U.S. GOVERNMENT BOND FUNDS: A PORTFOLIO COUNTERWEIGHT

By John Markese

As a relatively low risk, understandable, and steady counterweight for your stock portfolio, U.S. government bond funds are hard to beat if you do not want to buy the bonds directly and manage them yourself.

In any crisis or disaster, whether economic financial, civil, governmental or natural, investors worldwide instinctively turn to U.S. government bonds and the mutual funds that invest in these bonds.

But government bond funds can be more than just a temporary safe haven for your investments. These funds can help you reduce your total portfolio risk through diversification, while offering significant, consistent income. And while these funds may inherently have inflation and interest rate risk, on average they possess substantially less volatility than the average stock mutual fund.

Put all of this together with the assurances that interest and principal are secure, and U.S. government bond funds are worth a look for almost all portfolios, all the time, temporary crisis or not.

THE RISKS AND REWARDS

From a tax standpoint, government bond funds are exposed: Interest is taxable at the federal level but may not be at the state level, and any capital gains distributions from the fund or from the sale of mutual fund shares are also taxable.

For high tax bracket individuals, municipal bond funds, in some cases state-specific municipal bond funds, may generate higher aftertax returns. But if taxes are an issue, then a government bond fund could be placed in a tax-sheltered account—IRA, Keogh, 401(k), or 403(b).

Bonds by their nature—a promised fixed-dollar return—are exposed to inflation risk, which is the erosion of purchasing power. Government bond funds are no different in terms of inflation risk, although a relatively new series of government bonds with built-in inflation protection can be purchased. Corporate bonds, even municipal bonds, have defaulted on interest and principal payments or had their default ratings slashed, causing price declines and investor losses. U.S. government bonds have not. But all bonds, U.S. government bonds included, are exposed to one other important risk: changing market interest rates.

Bonds promise a fixed-dollar return in the future in the form of interest payments and principal. Therefore, if interest rates rise, existing bonds will fall in price to adjust as new bonds are issued promising higher returns. Conversely, if interest rates fall, the prices of existing bonds will rise because new bonds will pay less interest. And the longer the maturity of the bond or the average maturity of the bond fund, the greater the price changes in response to a change in market interest rates.

Another facet of risk is its antidote, diversification. If two investments tend to move in opposite directions, or simply do not move in perfect unison, then even though individually they may be volatile, together as a portfolio they combine to be less volatile. Bonds and stocks are two such investments. For that reason, bond funds offer investors a way to substantially reduce their overall portfolio risk.

Of course, bond returns are lower than stock returns, since bonds are less volatile than stocks, and because they offer fixed-dollar returns when held to

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maturity rather than uncertain price changes, as in the case of stocks. Over the last half-century, common stocks have averaged 12.8% compounded annual return (but don't expect this for the *next* 50 years) and long-term government bonds have averaged 6.0%. Inflation over that same period averaged 4.0%.

A LOOK AT THE NUMBERS

But there is no substitute for looking at real numbers posted by government bond mutual funds and, for comparison purposes, stock and bond indexes. Table 1 reports the performance, risk and fund statistics for the top-performing government bond funds in each of three maturity categories: short-term (less than three years average maturity), intermediate-term (three to 10 years), and long-term (over 10 years). These are the best-performing government bond funds over the last five years in each maturity range, ranked within the maturity range by five-year average annual compound return.

A glance at the five-year performances by maturity category reveals a general investment period relationship: longer-term maturities have higher average returns. This is particularly obvious when comparing the Vanguard Short-, Intermediate- and Long-Term Bond Index funds. These funds are not actively managed and solely reflect bond market conditions rather than any portfolio manager actions. But

TABLE 1. TOP GOVERNMENT BOND FUNDS OVER THE LAST FIVE YEARS

Fund	Annual Total Return Thru 9/30/01 (%) Last Year	Last 3 Yrs.	Last 5 Yrs.	Last 10 Yrs.	Total Return (%) Bull Mkt.*	Bear Mkt.**	Yield (%)	Avg. Maturity (Yrs.)	Bond Risk Index	Total Risk Index	Exp. Ratio (%)
Short-Term (< 3 years)											
Payden & Rygel US Gov't/R (PYUSX)	11.9	6.3	7.2	na	4.9	16.9	5.0	2.4	0.62	0.13	0.40
Vanguard Fxd: Sh Tm Fed (VSGBX)	11.9	6.6	7.0	6.6	5.8	16.6	5.5	2.8	0.55	0.11	0.29
Montgomery Sht Dur Gvt/R (MNSGX)	10.2	6.2	6.9	na	5.7	14.8	5.3	2.2	0.46	0.10	0.60
Vanguard Fxd: Sh Tm Treas (VFISX)	11.2	6.2	6.8	na	5.3	15.9	5.1	2.7	0.56	0.12	0.27
AMF Short US Gov't Sec (ASITX)	9.4	5.7	6.2	6.0	5.5	13.5	5.4	1.5	0.41	0.08	0.51
Intermediate-Term (3 to 10 years)											
Amer Cent: Target 2005/Inv (BTFIX)	21.8	9.4	11.7	11.0	7.3	27.8	0.0	5.3	2.13	0.44	0.59
Vanguard Fxd: Interm Treas (VFITX)	15.0	5.9	8.2	na	1.8	21.1	5.6	7.5	1.23	0.25	0.30
Galaxy II: US/Ret A (IUTIX)	12.5	5.7	7.8	7.3	3.7	17.1	5.5	9.0	1.03	0.21	0.41
Amer Cent: Intm Trs/Inv (CPTNX)	13.7	5.8	7.6	6.9	2.8	19.0	4.7	5.7	1.05	0.22	0.51
Fidelity Spart Gov't Inc (SPGVX)	12.8	5.6	7.6	7.0	2.7	18.1	5.7	9.6	1.01	0.21	0.49
Long-Term (10+ years)											
Amer Cent: Target 2025/Inv (BTTRX)	21.9	3.9	15.0	na	–4.3	22.0	0.0	25.0	4.34	0.90	0.59
Amer Cent: Target 2020/Inv (BTTTX)	27.2	3.8	13.4	12.6	–11.8	31.3	0.0	20.2	4.57	0.95	0.59
Amer Cent: Target 2015/Inv (BTFTX)	21.6	5.2	12.6	12.1	–5.4	27.5	0.0	15.4	3.04	0.63	0.59
Amer Cent: Target 2010/Inv (BTTNX)	23.9	5.9	11.6	11.3	–4.3	30.9	0.0	10.3	2.57	0.53	0.59
Vanguard Fxd: Long Tm Trea (VUSTX)	14.0	4.8	9.4	9.0	0.4	18.6	5.4	18.5	1.80	0.37	0.32
Bond Index Funds											
Vanguard Bd Idx: Short Trm (VBISX)	11.7	6.7	7.2	na	5.8	16.7	5.7	2.8	0.56	0.12	0.21
Vanguard Bd Idx: Interm Tm (VBIIX)	15.2	6.1	8.3	na	2.3	20.8	6.2	7.8	1.22	0.25	0.21
Vanguard Bd Idx: Long Term (VBLTX)	14.6	4.9	9.1	na	0.2	18.7	6.0	22.9	1.72	0.36	0.21
Vanguard Bd Idx: Tot Bd (VBMFX)	12.8	6.3	8.0	7.6	4.0	18.0	6.2	9.0	0.91	0.19	0.22
Bond Fund Category Averages											
Corporate Bond Fund Average	8.8	5.3	6.5	7.6	5.3	13.1	6.3	6.7	1.05	0.22	0.70
Corporate High-Yield	–9.2	–1.0	2.3	7.0	6.5	–9.0	11.0	6.5	2.67	0.55	0.85
Government	12.7	5.3	7.7	7.4	2.3	17.3	4.6	9.5	0.95	0.20	0.63
Mortgage-Backed	11.0	6.1	7.1	6.8	4.3	16.0	5.9	7.0	0.79	0.16	0.65
General	11.0	5.7	7.0	7.1	4.4	15.6	5.8	8.4	0.92	0.19	0.68
Tax-Exempt	9.1	4.1	5.6	6.2	1.3	13.1	4.4	15.5	1.06	0.22	0.62
Index Comparisons											
Treasury Bills	5.4	5.3	5.3	4.9	8.1	8.7	3.2	na	0.09	0.02	na
S&P 500 Index	–26.6	2.0	10.2	12.6	59.8	–29.2	1.4	na	5.18	1.07	na

**Bull market period: September 1998 through March 2000* *na = not applicable*

***Bear market period: April 2000 through September 2001*

Source: AAII's Quarterly Low-Load Mutual Fund Update, *October 2001*

returns are volatile for different investment periods, and for different funds, no matter what the maturity. The three-year average annual returns are lower than the five-year returns and the one-year return is the highest.

Telling performance for these government bond funds is their behavior during recent bull market and bear market periods. These bull/bear periods, of course, refer to the stock market, and the performance for the S&P 500 index is a well-known market benchmark; the S&P 500's total return was up 59.8% in the bull market and down 29.2% in the bear market through the third quarter of this year. The average government bond fund was up only 2.3% during the bull market as the Federal Reserve increased interest rates over the period, but it was up 17.3% during the bear market, moving relatively opposite, but not in the same magnitude, of stocks. Of all the domestic bond fund category averages, only corporate high-yield bond funds moved with stocks, but not to the same degree. Corporate high-yield bond funds are composed of low investment-grade, high default risk bonds that have high but somewhat uncertain interest payments that reflect their inherent risk. In other words, they behave in times of distress more like stocks than bonds.

The average yield—income from interest relative to the market value of the bond portfolio—is a quick and rough way to gauge what your return might be if interest rates remained unchanged. It also puts into perspective the double-digit returns of last year: More than half the return was from capital gains generated when interest rates fell and bond prices moved up.

The zero yield for the various American Century Target Maturity Bond funds underlines their structure. They pay no interest, are sold at a discount to their future maturity value that is fixed, and at maturity they are liquidated. With only one payment way in the future, they are the most sensitive to interest rate changes, and they behave like a zero-coupon bond. When interest rates rise, their net asset values collapse, and when interest rates fall, their values soar. And usually the longer the maturity, the greater the effect, although supply and demand conditions in the various government bond maturity ranges may distort the differences among the various maturity American Century Target funds. These are the only funds that you can hold to maturity and, given your purchase price, know your return over the fund's life—an advantage individual bonds have over bond mutual funds that don't mature but constantly rollover their bonds to maintain an average maturity objective.

The average maturity of a government bond fund is a rough indicator of relative risk, except for the American Century Target maturity funds that are probably at least twice as volatile as other bond funds of the same maturity. Long-term government bond funds are approximately half again as volatile as intermediate funds, and three times as volatile as short-term funds. The bond risk index illustrates the point. Against all bond funds, a risk index of 1.00 is average, 0.50 is half as volatile, and 2.00 is twice as volatile (sensitive to interest charges). The longest-term American Century Target Maturity funds are almost as volatile as the S&P 500, which has a bond risk index rating equivalent of 5.18. However, if you are unconcerned with short-term volatility and you know with certainty that you will hold these target maturities to the target day, then your only relevant risk is inflation. Your purchase price of these zero-coupon-like bond funds and the time to maturity are the sole determinants of your return.

The total risk index compares these government bond funds to all mutual funds, bond and stock alike. On this basis, these government bond funds—in fact all the bond fund categories, even high risk—look to be less rambunctious. The most volatile government bond fund is at 0.95 (American Century Target Maturity 2020), compared to the S&P 500, at 1.07. But the average government bond fund has a total risk index of only 0.20. Because of their high annual interest payments that dampen return volatility, high-yield corporate funds have a total risk index of only 0.55, but offer less portfolio diversification.

The expense ratio, what it costs you annually in fund expenses and management fees, should be of particular interest to bond fund investors because expenses can eat bond fund returns faster than stock returns. (All returns reported here are net of expenses.) A rule of thumb is to stay below a 0.75% expense ratio when looking for a bond fund, and the bond index funds have a decided expense advantage, most at a mere 0.21%.

A RELIABLE COUNTERWEIGHT

As a relatively low risk, understandable, and steady counterweight for your stock portfolio, U.S. government bond funds are hard to beat if you do not want to buy the bonds directly and manage them yourself.

You can dial the degree of interest rate risk in the U.S. government bond fund by keeping your eye on the average maturity range, and the portfolio structure (usual interest payment versus target maturity). And you can change the bond/stock weights in your portfolio to arrive at your risk comfort zone using U.S. government bond funds.

You can't escape the risk of inflation gnawing away at your returns, or bond prices jumping around once in awhile, but if you can count on anything, count on our government's bonds. ✥