Understanding Interest Rates, Inflation.

And Bonds

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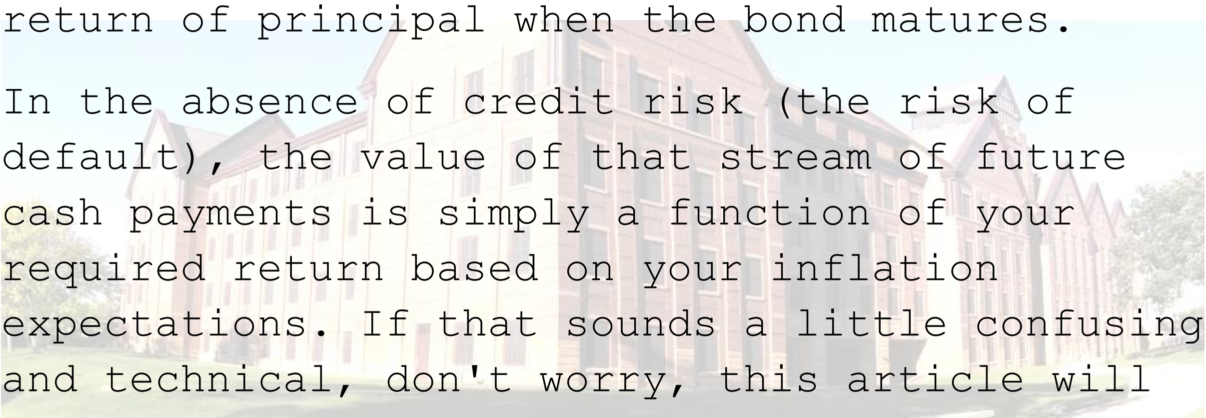
Owning a bond is, essentially, like possessing a stream of future cash payments. Those cash payments are usually made in the form of periodic interest payments and the return of principal when the bond matures.



In the absence of credit risk (the risk of default), the value of that stream of future cash payments is simply a function of your required return based on your inflation expectations. If that sounds a little confusing and technical, don't worry, this article will break down bond pricing, define the term "bond yield," and demonstrate how inflation expectations and interest rates determine the value of a bond.

What is a 'Bond'

A bond is a fixed income investment in which an investor loans money to an entity (typically corporate or governmental) which borrows the funds for a defined period of time at a variable or fixed interest rate. Bonds are used by companies, municipalities, states and sovereign governments to raise money and finance a variety of projects and activities. Owners of bonds are debtholders, or creditors, of the issuer.

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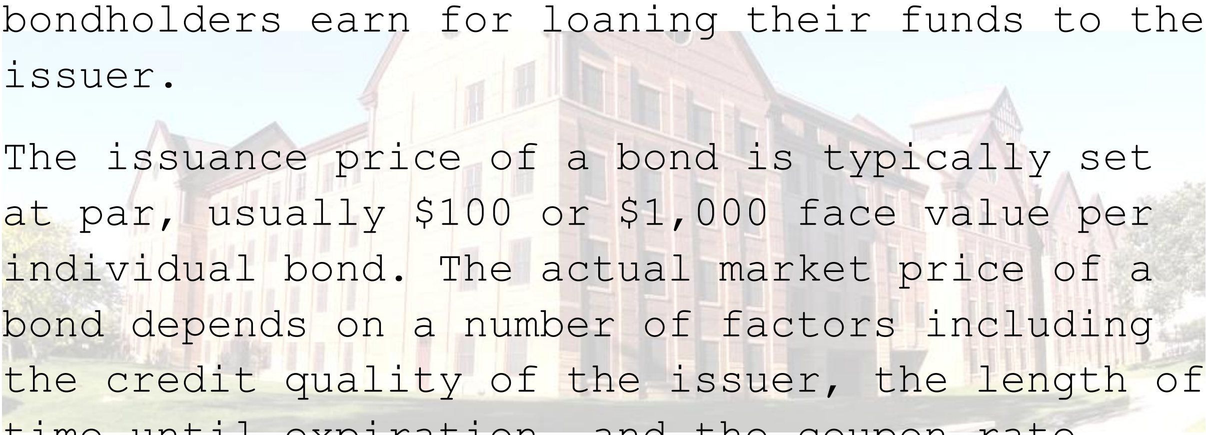
BREAKING DOWN 'Bond'

Bonds are commonly referred to as fixed-income securities and are one of the three main generic asset classes, along with stocks (equities) and cash equivalents. Many corporate and government bonds are publicly traded on exchanges, while others are traded only over-the-counter (OTC).

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 instead of obtaining loans from a bank. The indebted entity (issuer) issues a bond that contractually states the interest rate that will be paid and the time at which the loaned funds (bond principal) must be returned (maturity date). The interest rate, called the coupon rate or payment, is the return that bondholders earn for loaning their funds to the issuer.



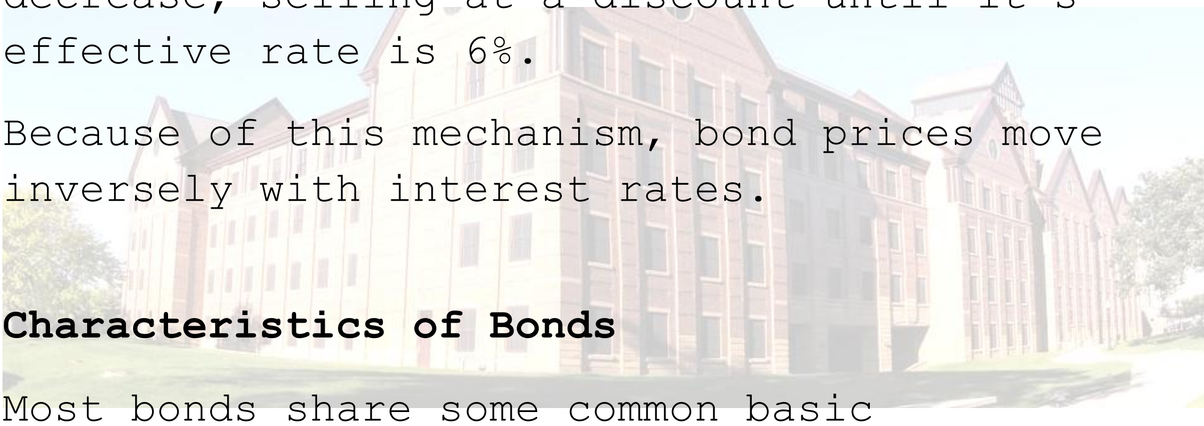
The issuance price of a bond is typically set at par, usually $100 or $1,000 face value per individual bond. The actual market price of a bond depends on a number of factors including the credit quality of the issuer, the length of time until expiration, and the coupon rate compared to the general interest rate environment at the time.

xample

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 desirable or undesirable given prevailing interest rates at a given moment in time. For example if a bond is issued when prevailing interest rates are 5% at $1,000 par value with a 5% annual coupon, the bondholder will be credited $50 in interest income annually. The bondholder would be indifferent to purchasing the bond or saving the same money at the prevailing interest rate.

However, if interest rates in the economy drop to 4%, the bond will continue paying 5% coupon rates, making it a more attractive option. Investors will purchase these bonds, bidding the price up to a premium until the effective rate of the bond equals 4%. On the other hand, if interest rates rise to 6%, the 5% coupon is no longer attractive and the bond price will decrease, selling at a discount until it's effective rate is 6%.

Because of this mechanism, bond prices move inversely with interest rates.



Characteristics of Bonds

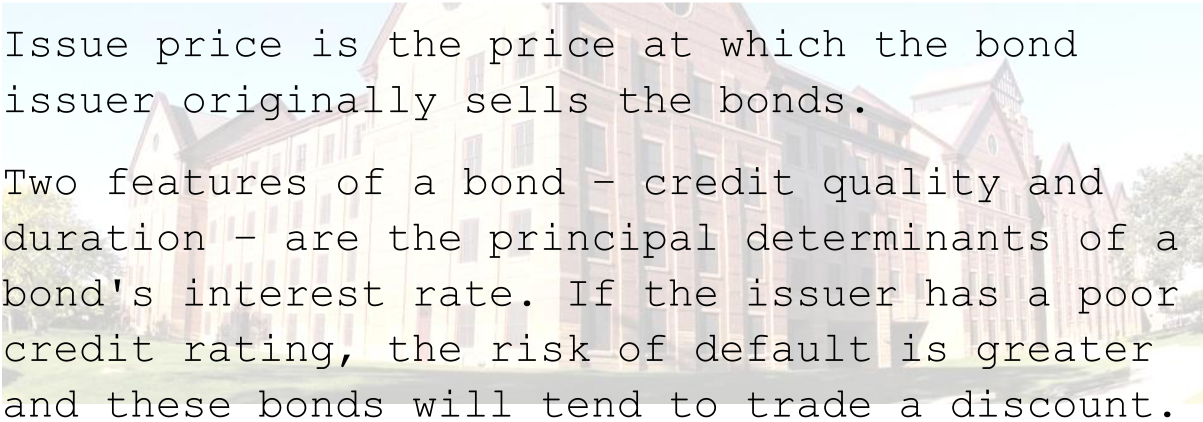
Most bonds share some common basic characteristics including:

Face value is the money amount the bond will be worth at its maturity, and 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 at a discount $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. Typical intervals are annual or semi-annual coupon payments.

Maturity date is the date on which the bond will mature and the bond issuer will pay the bond holder 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 duration - are the principal determinants of a bond's interest rate. If the issuer has a poor credit rating, the risk of default is greater and these bonds will tend to trade a discount. In addition, bonds with a high default risk, such as junk bonds, have higher interest rates than stable bonds, such as government bonds.

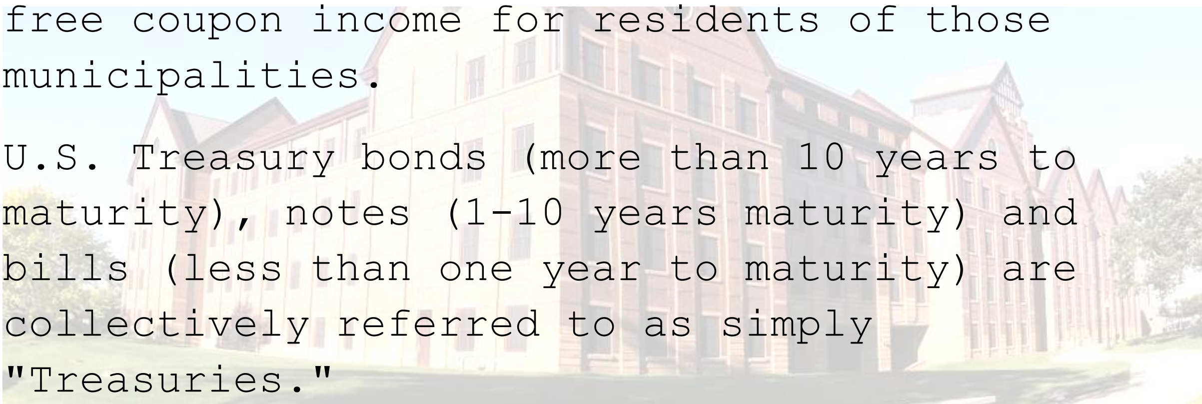
Credit ratings are calculated and issued by credit rating agencies. Bond maturities can range from a day or less to more than 30 years. The longer the bond maturity, or duration, the greater the chances of adverse effects. Longer-dated bonds also tend to have lower liquidity. Because of these attributes, bonds with a longer time to maturity typically command a higher interest rate.

When considering the riskiness of bond portfolios, investors typically consider the duration (price sensitivity to changes in interest rates) and convexity (curvature of duration).

Bond Issuers

There are three main categories of bonds.

Corporate bonds are issued by companies.



Municipal bonds are issued by states and municipalities. Municipal bonds can offer tax-free coupon income for residents of those municipalities.

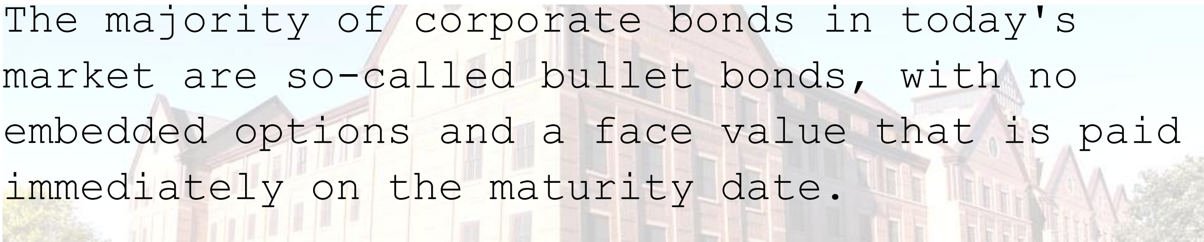
U.S. Treasury bonds (more than 10 years to maturity), notes (1-10 years maturity) and bills (less than one year to maturity) are collectively referred to as simply "Treasuries."

Varieties of Bonds

Zero-coupon bonds do not pay out regular coupon payments, and instead are issued at a discount and their market price eventually converges to face value upon maturity. The discount a zero-coupon bond sells for will be equivalent to the yield of a similar coupon bond.

Convertible bonds are debt instruments with an embedded call option that allows bondholders to convert their debt into stock (equity) at some point if the share price rises to a sufficiently high level to make such a conversion attractive.

Some corporate bonds are callable, meaning that the issuer can call back the bonds from debtholders if interest rates drop sufficiently. These bonds typically trade at a premium to non-callable debt due to the risk of being called away and also due to their relative scarcity in the bond market. Other bonds are putable, meaning that creditors can put the bond back to the issuer if interest rates rise sufficiently.



The majority of corporate bonds in today's market are so-called bullet bonds, with no embedded options and a face value that is paid immediately on the maturity date.