

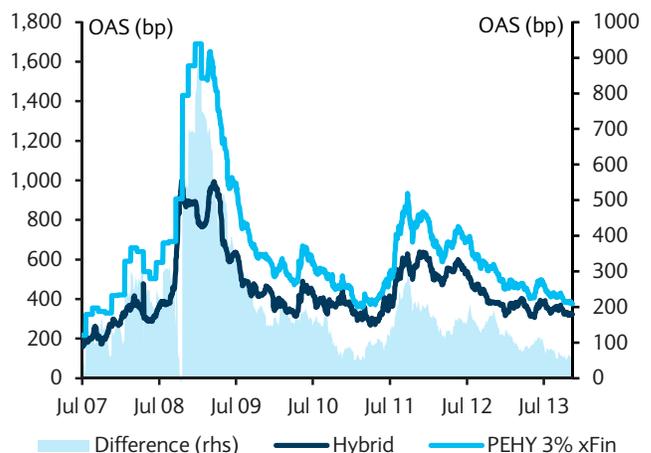
2014 return forecast. We forecast a total return of 4-5.5% (Figure 2933). The corporate hybrid average spread remains 70bp wide of the tights of early 2011. As we mentioned earlier, this is in stark contrast to other high-beta credit sectors, which in most cases are near or through those tights. Hence, for our 2014 returns forecast, we think it is reasonable to assume as a base case that the average spread reaches +/-20bp around the 2011 tights (a 50-90bp tightening).

FIGURE 31  
Corporate hybrids versus matched senior debt



Source: Barclays Research

FIGURE 32  
HY-hybrids spread differential almost back to pre-crisis levels



Source: Barclays Research

FIGURE 33

**Total and excess return forecasts for perps and dated subs**

	Current		Expected change			Expected return	
	Spread (bp)	Yield (%)	Spread (bp)	Rate (bp)	Yield (%)	Excess (%)	Total (%)
Corp hybrid	310	4.4	50-90 tighter	65 higher	0.3 lower - 0.2 higher	5-6.5	4-5.5

Note: We assumed an average duration in insurance hybrids of 4.1. Given the ~4y average duration of the insurance hybrids bond basket, we assume a 65bp move up in rates based on our Rates Strategy team's view on 4y rates at the end of 2014. Source: Barclays Research

**Supply forecast**

Corporate hybrids have clearly been in a sweet spot in terms of primary activity in 2013, as the market more than doubled in size. We think that the key ingredients that drove the expansion in hybrid issuance in 2012-13 are still in place, albeit to a lesser extent. A number of capital-intensive corporates remain under rating pressure, owing to weak profitability. Also, we are still in a relatively low rates environment in which investors are attracted by the yield pickup offered by the hybrids on one hand and hybrids remain a relatively cost-effective capital/funding instrument from the issuer's perspective on the other.

While we find it difficult to put a number on likely 2014 issuance in this still-dynamic market, we think it is fair to assume that it may exceed the pre-crisis average of c.€7bn, but it may not reach the record-breaking €29bn+ in 2013 so far. In Figure 22, we use €15bn for 2014 as our initial estimate.

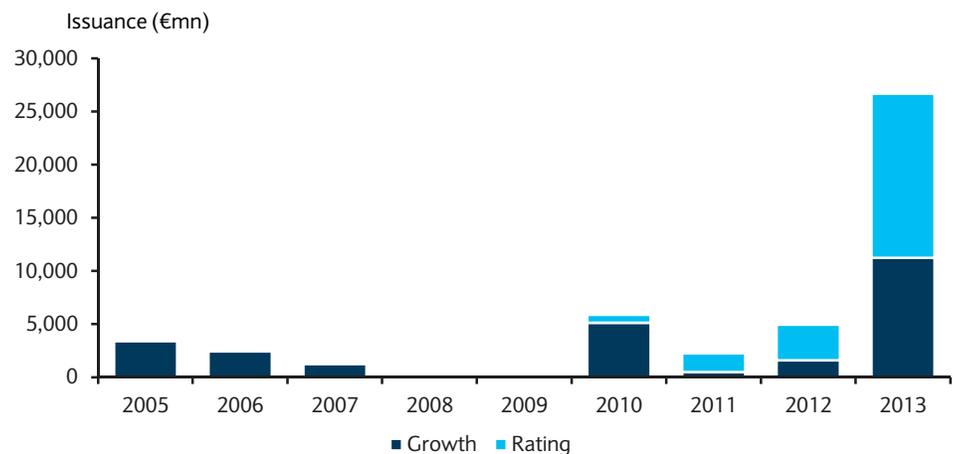
**Themes to watch in 2014**

*Shift in issuance from rating protection to funding growth*

As the economic cycle in Europe finally turns, there should be an increasing proportion of new hybrids issued to fund growth capex and acquisitions and relatively less issuance driven purely by weakening ratings. As we show in Figure 34, issuance in the past three years was skewed towards the purely ratings-driven issuance; this makes sense, given the large number of capital-intensive corporates facing ratings pressure due to weak profitability amid the recession in Europe. Recently, though, there has been more growth-motivated issuance; we expect this trend to continue into 2014.

FIGURE 34

**Comparing ratings- and growth-driven issuance**



Source: Barclays Research

*Hybrid calls*

About 30% of the actively traded corporate hybrid universe comprises bonds with calls coming up in the next three years. We think that it makes sense to look at these securities separately from other hybrids, given the relative strength of the structural technical created by the call feature.

We expect the vast majority of the short-call hybrids to be called, despite adverse economics in some cases. Exceptions are possible in names that face material deterioration fundamentals, but this risk currently appears to be material only for the RWE 4.625 perp.

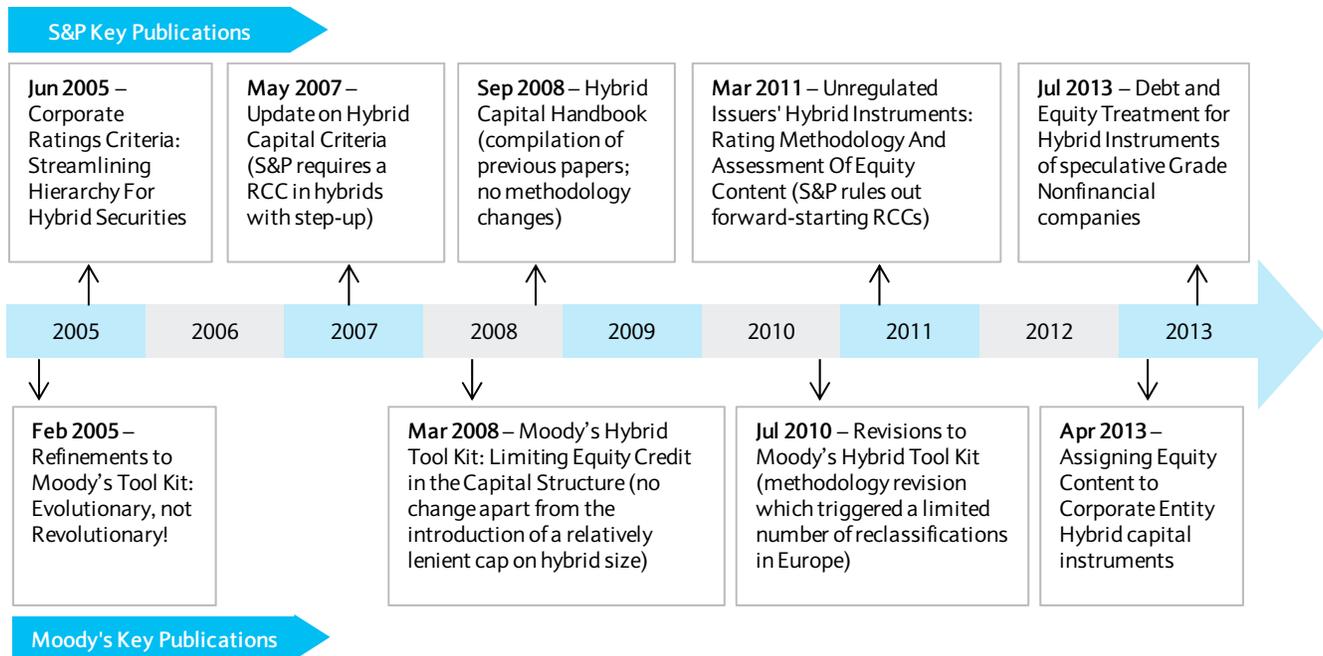
That said, similar to European bank T1s, the upside/downside potential in short-call hybrids is less attractive than in longer-dated perps, and we prefer moving out the curve.

*Rating methodology risk*

Rating methodology risk has been one of the big themes of 2013 in the corporate hybrid sector. Moody's and S&P modified their methodologies, and select corporate hybrids have had substantial price volatility driven by the resulting bond documentation events. Clearly, investors now have to pay more attention to bond language in this sector.

The methodology changes are hard to predict. In the past nine years, there were nine material changes. One source of comfort is that the previous methodology changes either affected a small number of bonds or – if they affected a broader part of the market – the existing securities were grandfathered.

FIGURE 35  
Timeline of rating methodology changes in the past nine years



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

*Peripheral/core split blurred by idiosyncrasies*

Further reduction in the risk premium in the peripheral names should provide a source of additional performance in corporate hybrids in 2014. We estimate the average spread premium for peripheral domicile in corporate hybrids at c.80bp. We also find that the peripheral premium varies substantially by name. This makes sense, given that the corporate hybrid space is generally characterised by the more idiosyncratic nature of the price action, especially after a wave of new issuance in 2013, which brought about a large number of names that are facing rating pressures driven by weak operating performance (as opposed to being driven by the contagion from the sovereign crisis).

## Analyst Certification

We, Shobhit Gupta, James Simmonds and Dominik Winnicki, hereby certify (1) that the views expressed in this research report accurately reflect our personal views about any or all of the subject securities or issuers referred to in this research report and (2) no part of our compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed in this research report.

Each research report excerpted herein was certified under Reg AC by the analyst primarily responsible for such report as follows: I hereby certify that: 1) the views expressed in this research report accurately reflect my personal views about any or all of the subject securities referred to in this report and; 2) no part of my compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed in this report.

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**Overweight:** Expected six-month excess return of the sector exceeds the six-month expected excess return of the Barclays U.S. Credit Index, the Pan-European Credit Index, or the EM Asia USD High Grade Credit Index, as applicable.

**Market Weight:** Expected six-month excess return of the sector is in line with the six-month expected excess return of the Barclays U.S. Credit Index, the Pan-European Credit Index, or the EM Asia USD High Grade Credit Index, as applicable.

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The High Grade Credit rating system is based on the analyst's view of the expected excess returns over a six-month period of the issuer's index-eligible corporate debt securities relative to the Barclays U.S. Credit Index, the Pan-European Credit Index or the EM Asia USD High Grade Credit Index, as applicable.

**Overweight:** The analyst expects the issuer's index-eligible corporate bonds to provide positive excess returns relative to the Barclays U.S. Credit Index, the Pan-European Credit Index, or the EM Asia USD High Grade Credit Index over the next six months.

**Market Weight:** The analyst expects the issuer's index-eligible corporate bonds to provide excess returns in line with the Barclays U.S. Credit Index, the Pan-European Credit Index, or the EM Asia USD High Grade Credit Index over the next six months.

**Underweight:** The analyst expects the issuer's index-eligible corporate bonds to provide negative excess returns relative to the Barclays U.S. Credit Index, the Pan-European Credit Index, or the EM Asia USD High Grade Credit Index over the next six months.

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**Underweight:** Expected six-month total return of the sector is below the six-month expected total return of the Barclays U.S. High Yield 2% Issuer Capped Credit Index, the Pan-European High Yield 3% Issuer Capped Credit Index excluding Financials, or the EM Asia USD High Yield Corporate Credit Index, as applicable.

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**Overweight:** The analyst expects the six-month total return of the rated debt security or instrument to exceed the six-month expected total return of the Barclays U.S. 2% Issuer Capped High Yield Credit Index, the Pan-European High Yield 3% Issuer Capped Credit Index excluding Financials, or the EM Asia USD High Yield Corporate Credit Index, as applicable.

**Market Weight:** The analyst expects the six-month total return of the rated debt security or instrument to be in line with the six-month expected total return of the Barclays U.S. 2% Issuer Capped High Yield Credit Index, the Pan-European High Yield 3% Issuer Capped Credit Index excluding Financials, or the EM Asia USD High Yield Corporate Credit Index, as applicable.

**Underweight:** The analyst expects the six-month total return of the rated debt security or instrument to be below the six-month expected total return of the Barclays U.S. 2% Issuer Capped High Yield Credit Index, the Pan-European High Yield 3% Issuer Capped Credit Index excluding Financials, or the EM Asia USD High Yield Corporate Credit Index, as applicable.

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