



INVESTMENT UPDATE

Wall Street has been in an optimistic mood lately. Valuations among risky assets are high, suggesting that a lot of good news is priced into the capital markets and that investors are discounting the potential for negative developments. One doesn't need to look much further than record valuation levels in the equity and corporate bond markets to reach this conclusion. Inflated price-to-earnings (P/E) ratios and tight corporate bond yield spreads are indicators of overexuberance.

The chart on this page shows that valuations in the corporate bond sector of the U.S. fixed income market—as measured by the average yield spread of the Bloomberg Credit Index—are at their most expensive level in over 25 years. Yield spreads are the incremental yield that risky bonds offer in excess of yields on like-maturity Treasuries. It's the additional compensation above risk-free rates that investors demand in order to place money with corporate borrowers. As you would expect, riskier companies with lower credit ratings will have to pay a wider yield spread, and a higher all-in cost, compared to safer, higher quality borrowers.

Today, the average high-grade corporate bond currently yields approximately 70 basis points (BP), or just 0.70%, more than like-maturity Treasuries, roughly half the 25-year average spread of approximately 135 BP.

We note that corporate bond yield spreads in the mid-to-late 1990s were below current levels, reaching a modern-day low of just 51 BP in July 1997. However, the structure of the high-grade US bond market was considerably different then. Besides being only about one-tenth the size of the market today, it was also dominated by higher rated issuers: BBB issuers accounted for just 26% of the Bloomberg US Credit Index in 1997; today BBBs comprise more than 42% of the Credit Index.

When asset valuations are at expensive levels, as they are today, investors should question prospective returns. After all, there's a long list of financial theories and principles that highlights the risks of buying assets at inflated valuations.

Let's review some basic observations about historical yield spreads. You may recall from high school statistics class that the

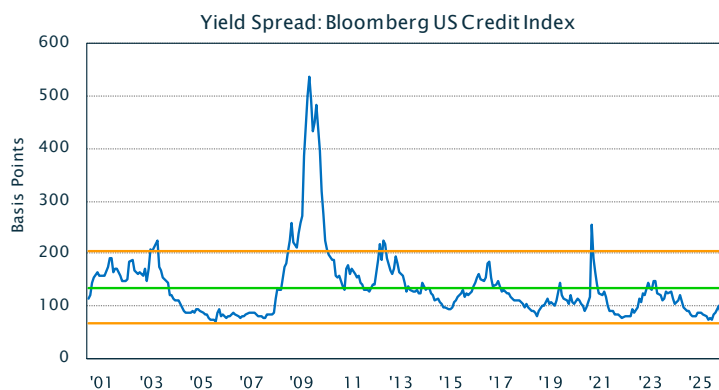
data points in a series fall within one standard deviation (the orange lines on the chart) from the mean (green line) two-thirds of the time. As the chart shows, while there appears to be a pretty solid floor for yield spreads in the 70-to-80 BP range, over the past 25 years there have been a number of periods where yield spreads spiked dramatically higher, exceeding the one standard deviation range (most notably during the Global Financial Crisis of 2008-09). In bond parlance, we say that the "tail risk" for corporate yield spreads is skewed negatively. Corporate yield spreads over the 25-year period have never fallen lower than one standard deviation below the mean. This isn't to say that spreads can't or won't go below one standard deviation below the mean, but it has represented a historical floor of sorts for corporate bond spreads over the past 25 years.

What would happen to corporate bond prices—and therefore, corporate bond returns—if yield spreads widened back to average levels? To answer that question, we'll have to review some "bond math" (sorry, but it can't be helped!). Bonds have two

main components that make up their total return over time: price change and coupon income. Price change is self-explanatory; in the capital markets, stock and bond prices change minute by minute, and those of us in the investment management business must mark our investments to market accordingly. Bond prices move in the opposite direction of interest

rates, so when rates rise, bond prices fall (and vice versa). While price changes are instantaneous, the income component of return is realized over a period of time; investments with high levels of income (like corporate bonds) are able to offset some of the volatility that comes with changing prices, but that income can only be earned over time.

To estimate the price change of a bond resulting from a move in interest rates, we need to know that bond's duration, a calculation that bond managers have at their disposal. In the US bond market, most bonds have durations between zero (a bond maturing tomorrow) and 20 years (a Treasury bond maturing in 30 years with a sub-2% coupon). Let's say we have two bonds, both have a 4% coupon, but one has a duration of five years and one has a duration of ten years. If interest rates remain unchanged both bonds will return approximately 4% over the next year,



with returns coming solely from coupon income. But if interest rates rise by 100 basis points the bond with the five year duration will see its price fall by roughly 5%, while the price of the bond with a 10 year duration will fall by ~10%. In this scenario, the total return of these two bonds *over a one-year time period* will be roughly -1% for our five year duration bond and -6% for our 10 year duration bond—the sum of the coupon income over one year and the negative price change from a 100 basis point move up in rates. If rates instead drop by 100 basis points over the next year, the returns for the two bonds would be +9% for the five year duration bond and +14% for the bond with a 10 year duration.

If you're still with us (and we hope you are!), you can see that duration can have a big impact—both good and bad—on the performance of a bond, depending on what happens to interest rates over the holding period. Likewise, we can think of yield spreads widening and tightening in the same way; when yield spreads on corporate bonds are tightening relative to Treasuries, that means their prices are rising relative to like-duration Treasuries. In other words, corporate bonds outperform Treasuries when yield spreads tighten because their prices are rising more than Treasuries are.

Now let's get back to the question of the hour. With corporate yield spreads at historically tight levels, what will total returns for corporate bonds look like compared to Treasuries if spreads revert to the mean? Using round numbers, we know that spreads are roughly 65 BP tighter than average (70 BP compared to the long-term average of 135 BP), and we can see that the average duration of the Bloomberg US Credit Index is roughly seven years. Using our formula for measuring price change, it takes only about ten basis points of spread widening (70bp divided by 7.0 years' duration) for the average corporate bond to perform the same as a Treasury bond over a one-year period. Ten basis points is not much spread widening, considering that corporates are currently trading 65 basis points tighter than average. Which begs the question, if corporate yield spreads revert to average levels, how much will they underperform like-duration Treasuries? Using our formula, 65 basis points of widening on a bond with a duration of seven years will drop its price by approximately 4.5 points ($.65 \times 7$). Even with the average corporate bond generating between 70 and 135 basis points of extra income over a year, we can see that won't nearly make up for the four-plus point loss in comparative price performance over a 12 month time frame.

However, once those tight yield spreads have risen to more normal levels, the income component can do its work, and will help offset the price decline that occurred when spreads widened. Going back to our example, after the initial shock of a 65 basis point spread widening, earning back that 4.5 point loss by way of income is far easier (and quicker) if we have 135 basis points of extra yield instead of just 70 basis points. With 135 BP of extra yield, that 4.5 point loss could be "earned back" in a

little more than three years.

There are two takeaways here: First, while high-grade corporate bonds have proven that they outperform Treasuries most of the time, they do not outperform over *every* time period, particularly when looking at shorter time periods, as their extra income is generated over longer periods. The second main point is that corporates are particularly vulnerable when that extra income—the corporate bonds' yield spread—is insufficiently thin.

For value-seeking bond investors, this type of analysis is essential. We need to know what the upside returns and downside risks are for every bond that goes into our clients' portfolios. Sector rotation—particularly when it comes to choosing between Treasuries and corporates—is a key lever that total return bond investors use in balancing the risk-return equation in their portfolios. It's also important to understand that we have a wide range of choices when it comes to allocating risk; these are not binary, "all-or-none" decisions.

We could decide, when yield spreads are tight, to sell all corporate bonds, buy Treasuries, wait for yield spreads to widen, and then jump back into corporates. But doing so guarantees that you will have a low-yielding, Treasury-heavy portfolio while you're waiting. And as history shows, yield spreads can remain below average for multi-year periods; you might be giving up that extra yield, thin as it is, for years while you wait for the market to "correct."

When a sector is trading at rich levels, like today's corporate bond market is, we can look to reduce our risk by shortening our corporate duration relative to our index, which could be achieved by swapping longer-maturity corporates for shorter-maturity corporates, thereby reducing the portfolio's sensitivity to changes in interest rates and/or spreads. Likewise, we can move up in quality by swapping out riskier, lower-rated BBBs for more stable, higher-quality A- and AA-rated corporates. In doing so, we can still maintain some yield advantage over Treasuries, while improving the overall quality and ratings of the portfolio. When spreads widen beyond mean levels, we can look to add risk by either lengthening our corporate duration and thus increasing the portfolio's price sensitivity to changes in interest rates and/or spreads. Alternatively, we can add risk by "moving down in quality" by overweighting lower-rated, higher-yielding BBB corporates.

Despite current historically-rich corporate bond spreads, we still see a place for corporate bonds in diversified fixed income portfolios. However, it is prudent to position portfolios more defensively to reduce the price risk when spreads inevitably revert to the mean, while leaving dry powder to add risk when valuations become more attractive. We're not trying to "time the market;" we're adjusting the risk of the portfolio to align with the risks and opportunities that exist in the marketplace.