Corporate Bond Analysis: What to Consider

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Article Highlights

- The returns for bonds are asymmetric in that there is small risk of a big downside in exchange for a limited upside.
- The likelihood and severity of default can be determined by looking at a company's willingness and ability to repay its debt.
- The cornerstones of bond analysis are character, capacity, collateral and conditions.

Many investors have become more focused on the fixed-income market in the past several years.

While bonds have been around for centuries, the most recent surge in activity has come from investors who are searching for the age-old combination of safety and income. Many individual investors have some experience with equity markets, but those returns have not been stellar over the last decade. At the same time, very high–quality fixed-income markets like U.S. Treasuries are near all-time lows in yields.

As a result, many folks are beginning to look at "credit." Credit can be broadly defined as any bond that has a risk of lack of payment, but we'll restrict ourselves in this discussion to one of the largest credit markets, corporate bonds. Because these bonds reference companies, investors who have experience with evaluating stocks should find many of the terms and tools used in the analysis of corporate bonds easy to grasp, though there are very important differences that we'll discuss below.

The obvious, but important, question investors are trying to answer when looking at corporate credit is the extent to which a company will be both willing and able to pay coupon and principal. Clearly the risk of default is a big part of why you, as the investor, are getting paid more in yield to own a corporate bond than supposedly credit risk–free assets such as U.S. Treasuries.

Nevertheless, when times are good and trouble seems to be a long way away, it can be easy to lose sight of the things that can go wrong. I distinctly remember a very well-regarded sell-side credit analyst (whose job is to look at the risk of default in every investment he analyzes) discussing Enron in 2000. His incredulous statement about the company when queried about the complex financials was, "What are you worried about? You think they're not going pay you back?" Though at the time the company was a well-respected high-flier, the answer to that question is always "Yes."

Why Take Risk?

Despite the danger of default, investing in corporate bonds can be quite valuable. The annualized total return of the S&P 500 (large-cap stocks) from December 31, 2000, to December 31, 2010, was 1.41%. The much more lucrative international markets, as tracked by the MSCI EAFE index, were up 3.50% over the same period. Very high–quality bonds, as represented by the Barclays U.S. Aggregate index, grew at an annualized 5.80% over that time frame. (Government bonds comprise approximately 75% of this index.)

Below-investment-grade corporate bonds (aka "high-yield" or "junk" bonds) are often considered to be akin to equities because of their very high credit risk and higher volatility. The correlation between the high-yield bond market and the S&P 500 over the past decade was 0.69, which means high-yield bonds moved with equity a little over two-thirds of the time. As a result, you might expect

that the high-yield bond market had returns somewhere between those of the Barclays Aggregate (high-quality bonds) and the S&P 500 (stocks). In fact, high-yield bonds (as measured by the Barclays U.S. Corporate High Yield index) had an annualized total return of 8.88% for the decade. To give you a sense of what that means in returns, $10,000 invested in the S&P 500 over this time period would have grown to $11,503. Invested in the MSCI EAFE index, $10,000 would have grown to $14,106; invested in high-quality bonds, $10,000 would have grown to $17,573. Invested in high-yield bonds, $10,000 would have grown to $23,414, 103.5% more than the S&P 500. Admittedly, the last decade was extreme in its returns and contained some of the best and worst years in the short history of high-yield bonds, as well as generally declining interest rates, but the returns are nevertheless interesting.

Still, the return figures above are those of indexes, not individual assets. Some stocks in the S&P 500 did very well, and some went to zero. The same is true of corporate bonds. At our firm, we work very hard to try to find securities that offer an interesting return with less downside risk. We spend huge amounts of our time examining each potential purchase, as well as looking over our portfolios to see if what we have is still the best we can own. This is true across all asset classes, including corporate bonds, the rest of the fixed-income universe, and stocks. So how do we pick individual bonds? After all, buying "the index" is not necessarily going to get you to your investment goals.

A One-Bond Portfolio

Let's start with a one-bond portfolio. Imagine you put all of your money into one investment (not a good idea). What would you be concerned with? Income? Sure. Price appreciation? Yes. However, with corporate bonds you also have to look at two other measures: the probability of default and the loss given default. In other words, what is the likelihood that you won't get your money back, and if a default happens, how much money will you lose?

In a simplified held-to-maturity, bought-at-par example, your income is going to be determined by your coupon while your price return will be zero. (You will get your initial investment back at maturity if the bond issuer does not default.) So the unknowns are really related to the potential downside of a default.

This brings us to a very important key in fixed-income investing, especially in corporate bonds. Investors take "yield" to be their return. However, that is only the best, though most likely, case. There is also a downside case in which your return is often much less than the promised yield. It is your job in doing bond analysis to determine the likelihood and severity of that downside case and then decide if you're getting compensated enough to take that risk. Unlike with stocks, there is no upside beyond your yield (in an example where the bond is held to maturity). If the issuer does really well, you will get your yield while stock investors may get double or triple their original investment. If the company performs poorly and goes bankrupt, stock investors will get zero, but bond investors will also lose a bunch of money. So, the returns on corporate bonds are asymmetric in that you take the (usually small, but definitely important) risk of a big downside for a limited upside. Therefore, while a one-bond portfolio will probably be okay, the downside risks to it are ugly.

This makes diversification among bonds an important concept. A 10-stock portfolio can have half of its stocks become worthless, but still keep the investor at breakeven if the other the stocks double in value. Within a 10-bond portfolio, the likelihood that even one bond goes to zero or defaults with a high loss is low. However, if a default does occur, it will be very difficult for the other bonds to provide enough return to make the portfolio whole. So the challenge of a credit analyst's job is to determine the probability of a very unlikely event that can be catastrophic in its effect on a portfolio.

The key to determining the likelihood and severity of default is to look at a company's ability and willingness to pay you back. For most companies and situations, willingness is not much of an issue because most legal systems guarantee that you will, as the bondholder, receive any money the company is able to pay you. So it comes down to ability to pay. At this point, many guides to corporate bonds would take you through the so-called "four Cs": character, capacity, collateral and conditions. This is a useful construction and indeed gets to the idea of willingness (character) and ability (the other three), as well as providing a framework for a crude analysis.

Many stock analysts build complex models of a company's income statement and how it might grow to determine the possible future value of the equity. Credit analysts usually begin with the balance sheet to determine not what the company's income might be, but what will be available to pay bondholders. In addition, because the upside of the company is irrelevant (bond investors only get yield; stock investors get the upside of rising earnings), most credit analysts spend the majority of their time focused on what could go wrong, instead of on what could go right. That makes us a gloomy bunch.

Bond Metrics and How to Think About Them

The first metric to examine in all companies is the amount of debt that the company has in relation to the amount of money it makes. The most commonly used ratio is the leverage ratio, which is total debt divided by EBITDA (earnings before interest, taxes, depreciation and amortization). EBITDA is the preferred measure of income because bondholders get paid before the taxman and because depreciation and amortization are non-cash charges.

There is no hard-and-fast rule to figuring out an acceptable number for the leverage ratio. In the first place, a high ratio (indicating a highly leveraged

The Four Cs of Bond Analysis

When analyzing corporate bonds, the four Cs to focus on are character, capacity, collateral and conditions. This structure is designed to highlight keys to examining a corporation's willingness and ability to pay their debt obligations.

Character: Management can make debt repayment a focus or can instead take on additional (though allowable) risk that makes it more difficult to pay debt back. The currently hot high-yield market has allowed many borrowers to roll over their debt, but also includes deals designed for private-equity sponsors to take money out of the business in the form of dividends. High-grade companies are often borrowing to buy back shares. By themselves, these actions can be reasonable given that the resulting capital structure might be sound; however, these actions are often signals of an unfriendly stance toward bondholders. In extreme cases, character can also refer to the borrower's honesty. J.P. Morgan once famously said, "The first thing is character. Before money or anything else. Money cannot buy it."

Capacity: A business or a borrower has the capacity to pay their debts based on their cash flow and their current balance sheet. Capacity has many measures, but the two most common are the amount of debt relative to a year's worth of earnings (or EBITDA) and the amount of interest payments relative to earnings.

Collateral: Often loans are backed by more than just the company's or borrower's "bond." To provide an additional layer of safety, many lenders require some sort of property backing the loan to which the borrower has first claim. That collateral can range from cash or valuable property to equity in a subsidiary.

Conditions: Related to capacity, conditions refers to the business climate and ability of a company or borrower to ride out a cycle. Often analysts look at a company in the present moment and decide it is a good risk, without determining what might happen if and when the tide turns, either for the economy generally or for the company in particular.

company) may be safe if a firm's business model is very consistent. Regulated utilities often have high leverage ratios because their business is stable and their return is essentially guaranteed by their regulator. Conversely, a low ratio (indicating a lightly leveraged company) may be dangerous if a business is highly cyclical and the analyst is looking at the company during a particularly good time. Mining companies, steel mills, chemical companies and some energy companies are often in this category. The second reason that there is no hard-and-fast "best" leverage ratio is that a levered company is forced to pay investors a higher interest rate. While a company with more debt may be a more risky investment, it is the credit analyst's job to decide what the best risk/reward is for a given risk tolerance. Nevertheless, a company's leverage ratio is a very important metric for determining ability to pay, and it is the first place that credit investors go.

The next ratio that dominates bond analysis is the coverage ratio, which is EBITDA divided by interest payments. This calculates how much operating income a company has to pay the ongoing debt service. Again, the cyclicality of a company is a crucial factor, as it is important that the company have the ability to make payments throughout the business cycle. In the "four Cs" framework, the leverage and coverage ratios shed light into capacity and conditions. Analysts ask what the ratios are and how they might change given the business model of the company.

An additional and related consideration to the coverage ratio, which only looks at the company's ability to pay interest and debt amortization, is the liquidity of the firm. This can be an immediate consideration if there is a large debt maturity on the horizon. Liquidity concerns can also arise in the longer-term issue of how to make the principal payment of the debt at maturity.

Most corporate bonds are structured to have a principal payment at maturity that is equal to the original investment amount (e.g., there is no amortization as only interest payments are made between the initial sale of debt and the maturity of the bond). Most companies depend upon the market to "roll over" or refinance their debt, which can be difficult when that rollover is supposed to occur during a period of either market or individual company stress.

For example, during the darkest days of the most recent financial crisis, the Federal Reserve committed to buying commercial paper, as many firms that depended on short-term financing—including such blue chips as Johnson & Johnson (JNJ) and Deere & Company (DE)—found that investors had very little desire to buy debt of any type, no matter how short. As a result, the expected rollover, even for high-quality companies, became difficult.

Most companies do not structure themselves to be able pay off all of their debt upon maturity, which at times of stress means the analyst must understand what sources of cash (e.g.,

operations, lines of credit, asset sales) a company may have. This is best understood and examined before the stress occurs.

When It All Goes Wrong

Sometimes, despite the best analysis possible, the company runs into trouble. Sometimes the bond analyst takes a risk knowing that there could be trouble, and what seems to be a low-probability event comes to pass. Sometimes the analysis just wasn't that good. In any event, if you look at a bunch of credits throughout a cycle or two, you'll end up with some defaults. Knowing that is true, it is important to do some default analysis work on all of the bonds, no matter how good they seem (remember Enron?).

The most important two questions to answer in default are where do you sit as debtholder in terms of being repaid, and what assets does the company have that might help pay you back? The priority of payments in bankruptcy broadly starts with secured creditors, then moves to unsecured creditors, and then finally to preferred and common stockholders. Set against that array of claims are the assets (or, if the company is deemed to be more valuable as a going concern, the earnings power of the assets). So before it all goes downhill, the credit analyst needs to see what kinds of assets or earnings power the company may have that would cover debt claims in a bankruptcy.

With regard to earnings power, the leverage ratio is very helpful when a "stress-case" EBITDA projection is divided into the current debt amount. This leverage ratio gives the analyst a pretty good view of how much the company would have to be sold out of bankruptcy for in order for the various levels of debtholders to get paid back. In this case it is important to remember that in good times, companies trade for notably higher multiples of EBITDA than in bad times, and that companies rarely go bad in very good times.

Away from the leverage ratio, the assets of the company are an important input into what your recovery value might be, or what you could be left with after a default occurs. I recently went through the bankruptcy process with a coal mining company in Australia. Though the journey was painful, ultimately our loss (beyond the foregone interest payments) was very low because the assets of the company fetched a very good price as part of the bankruptcy proceedings.

In the initial analysis of the company, despite what at the time seemed to be lackluster management (and what turned out to be horrendous management), I took comfort from the asset value. That asset value further gave me the confidence to hold the security despite an unpleasant ride in market prices. The initial investment was a bad decision that was saved (mostly) by the fact that in the analysis I examined what would happen in a default.

For all companies, the asset value figure is found on the balance sheet in theoretical black and white; in reality, the asset value is a more complex figure that requires a thorough review of the footnotes to the financial statements. What usually comes out of that process is not necessarily a precise number as much as an understanding of the coverage the assets may give. However, don't include cash as an asset, as companies almost always spend it before bondholders are paid. In the "four Cs" terminology, this part of the analysis is all about collateral.

Credit Ratings: Meaning and Default Probability

Credit rating agencies are, as was amply demonstrated in the most recent crisis, quite fallible. However, I believe that in general these hardworking folks give their honest assessment of a bond. This was, and is, more often true in corporate bonds than in, say, structured products—such as non-agency mortgages, collateralized debt obligations and the like—because the information is less opaque and the structure of the bond itself is simpler. So, credit rating agencies can often be a valuable extra set of eyes when examining a particular bond. If you have access to the reports, they will usually set out in broad terms many of the ratios and ideas mentioned above, as well as a quick view of the challenges and opportunities the company may experience that could change the rating.

What's more interesting about the credit rating agencies is that, to show that their ratings are broadly correct, they have compiled a bunch of information about the probability of default for each rating category. A 2006 Moody's study found that the average cumulative five-year default rate for AAA issuers was 0.08% and for single-A issuers was 0.41%. The average cumulative five-year default rate for Ba (equivalent to S&P BB) issuers was 7.86%, and it was 39.32% for Caa bonds (equivalent to S&P CCC). So the probability of default is not linear. Each additional step down in ratings (or quality) incurs a much greater likelihood of default.

According to Standard & Poor's, the average default rate for investment-grade (ratings of BBB or better) issuers during the period of 1981 to 2009 was 0.11% per year, with no defaults occurring during nine of those years. Junk bond issuers experienced a default rate of 4.37%. The worst years were 2002 and 2008 for investment-grade bonds (default rates of 0.41%) and 1991 for junk bonds (default rates of 11.04%). While the widest yield spreads to risk-free Treasuries in the high-yield market's brief history were recorded in 2008 and 2009, the default rates for those two years were lower than 1991, at 3.48% and 9.23% respectively. Thank Ben Bernanke for all the liquidity.

Margin of Safety

Given the above figures, it's important that credit analysts measure both risk and reward. Risk comes in the form of their analysis and a general understanding of the likelihood that they will be wrong. Reward comes in the form of a high promised income stream. Value stock investors often speak of a "margin of safety" or the discount to fair value at which they are purchasing a stock.

This idea incorporates the possibility of missing important aspects of the investment or the "unknown unknowns" that inevitably exist in any situation.

With credit analysis, the margin of safety—the cushion against adverse events—comes from the income stream. This does not mean that that a high yield makes a bond "safer"; in fact, it is often quite the opposite. Rather, more income allows an investor, especially someone with a reasonably diverse portfolio, to be wrong more often. Greater yields (and potential returns) come with a greater risk of default and more price volatility. Conversely, buying a supposedly safe bond simply because it has a high credit rating, but without doing one's homework first, is an invitation to disaster. An investor may not be taking a big risk if the bond is truly high quality, but how does he know?

The distressed debt community makes their living on these situations. If a bond is trading well below the value of the assets that back it, even a lengthy default proceeding can be profitable. As seasoned bond investors say, "There are no bad bonds, just bad prices."

Examining corporate bonds for any length of time means confronting the limits of your analysis. It is impossible to be right all of the time. It is important to know that you will be wrong and to decide what your tolerance for that may be ahead of time. Many insurance companies decided to get out of riskier fixed income in late 2008 and early 2009 because they could not handle the risk of default or their portfolio price declines, only to reenter the market at much higher prices a year or two later. For the most part, defaults and credit problems come in cycles, so you will not only be forced to deal with your mistakes in the form of actual default losses, but also broad-based declines in prices due to the market's fear that defaults will occur for many more companies.

The most difficult crisis is the one that has not yet been solved. In late 2008 and early 2009, with high-yield bonds trading at extremely discounted prices and high-grade bonds plumbing the depths, it would have been easy to believe the worst. In fact, the worst seemed to be occurring on a daily basis, with no liquidity, fire-sale pricing and the global financial system in disarray. Having bought a number of credits on the way down, I can tell you that even if you are "right" to buy a bond in the $70s, when it goes to $50 it doesn't feel very good.

Even besides the "mistake" of not purchasing at the lowest price, a bond analyst has a tough job. Consider the aforementioned annual average default rates of 0.11% for investment-grade bonds and 4.37% for high-yield bonds. These numbers mean that, in an average year, about one in 900 investment-grade bonds will default and one in 23 high-yield bonds will go bad. But the additional income that investors receive for buying those bonds over Treasury bonds with similar maturities can be in the range of 1% to 3% for investment-grade bonds and 3% to 8% or more for high-yield bonds. So there is definitely incentive to purchase the "right" bond, and a reward for doing just that.

Still, the bond analyst, especially the analyst of high-grade bonds, needs to try to precisely and accurately forecast the likelihood of a very unlikely event. That is extremely difficult. Getting back to the asymmetry of bond returns, where an investor takes all the downside risk with very little upside, it is very often that an investment will get through the year with no default (99.89% of the time with high-grade bonds). If a bond does default, an investor better make sure he has enough return in the rest of his portfolio to cover the default.

A Final Key

The last and most tangible key to credit analysis is the importance of being flexible in your thought process.

We have restricted our discussion of credit to corporate bonds, but let's stray to the subject of mortgages for a moment. Over the past decade, the boom and bust cycle for housing prices and the mortgage market has been breathtaking. Though I would argue that easy money was the real cause of the credit boom, an ancillary factor was the strongly held belief that housing prices could not decline. Most analysts did not have enough flexibility to imagine a world where prices went down. If they had, huge portions of their investment universe would have been, and ultimately were, quite mispriced.

Ultimately, having a flexible thought process will allow you, as the analyst of a company's situation and prospects, to consider a wider variety of potential outcomes. ▲

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