U.S. Treasury Securities

1. Introduction: Treasury Debt

To help finance its operations, the U.S. government borrows money by selling investors a variety of debt securities known collectively as Treasury securities, or simply, Treasuries. These securities have a special place in the investment world, since they are the benchmark by which most other debt securities are measured.

When you invest in a debt security—also known as a fixed-income investment, or a bond—you lend money to an entity that promises to pay back the loan at the end of a predetermined period called the term. For example, in the case of Treasuries, you lend money to the U.S. Treasury. The amount of the loan, the principal, is also called the security's face value or par value. The Treasury pays you interest for the use of your money throughout the term of the debt security, typically twice a year. When the principal is completely paid back, the security is said to have matured. The date on which that happens is called the maturity date.

The interest rate, stated as a percentage of par value, is sometimes called the coupon, from days past when you had to tear a paper coupon off the bond certificate and present it to a bank or other agent to receive your interest payment. Today certificates have been replaced with an electronic book-entry recordkeeping system, and interest is credited electronically to your account.

2. Marketable Securities: Bills, Notes and Bonds

When investors talk about Treasuries, they usually mean those government securities that are transferable or marketable—in other words, financial instruments that can change ownership. This means you don't need to be the original purchaser of the security to collect the interest and principal, and you can sell your investment if you choose.

There are three major classes of marketable Treasuries: bills, notes and bonds, also known as T-bills, T-notes and T-bonds. The face value for a single Treasury security is $100, which is the least amount you can invest. You can invest more, in increments of $100 each—for example, $200, $300 and so forth. In fact, if you want, you can buy up to $5 million of any of these securities at one time.

T-bills, T-notes and T-bonds essentially differ in the length of time they take to mature, from several weeks to many years, making each of them suitable for a different investing purpose. There are also other types of Treasury securities described below.

T-Bills

Treasury bills are extremely short-term debt investments that are sold with 4-week, 13-week, 26-week and 52-week maturities. With T-bills, you don't receive regular interest payments, as you normally would with debt securities. Instead, you receive the interest only once, at the end of the term. Interest income on T-bills is exempt from state and local income taxes but subject to Federal income tax.

T-bills are also priced differently from other debt securities at the time they are issued. Typically, an investor lends the issuer an amount called the face value, or par value, which is paid back at maturity. With T-bills, however, your initial investment is less than par. This is known as buying at a discount. At maturity, you're paid the face value, so the interest you've received is equivalent to the discount you got when you first bought the bill. For example, if you bought $5,000 worth of T-bills at the discounted price of $4,800, you would earn $200 in interest when you receive the full $5,000 face value at maturity.

Because T-bills have short maturities, they have limited exposure to inflation and interest rate risks. As a result, T-bills serve as a benchmark against which the risk of other investments is measured. They typically pay rates comparable to those on bank CDs or money market mutual funds. In fact, when you assign Treasuries to an asset class, T-bills are generally considered cash equivalents.

T-bills may be appropriate for financial goals that call for extremely liquid, low-risk investments. So you might use T-bills in an emergency fund, as a place to hold money while you choose what to invest in next, or as a place to save for short-term goals, such as buying a car.

Treasury Notes

Treasury notes come in a range of medium-length terms: 2, 3, 5, 7 and 10 years. They pay interest twice a year at rates that are fixed at the time they're issued. At maturity, you get the full face value of the note back. T-notes can be useful sources of income and their maturity can be timed to correspond to certain mid-term financial goals, such as buying a home. Or you can buy and sell notes to take advantage of changes in interest rates. In a period of changing interest rates, investors often prefer notes to longer-term bonds, since their investment isn't tied up for such a long period of time. Like T-bills, interest income on T-notes is exempt from state and local income taxes but subject to Federal income tax.

The 10-year T-note has a special place in the economy because analysts and financial journalists use it as the benchmark to measure the performance of other debt securities, such as corporate or municipal bonds, and the state of the debt market as a whole.

Treasury Bonds

The long-distance runners of the debt securities universe, sometimes called "long bonds," Treasury Bonds have a 30-year term. Like T-notes, T-bonds pay interest on a semiannual schedule, at a fixed rate, and return the full face value of the bond at maturity. After a five-year break from 2001 to 2006, during which no T-bonds were issued, the U.S. Treasury is once again issuing them on a regular schedule.

T-bonds often appeal to buy-and-hold investors because they provide a source of regular income over an extended period of time without risk of default. The interest they pay tends to be higher than on shorter-term bonds, though that isn't always the case. In periods when interest rates are rising, investors may be reluctant to tie up their money for many years if they think that by waiting a bit longer to buy they might lock in a more favorable return. Like T-bills and T-notes, interest income on T-bonds is exempt from state and local income taxes but subject to Federal income tax.

TIPS

If you're concerned that investing in Treasuries exposes you to the risk of inflation, you may be interested in Treasury Inflation Protected Securities, or TIPS, which are sold with 5-year, 10-year and 30-year maturities. While the interest rates on TIPS are fixed for their terms, the principal on these securities is adjusted twice a year. The adjustment is based on changes in the Consumer Price Index, which is the main measure of inflation in the United States.

If inflation increases, as it typically does, the principal is increased according to a specific formula. As a result, you'll receive more interest, since the interest rate will apply to the higher principal amount. In addition, if the principal is larger than par value at maturity, you receive the larger amount. Interest income and any increases in principal amounts are exempt from state and local income taxes but subject to Federal income tax.

If prices fall, however, in a period of deflation—which is less likely to occur than inflation—then the reverse situation occurs: Your principal is reduced and the interest you receive will decrease as well, since it will be based on the lower principal amount. However, if at maturity your inflation-adjusted principal is lower than the original principal you'll receive the original principal back, giving you some protection against possible deflation.

One drawback to TIPS, however, is that the interest rate that TIPS pay is substantially lower than the rate on Treasury securities of similar terms that aren't inflation protected.

STRIPS

Separate Trading of Registered Interest and Principal of Securities, or STRIPS, allow investors to hold and trade the interest and principal components of eligible Treasury notes and bonds as securities. The Treasury doesn't offer STRIPS directly, but they can be purchased and held through financial institutions and government securities brokers and dealers.

These firms purchase Treasury securities through book-entry receipts (ownership is recorded by the Treasury electronically). Based on its receipts, the firm then strips the principal from the interest components and creates zero-coupon securities based on portions, or units, of the principal or interest of the security. Zero-coupon securities pay out interest one time only when the securities reach maturity. The unpaid interest simply accumulates until then, and you receive the principal and interest all at once.

For example, a Treasury note with 10 years remaining to maturity consists of a single principal payment, due at maturity, and 20 interest payments, one every six months over the 10-year duration. When this note is converted to STRIPS form, each of the 20 interest payments and the principal payment becomes a separate security. In other words, in this instance, a single security became 21 separate securities by being converted to STRIPs form.

STRIPS are popular with investors who want to receive a known payment on a specific future date and are attractive investments for tax-deferred accounts, such as IRAs and 401(k) plans, and for non-taxable accounts, which include pension funds. Every investor in STRIPS receives a report each year displaying the amount of STRIPS interest income from the financial institution, government securities broker, or government securities dealer that maintains the account in which the STRIPS are held.

Interest earned on STRIPS must be reported in the year in which it is earned and income must be reported even though it is not received until maturity or the STRIPS are sold.

Floating Rate Notes

The U.S. Treasury began issuing Floating Rate Notes (FRNs) in January 2014. Issued for a term of two years, FRNs pay varying amounts of interest quarterly until maturity. Interest payments rise and fall based on discount rates in auctions of 13-week Treasury bills. FRNs are offered in TreasuryDirect and through banks and brokers. Once you purchase an FRN, you can hold it until it matures or sell it before it matures.

The minimum purchase for a FRN is $100 and the minimum term of ownership is 45 days. The maximum purchase in a single auction is $5 million for non-competitive bids, while competitive bids cannot exceed 35% of the offering amount. The price of a FRN can be greater than, less than, or equal to the security's face value. FRNs pay interest quarterly until maturity. At maturity, the face value of the FRN is paid to the owner. Interest income on FRNs is exempt from state and local income taxes but subject to Federal income tax.

3. Investment Risk

Like all investments, Treasuries expose you to certain risks, including the potential for lower-than-expected returns and the unpredictable forces of supply and demand that affect the market for these securities. But because they are federal government issues, they also enjoy a reputation for safety.

Credit Risk

Ordinarily, when you invest in a debt security you need to accept a certain level of credit risk, which is the risk that the borrower won't pay back the money you're owed or make interest payments on time. But Treasury debt securities are backed by the "full faith and credit" of the U.S. government, meaning that the government promises to use its powers to collect revenue through taxes and other means to make good on what it owes. As long as the U.S. government is functioning, it is expected to pay back its debts.

In contrast, if you were to buy a corporate bond, you'd be lending money to a company whose ability to repay you with interest would depend on that company's ability to earn the money it needed. If you buy a municipal bond, you're lending money to a state or city. Since there's some chance of default, or failure to pay you the money you're owed, both corporate and municipal bonds carry more credit risk than Treasury bonds.

While Treasury bonds may be deemed safer than corporate and municipal bonds if you hold them to maturity, remember that, as with all investments, lower risk means lower potential return. Put another way, the safer the investment, the less interest the issuer has to pay to attract investors. That's why Treasury bonds ordinarily pay lower interest rates than other bonds with similar terms.

Interest Rate Risk

But Treasuries are not risk-free investments. Like all debt securities, Treasuries are subject to interest rate risk, which is the possibility that your investment will lose market value because of a change in interest rates. In this case, losing market value means that the sale price of the Treasury is less than its par value, which is what it cost when it was issued.

A lower market price isn't a problem if you plan to hold the bond to maturity, since you will still receive your entire principal back at that time. But interest rate risk does mean you could find yourself holding a bond that pays interest at a lower rate than newer bonds being issued, so you realize less income than if you owned the newer bonds.

Interest rate risk can be a greater problem if you want or need to sell a Treasury that you hold. For example, if you'd invested in a 10-year Treasury note paying 3 percent, but the current 10-year Treasury is paying 5 percent, investors would find the current note more attractive than the one you own. As a result, you'd have to sell the security at a discount to the note's original price. That way, an investor who bought a note paying less interest would get a comparable yield—measured as income per dollar invested—as he or she would with the current note paying the higher interest.

Of course, interest rate changes can work in your favor as well. If you bought a 30-year Treasury bond when the rate was 4 percent and current rates are 2 percent, your bond's higher rate would make it more attractive to investors. In this case, a buyer would be willing to pay a premium, or more than the bond's original price, to get that higher rate.

When it comes to interest rate risk, the maturity date of the bond you choose matters. Interest rate risk increases with the length of the term. For instance, if you own a 2-year note, you won't be locked in to the interest rate on that note for too long. You'll get your principal back fairly quickly, and you'll be able to reinvest it at the then going rate. But if you're holding a bond that matures in 30 years, you'll be earning that interest rate for a long time. If you need the money, you may have to sell your long-term bond at a discount.

Another aspect of interest rate risk is reinvestment risk. For example, if your bond matures and you want to reinvest in another bond, the going interest rate may be lower than the rate you received on the old one. Consequently, you may have to reinvest at the lower rate or choose another investment.

One way to manage this type of interest rate risk is by using a technique called laddering. Instead of investing your entire principal in one bond, you divide the total and buy several bonds with different terms so that they mature in sequence—say, spaced one or two years apart—like the rungs of a ladder. As they mature, you reinvest in another bond with the same length term. Laddering is a way to diversify, providing you with a regular supply of cash to invest at current rates while providing investment income at a combination of different rates.

Inflation Rate Risk

Inflation risk is another consideration if you're investing in Treasuries. If the cost of goods and services is rising faster than the return on your investments, even though your money looks like it's growing, it will actually buy less and less over time. For instance, if your Treasury security is paying a fixed 3 percent interest rate per year, but the annual rate of inflation is also 3 percent, after accounting for taxes, your money will actually be losing buying power with each passing year.

Time makes a big difference with inflation risk. The longer you're invested in a security with a low return, the more impact inflation can have. And since bonds with longer maturities are more vulnerable to both inflation risk and interest rate risk, they offer higher interest rates than bonds with shorter maturities to offset the greater risk they pose.

4. Buying and Selling Treasuries

The Treasury Department makes it easy and inexpensive to buy Treasuries directly on its TreasuryDirect website at www.treasurydirect.gov. Through your online account, you can authorize the purchase and sale of your securities, redeem maturing securities, or reinvest in new Treasuries, with the exception of STRIPS. You can make the purchases with a direct debit from an account you designate. Interest payments and the proceeds from sales are deposited to that same account. The website also provides the latest rate and yield information, plus general information about each type of security that's available.

Treasury Auctions

New Treasury securities are sold by auction. To finance the public debt, Treasury sells bills, notes, bonds, Floating Rate Notes (FRNs), and TIPS to investors through public auctions. Treasury auctions occur regularly, and have a set schedule. The auctions are announced in advance in most major newspapers and through press releases.

There are two kinds of bids in a Treasury auction: competitive and noncompetitive. Bidders who offer competitive bids state the rate they're willing to pay or the yield they are willing to accept. The government accepts bids, starting with the lowest, and working its way up the list until it has sold the full issue. The last—highest—yield it accepts becomes the yield for the issue that's being auctioned.

Individuals usually place noncompetitive bids, which means they agree to accept whatever yield is determined at the auction. Making a noncompetitive bid guarantees that you'll be able to buy the security in the quantity you want. In contrast, investors who put in competitive bids and specify the yield they're willing to accept aren't guaranteed a purchase if their bid is the same as or higher than the cut-off rate.

Once the top bid is accepted, all the successful bidders receive the benefit of that yield even though when they bid they were willing to take less. Because of the way the Treasury auctions its debt securities, even if you buy a Treasury note or bond at issue, the price you pay may be higher or lower than the face value. That's because the interest rate—the percentage of the face value that the note pays in interest—and the yield are determined by the auction.

If the yield set at auction is lower than the security's interest rate, it means demand is high, and investors will pay more than par for the issue—for example, $100.40 for a note with a $100 face value. But if demand is low, investors will want a higher yield to make the security more attractive. In this case, a note with a $100 face value might be sold to investors for $99.50. Remember that a higher yield means a lower price.

Changing Demand

Despite their relative price stability, the demand for Treasury securities continually rises and falls. There are a number of reasons for this fluctuation. One is the condition of the markets for more volatile investments, such as stock and stock funds, whose prices change more often—and often more dramatically than Treasuries. When the economy is strong, and returns on stock investments are strong, investors feel more comfortable taking on more risk for the potential of earning higher returns. At these times, demand for Treasuries drops as investors put their dollars in stock. This drives Treasury prices down and yields up.

However, when other markets aren't doing so well—for example, if the market for stock is down or extremely volatile—then investors don't get the returns they expect for the risks they're taking. They may be worried, in particular, about losing their principal. The result is called a "flight to quality," when investors shift their money to lower-risk investments, such as Treasuries. This shift increases demand, which raises the price of Treasuries as a whole and lowers their yield.

Another reason that demand for Treasuries may change is that interest rates change—a fluctuation that affects all debt securities. However, changes in interest rates don't affect all Treasuries the same way, since a Treasury's exposure to interest rate risk depends on its maturity date. For example, T-bills, which have the shortest maturity, are less vulnerable than T-notes, and T-notes are less vulnerable than T-bonds, which have the longest maturity.

Secondary Market

You can also buy and sell existing Treasuries in the secondary market. In fact, you may be able to find better yields by buying older Treasuries, since there traditionally tends to be more demand for newer issues. You'll need a bank or brokerage account to make these trades, and you should expect to pay transaction fees. And if you're selling Treasuries before they mature, you may have to pay capital gains taxes on any profit you make that isn't offset by your capital losses on other investments.

5. Using Treasuries

There are two ways to make money with debt securities: by holding them and collecting the interest income they earn until they mature, or by selling them at a profit to another investor. As with other debt securities, you can take advantage of Treasuries' predictable income payments and range of maturity dates to invest for financial goals with a specific time frame, such as the down payment on a home or a tuition bill that will be due.

Treasuries are highly liquid investments. New issues become available on regular schedules, and there is an enormous market of buyers and sellers who trade existing securities at high volume every day. That means that Treasuries are easy to buy and sell and the costs of trading them are usually fairly low. This liquidity is particularly important if you need to sell an investment quickly—for example if you need cash for an emergency or an important purchase, if you spot another investment opportunity that's a better fit for your financial plan, or if you want to trade these securities for profit.

Treasuries also have tax advantages. As noted above, while you still have to pay federal income taxes at your regular rate on the interest you receive, those payments are exempt from state and local income taxes.

6. Nonmarketable Securities: Savings Bonds

The U.S. Treasury also sells savings bonds. Unlike T-bills, T-notes and T-bonds, savings bonds aren't marketable, which means they can't be bought and sold after they're issued. Only the person whose name is on the bond has the right to cash it. But you can buy savings bonds for other people by putting their name on the bond rather than your own.

In addition, the rules for purchasing savings bonds are somewhat different from those for buying Treasuries. To begin with, only U.S. residents, U.S. citizens living outside the country and employees of the U.S. government can own savings bonds. That's not the case with Treasury securities, which may be purchased regardless of your citizenship, residency or employment. Savings bonds can also be owned directly by children under 18, whereas minors generally can't own securities directly.

If you're a parent, you might consider using savings bonds as one part of your college savings plan. If your income is less than a specific level that Congress has set at the time you cash in the bond, the earnings are free of federal tax if you use the money to pay qualified college expenses. One thing to remember if you're considering this strategy is that you, as the parent, must be the owner of the bonds to receive this tax break. Your child can't be listed as the owner.

Types of Savings Bonds

There are two main types of savings bonds currently sold by the Treasury: EE savings bonds and I savings bonds, which have many common features:

- Available in amounts as low as $25.
- Sold at face value, so a $50 bond costs $50.
- They accrue monthly interest until they're cashed for up to 30 years.
- Interest compounds semiannually.
- They can be cashed in after 12 months.
- Bond owners forfeit three months of interest if they cash in the bonds within five years of purchase.
- Interest is free of state and local taxes.
- Earnings are free of federal income tax if you are eligible to use them to pay qualified education expenses.
- A maximum of $10,000 of each type of electronic savings bond may be purchased per Social Security number or tax identification

number each calendar year (you can purchase an additional $5,000 in paper I bonds with your tax return, as described below).

Series EE and I savings bonds also have some differences. With respect to how interest is calculated, Series I savings bonds differ from the EE variety because their interest rates earn a combined rate made up of a fixed rate of return known when you buy the bond, and an inflation rate calculated twice a year based on the Consumer Price Index, to prevent your earnings from being eroded by inflation. EE savings bonds pay a fixed rate of interest for up to 30 years and are guaranteed to double in value in 20 years due to accrued interest. (Note: The interest rate on EE savings bonds sold before May 2005 is variable and resets twice a year.)

In 2010, the Treasury began permitting the purchase of Series I savings bonds by checking a box on your tax return. I bonds purchased in this manner are issued as paper bonds and mailed directly to you. Since the Treasury has ended the sale of paper savings bonds (see Buying and Selling Treasuries above), purchasing I bonds through your tax return is the only way to obtain paper savings bonds. The minimum purchase for a paper bond when purchasing with your tax refund is $50. For more information, visit www.irs.gov and www.treasurydirect.gov.

If you currently have paper savings bonds, you can trade them in for electronic bonds through TreasuryDirect, which can make the bonds much easier to track and manage. However, you are not required to do so, and you may hold onto your paper bonds until they mature.