

# WEEKLY MARKET MONITOR SEPTEMBER 17, 2007

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## UNDERSTANDING HIGH-YIELD BONDS

Within the large span of fixed-income securities investors typically sub-divide the asset class into distinct asset types. This begins with Treasury securities and the yields on Treasury securities of different maturities establish the yield curve against which other fixed-income assets are measured. The difference in the yields between default-free Treasuries of a given maturity and other fixed-income securities is called the spread and represents the extra yield demanded by investors as compensation for taking on additional risk. The smallest spread is demanded by investors holding the least risky securities, such as investment grade corporate bonds with the highest credit ratings. Not surprisingly, investors demand higher spreads to hold corporate bonds with lower credit ratings. This week we'll focus on a particular segment of the fixed-income market, the market for corporate bonds with below-investment-grade (BIG) credit ratings, also known as the high-yield market.

- Defining the high-yield market.
- The size of the high-yield market.
- The principal characteristics of the high-yield market.



Corporate bonds are assigned credit ratings by the major rating agencies based on their ability to repay the amount borrowed. Since corporate borrowers differ in their ability to repay their lenders — based on factors such as cash flow generated — different bonds issued by different corporations receive different credit ratings. Corporate bonds rated at a certain level and above are termed “investment grade” and bonds rated below this agreed rating are termed high-yield or BIG. An investment grade rating indicates that a corporate bond has a relatively low risk of default. A bond can migrate from investment grade to BIG if the credit quality of the borrower deteriorates. Conversely, a bond can also migrate from BIG to investment grade if the borrower’s credit quality improves. Many large and well-known U.S. corporations such as Ford, General Motors, Georgia-Pacific and Qwest are rated BIG.

Major determinants of credit quality are factors such as the ratio of cash flow generated by the business to the amount which must be paid out by the firm to service the firm’s debts. In addition to any bonds issued by a firm ratings agencies take into consideration other obligations such as short-term borrowing (e.g. commercial paper), commercial loans extended by banks, and other obligations such as money obligated to be paid into a firm’s pension plan. Rating agencies also take into consideration factors such as depreciation and capital spending plans, dividends payable and taxes.

In the U.S. the capitalization of the entire bond market is approximately \$25 trillion. This sum includes Treasuries, corporate bonds and structured securities such as mortgage-backed securities (MBS) and asset-backed securities (ABS). The capitalization of BIG bonds is approximately 25 percent of the entire corporate bond market.

There are a number of significant differences between BIG bonds and other fixed-income security types such as investment grade corporates and Treasuries. For example, historically the correlation in returns between Treasuries and investment grade corporates has been quite high at 0.92 over the period from 1985 to the first quarter of 2007. The correlation between BIG bonds and investment grade corporates over this period, however, has been much lower at 0.46. The correlation in returns between BIG bonds and Treasuries has been extremely low at 0.2. These low correlations highlight the significant diversification benefits

of this asset type. The low correlations also reflect the stylized fact that when risk aversion is declining — and when defaults are low — BIG bonds outperform Treasuries and we see a narrowing of spreads. Conversely, when risk aversion rises — and when defaults increase — BIG bonds underperforms Treasuries and spreads widen.

The greater variation in spreads between BIG bonds and Treasuries when compared to spreads between investment grade corporates and Treasuries is another difference between these two corporate bond asset types. BIG bonds have higher default rates than investment grade corporates, but the incidence of defaults are not distributed evenly over time. Default rates for BIG bonds rise sharply during economic recessions, typically peaking a year or longer after the recession ends. Default rates for BIG issuers also increase with the passage of time. Default rates for investment grade corporates also increase with the passage of time and during recessions, but at much lower frequencies.

A manifestation of the increase in default rates for BIG bonds during and immediately following recessions is significantly greater variation in spreads vis-à-vis Treasuries than is exhibited by higher credit quality fixed-income assets. As the attached chart indicates, spreads for BIG bonds can increase by a factor of four or more, from 200 bps over Treasuries to 800 or greater in the aftermath of a recession when many BIG issuers remain in distressed financial condition.

The chart also indicates, however, declining spreads as the credit cycle turns and improvements in the financial condition of BIG issuers are perceived by investors. Increased investor demand for these assets then leads to a narrowing of spreads. Investors who recognize the turn in the credit cycle can realize high returns. For example, the total return on the Merrill Lynch High Yield Master Index was negative 1.14 percent in 2002. In 2003 as the credit cycle turned and spreads began to fall the total return on the index was 27.23 percent.

In addition to exhibiting greater variation in performance than many other fixed-income asset types BIG bonds also exhibit significant variation between securities of different credit quality. For example, the default rates on higher rated BIG bonds are significantly lower than default rates on lower rated BIG securities. Default rates two years after

issuance are approximately eight times higher for lower rated BIG bonds compared to higher rated bonds. Five years after issuance the difference remains significant, with lower rated BIG bonds still more than five times likely to default. An implication of the significant variation in performance in BIG bonds, both between these assets and other fixed-income asset types, and also within the class of BIG, is that a premium is placed on the credit research skills of analysts and portfolio managers specializing in this asset type.

**SPREAD TO WORST\* OF HIGH YIELD INDEX**

AS OF 8/31/07



\* The yield to worst is the lowest yield a buyer can expect among the reasonable alternatives, such as yield to maturity and yield to first call date. The spread to worst is the incremental yield over Treasuries of the yield to worst.

Source: Bloomberg

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