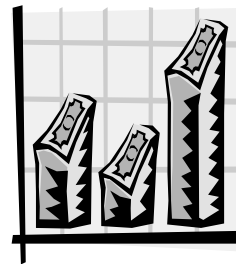


## KOFA HIGH SCHOOL SOCIAL SCIENCES DEPARTMENT

### ECONOMICS - PERSONAL FINANCE WORKSHOPS

#### # 12 - BONDS



*Vocabulary Keys : Words that are in **bold** = are terms that appear in one of the chapters , Words that are underlined = supplemental vocabulary . Ask questions about these words if you are not familiar with them !*

#### TOP THINGS TO KNOW

##### 1. Bonds are fancy IOUs

*Companies and governments issue bonds to fund their day-to-day operations or to finance specific projects. When you buy a bond, you are loaning your money for a certain period of time to the issuer, be it General Electric or Uncle Sam. In return, bond holders get back the loan amount plus interest payments.*

##### 2. Stocks do not always outperform bonds.

*It is only in the post-World War II era that stocks so widely outpaced bonds in the total-return contest. Stock and bond returns were about even from about 1870 to 1940. And, of course, bonds were well in front in 2000, 2001 and 2002 before stocks once again took charge in 2003 and 2004. By 2008, however, the bond market had far outpaced the stock market once again.*

##### 3. You can lose money in bonds.

*Bonds are not turbo-charged CDs. Though their life span and interest payments are fixed -- thus the term "fixed-income" investments -- their returns are not.*

##### 4. Bond prices move in the opposite direction of interest rates.

*When interest rates fall, bond prices rise, and vice versa. If you hold a bond to maturity, price fluctuations don't matter. You will get back the original face value of the bond, along with all the interest you expect.*

##### 5. A bond and a bond mutual fund are totally different animals.

*With a bond, you always get your interest and principal at maturity, assuming the issuer doesn't go belly up. With a bond fund, your return is uncertain because the fund's value fluctuates.*

6. *Don't invest all your retirement money in bonds.*

*Inflation erodes the value of bonds' fixed interest payments. Stock returns, by contrast, stand a better chance of outpacing inflation. Despite the drubbing stocks sometimes take, young and middle-aged people should put a large chunk of their money in stocks. Even retirees should own some stocks, given that people are living longer than they used to.*

7. *Consider tax-free bonds.*

*Tax-exempt municipal bonds yield less than taxable bonds, but they can still be the better choice for taxable accounts. That's because tax-frees sometimes net you more income than you'd get from taxable bonds after taxes, provided you're in the 28 percent federal tax bracket or higher.*

8. *Pay attention to total return, not just yield.*

*Returns are a slippery matter in the bond world. A broker may sell you a bond that is paying a "coupon" - or interest rate - of 6 percent. If interest rates rise, however, and the price of the bond falls by, say, 2 percent, its total return for the first year - 6 percent in income less a 2 percent capital loss - would be only 4 percent.*

9. *If you want capital gains, go long.*

*When interest rates are high, gamblers who want to bet that they'll head lower should buy long-term bonds or bond funds, especially "zeros." Reason: when rates fall, longer-term bonds gain more in price than shorter-term bonds. So you win big - scoring a large potential capital gain in addition to whatever interest the bond may be paying. If rates rise, on the other hand, you lose big, too.*

10. *If you want steady income, stick with short to medium terms.*

*Investors looking for income should invest in a portfolio of short- and intermediate-term bonds.*

*Why bonds?*

*Think "bonds," and you probably think "safe," "reliable," and . . . "boring." But that is only half the story.*

*Bonds can provide a worry-free stream of income. But this class of **securities**, which crushed stocks during the three-year bear market of 2000 through 2002, also includes a wide array of instruments with varying degrees of risk and reward.*

*Used improperly, bonds can really mess up your financial life. Handled with care, however, bonds are among the most valuable tools in your investment kit. Here are some of the benefits they can provide:*

*1. Diversification. Large company stocks have posted compound annual returns of around 9.6% percent since 1926, versus 5.7% for long-term U.S. government bonds. Yet while stocks have returned more than bonds, they are also more volatile. Combining stocks with bonds will net you a more stable portfolio. As seen during the bear market, bonds' positive returns offset the double-digit losses from stocks.*

*2. Income. Because bonds pay interest regularly, they are a good choice for investors -- such as retirees -- who desire a steady stream of income.*

*3. Security. Next to cash, U.S. Treasury Bonds are the safest, most liquid investments on the planet. Short-term bonds are a good place to park an emergency fund or money you'll need relatively soon - say to buy a house or send a child to college.*

*4. Tax savings. Certain bonds provide tax-free income. Although these bonds usually pay lower yields than comparable taxable bonds, investors in high tax brackets ( generally, 28 percent and above ) can often earn higher after-tax returns from tax-free bonds.*

*How bonds work - The ins and outs of taxable and tax-free debt :*

*Companies and governments issue bonds to fund their day-to-day operations or to finance specific projects. When you buy a bond, you are loaning your money for a certain period of time to the issuer, be it General Electric or Uncle Sam.*

*In exchange, the borrower promises to pay you interest every year and to return your principal at "**maturity**," when the loan comes due, or at "call" if the bond is of the type that can be called earlier than its maturity ( more on this later ). The length of time to maturity is called the "**term**."*

*A bond's **face value**, or price at issue, is known as its "**par value**." Its interest payment is known as its "**coupon**."*

*A \$1,000 bond paying 7 percent a year has a \$70 coupon ( actually, the money would usually arrive in two \$35 payments spaced six months apart ). Expressed another way, its "coupon rate" is 7 percent.*

*As interest rates change in the financial markets , based on supply and demand , the prices of bonds fluctuate and this will have an affect on yields. However , the coupon payments stay the same.*

*For example, say you don't buy the bond right at the offering, and instead buy from somebody else in the "secondary" market. If you buy the bond for \$1,100 ( a \$ 100. premium ) in the secondary market, though, the coupon will still be \$70, but the yield is 6.4 percent because you paid a "premium" for the bond.*

*For a similar reason, if you buy it for \$900, its yield will be 7.8 percent because you bought the bond at a "discount." If its current price equals its face value, the bond is said to be selling at "par."*

*The bottom line: There are many ways of expressing a bond's return, but "total return" is the only one that really matters. This includes all the money you earn off the bond: the annual interest and the gain or loss in market value, if any.*

*If you sell that \$1,000 bond with the \$70 coupon for \$1,050 after one year, your total return is \$120, or 12 percent -- \$70 in interest and \$50 in capital gains. Prices are usually expressed based on a par value of 100, so when you sell that bond for \$1,050 the price would be quoted as 105.*

*Types of bonds :*

*U.S. Treasury Bonds are the safest bonds of all because the interest and principal payments are guaranteed by the "full faith and credit" of the U.S. government. Interest is exempt from state and local taxes, but not from federal tax. Because of their almost total lack of default risk, Treasury Bonds carry some of the lowest yields around.*

*Treasury Bonds come in several flavors:*

*- Treasury bills, or "T-bills," have the shortest maturities - 13 weeks, 26 weeks, and one year. You buy them at a discount to their \$10,000 face value and receive the full \$10,000 at maturity. The difference reflects the interest you earn.*

*- Treasury notes mature in two to 10 years. Interest is paid semiannually at a fixed rate. Minimum investment: \$1,000 or \$5,000, depending on maturity.*

*- Treasury bonds have the longest maturities at 10 years. As with Treasury notes, they pay interest semiannually, and are sold in denominations of \$1,000.*

*- Zero-coupon bonds, also known as "strips" or "zeros," are Treasury-based securities that are sold by brokers at a deep discount and redeemed at full face value when they mature in six months to 30 years. Although you don't actually receive your interest until the bond matures, you must pay taxes each year on the "phantom interest" that you earn ( it's based on the bond's market value, which usually rises steadily during the time you*

hold it ). For that reason, they are best held in tax-deferred accounts. Because they pay no coupon, zeros can be highly volatile in price.

Other types of bonds .....

- Municipal bonds, or "munis," are one of America's favorite tax shelters. They are issued by state and local governments and agencies, usually in denominations of \$5,000 and up, and mature in one to 30 or 40 years. Interest is exempt from federal taxes and, if you live in the state issuing the bond, state and possibly local taxes as well. Note however, that there are exceptions. The capital gain you may make if you sell a bond for more than it cost you to buy it is just as taxable as any other gain; the tax-exemption applies only to your bond's interest.

Munis generally offer lower yields than taxable bonds of similar duration and quality. Because of their tax advantages, though, their after-tax returns are often higher than equivalent taxable bonds for people in the 28 percent federal tax bracket or above.

- Corporate bonds pay taxable interest. Most are issued in denominations of \$1,000 and have terms of one to 20 years, though maturities can range from a few weeks to 100 years. Because their value depends on the creditworthiness of the company offering them, corporate bonds carry higher risks and, therefore, higher yields than super-safe Treasuries. Top-quality corporate bonds are known as "investment-grade" bonds. Corporate bonds with lower credit quality are called "high-yield," or "**junk**," bonds.

Sizing up risk :

So you think bonds are totally safe and predictable?

Many people believe they can't lose money in bonds. Wrong! Although the interest payments you'll get from owning a bond are "fixed," your return is anything but.

Here are the major risks that can affect your bond's return :

Inflation risk .....

Since bond interest payments are fixed, their value can be eroded by inflation. The longer the term of the bond, the higher the inflation risk. On the other hand, bonds are a classic deflation hedge; deflation increases the value of the dollars that bond investors get paid.

Interest rate risk .....

Bond prices move in the opposite direction of interest rates. When rates rise, bond prices fall because new bonds are issued that pay higher coupons, making the older, lower-

yielding bonds less attractive. Conversely, bond prices rise when interest rates fall because the higher payouts on the old bonds look more attractive relative to the lower rates offered on newer ones.

The longer the term of the bond, the greater the price fluctuation - or volatility - that results from any change in interest rates.

There is a close connection between inflation risk and interest rate risk since interest rates tend to rise along with inflation. Interest rate shifts are also a concern for mortgage-backed bondholders, but for a different reason: If interest rates fall, home owners may decide to prepay their existing mortgages and take out new ones at the lower rates.

That doesn't mean you'll lose your principal if you hold such a bond. But it does mean you get your principal back much sooner than expected, forcing you to reinvest it at the newly lower rates. For that reason, the prices of mortgage-backed securities don't get as big a boost from falling rates as other kinds of bonds.

Note that price fluctuations only matter if you intend to sell a bond before maturity, or you invest in a bond fund whose manager trades regularly. If you hold a bond to its maturity, you will be repaid the bond's full face value.

But what if interest rates fall and the issuer of your bond wants to lower its interest costs? This brings us to the next type of risk .

Call risk .....

Many corporate and muni bond issuers reserve the right to redeem, or "call," their bonds before they mature, at which point the issuer is required to pay bondholders only par value. Typically, this happens if interest rates fall and the issuer sees it can lower its costs by selling new bonds with lower yields.

If you happen to own one of the called bonds, not only do you get less than the market price of the bond, but you also have to find a place to reinvest the money. Because of the risk that you won't get the income you expect, callable bonds usually pay a higher rate of interest than comparable, noncallable bonds. So, when you buy bonds, make sure to ask not only about the time to maturity, but also about the time to a likely call.

Credit risk .....

This is the risk that your bond issuer will be unable to make its payments on time - or at all - and it depends on the type of bond you own and the borrower's financial health. U.S. Treasuries are considered to have virtually no credit risk, junk bonds the highest.

*Bond rating agencies such as Standard & Poor's and Moody's evaluate corporations and municipalities for their credit worthiness. Bonds from the strongest issuers are rated triple-A. Junk bonds are rated B and lower from Moody's, or BB and lower from S&P. You can check out a bond's rating for free by calling S&P at 212-438-2400 or Moody's at 212-553-0377, or by checking some of the bond websites we identify in "Buying bonds."*

*The highest-quality municipal bonds are backed by bond insurance companies, but there is a trade-off: Insured munis typically yield up to 0.3 percentage points less than comparable uninsured munis. Further, the insurance only guarantees your interest and principal; it won't shield you against interest rate or market risk.*

*Some higher-coupon munis are also "pre-refunded," meaning that they are effectively backed by U.S. Treasuries. When a muni is pre-refunded by an issuer, its credit quality and price rise.*

*Liquidity risk .....*

*In general, bonds aren't nearly as liquid as stocks because investors tend to buy and hold bonds rather than trade them. While there is always a ready market for super-safe Treasuries, the markets for other bonds, especially munis and junk bonds, can be highly illiquid. If you are forced to unload a seldom traded bond, you will probably get a low price.*

*Market risk .....*

*As with most other investments, bonds follow the laws of supply and demand. The more popular or less plentiful a bond, the higher the price it commands in the market. During economic meltdowns in Asia and Russia, for example, the price of safe-haven U.S. Treasuries rose dramatically.*

*You can't eliminate these risks altogether. Now that you understand them, you may be able to reduce their impact by some of*

*Buying bonds - How and where to invest wisely :*

*If you've stuck with the lesson to this point, you are probably interested in knowing more about how to purchase bonds. Here are the main ways :*

*Directly from the Federal Reserve .....*

*U.S. Treasuries are sold by the federal government at regularly scheduled auctions. You can buy them through a bank or broker for a fee, but why pay for something you can get for nothing? The easiest and cheapest way to participate in this market is to buy them*

directly from the Treasury. You can check out the Treasury Direct program on the Web or by calling 800-722-2678. You also can sell bonds you already own before maturity through the Treasury's newer Sell Direct program.

Through a broker .....

With the exception of Treasuries, buying individual bonds isn't for the faint of heart. Most new bonds are issued through an investment bank, or "underwriter," rather than directly to the public. The issuer swallows the sales commission, so you get the same price big investors pay.

That's why, when buying individual bonds, you should buy new issues directly from the underwriter whenever possible - since you're getting them at wholesale.

Older bonds are another matter. They are traded through brokers on the "secondary market," usually over the counter rather than on an exchange, such as the New York Stock Exchange. Here, transaction costs can be much higher than with stocks because spreads - the difference between what a dealer paid for a bond and what he'll sell it for - tend to be wider.

You will seldom know what spread you paid, unfortunately, because the markup is set by the dealer and built into the price of the bond. There is no fixed commission schedule. One ray of sunshine: In early 2002 the Bond Market Association began posting some muni bond prices on its Web site. Alas, the prices include dealer markups because dealers protested listing commissions separately.

If you do plan to invest in individual bonds, you should probably have enough money to invest - say \$25,000 to \$50,000 at a minimum - to achieve some degree of diversification, as we'll explain below. If you have less, consider bond funds, also described below.

Exactly how you invest depends largely on your objective :

1. If your objective is to achieve **capital gains**, concentrate on long-term issues. Reason: as noted in "Sizing up risks," the longer the term of a bond, the more pronounced are its price swings when interest rates move. That works to your advantage if interest rates fall. Your long-term bonds - especially zero-coupon bonds - will suddenly be worth a lot more. Of course, it works to your distinct disadvantage if interest rates rise; your portfolio drops in value. This kind of bond investing is essentially a bet that interest rates will fall, and its subject to all the same risks - including that of substantial losses - as any other market-timing strategy.

2. If your objective is a steady, secure stream of income, adopt a more conservative approach. Specifically :

*Stick to shorter terms. Bonds with maturities of one to 10 years are sufficient for most long-term investors. They yield more than shorter-term bonds, and are less volatile than longer-term issues.*

*Spread your money around. Invest in a variety of bonds with different maturities, either by buying a bond fund or buying a half-dozen or more individual bonds.*

*Build a laddered portfolio. Each rung of your ladder consists of a different maturity bond, from one year right on up to 10 years. When the one-year bond matures, you reinvest the money in a new, 10-year issue. In this way, you always have more money to reinvest every year, and you are somewhat protected from interest rate shifts because you have locked in a range of yields.*

*Through a mutual fund .....*

*It can make sense to buy individual bonds if you own a lot of them and hold them to maturity, but most people are better off buying bonds through mutual funds. The biggest reason is diversification. Because bonds are sold in large units, you might only be able to purchase one or a handful of bonds on your own, but as a bond fund holder you'll own stakes in dozens, perhaps hundreds, of bonds.*

*You will also get the benefit of professional research and money management. Another advantage : Dividends are paid monthly, versus only semiannually for individual bonds, and can be reinvested automatically. Lastly, bond funds are more liquid than individual bond issues.*

*The biggest drawback to bond funds - and it's a whopper - is that they don't have a fixed maturity, so that neither your principal nor your income is guaranteed. Fund managers are constantly buying and selling bonds in their portfolios to maximize their interest income and capital gains. That means your interest payments will vary, as will the fund's share price.*

*For this reason, don't choose a fund based only on its yield. Look at its total return, which combines the income the fund paid out with any change in the value of the fund's shares. Also, look for a fund with low expenses / administrative costs .*