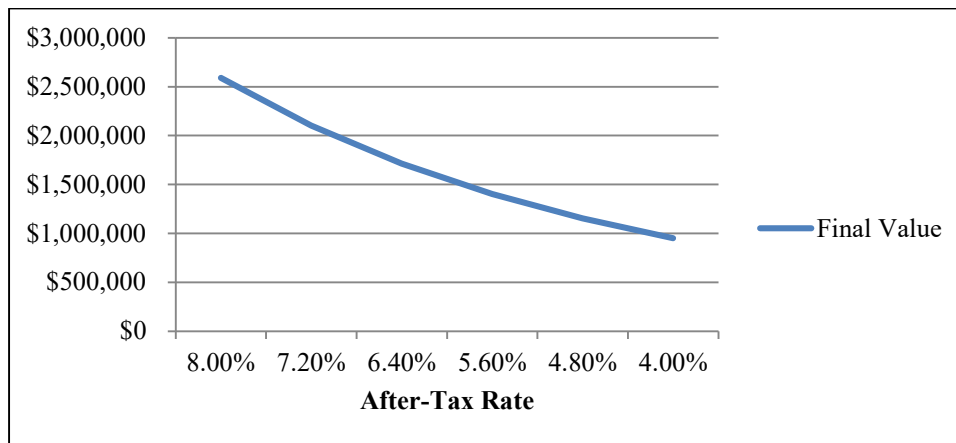
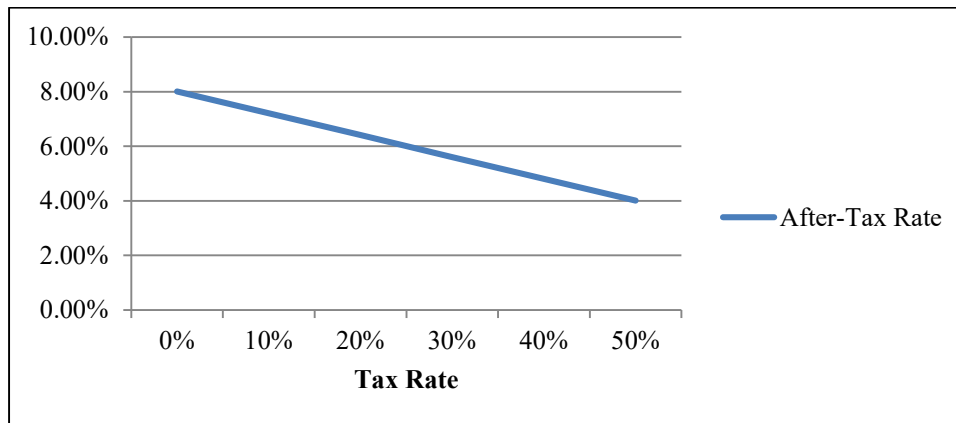


#14: Tax-Aware Investing

Taxes are the biggest drag on investment performance, having a greater effect than either commissions and management fees. Over a long period of time, “tax drag” can have a dramatic effect on wealth accumulation.

Example 1. Joe and Heather are a young married couple who plan to invest \$10,000 each year for 40 years, at which time they will retire. Assume that their investments will grow at a pre-tax rate of 8%. The following chart compares how much they will accumulate at the end of the 40-year period assuming different effective income tax rates.

Tax Rate	After-Tax Growth Rate ⁴²	Final Value
0%	8.0%	\$ 2,590,565
10%	7.2%	\$ 2,102,199
20%	6.4%	\$ 1,712,216
30%	5.6%	\$ 1,400,380
40%	4.8%	\$ 1,150,637
50%	4.0%	\$ 950,255



⁴² After-tax growth rate = 8% x (1 - Tax Rate).

Until recently, tax planning was usually not a large part of the investment process. Most investors focused on achieving the highest possible pre-tax return and left the tax planning until after investment gains or losses had already been realized. They may have engaged in year-end tax planning to harvest losses, but ignored the effect of taxes on the choice of investment assets, investment style, portfolio design, asset allocation and asset location.

There has been a growing realization among taxable investors that it's not what you earn that counts, but what you keep after taxes. The top tax rates are currently 37% for ordinary income and 20% for capital gains, 40.8% and 23.8% respectively when the 3.8% NIIT is taken into account.

Tax-Aware Investing

Tax-aware investing includes the following components:

- (1) Increasing investment in tax-favored assets;
- (2) Deferring gain recognition;
- (3) Changing portfolio construction;
- (4) After-tax asset allocation;
- (5) Tax-sensitive asset location;
- (6) Managing income, gains, losses and tax brackets from year-to-year; and
- (7) Managing capital asset holding periods.

Managing income, gains, losses, tax brackets and holding periods are covered under other topics in this series (e.g., bracket management, loss harvesting, Roth IRA conversions, CRTs, etc.), so they will not be covered here. The other components are addressed below.

Increasing Investment in Tax-Favored Assets

Some investment assets are taxed at much higher rates than others. For high income taxpayers, interest is taxed at 40.8%, gain on stock sales is taxed at 23.8% and income from tax-exempt bonds is not taxed at all. Tax-aware investing suggests that investors might wish to invest more in "low tax asset classes" and less in "high tax asset classes." It is important to remember, however, that the goal of tax-aware investing is not to minimize taxes, but to maximize after-tax return.

Investors obviously save on taxes by switching from taxable corporate bonds to tax-exempt municipal bonds, but is this always a good idea? Consider the following example.

Example 2. May, a single taxpayer in the 37% marginal income tax bracket, owns \$1,000,000 worth of corporate bonds that pay 4% interest (\$40,000/year). May could switch to tax-exempt bonds paying 2.75% interest and avoid both income tax and the NIIT. But, would this be a good idea?

May's after-tax return on the taxable corporate bonds is $\$40,000 - (.408 \times \$40,000) = \$23,680$. This makes the after-tax return 2.368%. Her after-tax return on the tax-exempt bonds would be \$27,500, or 2.75%. Thus, switching to tax-exempt bonds

would produce a better economic result. However, if the tax-exempt bonds instead produced only 2.0% interest, May would be better off keeping the taxable bonds.

Deferring Gain Recognition

Everything else being equal, the lower the turnover ratio of a portfolio, the higher the effective growth rate will be and the greater the terminal wealth from an investment. This is illustrated in the next example.

Example 3. Walt has \$1,000,000 worth of stock that he will invest for 10 years using one of two investment strategies. In Strategy 1, Walt will sell the stock, recognize the gain and reinvest the sale proceeds for 10 years. In Strategy 2, he will hold the stock until the end of the 10-year period, then sell it. Assume that with both strategies the pre-tax return is 10%. The following chart compares the terminal wealth for the two strategies after 10 years:

STRATEGY 1

\$1,000,000 appreciated @ 7.62% ⁴³ for 10 years	\$ 2,084,154
Effective after-tax rate of return	7.62%

STRATEGY 2

Value of stock after 10 years (\$1,000,000 appreciated @ 10% for 10 yrs)	\$ 2,593,742
Gain recognized (\$2,593,742 - \$1,000,000)	\$ 1,593,742
Tax payable (.238 x \$1,593,742)	\$ 379,311
Terminal value after tax	\$ 2,214,431
Effective after-tax rate of return	8.275%

This suggests that taxpayers should employ passive buy-and-hold strategies and invest in assets with low turnover ratios like tax-efficient mutual funds, index funds, exchange traded funds (ETFs) or Standard & Poor's Depository Receipts (SPDRs).

Two caveats are in order, however. First, although research indicates that alpha⁴⁴ from active management is generally insufficient to offset the additional tax paid, this is not always the case. Second, total turnover isn't the best measure of tax efficiency. Rather, what counts is net turnover (capital gains that can't be offset with capital losses). Thus, a portfolio with moderate gains that aggressively harvests capital losses might also produce excellent after-tax returns, regardless of the tax rate.

⁴³ This is the after-tax rate of return given a 23.8% annual tax rate-- $10.0\% \times (1 - .238)$.

⁴⁴ Alpha is a measure of how well an asset has performed compared to other assets of comparable risk. A positive alpha means that the portfolio has produced a return higher than what would be expected given its level of risk. A negative alpha indicates that the portfolio has produced a lower return than what would be expected given its level of risk.

Portfolio Construction

Constructing a portfolio to maximize after-tax return may be very different from constructing a portfolio to maximize pre-tax return. Research suggests that, assuming the portfolio will eventually be liquidated, high volatility, low correlation portfolios produce the best after-tax returns. The reason was thought to be that this combination created the greatest opportunity for netting gains and losses.⁴⁵

Many portfolio managers are now suggesting a tax aware investment approach that seeks to attain both pre-tax alpha and after-tax alpha. This approach, generally referred to as the multi-manager, core-and-satellite strategy, begins with a core portfolio of low turnover assets like tax-efficient mutual funds, SPDRs and ETFs, and passively managed stocks to minimize taxes. It then creates satellite portfolios, managed by other advisors that actively manage individual stocks to try to beat the market. Although the stocks in these satellite portfolios are volatile and are likely to produce large capital gains, they are also likely to produce large capital losses. By aggressively harvesting capital losses, the managers of these portfolios hope to beat the market after-tax as well as before tax.

Tax-Aware Asset Allocation

In tax-aware investing, asset allocation is done in the usual manner, except that after-tax values are used for the assets instead of pre-tax values. The following example illustrates this.

Example 4. Bill is a taxpayer nearing retirement age. He expects a 30% combined federal and state income tax bracket after retirement and wants a 50/50 allocation between stocks and bonds. Bill has a \$1,000,000 worth of tax-exempt bonds and a Traditional IRA with \$1,000,000 worth of stocks. If asset allocation is done on a pre-tax basis, Bill has reached his objective – a 50/50 allocation. On an after-tax basis, however, the stock Traditional IRA is worth only 70 cents on the dollar because all distributions will be taxed at a 30% tax rate.⁴⁶ This reduces Bill's effective after-tax allocation of stocks to \$700,000 ($.7 \times \$1,000,000$) and makes his percentage allocations look like this:

	Pre-Tax Allocation	After-Tax Allocations
Stocks	50% (\$1,000,000/\$2,000,000)	41.2% (\$700,000/\$1,700,000)
Bonds	50% (\$1,000,000/\$2,000,000)	58.8% (\$1,000,000/\$1,700,000)

If Bill wants to create an after-tax 50/50 allocation between stocks and bonds, he must increase the amount in his stock Traditional IRA to \$1,428,572 ($\$1,000,000 / .7$). This will make the after-tax value of the stock Traditional IRA \$1,000,000 ($.7 \times \$1,428,572 = \$1,000,000$).⁴⁷

⁴⁵ Brunel, *The Upside Down World of Tax-Aware Investing, Trusts & Estates* (1997).

⁴⁶ Assume that all contributions were pre-tax.

⁴⁷ See Reichenstein, *Tax Efficient Saving and Investing*, TIAA CREF Institute (February 2006).

Tax Sensitive Asset Location

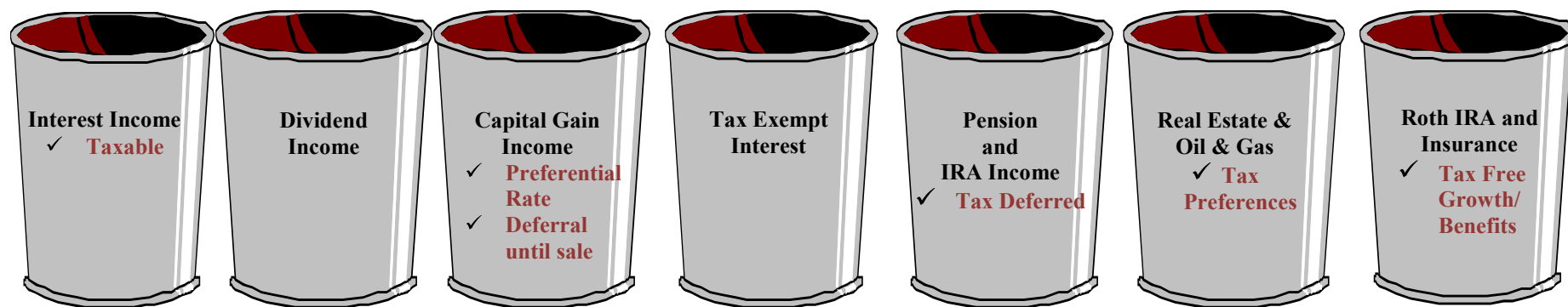
After asset allocation has been completed, the investor needs to spread the assets across the taxable accounts, tax-deferred accounts (e.g., traditional IRAs and 401(k) plans) and tax-exempt accounts (e.g., Roth IRAs and Roth 401(k) accounts) to minimize total taxes. The first step in the asset location process is to create a rough chart ranking the various investment assets by their tax efficiency. Such a chart would look something like this:

- Corporate Bonds
- Real estate investment trusts (REITs)
- CDs
- Actively-managed single stocks
- Actively managed stock funds
- Tax-efficient mutual funds
- Passively invested individual assets
- Tax-exempt bonds

The taxpayer starts at the top of the chart and works her way down, filling the tax-exempt and tax-deferred accounts with the least tax-efficient assets in the portfolio until their contribution limits are reached. For example, an investor might first transfer all corporate bonds, particularly junk bonds paying high interest rates, to an IRA. Although the income would ordinarily be taxed at rates up to 40.8%, the IRA would pay no tax (once distributed the taxpayer will though). By contrast, transferring long-term capital gain assets to an IRA would save taxes at a maximum rate of 23.8% and transferring tax-exempt bonds would save nothing. If the investor has a choice between making a transfer to a tax-exempt account (Roth IRA or Roth 401(k)) and a tax-deferred account (traditional IRA or 401(k)), it is generally better to transfer the fastest appreciating assets to the tax-exempt accounts first because they are not subject to the required minimum distribution rules and can appreciate longer in a tax-favored account.

Any remaining assets are then assigned to taxable accounts. These assets would typically be those subject to tax at a lower rate or no tax at all. They would also tend to be passively managed assets with infrequent gain recognition. Attached as an exhibit are some of the more common tax asset classes.

EXHIBIT: TAX ASSET CLASSES



- Money market bonds
- Corporate bonds
- US Treasury bonds

- Attributes
- Annual income tax on interest
 - Taxed at highest marginal rates

- Equity securities

- Attributes
- Qualified dividends at LTCG rate
 - Return of capital dividend
 - Capital gain dividends

- Equity Securities

- Attributes
- Deferral until sale
 - Reduced capital gains rate
 - Step-up basis at death

- Bonds issued by State and local Governmental entities

- Attributes
- Federal tax exempt
 - State tax exempt

- Pension plans
- Profit sharing plans
- Annuities

- Attributes
- Growth during lifetime
 - RMD for IRA and qualified plans
 - No step-up

- Real Estate
- Depreciation tax shield
 - 1031 exchanges
 - 199A deduction
 - Deferral on growth until sale

- Oil & Gas
- Large up front IDC deductions
 - Depletion allowances

- Roth IRA

- Tax-free growth during lifetime
- No 72 RMD
- Tax-free distributions out to beneficiaries

- Life Insurance

- Tax-deferred growth
- Tax-exempt payout at death

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