

Bond Basics

What is a Bond?

A bond is a financial instrument through which companies, or Federal, state or municipal governments borrow money. The bond's **prospectus** sets forth the obligations of the borrower in paying the money back to the purchaser. These terms include the amount of money borrowed, the date from which interest will start accruing, the coupon rate of the bond, the terms and timing of repayment of principal, and whether the issuer has the right to "**call**" (repay) all or some of the borrowed amount earlier than the maturity date (the day on which the bond purchaser receives their final payment of principal and interest.) The amount of money scheduled to be paid back to the purchaser on maturity is called "**par**". Most bonds pay interest to the purchaser every six months at a fixed rate, called the "**coupon**."

What is the Coupon?

The coupon defines the rate of cash flow to be paid by the borrower to the purchaser and is set at the time of the bond's issuance. It is generally fixed, expressed as a percentage, and represents the income the investor will receive when interest is paid. For example, a bond with a par value of \$100,000 and a coupon of 5.75% will pay \$5,750 annually, usually in two equal six month installments of \$2,875.

What is the "Yield-to-Maturity"?

Yield-to-maturity is the return a bond investor is expected to receive if the interest paid by the bond is reinvested at the yield-to-maturity. Almost all bonds can be purchased and sold in the open market after the date of original issue. Because prevailing interest rates fluctuate, there is usually a difference between the coupon rate of the bond and current interest rates. Therefore, the market price of a bond will rise or fall to reflect a price which balances its coupon and amortization to par with current interest rates.

For example, if interest rates rose to 7% on January 2, 2007, a bond due on April 30, 2009 and having a 5.75% coupon would fall to a price of (roughly) 97.3. At a price of 97.3, the bond would have a yield-to-maturity of 7% as of January 2, 2007.

How do prevailing interest rates and yield-to-maturity relate to the price of a bond?

Some examples of bond prices are "94", "100", or "104." The first price reflects the price of a bond whose coupon may be lower than prevailing interest rates. In that example, the bond can be purchased for 94% of par value. The second price reflects a bond's price when it is trading at par. In the third example, the price of 104 would reflect a bond with a purchase price of 104% of par, and indicates that the bond's coupon rate is higher than prevailing interest rates for bonds with similar maturities and creditworthiness.

The difference between the par value and purchase price of the bond is referred to as a "**discount**" when the purchase price is below par, or a "**premium**", when it is higher.

For example, if one purchases a bond with an 8% coupon that doesn't come due for another ten years, one can expect to pay a significant premium for that bond if prevailing interest rates are 5%. Although the investor will receive annual cash flow equal to the coupon rate multiplied by par, the actual yield-to-maturity will be less because the premium paid over par for the bond is amortized against cash flow for the remaining life of the bond.

What is the Call Price?

When a bond has a call feature, the issuer has the right to redeem or "**call**" all or some of the bond earlier than the normal maturity date. The "**first call**" date will be in the prospectus along with a redemption price for the call feature. There can be a premium paid to the bondholders for the early return of capital. If the call price is 101, then bondholders would receive 101% of the face value if the bond is called.

The **yield-to-call** is the projected return to the investor if a bond is called early. If the purchaser buys a callable bond for a price above par, the projected return could be lower than the yield-to-

maturity if the bond is called. As a result, callable bonds which are priced at a premium to par are quoted for sale in terms of yield-to-call.

What is Accrued Interest?

Unless a bond is purchased or sold on the date the bond begins to accrue interest (**the dated date**) or on the date of interest payment, accrued interest will be a factor in most bond transactions. When a bond is purchased between the 6-month interest payment dates, the purchaser pays the seller for the interest which has accrued up to the purchase date. As a result, the new owner is entitled to the full interest payment on the bond's next payment date after purchase.

How are Bonds rated?

Bond rating agencies, such as Standard and Poor's and Moody's Investors Service, analyze the creditworthiness of bond issuers to determine their financial strength and ability to pay interest and principal to borrowers. The agencies use a grading system to rate bonds, ranging from AAA (reserved for borrowers with the strongest financials) to D (which indicates that the bond is already in default). Bonds with ratings of BBB and higher are considered **investment grade**. Instruments with ratings BB or below are commonly referred to as **high-yield** or **junk bonds**, usually are purchased for speculative purposes, and can have interest rates which are significantly higher than investment grade issues.

What are US Treasury obligations?

The United States government, through the Department of the Treasury, borrows money using several different types of financial instruments: Treasury Bills, which have maturities of less than one year; Treasury Notes, which are issued for maturities between one and ten years; and Treasury Bonds, which offer maturities of ten years and over. Generally, the interest from these Treasury obligations is taxable at the Federal level only. Another prominent Treasury instrument is known as a Treasury "STRIP" ("Separate Trading of Registered Interest and Principal" security) which is purchased at a substantial discount to par and does not pay any current cash flow during the course of the bond term. Upon maturity, the bondholder receives the difference between the discounted purchase price and par, and this accretion is taxed annually as interest. A new and important addition to the Treasury's bond issues are TIPS, or Treasury Inflation Protection Securities. These bonds are issued for terms ranging for 5 to 30 years and pay interest on a par value which increases at the rate of inflation.

What is a Municipal Bond?

State's and municipalities issue bonds to fund construction of "public" projects, such as schools and hospitals. They also issue bonds to fund improvements to infrastructure, such as bridges, public housing, road, and utility projects. These types of issues are called municipal bonds. Interest paid on municipal bonds is generally exempt from Federal taxes. When an investor lives in the state in which the bond is issued, they are also usually exempt from state income taxes too. Some municipal issues are subject to the Alternative Minimum Tax (AMT), so buyers need to be wary of these issues if they have an AMT problem.

What is a Corporate Bond?

Corporations regularly issue bonds and the interest paid on these bonds is subject to Federal and State income taxes. That fact, in addition to their higher level of intrinsic risk, means that interest rates on "corporates" tend to be higher than those of municipal bonds. Both corporate and municipal bonds are usually compared in price and coupon to the "**benchmark**" Treasury issues. This difference is called the "**spread**."

Why might bonds make sense for my portfolio?

Investors generally buy bonds for their predictable cash flow and relative price stability. However, changes in prevailing interest rates and the creditworthiness of individual issues can lead to large

changes in bond prices. For speculative investors with a short investment horizon, these price swings can present opportunities for capital appreciation as well as income.