Bond

REVIEWED BY JAMES CHEN

Updated Jan 15, 2019

What is a Bond

A bond is a fixed income instrument that represents a loan made by an investor to a borrower (typically corporate or governmental). A bond could be thought of as an I.O.U. between the lender and borrower that includes the details of the loan and its payments. A bond has an end date when the principal of the loan is due to be paid to the bond owner and usually includes the terms for variable or fixed interest payments that will be made by the borrower. Bonds are used by companies, municipalities, states, and sovereign governments to finance projects and operations. Owners of bonds are debtholders, or creditors, of the issuer.

BREAKING DOWN Bond

Bonds are commonly referred to as fixed income securities and are one of three asset classes individual investors are usually familiar with, along with stocks (equities) and cash equivalents. Many corporate and government bonds are publicly traded; others are traded only over-the-counter (OTC) or privately between the borrower and lender.

How Bonds Work

When companies or other entities need to raise money to finance new projects, maintain ongoing operations, or refinance existing debts, they may issue bonds directly to investors. The borrower (issuer) issues a bond that includes the terms of the loan, interest payments that will be made, and the time at which the loaned funds (bond principal) must be paid back (maturity date). The interest payment (the coupon) is part of the return that bondholders earn for loaning their funds to the issuer. The interest rate that determines the payment is called the coupon rate.

The initial price of most bonds is typically set at par, usually $100 or $1,000 face value per individual bond. The actual market price of a bond depends on a number of factors: the credit quality of the issuer, the length of time until expiration, and the coupon rate compared to the general interest rate environment at the time. The face value of the bond is what will be paid back to the borrower once the bond matures.

Most bonds can be sold by the initial bondholder to other investors after they have been issued. In other words, a bond investor does not have to hold a bond

all the way through to its maturity date. It is also common for bonds to be repurchased by the borrower if interest rates decline, or if the borrower's credit has improved, and it can reissue new bonds at a lower cost.

Example

Because fixed-rate coupon bonds will pay the same percentage of its face value over time, the market price of the bond will fluctuate as that coupon becomes more or less attractive compared to the prevailing interest rates.

Imagine a bond that was issued with a coupon rate of 5% and a $1,000 par value. The bondholder will be paid $50 in interest income annually (most bond coupons are split in half and paid semiannually.) As long as nothing else changes in the interest rate environment, the price of the bond should remain at its par value.

However, if interest rates begin to decline and similar bonds are now issued with a 4% coupon, the original bond has become more valuable. Investors who want a higher coupon rate will have to pay extra for the bond in order to entice the original owner to sell. The increased price will bring the bond's total yield down to 4% for new investors because they will have to pay an amount above par value to purchase the bond.

On the other hand, if interest rates rise and the coupon rate for bonds like this one rise to 6%, the 5% coupon is no longer attractive. The bond's price will decrease and begin selling at a discount compared to par value until its effective return is 6%.

The bond market tends to move inversely with interest rates because bonds will trade at a discount when interest rates are rising and at a premium when interest rates are falling.

Characteristics of Bonds

Most bonds share some common basic characteristics including:

- Face value is the money amount the bond will be worth at maturity; it is also the reference amount the bond issuer uses when calculating interest payments. For example, say an investor purchases a bond at a premium $1,090 and another purchases the same bond later when it is trading at a discount for $980. When the bond matures, both investors will receive the $1,000 face value of the bond.
- Coupon rate is the rate of interest the bond issuer will pay on the face value of the bond, expressed as a percentage. For example, a 5% coupon

rate means that bondholders will receive 5% x $1000 face value = $50 every year.
- Coupon dates are the dates on which the bond issuer will make interest payments. Payments can be made in any interval, but the standard is semiannual payments.
- Maturity date is the date on which the bond will mature and the bond issuer will pay the bondholder the face value of the bond.
- Issue price is the price at which the bond issuer originally sells the bonds.

Two features of a bond – credit quality and time to maturity – are the principal determinants of a bond's coupon rate. If the issuer has a poor credit rating, the risk of default is greater, and these bonds pay more interest. Bonds that have a very long maturity date also usually pay a higher interest rate because the bond holder is more exposed to interest rate and inflation risks.

Credit ratings for a company and its bonds are generated by credit rating agencies like Standard and Poor's, Moody's, and Fitch Ratings. The very highest quality bonds are called "investment grade" and include debt issued by the U.S. government and very stable companies, like many utilities. Bonds that are not considered investment grade, but are not in default, are called "high yield" or "junk" bonds. These bonds have a higher risk of default in the future and investors demand a higher coupon payment to compensate them for that risk.

Bonds and bond portfolios will rise or fall in value as interest rates change. The sensitivity to changes in the interest rate environment is called "duration". The use of the term duration in this context can be confusing to new bond investors because it does not refer to the length of time the bond has before maturity. Instead, duration describes how much a bond's price will rise or fall with a change in interest rates.

The rate of change of a bond's or bond portfolio's sensitivity to interest rates (duration) is called "convexity". These factors are difficult to calculate, and the analysis required is usually done by professionals.

Bond Issuers

There are three main categories of bonds.

- Corporate bonds are issued by companies.
- Municipal bonds are issued by states and municipalities. Some municipal bonds offer tax-free coupon income for investors.
- Government bonds such as those issued by the U.S. Treasury. Bonds issued by the Treasury with a year or less to maturity are called "Bills"; bonds issued with 1 – 10 years to maturity are called "notes"; and bonds

issued with more than 10 years to maturity are called “bonds”. The entire category of bonds issued by a government treasury are often collectively referred to as "treasuries."

Varieties of Bonds

Bonds that make a coupon payment are called “coupon bonds”. There are also other types of bonds issued by borrowers.

Zero-coupon bonds do not pay coupon payments and instead are issued at a discount to their par value that will generate a return once the bondholder is paid the full face value when the bond matures. U.S. Treasury bills are a zero-coupon bond. For example, the U.S. Treasury sold 26-week bills with $100 face value for $98.78 on October 18th, 2018. That equates to a total annual yield of 2.479% once the bondholder is repaid the entire $100 at the maturity date.

Convertible bonds are debt instruments with an embedded option that allows bondholders to convert their debt into stock (equity) at some point, depending on certain conditions like the share price. For example, imagine a company that needs to borrow $1 million to fund a new project. They could borrow by issuing bonds with a 12% coupon that matures in 10 years. However, if they knew that there were some investors willing to buy bonds with an 8% coupon that allowed them to convert the bond into stock if the stock’s price rose above a certain value, they might prefer to issue those.

The convertible bond may the best solution for the company because they would have lower interest payments while the project was in its early stages. If the investors converted their bonds, the other shareholders would be diluted, but the company would not have to pay any more interest or the principal of the bond.

The investors who purchased a convertible bond may think this is a great solution because they can profit from the upside in the stock if the project is successful. They are taking more risk by accepting a lower coupon payment, but the potential reward if the bonds are converted could make that trade-off acceptable.

Callable or Putable bonds also have an embedded option but it is different than what is found in a convertible bond. A callable bond is one that can be “called” back by the company before it matures. Assume that a company has borrowed $1 million by issuing bonds with a 10% coupon that mature in 10 years. If interest rates decline (or the company’s credit rating improves) in year 5 when the company could borrow for 8%, they will call or buy the bonds back from the bondholders for the principle amount and reissue new bonds at a lower coupon rate.

A callable bond is riskier for the bond buyer because the bond is more likely to be called when it is rising in value. Remember, when interest rates are falling, bond prices rise. Because of this, callable bonds are not as valuable as bonds that aren't callable with the same maturity, credit rating, and coupon rate.

A putable bond allows the bondholders to put or sell the bond back to the company before it has matured. This is valuable for investors who are worried that a bond may fall in value, or if they think interest rates will rise and they want to get their principal back before the bond falls in value.

The bond issuer may include a put option in the bond that benefits the bondholders in return for a lower coupon rate or just to induce the bond sellers to make the initial loan. A putable bond usually trades at a higher value than a bond without a put option but with the same credit rating, maturity, and coupon rate because it is more valuable to the bondholders.

The possible combinations of embedded puts, calls, and convertibility rights in a bond are endless and each one is unique. There isn't a strict standard for each of these rights and some bonds will contain more than one kind of "option" which can make comparisons difficult. Generally, individual investors rely on bond professionals to select individual bonds or bond funds that meet their investing goals.

Bonds Summary

A bond represents a promise by a borrower to pay a lender their principal and usually interest on a loan. Bonds are issued by governments, municipalities, and corporations. The interest rate (coupon rate), principal amount and maturities will vary from one bond to the next in order to meet the goals of the bond issuer (borrower) and the bond buyer (lender). Most bonds issued by companies include options that can increase or decrease their value and can make comparisons difficult for non-professionals. Bonds can be bought or sold before they mature, and many are publicly listed and can be traded with a broker.

While governments issue many bonds, corporate bonds can be purchased from brokerages. If you're interested in this investment, you'll need to pick a broker. You can take a look at Investopedia's list of the best online stock brokers to get an idea of which brokers best fit your needs.