

## Utilizing Bonds in Functional Asset Allocation <sup>TM</sup>

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Functional Asset Allocation <sup>TM</sup> recognizes three categories of assets which require proper allocation and utilization in designing a portfolio for ‘real people.’\* These include ‘Interest Earning,’ ‘Real Estate,’ and ‘Equities.’ This article is the first of three which will focus on the suitability of various investment vehicles in implementing Functional Asset Allocation. This article focuses on evaluating the options available in the ‘Interest Earning’ category, which includes cash and bonds. Various vehicles will be discussed as to their suitability to provide the specific functions of the ‘interest earning’ category.

The function of ‘interest earning’ investments is two-fold: to protect the portfolio against deflation, and to assure adequate cash flow so other long-term investments do not have to be sold to meet regular ongoing financial obligations. As such the yield provided by the investment takes a back seat to the liquidity and capital preservation considerations: except for very short-term liquid investments, I do not want clients chasing yield in the interest earning category of their investments. A more secure and higher total return can be accomplished by focusing investment risk in the equities portion of the portfolio and keeping the interest earning portion as a safety net.

This functional approach has two advantages. First, the interest earning vehicles recommended are easily understandable to a non-financial person. Second, with the comfort of having a safety net with interest earning investments, the client is psychologically better prepared to ‘stay the course’ during a recession.

The interest earning category includes three asset classes: ‘Bonds,’ which have maturities of more than 18 months; ‘Cash’ which is immediately available or will mature within 18 months, and ‘Emergency Cash.’ ‘Emergency Cash’ is a tax sheltered reserve of short term interest earning investments whose value is not dependent on market variables (although the interest rate will be adjusted periodically). The vehicles which can be utilized are listed below for each asset class in the order of their suitability.

- I.**     Cash = The function of this asset class is to provide on-going cash flow to meet regular expenses. Without adequate assets in ‘Cash’ and ‘Emergency Cash’ (discussed below), there is a real risk that long-term investments may have to be cashed in before they are “ripe.” Usually it is appropriate to have two to six months living expenses in cash, depending on the volatility of a client’s expenses as well as the regularity of their

**cash flow (thus self-employed, commissioned clients, unemployed and retired clients require more liquidity).**

**Clients who run short on cash flow often display ‘deprivation anxiety.’ This shows up in bickering over small expenses, often loss of sleep, and frequent calls to the advisor. The best medicine for this condition is to make sure the client has adequate cash flow.**

**While FDIC insured savings and checking accounts do provide greater safety, I generally prefer money market funds for base liquidity. I think the lower return offered by banks, etc. who offer FDIC coverage does not reflect the difference in risk in money markets. Typically money markets pay 50-100% higher rates than bank savings accounts and C.D.’s. In the past 25 years only two money market funds had to drop their par value below \$1.00. One was a fund catering exclusively to institutions, and the other was money market funds within annuities where the higher expenses exceeded the yield.**

**Usually municipal tax-free money market funds are appropriate for clients in a 30% tax bracket or higher. The spread between the yields of muni money market funds and taxable money market funds can fluctuate dramatically. We monitor this spread monthly, and in the recent past there have been periods where taxable funds netted a higher after-tax yield than muni funds; likewise there was a period where tax-free yields were higher than taxable yields. For clients with sufficient assets, we can add value by shuffling their cash back and forth to take advantage of the spread.**

**For cash which will not be needed for 6-18 months, short term C.D.’s can be competitive if they are held until maturity; otherwise the surrender charge (normally 3 months interest) brings the rate down below money market levels. We also use the Schwab Yield Plus fund, which imposes a 0.25% surrender charge if not held for 90 days, and has a relatively low expense ratio of 0.40%. These types of funds offered through discount brokers are invested in ultra-short term bonds with an average ‘A’ rating and average maturities of 90 days with yields generally in the 4% to 6% range. Sharp fluctuations in short term interest rates can affect the net asset value, and decrease (or increase) the total return relative to the 30 day SEC yield.**

**We have used various bond funds which averaged maturities of 6-9 months, but have found that they are prone to having negative returns in quarters marked by high interest rate volatility. So we have discontinued their use for this asset class.**

**2. Emergency Cash** = The function of this asset class is to provide a reserve designed to protect clients from a long-term interruption in income or large unforeseen expenses. We define an 'emergency' as any time when the client's tax bracket drops. Thus we prefer to use vehicles which produce a higher return but which entail a taxable event when accessed. This prevents clients from tapping into this reserve unnecessarily, but also enhances the tax efficiency of the portfolio in two ways: interest earned is tax deferred, and when withdrawn is taxed at a lower rate, often zero.

Accordingly we build up 'Emergency Cash' so that it is at least twice the minimum cash recommended, or 20% of outstanding mortgages, whichever is more. For clients in the distribution stages, we want a minimum of 25% of interest earning assets combined in 'Cash' plus 'Emergency Cash.'

When starting out, most young people are advised to use their 401-k or other tax-deferred contributions to fund this asset class, usually in G.I.C.'s or money market funds. This enables them to build a reserve against which they can borrow for a down payment on their home. Clients who come to us already having life insurance with cash values or annuities with significant cash are advised often to keep these investments as 'emergency cash.' Using 1035 tax-free exchanges from high cost annuities into annuities with Vanguard or TIAA CREF can reduce the expense of the annuity.

The best investment for 'Emergency Cash,' however, is U.S. Savings Bonds. These earn interest which is federal tax deferred and state tax free. The interest rate paid changes every six months, but generally has averaged between 4-6% since 1990. Savings Bonds cannot be cashed in for the first twelve months; thereafter you can cash them in at any time, but if cashed in within the first five years then three months interest is forfeited. They continue to earn interest for 30 years. Then they can be either cashed in or be exchanged tax free for Series HH Savings Bonds which pay 4%. Savings bonds are the only tax-advantaged government backed investment which always pays back more than was invested whenever they are cashed in (after twelve months).

Currently there are Series EE and Series I Savings Bonds available; EE bonds are issued at half their face value but Series I bonds are issued at face value. They differ in the way interest is calculated. Each six months the interest rate on EE bonds is adjusted to 90% of the average rates paid on five year Treasury Notes for the past six months. The interest rate on Series I bonds is adjusted every six months, but the changes are based on the CPI (rate of inflation) for

the past six months, plus a 'base rate' which is currently 2%. Series I bonds, which were introduced in the late 1990's, have generally but not always paid higher yields than Series EE bonds. Generally I am partial to Series EE bonds because they guarantee a 4% compounded yield if held for 17 years, until they reach face value. They can of course double in less than 17 years if interest rates are over 4% for that period. Thus they not only provide protection against deflation with a guaranteed base rate, but also protect against inflation since the yield is adjusted to current interest rates, which in turn are driven by inflation and inflation expectations.

There are some peculiarities of Savings Bonds which add to their attractiveness. While interest on the bonds accrues on a tax-deferred basis by default, the owner can elect to pay the taxes on the interest as it accrues. Thus putting bonds in a child's name, and having the child report the income each year, when the bond is cashed the interest is paid out without additional taxes. If the bonds are in the parents' name(s) the interest can be tax free when the bond is cashed in for a child's education (subject to a means test).

Savings Bonds can be purchased at most banks, or on the internet at [www.SavingsBonds.gov](http://www.SavingsBonds.gov). The advantage of buying them on-line with a credit card is that there is no charge for paying with a credit card and the buyer can earn miles on their credit card. There are limits on the amount of Savings Bonds that can be issued to a single social security number in a calendar year: \$30,000 of Series I bonds plus \$15,000 (\$30,000 face value) of Series EE. The reason for this is that banks have traditionally been the primary outlet for issuing Savings Bonds. The rates and tax advantages of Savings Bonds are superior to C.D.'s and so banks insisted that there be a limit on how much could be invested. Otherwise savvy savers would cash in their C.D.'s and buy Savings Bonds.

- 3. Long-term Bonds.** The function of 'Long-term Bonds,' i.e. those with maturities of more than 18 months, is to provide capital preservation and protect the investor from deflation. For this reason I strongly prefer U.S. Stripped Treasuries: they are recognized as the safest investment on the planet and they are non-callable when deflation beats down interest rates. They are called "strips" because they are 'stripped' of their interest coupons. Thus they are sold at a discount from face value rather than providing a stream of income as regular bonds do. The disadvantage of regular Treasury notes and bonds is that they pay out interest each six months, which then has to be reinvested (at lower rates during deflationary periods).

**'Strips' are ideal to use to build a 'cash-flow bond ladder.' The traditional approach, touted by bond dealers, is to use an 'income bond ladder.' To build an 'income bond ladder' bonds are laddered (so one matures each year over a ten or fifteen year period. They then provide a stream of income, so if \$1,500,000 were invested at \$100,000 per year for 15 years at an average of 5%, the owner receives \$75,000 per year in interest income which never runs out. Each year the bond at the short end of the ladder matures and is invested again at the long end of the ladder, at the then current rates. Thus the ladder provides 'dollar cost averaging' into the bond market to stabilize the aggregate yield, and the payment of income only leaves the principle amount invested.**

**In contrast a 'cash-flow bond ladder' is built with 'stripped' Treasuries to provide cash flow instead of a stream of income. Continuing the example above, instead of investing the whole \$1,500,000 in bonds, bonds with a face value of \$75,000 per year are invested over a 15 year period, assuring the client of a guaranteed cash flow for 15 years. These bonds, if averaging a 5% yield, would cost about \$750,000 because they are discounted. Assuming \$250,000 is kept in 'cash' and 'emergency cash,' the remaining \$500,000 could be invested in equities or real estate. Over the long term, as we have learned from Modern Portfolio Theory, the additional diversification of the portfolio which the 'cash-flow' ladder enables will provide a higher return with less risk over the long term.**

**Building a 'cash-flow ladder' in effect gives the investor a 15 year investment horizon. When other investments do well and increase in value, we will take some or all of the \$75,000 per year required from selling stocks or real estate. The bond for \$75,000 which matures that year at the short end of the ladder is then invested at the top of the ladder, where it will buy two years of \$75,000 bonds. In deflationary times, the stock and real estate portfolio is held intact and the \$75,000 cash flow is derived from the bond which is currently maturing.**

**Note that inflation-indexed Treasury bonds (called 'TIPS') are not congruent with a functional asset allocation approach since they do not protect the investor from deflation. Their rate of return is indexed to inflation, so the yield drops during deflationary periods.**

**Since the interest accruing each year on a 'strip' is taxable even though no interest is paid out, it is ideal to build a 'cash-flow ladder' with 'qualified' funds (i.e. in some sort of pension). This not only makes the portfolio more tax efficient, it also provides an invincible safety net for the investor because in most states pension funds are exempt from creditors. So the bond ladder enables more**

**diversification in a portfolio, prevents loss of capital, reduces taxes and is the ultimate protection against lawsuits.**

**FDIC backed C.D.'s can be substituted for Stripped Treasuries for up to five years out, since generally longer term C.D.'s are not available. If there is not enough qualified funds to build a 'cash-flow' ladder with strips and C.D.'s, AAA insured non-callable municipal bonds can be used for up to ten years out; there are few issued that are non-callable beyond ten years.**

**It is true that corporate bonds and high-yield (junk) bonds offer significantly higher yields, but they also carry more risk. The securities market is very efficient at pricing bonds with yields to maturity which accurately reflects the perceived risk of the issue. Treasury bonds are the lowest yielding bonds because they are the safest. It is not prudent to chase a higher yield, which always carry higher risk, in this asset class since the function of bonds in a portfolio is capital preservation. It is wiser to take additional risks in equities where the return is greater, and keep bonds safe.**

**In addition to the risk considerations, corporate and municipal bonds involve excessive transaction fees because the bond market is very inefficient. Unlike U.S. Treasury securities which only vary in their maturity dates, other bond issues have numerous other features which affect their risk. These features include: if and when the bond is callable and at what price, what other creditors the debt is subordinate to, the source of repayment and related risk, etc. As a result of these complexities, the trading markets for each type of bond are very thin, and the spread is very wide between the bid and asked prices. This is why non-Treasury bond prices are not listed in the newspaper. Prices for Treasury securities are listed daily because they trade in an efficient market: they are ubiquitous and are traded in billions of dollars 24 hours a day across the globe.**

**What this boils down to is measuring the true transaction costs. The true transaction costs include commissions and the spread between the buy and the sell prices. Since the market is so thin, bond dealers often buy the best bond deals for their own inventory and mark them up and resell them to investors. This is where the money is made in bond trading. This can be determined by comparing the total cost of the bond bought versus the net proceeds if sold the next day and interest rates were unchanged. This round-trip cost, for a \$25,000 Treasury bond would be less than \$100 (= 0.4%) at virtually any discount broker. In contrast, a \$25,000 corporate or municipal bond similarly traded through a discount broker could well carry a round-trip cost of over \$500 (=2.0%).**

**Often bonds which seem safe actually carry a high risk because of these various features which are tacked on. The time, expertise, and effort necessary to properly evaluate risk in bonds are worthwhile only for very large institutions and foundations. These bonds are not designed for, nor are they appropriate for, 'real people.'**

**Bond mutual funds do provide managers knowledgeable about the bond market. These are not appropriate to use to implement Functional Asset Allocation, except perhaps for very small clients just starting out. This is because bond funds do not provide the basic function of capital preservation, which is the purpose of interest earning investments. If interest rates increase long-term, the bonds will decline in value. Investors who bought bond funds in the late 1960's suffered permanent losses in their portfolios because interest rates have not yet declined to the level they were in the 60's. When an individual bond is purchased, in contrast, you are guaranteed to get your original investment back in addition to the interest generated.**

**In summary, a perfect portfolio of interest earning investments for 'real people' includes enough 'Cash' to provide uninterrupted cash flow; 'Emergency Cash' equivalent to 20% of outstanding mortgages, and 'Bonds' structured in a cash-flow bond ladder to provide protection from deflation. For example, Bob and Mary are 'real people' who earn \$100,000 annually, and have a net worth of \$550,000. This includes a primary residence worth \$250,000 (less a \$200,000 mortgage), and an investment portfolio of \$500,000, half of which is pension money (qualified funds). Using the principles of Functional Asset Allocation <sup>TM</sup> the default allocation (subject to adjustments for appropriate risk exposure) would be 40% interest earning (= \$200,000) and 60% equities (= \$300,000). We will assume that the client is 45 years old and wants to retire in 15 years.**

**Of the \$200,000 in the interest-earning asset category, \$10,000 would be kept in a tax-free money market fund (since the client would be in a 30%+ tax bracket depending on state tax). \$40,000 would be invested in U.S. Savings Bonds (half in Series EE and half in Series I) as 'Emergency Cash.' The remaining \$150,000, which is in qualified funds, would be invested in a Stripped Treasury Ladder to fund 15 rungs with a face value of \$25,000 each which would begin to mature 15 years from now. The plan would be to increase the ladder to perhaps \$75,000 per rung over the next 15 years. Then the government guaranteed cash flow provided by the bond ladder, combined with Social Security of about \$25,000 per year would enable them to retire at the same standard of living as they enjoy now.**

**This interest-earning portfolio is not only invincible since over 95% is in Treasury securities, it is also totally tax efficient: 1) the muni money market is tax-free; 2) the U.S. Savings bonds are all tax-deferred; and 3) the bond ladder is in qualified funds which is totally tax deferred. In addition, the bulk of the assets marked for capital preservation (i.e. the bond ladder) are protected from creditors since it is pension money.**

**Using ‘Functional Asset Allocation’™ for interest-earning investments enables the Financial Advisor to protect the client in the worst scenarios, provide optimum tax efficiency, and assures the cash flow needed to prevent ‘deprivation anxiety.’**

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**\* The term ‘real people’ refers to Americans who build their wealth from their own earnings. It would not include the very rich (over \$10,000,000 net worth) or the very poor eligible for government assistance programs. It is used instead of “middle America” which has geographic connotations and can be perceived as referring to middle-class people only.**

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*Bert Whitehead is the founder of the Alliance of Cambridge Advisors, and has been a practicing fee-only planner since 1972 focusing on making professional financial advisors accessible to ‘real people.’ He has actively promoted NAPFA membership, and is involved in moving Financial Planning toward becoming a true profession. He is author of the recent controversial book, “Facing Financial Dysfunction: Why Smart People Do Stupid Things With Money” available through Amazon.com. Permission is granted to quote this article in whole or in part if the author is notified, provided a copy and appropriate attribution is made as to the source. Comments or questions about this article can be directed to: Bert@BertWhitehead.com.*