WJM FINANCIAL, LLC
Fee-only financial planning & investment management

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BONDS – A BRIEF OVERVIEW

WHAT IS A BOND?

A bond is basically a loan that a company, municipality, or government agency takes from an investor. The investor lends money to the entity at a stated interest rate (the coupon rate), and the entity promises to pay the interest payments as scheduled, and then repay the entire face value of the bond at maturity. The following example is intended to illustrate this:

Maturity Date	April 2010
Coupon	6.0% paid semiannually (3.0% every six months)
Face Value	$10,000

If Jill purchases this bond today, she will pay the current market price for the bond (this may be higher or lower than the face value, depending upon prevailing interest rates). The company that issued the bond will pay Jill $300 every six months, or $600 per year ($10,000 x 6.0% = $600). When the bond matures in April 2010, the company will repay the entire $10,000 face value, regardless of Jill's original cost.

BASIC BOND GLOSSARY

Face Value This is the maturity value of the bond, or the amount the issuing entity (borrower) will repay to the investor when the bond matures. This amount is often referred to as the maturity value, or redemption value.

Par Value This is the same as the face value of the bond.

Price This is the price that an investor pays for the bond. Price is often stated as a percentage of the face value. For instance, a bond priced at 98.5 would cost $985 ($1,000 x 98.5%).

Coupon This is the interest payment that is paid on the bond. A coupon rate of 6.0% on a $1,000 bond will result in annual interest payments of $60 (or semiannual payments of $30). Some bonds, referred to as *zero coupon bonds*, are issued without coupon payments, but with significantly discounted initial prices.

Maturity This is the date when the principal amount of the bond becomes payable to the investor from the borrower (a company, municipality, government agency, etc.)

YTM *Yield to maturity* (YTM) calculates the annualized rate of return that an investor will receive if she holds the bond until it matures. This calculation takes into account current price of the bond, the coupon payment, the remaining time to maturity, and the amount that the investor will receive when the bond matures.

Call Date In certain instances, the entity that issues the bond may retain the right to repay the bond sooner than the maturity date. The issuer may choose to do this if changes in prevailing interest rates make it beneficial to do so. The call date is the first date at which the borrower may call back the bond.

TYPES OF BONDS

Bonds typically fall into two main categories; taxable bonds and tax-exempt bonds. The taxation of bond interest payments is generally dependent on the issuing entity; bonds issued by corporations, the United States government, or governmental agencies are typically subject to federal income tax. Bonds issued by states, cities, and towns, however, are often exempt from federal income taxation.

Determining which type of bond is appropriate for an investor generally depends on that investor's marginal income tax bracket, and the type of account that the bond will be purchased in. Taxable bonds are generally a better choice for tax-deferred retirement accounts since their pre-tax yields are higher than the yields of tax-exempt bonds, and since the income tax savings of a tax-exempt bond are lost in a tax-advantaged account.

If the investor holds the bonds in a taxable account, on the other hand, she should be more interested in what she will keep (after-tax return), than what she will earn (pre-tax return). An analysis of after-tax yield can be completed by dividing the YTM of a tax-exempt bond by (1 - marginal tax rate) in order to calculate the "taxable equivalent yield." Once the taxable equivalent yield is calculated, the bonds can be compared more meaningfully.

For example, an investor with a 35% marginal income tax bracket would be indifferent between a tax-exempt bond with a 4.00% YTM, or a taxable bond with a yield of 6.15% YTM (4.0% ÷ 0.65 = 6.15%). If taxable bonds with a similar level of risk have a yield that exceeds 6.15%, the investor should choose the taxable bond. Otherwise, the investor is better off with the tax-exempt bond despite its lower pre-tax yield.

As the following table illustrates, the taxable equivalent yield of tax-exempt bonds often makes them very attractive to investors in marginal tax brackets of 36% or higher.

Table: Tax-equivalent yields

		Marginal income tax bracket					
		10.0%	15.0%	25.0%	28.0%	33.0%	35.0%
Tax exempt yield	4.00%	4.44%	4.71%	5.33%	5.56%	5.97%	6.15%
	4.50%	5.00%	5.29%	6.00%	6.25%	6.72%	6.92%
	5.00%	5.56%	5.88%	6.67%	6.94%	7.46%	7.69%
	5.50%	6.11%	6.47%	7.33%	7.64%	8.21%	8.46%
	6.00%	6.67%	7.06%	8.00%	8.33%	8.96%	9.23%

TAXABLE BONDS

Taxable bonds can be divided into two major categories: those with event risk (also referred to as default risk), and those without it. Event risk refers to the risk that the issuer of the bond be unable to meet its obligations to pay the stated interest rate and fully repay the bond upon maturity.

The only bonds that have no event risk are those that are guaranteed by the full faith and credit of the United States government. Bonds issued by corporations, municipalities, or foreign governments are considered to have some varying level of event/default risk.

1. United States Treasury Securities. Treasury Securities are issued by the United States Department of the Treasury and are backed by the full faith and credit of the United States government. As a result of this backing, investors consider US Treasuries to have no credit/default risk and are willing to accept a slightly lower yield when they purchase these bonds. Consequently, Treasuries often yield 1% to 2% less than high quality corporate bonds with similar lengths of maturity.

2. Mortgage Backed Securities. This is a very complicated sector of the bond market. Basically, home mortgages are pooled together and used s collateral for the creation of bonds. The bonds are issued to the public, and investors receive monthly payments that consist of interest payments and a partial return of principal as the mortgages are repaid by homeowners. These bonds are typically issued by the Government National Mortgage Association (GNMA), and are backed by the full faith and credit of the United States Government.

3. Agency Certificates. Government Sponsored Enterprises (GSE) are privately owned entities created by Congress to reduce the cost of borrowing for certain things deemed essential to economic growth (home ownership, education, etc…). Two of these entities – Fannie Mae and Freddie Mac – issue securities backed by the mortgage loans that they purchase. Another, Sallie Mae, issues securities backed by student loans. While these types of securities have an implicit backing by the United States government, they do not provide the same "full faith and credit" backing of Treasuries and GNMA securities. As a result, they tend to provide a slightly higher yield to offset the small increase in perceived risk.

4. Corporate Bonds. Corporations generally raise capital to finance their business operations in one of two ways: (1) they sell stock to the public through a public offering, or (2) they borrow money. One way that corporations can borrow money is to issue bonds to investors. Corporate bonds vary greatly between issuing companies as a result of the company's financial strength…investors are willing to accept lower interest rates from a company of excellent financial strength than from companies with less financial stability.

TAX-EXEMPT BONDS

States, cities and towns need to raise capital in order to fund ongoing operations or special projects. If tax revenues are insufficient to meet this financial need, additional funding is often borrowed from investors by issuing bonds. The interest paid on municipal bonds is exempt from federal income tax, which allows municipalities to pay a lower interest rate to investors.

Similar to the bonds issued by corporations, there is a wide range of risk associated with bonds issued by different municipalities, and understanding the financial strength of the municipality, how the bonds will be repaid (general obligation of the municipality, or revenue from a specific project), and whether there is some type of insurance available on the bond are all important factors when analyzing municipal bonds.

SUMMARY

Bonds can play a very important role in the portfolio of most investors. Although the long-term historical and expected rates of return for bonds are lower than those of the general stock market, bonds often provide very attractive risk-adjusted returns, as well as a more predictable income stream and a greater level of stability than stocks. In fact, from a pure risk-adjusted rate of return standpoint, a portfolio is often more efficient

(amount of return per unit of risk) by holding at least 10% in bonds than it is without bonds.

Despite many benefits of bonds, investors should be aware that all bonds are not alike. The amount of risk, return, and stability that a bond provides can vary greatly depending on the type of entity issuing the bond, the financial strength and stability of the issuing entity, the bond's length of maturity, the provisions embedded in the bond (primarily the option for the issuer to "call" the bond early), and the prevailing interest rate environment (the topic of another paper).

Please do not hesitate to contact me if you would like more information on bonds and how they may fit into your portfolio.

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