Market Commentary
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High-Yield Bonds – The Year Ahead

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The high-yield bond market finished 2015 amid news of fund liquidations and rumination on poor trading liquidity. These are technical, market structure issues and not fundamental problems related to the ability of companies to service their debt. However, if technical pressures are strong enough they can restrict access to capital markets and re-price the cost of borrowing. In effect, technical factors can become fundamental problems. As we put 2015 to rest, we dwell on whether contagion from the energy and metals sectors will infect other industries and whether investor confidence has been sufficiently impaired by poor returns and market illiquidity that further redemptions may pressure the asset class and lead to higher yields.

Credit began breaking down in the summer when oil failed to hold its first quarter gains. Energy makes up about 11% of the high-yield market, which is about two times higher than the S&P 500 Index. Emerging market weakness, U.S. dollar strength, the Chinese renminbi de-valuation, and the Federal Open Market Committee waffling on the timing of interest rate "lift-off" were also headwinds in the second half of the year. September was unnerving for credit investors due to issuer-specific challenges. In a defensive sector like health care, the revelation of aggressive business practices at Valeant Pharmaceuticals resulted in large parts of the sector being re-priced lower. Cable and telecommunications is another historically defensive sector that absorbed a substantial amount of new bonds to finance re-leveraging, shareholder-friendly activity. These events raised the spectre that contagion in the emerging markets, energy and metals – the prime recipients of years of easy unconventional monetary policy now being unwound – would spread to other parts of the high-yield bond market, investment-grade bond market and equities. In October, credit rallied with stocks but within high yield it was led by higher quality BBs while riskier CCCs were barely positive that month, not a sign of a healthy recovery.

Price actions in the last two months of 2015 wiped out two years' worth of returns in the high-yield bond market. This is on track to be the second worst return in the high-yield bond market since reliable index data began in 1989. The epicentre of this pain has been energy and metals as noted above, plus distressed bonds, traditionally defined as those bonds trading at a spread of more than 1000 basis points over comparable maturity Treasuries. This part of the market epitomizes the

illiquidity that magnifies market stress. Distressed investing results in concentrated positions held among concentrated holders, an impaired trading ability due to non-disclosure or lock-up agreements, and having to hold investments for months or even years while companies go through bankruptcy or liquidation. According to Standard & Poor's Global Fixed Income Research, the amount of distressed debt has increased from US$67 billion from 103 issuers in 2014 to US$180 billion from 228 companies as of November 2015. This part of the high-yield bond market has taken the most pain, as the S&P's U.S. Distressed High Yield Corporate Bond Index was down about 30% in 2015. We believe this is where 2015's accidents took place and where 2016's defaults will occur.

What is in store for 2016?

All financial market forecasts are highly conditional: If this happens, then that is likely. On one hand, many prognosticators draw a straight line from what has just happened and assume it will continue to happen in the future – sometimes this works. On the other hand, assumptions founded in mean reversion may also prove accurate and we use this methodology in some of the quantitative models that complement the qualitative analysis that frames our short-term asset allocation decisions in the new Signature Tactical Bond Pool, for example. Accurately pricing default risk and asset values is at the heart of Signature's credit analysis. We combine these company-specific forecasts with industry outlooks, opinions on market sentiment and technical factors, all in concert with Signature's view on risk appetite, economic growth, interest rate calls, etc. Ultimately, we reconcile a default forecast with the current opportunity set (i.e. valuations). In other words, we answer the question: what is priced into the market?

There are no returns without risk. Every risky asset class investor has to determine the amount of expected return required for the amount of expected risk being assumed, or vice versa. For high-yield bond investors, we can gauge the risk premium by looking at excess spread. Simply put, excess spread is the amount of spread (i.e. incremental yield over Treasuries) required to compensate investors for the loss due to default. More accurately, excess spreads compensate for the extra credit, liquidity and volatility risks of the asset class over U.S. Treasury bonds.

Excess spread = current spread - (loss given default x default rate)

Excess spread = current spread - (1 - recovery rate) x default rate

Historical average:
Excess spread = 540 basis points - (1 - 40%) x 4.1% = 295 basis points

Generally, investors are going to demand more excess spread when economic growth seems less certain or when market conditions are more volatile. The model below suggests current valuations

are pricing in a 7.1% default rate, or a default rate that is more than 4% higher than current levels. While this is not unrealistic, we believe this to be slightly excessive.

	High-yield spread (basis points)	–	Default rate (%)	x	Loss given default (%)	=	Excess spread
Where are we now?							
Current	722		2.80		60		554
Long-term average	541		4.10		60		295
Difference from average							259
What is being priced into the market?							
Default rate needed to equate excess spread with historical norms							
Current	722		**7.11**		60		295
Long-term average	541		4.10		60		295
Difference from average							+0

(Current spread as of December 18, 2015, long-term average spread uses the Bank of America Merrill Lynch BAML U.S. High Yield Bond Index from November 2015 to December 1996 and BAML's U.S. Cash Pay High Yield Index from November 1996 to September 1986)

This model will perform well over a long period of time, but has less predicative power over shorter periods. Over a short period, this model will over-estimate the loss given default and therefore over-estimate implied defaults going forward because default risk has already begun to be priced into the yields and prices of certain bonds. We know most bonds are issued at par (i.e. 100 cents on the dollar) and the historical average recovery of a defaulted bond is about 40 cents, so the average loss is 60 cents. However, in any given year there are a number of bonds in the market already trading at prices substantially below par. These are distressed bonds and over the short term, they are the default candidates. If we were to short-list candidates for default over the next 12 months, we would start with CCC-rated bonds, as well as B-rated bonds in the energy and metals sectors trading above 1000 basis points in spread. After eliminating duplicates, the average price of these bonds is about 54 cents. Given that the loss given default (average price – average expected recovery) is therefore lower, it suggests the market is pricing in a default rate that is too high (i.e. being too pessimistic).

	High-yield spread (basis points)	-	Default rate (%)	x	Loss given default (%)	=	Excess spread
Where are we now?							
Current	722		2.80		**34**		627
Long-term average	541		4.10		60		295
Difference from average							332
What are we braced for?							
Current	722		**12.55**		34		295
Long-term average	541		4.10		60		295
Difference from average							+0

We feel this outcome is dramatically too pessimistic given that even in the depths of the Global Financial Crisis in 2009 the default rate only reached 15%.

Let's make two adjustments to our final model.

First, much has been written about the impaired secondary trading environment in the corporate bond space over the past two years. This is a function of regulatory reforms like Basel III, which requires banks to hold more equity and loss-absorbing capital on their balance sheets, and Dodd-Frank's Volcker Rule which prohibits proprietary trading. Both of these factors have diminished dealers' ability to intermediate the transfer of risk. Research from Deutsche Bank shows that while there was little change in bid-ask spreads (i.e. trading costs), high-yield bond trading volumes as a percentage of market size have dropped 30% since 2006. Investment-grade bond liquidity has evaporated further, down 50%. Could this also be traced back to aggressive unconventional monetary policy? The U.S. Treasury bond market, which is 10 times more liquid than the U.S. investment-grade bond market by volume, has seen a 70% decrease in trading volumes. No wonder – the Fed owns about a quarter of all outstanding U.S. Treasury bonds. These are some of the unintended consequences of new financial regulation and quantitative easing. If we want to adjust our default model for this impaired trading environment we can add an additional 100 basis points (i.e. 1%) to the long-term average excess spread. This will dampen signals that suggest the market is too cheap.

Secondly, it is also prudent to adjust the recovery rate. If bonds are already trading at an average price of 54 cents, it is fair to assume the recovery is going to be lower. In reality, some of the default candidates will not default, some will default while lenders enjoy a substantial (i.e. above 80%) recovery and other bonds will see a complete loss of principal. Let's assume the average recovery in these bonds is 20 cents. For levered shale oil and gas producers whose production cost per unit is well above current strip prices, this is a fair assumption.

	High-yield spread (basis points)	–	Default rate (%)	x	Loss given default (%)	=	Excess spread
Where are we now?							
Current	722		2.80		34		627
Long-term average	541		4.10		60		**395**
Difference from average							232
What is being priced into the market?							
Current	722		**9.61**		34		395
Long-term average	541		4.10		60		395
Difference from average							+0

Again, we feel this is too pessimistic, but are mindful that market participants may demand additional spread to invest in an asset class deemed to be less than liquid. We can keep making adjustments to these models, for example, adjusting the long-term spread average to exclude the 2009 Global Financial Crisis that pushed high-yield bond spreads 1000 basis points wider than ever recorded. The point is, models are only as good as their inputs and assumptions and it is exceedingly important to stress-test your assumptions and question model results. By this time next year, we will have a better understanding of what drove defaults and valuations in the high-yield bond market but we believe a default rate of 5% to 6% in 2016 is likely. Defaults will be higher next year and the Signature portfolios will not be immune. It is important to remember that the market is reasonably efficient and defaults tend to be a lagging indicator of performance, as the "pain" has already been taken.

What does this mean for valuations and returns?

Dealing with defaults seems distasteful to many investors, even as they ride equity positions to zero. High-yield bonds do not work for other investors that rely on duration to offset volatility in other parts of their portfolios, namely equities. The high-yield bond value proposition is two-sided – lower, but more efficient returns than equities, and higher income than government bonds without the diversifying benefit of duration. Monthly data from September 1986 to November 2015 demonstrates that high-yield bonds have a comparable average monthly return to equities. However, they have exhibited significantly less volatility (54% of the standard deviation of returns on equities) for a Sharpe Ratio that is 1.8 times higher (returns per unit of volatility).

We are braced for further volatility in the short term as the excesses in emerging markets, commodities and credit will not be cured in one quarter. However, with a medium-term view, we think that current valuations are, at the least, well supported and could display price gains potential. In our opinion, the current market is "oversold" due to poor technical factors. As such, future default risk is being mispriced and there is the opportunity for spread tightening. At current levels of 8.9% yields, spreads of 722 basis points, and average prices in the high 80s, the high-yield market is approximately 4%, 300 basis points, and 20 percentage points cheaper respectively on yield, spread and price than the tights of mid-May 2013 just prior to the "taper tantrum." Buying bonds at lower prices is actually less risky. At these levels, a modest amount of spread tightening, for example 50 basis points, could lift returns to the low double-digits, while it would require about 150 basis points of spread widening to break even on a 12-month basis.

A modest amount of spread tightening is our base case for 2016 as U.S. economic growth (high-yield bonds are a U.S.-centric asset class) remains positive. This seems reasonable as corporate credit fundamentals are healthy: corporate leverage is slowly climbing but otherwise at acceptable levels and the ability of companies to cover their interest expense is near all-time highs. Further widening is predicted on the contagion noted earlier spreading beyond emerging markets, energy and metals and into the broader high-yield bond and equity markets.

The credit cycle could be turning but the point is we are getting paid for it. No one knows what a post-zero-interest rate policy world looks like or what it means for the length of economic expansion, recession or credit downturn. We could see strong, mid-cycle returns in 2016 as bonds currently seem oversold, only to see the U.S. slip into recession in 2017 or 2018 as the effect of higher overnight interest rates seep into the real economy. Defaults and returns can both be high if starting valuations are low enough (prices) and wide enough (spreads), which looks to be the case – 2009 was a great example of this.

Our favourable view is also underpinned by the drivers of yield demand. Signature Portfolio Manager Ryan Fitzgerald's comments about the income equity space also applies to high-yield bond

sentiment: The drivers of yield demand are the same as they have been since the income trust market got going in the early 2000s; that is, an aging demographic, extremely low interest rates on traditional fixed-income investments and a growing aversion to general equity investing. These pillars are not going away any time soon and we believe that once the dust settles in the markets and a certain period of calm reasserts itself, that yield demand will come roaring back. It is a theme that we have been living with for 15 years and we believe will be with us for 15 more, with or without quantitative easing.

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