The Price of Extension Risk

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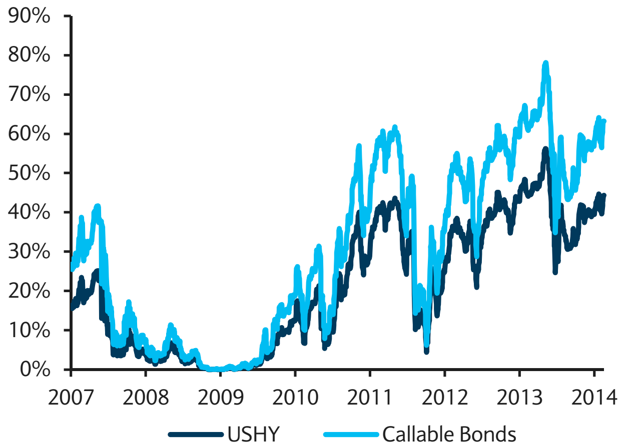
We continue to believe that credit markets will experience relatively low volatility this year; after a brief EM-driven sell-off in late January, the high yield market has all but rebounded to its year-to-date highs. That said, further risk flares will drive bouts of volatility on occasion, temporarily sending prices lower. Rates could also take valuations lower in price terms. Our rates strategists still expect a significant Treasury sell-off, with the 5y and 10y ending the year at 2.5% and 3.5%, respectively, and we believe spread compression will only partially absorb this rate backup, leading to more durable price declines. With that in mind and given the large fraction of the high yield market currently trading at or above call prices, we think that high yield investors should be cognizant of heightened extension risk and position accordingly.

It's Not Your Call

Approximately 45% of the high yield market is currently trading at or above its next call price. This statistic is somewhat deceiving, however: while high yield is traditionally issued with a call option, about 30% of the market by par amount is not callable.[1] The fraction of callable bonds constrained by their next call price is significantly higher, at 63% currently (Figure 1).

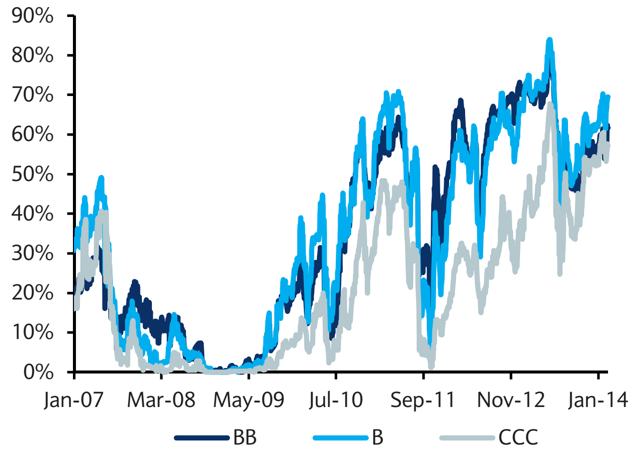
Much of the discrepancy is driven by fallen angels. Rated investment grade at issuance, these bonds are generally devoid of issuer calls. As a consequence, most bullets are highly rated; of the 30% of the high yield market that is not callable, 71% is rated double-B and 95% is rated single-B or better. Focusing on the callable part of the market and breaking it down by quality, it is interesting that the different parts of the ratings spectrum are currently constrained to a similar extent by their issuer call options (Figure 2). This is not typically the case, given that lower-rated debt usually trades at a lower price. However, while average coupon is relatively flat across qualities for bullets, it steps up quickly as quality decreases for the callable subgroup (Figure 3), leading to higher average prices. Nonetheless, whether looking at callable bonds in isolation or the market as a whole, high yield bonds are as call constrained as they have ever been, with the exception of the first five months of 2013.

FIGURE 1
Percent of U.S. High Yield Trading above Next Call Price



Source: Barclays Research

FIGURE 2
Percent of Callable U.S. High Yield Trading above Next Call Price



Source: Barclays Research

[1] For the purpose of this report, bonds that have only a make-whole call option fall in the non-callable, or "bullet," category.

Deep call constraints are not necessarily synonymous with high extension risk, though. As we showed in *Extension School*, March 23, 2013, extension risk is a combination of the potential severity of extension and the offsetting effect of the extension buffer. The former, measured by the difference in duration to maturity and duration to worst, represents the potential jump in duration risk in a sell-off. The latter, measured by the difference in yield to maturity and yield to worst, represents the required sell-off magnitude to experience material duration extension, or how deep in-the-money the issuer call option is.

FIGURE 3

U.S. High Yield Index Breakdown: Statistics for Callable and Bullet Sub-Groups

	U.S. HY	BB	B	CCC	CC and Below
Callable					
Count	1,583	401	741	422	19
Par ($bn)	853.3	235.5	394.5	209.1	14.2
Coupon (%)	7.64	6.28	7.58	9.07	10.49
Maturity (yrs)	6.24	6.83	6.18	5.72	4.47
OAD (yrs)	3.52	4.16	3.37	3.09	3.02
Price ($)	103.56	104.30	105.51	103.33	40.14
OAS (bp)	423	282	376	578	3929
Yield to Worst (%)	5.67	4.45	5.10	7.11	43.43
% Trading to a Call	63%	62%	69%	57%	0%
Bullet					
Count	554	374	128	40	12
Par ($bn)	362.2	257.8	86.5	13.9	4.1
Coupon (%)	6.53	6.26	7.27	7.13	6.08
Maturity (yrs)	7.38	7.42	6.97	10.22	5.04
OAD (yrs)	5.30	5.40	5.07	5.32	3.29
Price ($)	105.94	106.68	107.28	90.32	84.10
OAS (bp)	306	269	354	633	744
Yield to Worst (%)	4.79	4.43	5.26	8.21	8.70

Source: Barclays Research

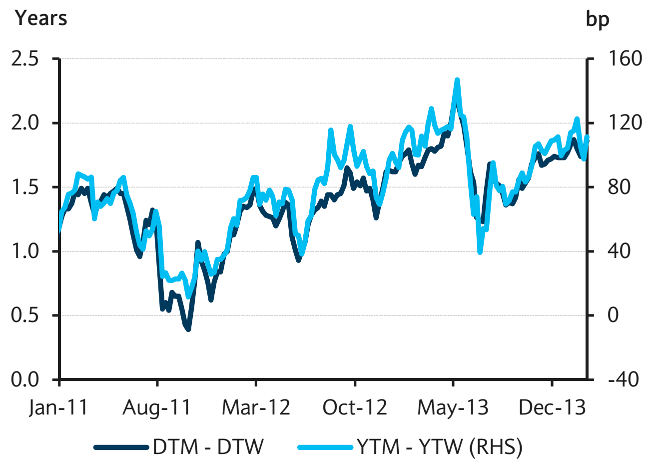
Naturally, as the market rallies, the potential for duration extension increases, but the extension buffer grows simultaneously (Figure 4), clouding the picture on extension risk. However, we can abstract away from these offsetting factors simply by shocking yields by a set amount and observing what happens to durations. Figure 5 shows the increase in duration for a 100bp increase in yields on the callable high yield universe. By this measure, extension risk has rebounded to 1Q13 levels, with the average callable bond expected to extend by 0.65 years for a 100bp backup in yield.

Breakeven Analysis

While extension risk is elevated for the market as a whole, the amount that investors are paid to bear negative convexity can, at times, be substantial. In order to isolate the compensation offered for extension risk in the high yield market, we focus on callable bonds priced to be redeemed on the first call date. We compare them with bullets bonds of the same issuer, rating, and seniority, keeping the bullet's maturity close to the redemption date of the callable bond. Figure 6 shows select callable/bullet bond pairs – the callable bonds offer an average of 93bp more yield than the bullet securities, providing an average spread pickup of 136bp.

FIGURE 4

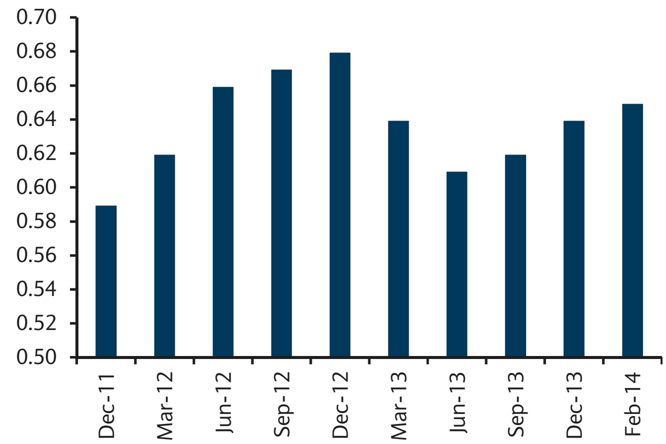
Relationship between Extension Buffer and Severity



Source: Barclays Research

FIGURE 5

Extension Risk Measure



Note: Parallel 100bp rate curve shock, keeping spread constant.
Source: Barclays Research

While they appear attractive on a yield-to-call basis, the callable bonds in Figure 6 are obviously exposed to extension risk. If yields were to rise meaningfully, the bonds could be extended past the call date and trade below their call price, lowering the effective return from owning the security. One way to gauge the extension risk is to use option-adjusted valuation measures such as OAS. However, we believe it is more instructive to look at different yield scenarios in order to assess whether the callable security is attractive.

FIGURE 6

Select Callable-Bullet Pairs

				Yield to Worst (%)			Spread to Worst (bp)		
Ticker	Callable	Bullet	Call Date	Callable	Bullet	Diff	Callable	Bullet	Diff
AXL	6.625s '22	7.75s '19	Oct-17	5.3	4.8	0.4	459	332	127
HTZ	7.375s '21	4.25s '18	Jan-16	4.2	3.7	0.5	386	222	164
NRG	8.25s '20	7.625s '18	Sep-15	4.4	4.0	0.4	411	334	77
NRG	7.875s '21	7.625s '18	May-16	4.8	4.0	0.8	449	334	115
REYNOL[2]	8.25s '21	8.125s '17	Feb-16	6.3	5.2	1.1	599	448	151
REYNOL[2]	9.875s '19	8.125s '17	Aug-15	5.4	5.2	0.2	504	448	56
WIN	7.75s '20	7.875s '17	Oct-15	6.0	3.8	2.2	568	313	255

Source: Barclays Research

In particular, we calculate the yield generated from holding a callable bond to its expected redemption date. We assume that the position is unwound on the first call date – the security is either redeemed or sold at the prevailing price. There are two possible scenarios:

- The bond is called on the expected redemption date. In this case, the yield of the position equals the yield to call.
- The bond is extended: if yields rise sufficiently (due to either increasing rates or increasing credit risk) that the bond price is below the call price at the redemption date, the bond will likely be left outstanding, lowering the effective yield of the position.

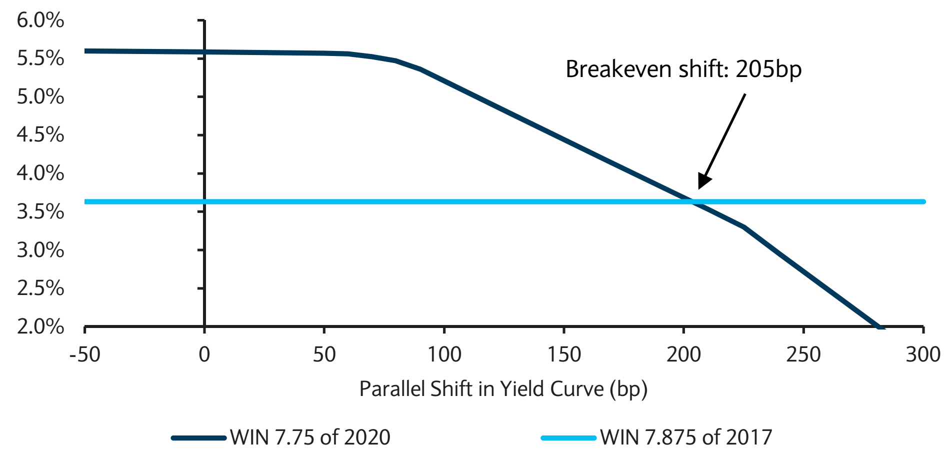
[2] The REYNOL 8.125 of 2017 bullet bond is issued by Pactiv, which does not benefit from the same subsidiary guarantees as the callable REYNOL bonds.

To illustrate this, Figure 7 compares the WIN 7.75s (callable in October 2015, maturing October 2020) and WIN 7.875s (bullets maturing in November 2017) in different yield scenarios. The estimates are based on a parallel shift in the yield curve through October 2015 (the first call date of the 7.75s). If yields increase less than 75bp, we would expect the 7.75s to be called in October 2015, thereby yielding 5.5%. However, if they increase more, we would expect the security to be extended and trade below the call price of $103.875. The yield in this scenario is lower than 5.5%, although still much higher than the 3.8% yield of the 7.875s. The "breakeven yield move" between today and October 2015 – the yield shift that causes these two securities to produce the same yield to the first call date – is 205bp. We believe that a yield move of this magnitude is unlikely, even though the sector is in secular decline and our rates strategists expect 5y Treasuries to sell off about 100bp from current levels. Therefore, we think that the 7.75s appear cheap relative to the 7.875s.

Under a similar breakeven analysis for the other callable bonds in Figure 6, we find that the AXL 2022s and REYNOL 2021s provide the least compensation for extension risk, with breakevens of 70bp, and 135bp, respectively. The remaining bonds provide a more solid buffer, with breakevens ranging from 215bp to 260bp, allowing for a substantial sell-off before the callable bond yield drops below the bullet yield.

FIGURE 7

Yield to October 15, 2015, under Different Yield Scenarios



Source: Barclays Research

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