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TRENDS AND ISSUES

TAX-EFFICIENT SAVING AND INVESTING

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February 2006



FINANCIAL SERVICES
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EXECUTIVE SUMMARY

A central component of investment advice in recent decades both for individual and institutional investors has focused on asset allocation, and rightly so since it plays a critical role in determining returns. For individual investors, tax management also plays a significant role in maximizing wealth but it typically does not receive the attention it deserves. This *Trends and Issues* examines four types of tax considerations that can reap benefits to investors:

- **Choice of Savings Vehicle.** To the degree possible, individuals should take maximum advantage of tax-favored savings vehicles, including tax-deferred accounts such as 401(k)s, 403(b)s and traditional IRAs, as well as after-tax accounts such as Roth IRAs, Roth 401(k)s, and Roth 403(b)s. All of these accounts essentially allow for tax-exempt growth on their after-tax values.
- **After-Tax Asset Allocation.** As noted, most individuals are aware of the importance of asset allocation but they calculate it as though assets in tax-deferred accounts are worth the same amount as those in taxable accounts. As a result, they overstate the allocation to the dominant asset class held in tax-deferred accounts. When calculating their asset allocation, they should convert all assets to after-tax values and then calculate their asset allocation using these after-tax values. For example, assets in tax-deferred accounts should be converted to after-tax funds by multiplying the pretax value by 1 minus the expected tax rate during retirement. Sometimes assets in taxable accounts also need to be converted to after-tax values, but the adjustments generally are not as large.
- **Tax-Efficient Investing (Including the Role of the Stock Management Style).** Examples of tax-efficient investing in one's taxable account include: a) tax-loss harvesting, in which capital losses are realized in order to offset capital gains or ordinary income; and, 2) passive, index-type investing where unrealized gains are allowed to accumulate, thus providing tax deferral and even exemption if assets ultimately receive a step-up in basis or are donated to charity.
- **Asset Location.** This concept refers to appropriate location of equities and fixed income. In general, fixed income should be held in retirement accounts such as 403(b)s and Roth IRAs and equities, especially passively-managed stocks, should be held in taxable accounts. The reason for this preference is that, when held in taxable accounts, equities are generally taxed more favorably than fixed income. Equities in taxable accounts can benefit from lower capital gains tax rates, and taxation on gains can be deferred as long as the investor continues to hold the equities. Taxation on gains can even be avoided altogether if the owner holds the equities until death, at which time they receive a step-up in basis. In addition, capital losses can offset capital gains and reduce income.

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INTRODUCTION

The Tax Code is cumbersome and convoluted—and those are some of the nicer things that can be said about it. From an investment perspective, the same asset—say a corporate bond—is taxed differently depending upon which section of the Tax Code applies. If the bond is held in a taxable account then the interest income is taxable each year. If it is held in a Roth IRA then the interest is generally tax exempt. It does not take a financial genius to figure out that the investor fares better if the interest is tax-exempt. In short, the Tax Code does not create a level playing field! The goals of this article are to explain some of the more tax-advantaged features of the Code and to explain how individuals can arrange their financial affairs to take advantage of them.

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SAVINGS VEHICLES

This section discusses key features of savings in each of three savings vehicles. Each savings vehicle is governed by a different section of the Tax Code. By necessity, the discussion covers the major features of the Tax Code, while omitting discussion of some numerous exceptions. Nevertheless, the models developed here should prove useful in explaining the vehicles' tax advantages and strategies related to them.

In this article, the three savings vehicles are called Roth IRA, traditional IRA, and taxable account, but they represent other savings vehicles. The Roth IRA represents all savings vehicles where 1) the initial contribution is not deductible from that year's taxable income, that is, the original investment is after-tax funds and 2) returns grow tax exempt (if withdrawals occur after age 59 ½ and the Roth IRA is at least five years old). Examples include the Roth IRA, Roth 401(k) and Roth 403(b). The latter two will be discussed by Walterberger, Rothermich, and Reichenstein (2006) in a forthcoming *Trends and Issues*.

The second savings vehicle is called the traditional IRA. It represents all savings vehicles where 1) the initial contribution is deductible from that year's taxable income, that is, the original investment is pretax funds, 2) returns grow tax deferred until withdrawal and 3) withdrawals after age 59 ½ are subject to the ordinary income tax rate. Examples include the traditional IRA, 403(b), 401(k), 457 plans, Keoghs, and SEP-IRA.

In general, withdrawals from a Roth IRA or traditional IRA before age 59 ½ are subject to a 10% penalty tax. But this penalty should not be a factor for individuals saving for retirement. So, it is ignored in this article.

The third savings vehicle is the taxable account. This is the "regular" tax structure facing most non-retirement accounts. Key features of this savings vehicle are that 1) the original investment is not deductible from that year's taxable income, so it is after-tax funds and 2) portions of returns are generally taxable each year.

Table 1 on the next page presents the after-tax ending wealth models for \$1 currently invested in each savings vehicle for someone who is in the 25% ordinary income tax bracket and 15% long-term capital gain tax bracket, and who will remain in these brackets. The key is that the capital gain tax rate is less than the ordinary income tax rate. The underlying investment is bonds or stocks earning an r percent annual pretax rate of return until withdrawal during retirement in n years.

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Table 1: After-tax Ending Wealth Models per \$1 Currently Invested in Each Savings Vehicle

	Bonds	Stocks
Roth IRA	$(1+r)^n$	$(1+r)^n$
Traditional IRA	$(1+r)^n (1-.25)$	$(1+r)^n (1-.25)$
		<i>Stock Management Style</i>
Taxable Account	$(1+r(1-.25))^n$	Day Trader $(1+r(1-.25))^n$
		Active Investor $(1+r(1-.15))^n$
		Passive Investor $(1+r)^n - .15[(1+r)^n - 1]$
		Exempt Investor $(1+r)^n$

Assumptions: Ordinary income taxed at 25% and capital gains taxed at 15% with all stock returns as capital gains. Roth IRA represents the Roth IRA, Roth 401(k) and Roth 403(b) accounts. Traditional IRA represents 403(b), 401(k), 457, traditional (deductible) IRA, SIMPLE, SEP-IRA, and Keogh plans.

After n years, the after-tax value of the Roth IRA is $(1+r)^n$ dollars. It begins with \$1 of after-tax funds and ends with $(1+r)^n$ dollars after taxes. The returns grow tax exempt.

The traditional IRA begins with \$1 of *pretax* funds, and is worth $(1+r)^n$ *pretax* dollars immediately before withdrawal. Upon withdrawal, the government taxes away 25%, so the investor's ending *after-tax* value is $(1+r)^n (1-.25)$. It is useful to think of the investor as effectively owning 75% of the *pretax* value with the government "owning" the remaining 25%. Since the government will take 25% of all withdrawals, the individual effectively owns 75% of the principal. Thus the investor's share of principal grows from \$0.75 after taxes today to $(1+r)^n (0.75)$ dollars after taxes n years hence. That is, the after-tax value grows effectively tax exempt. In short, the investor effectively owns 75% of principal but receives 100% of returns.

The tax structure facing bonds (referring to taxable, as opposed to tax-free municipal bonds) held in a taxable account can be easily modeled. The bond has an initial after-tax value of \$1 and, after n years, has an ending after-tax value of $(1 + r(1-.25))^n$. The bond earns an r percent pretax rate of return each year, so its after-tax value grows at the $r(1-.25)$ percent after-tax rate of return.

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The tax structure facing stocks held in a taxable account varies with the individual investor's management style. We model four stock management styles here. For mathematical simplicity, we assume that stock returns are all capital gains. But the major conclusions and implications are the same as long as any portion of stocks' returns is capital gains.

The day trader realizes all gains within a year. He trades so frequently that he never holds stock for the minimum of one year and one day to qualify for the lower long-term capital gain tax rate. Since short-term gains are taxed at the ordinary income tax rate, the stock's beginning value is \$1 after taxes and its ending after-tax value is $(1 + r(1-.25))^n$. Its after-tax value grows at $r(1-.25)$ percent rate of return.

The active investor realizes all gains in one year and one day, that is, as soon as they are eligible for the 15% capital gain tax rate. He is either an individual who actively manages his own portfolio or invests in active stock funds that follow this management style. After n years, the after-tax value is $(1 + r(1-.15))^n$. The after-tax value grows at $r(1-.15)$ percent rate of return.

The passive investor buys and holds stocks and realizes capital gains at the end of the investment horizon. After n years, she sells the stock and pays taxes at 15% on the realized capital gains. She either passively manages individual stocks or buys and holds passively-managed stock funds such as index funds and exchange traded funds. The model is: $(1+r)^n - 0.15[(1+r)^n - 1]$. The \$1 of after-tax funds grows tax deferred at r percent for n years. Its pretax value immediately before withdrawal is $(1+r)^n$. Upon withdrawal, the deferred returns—i.e., $[(1+r)^n - 1]$ —are taxed at the 15% capital gain tax rate; the original \$1 was already after-tax funds and can be withdrawn tax free.

The exempt investor never pays taxes on the capital gains. She either awaits the step-up in basis at death or donates the appreciated stock to a qualified charity. If she awaits the step-up in basis, at her death her beneficiary's cost basis is stepped-up to $(1+r)^n$, the market value at death. Alternatively, if she donates the stock, she can deduct the market value, $(1+r)^n$, and the charity can avoid taxes due to its tax-exempt status. Since no one pays taxes on the n years of unrealized capital gains, the after-tax ending wealth is $(1+r)^n$ dollars.

Table 2 presents the effective tax rates on bonds and stocks when held in each savings vehicle. When held in Roth IRA or traditional IRA, the effective tax rate on bonds and stocks is zero. The individual investor's after-tax value grows effectively tax exempt. When held in taxable accounts, bonds are taxed at 25%, while the effective tax rate for stocks varies with the management style. For the day trader, the effective tax rate is 25%. For the active investor, it is 15% and for the exempt investor it is 0%. The effective tax rate for the passive investor varies

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Table 2: Effective Tax Rates on Bond and Stock Investments in Roth IRA, Traditional IRA, and Taxable Account

Savings Vehicle	Bonds	Stocks
Roth IRA	0%	0%
Traditional IRA	0%	0%
		Stock Management Style
Taxable Account	25%	Day Trader 25%
		Active Investor 15%
		Passive Investor ≤15%
		Exempt Investor 0%

Assumptions: Ordinary income taxed at 25% and capital gains taxed at 15% with all stock returns as capital gains. Roth IRA represents the Roth IRA and Roth 401(k)/403(b) accounts. Traditional IRA represents 403(b), 401(k), 457, traditional (deductible) IRA, SIMPLE, SEP-IRA, and Keogh plans.

with the time horizon. If the horizon is one year, then the effective tax rate is 15%. But the effective rate is lower when the horizon is longer. For example, if the capital gain is 7% per year for 20 years then the effective tax rate is 9%.¹

The numbers in Tables 1 and 2 reveal several investment implications. The following sections discuss implications as they relate to the calculation of an individual's asset allocation, tax-efficient investing including the importance of stock management style, and asset-location decision, where the asset-location decision asks whether the individual should locate bonds in retirement accounts and stocks in taxable accounts or vice versa.

AFTER-TAX ASSET ALLOCATION

Tables 1 and 2 also have implications for the calculation of the asset allocation. As noted earlier, an individual investor effectively owns $(1-t)$ percent of principal in a traditional IRA, where t is the expected tax rate during retirement. Suppose a current retiree will be in the 25% tax bracket throughout retirement. She has \$75,000 in a bond fund held in a Roth IRA and \$100,000

¹ An original \$1 grows to $(1.07)^{20}$ or \$3.87. Upon withdrawal, taxes at 15% are paid on the \$2.87 of capital gains. The after-tax value is \$3.44, which represents a 6.37% geometric average rate of return, $3.44^{1/20} - 1 = .0637$. So the effective tax rate is $(7\% - 6.37\%) / 7\%$ or 9%.

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in a stock fund held in a traditional IRA, and these are her only assets. What is her asset allocation?

According to the traditional approach to calculating an asset allocation, it is 43% bonds and 57% stocks because it considers the \$100,000 of pretax funds in the traditional IRA to be one-third larger than the \$75,000 of after-tax funds in the Roth IRA. But if she withdraws \$1,000 from the traditional IRA, she will owe \$250 in taxes and can use the remainder to buy \$750 of goods and services. If she withdraws \$750 from the Roth IRA, she can buy \$750 of goods and services. I and others believe that her portfolio is best viewed as containing \$75,000 *after taxes* in the traditional IRA and \$75,000 *after taxes* in the Roth IRA for a 50%-50% bonds-stocks asset allocation.

To be specific, we recommend that she calculate her after-tax asset allocation. To do this, she first must convert all account values to after-tax funds. She can then calculate her asset allocation in the usual way. From Table 1, we can convert the pretax funds in a traditional IRA to after-tax funds by multiplying by $(1 - t)$, where t is the expected tax rate during retirement. The \$100,000 pretax is worth \$75,000 after taxes.

Suppose she is still in her working years and is in the 28% marginal tax rate but expects to be in the 25% tax bracket during retirement. How should she view \$100,000 in a traditional IRA? Assuming she expects to withdraw these funds during retirement when she expects to be in the 25% tax bracket, she should view its current after-tax value as \$75,000. That is, she effectively owns 75% of principal and the government owns the other 25%. If the cumulative pretax return on the traditional IRA is 100% then her after-tax value will double to \$150,000. Again, she owns 75% of principal, but she receives 100% of the pretax returns.

The after-tax asset allocation compares after-tax dollars to after-tax dollars. In contrast, the traditional approach fails to distinguish between pretax and after-tax funds, and thus inappropriately compares apples to oranges. One lesson from the after-tax asset allocation is that the traditional approach overweighs the dominant asset held in tax deferred accounts. For example, the traditional approach says the individual with \$75,000 in bonds in the Roth IRA and \$100,000 in stocks in the traditional IRA has 57% in stocks because it considers the \$100,000 in the traditional IRA to be worth more one-third more than the \$75,000 in the Roth IRA.

Some people say that they have no idea what their tax bracket will be during retirement. Since the traditional approach treats \$1 of pretax funds in a traditional IRA as equivalent to \$1 of after-tax funds, it implicitly assumes the retirement tax bracket will be zero. Although their retirement tax rate may be uncertain, it is easy to improve upon the implicit prediction of zero.

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To calculate the after-tax asset allocation, we must convert all asset values to after-tax dollars, including the values of assets held in taxable accounts. Sometimes an asset held in a taxable account has embedded but unrealized capital gains or losses. In this case, it may be appropriate to reduce the asset's market value for the embedded tax liability or increase the market value for the tax savings from the embedded tax loss.

Suppose a stock (or other capital asset) has a market value of \$10,000, cost basis of \$8,000, and the individual is in the 15% capital gain tax bracket and 25% ordinary income tax bracket. If the stock has been held for one year or less and is sold today then taxes would be \$500 or 25% of the \$2,000 gain and the after-tax value would be \$9,500. If the stock has been held at least one year and one day and is sold today then it is a long-term gain and taxed at the preferential rate of 15%. Taxes would be \$300 and the after-tax value would be \$9,700. Although it is important to defer the realization of gains beyond one year, Reichenstein and Jennings (2003) argue that the benefit of deferring taxes for a few additional years is minimal. So, if the gain will be realized within a few years then \$9,700 is probably a reasonable estimate of its current after-tax value.

The unrealized capital gains would be tax exempt under two scenarios. If the individual gives the appreciated stock to a qualified charity or awaits the step-up in basis at death then the gain is tax free. For example, if the individual donates the appreciated stock to a university, she can deduct the \$10,000 market value but, due to its tax-exempt status, the university will avoid paying taxes on the built-in gain. If she died today, her beneficiary would acquire the stock with a stepped-up cost basis of \$10,000, so no one would pay taxes on the \$2,000 gain.² In these scenarios, the stock's after-tax value would be the same as the market value. In summary, the tax consequences of unrealized gains vary from individual to individual. Individuals who will realize the gain as a long-term gain within a few years—and that probably includes most individuals—could attain reasonable after-tax values by reducing the market value as if the gain was long term and realized today. But in other situations, there would be no tax consequences from the unrealized gain.

Suppose a stock has a market value of \$10,000 and cost basis of \$13,000. If realized today, the \$3,000 loss could be used, in order, 1) to offset capital gains and 2) to reduce taxable income up to \$3,000 per year. Unused losses can be carried forward indefinitely. If the loss would be used to offset \$3,000 of long-term capital gains then the tax savings would be \$450 and the asset's after-tax value would be \$10,450. If the long-term loss is used to offset \$3,000 of taxable income this

² Suppose a stock has a market value of \$10,000 and a cost basis of \$8,000 when an individual dies. At the death of a single individual, the beneficiary's cost basis becomes \$10,000. For a married couple, the treatment depends upon the state. In a community property state, the surviving spouse's basis is stepped-up to \$10,000. In a common law state, the step-up occurs on half the asset's value so the surviving spouse's new basis is \$9,000. The step-up in basis only applies to assets held in taxable accounts.

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year then the tax savings from the income reduction would be \$750, and the after-tax value would be \$10,750.

In summary, in order to calculate the after-tax asset allocation, you must first convert all asset values to after-tax values. You then calculate the asset allocation using these after-tax values. For most individuals, the largest adjustment is the conversion of their pretax funds in traditional IRAs to after-tax values; the adjustment of assets in taxable accounts for unrealized gains and losses tends to be relatively small by comparison.

TAX-EFFICIENT INVESTING

Table 2 reveals lessons about tax-efficient investing. First, it shows that the Roth IRA and traditional IRA are the most tax-favored savings vehicles. These vehicles are the ultimate in tax-efficient investing. A forthcoming issue of *Trends and Issues* by Waltenberger, Rothermich, and Reichenstein (2006) will examine the choice between saving in a Roth 401(k) or Roth 403(b), which are like the Roth IRA, or a regular 401(k) or 403(b), which are like the traditional IRA. When saving for retirement, individuals should save all they are allowed to save or all they can afford to save in these savings vehicles. They should only save for retirement in a taxable account if they have already exhausted their opportunities to save in Roth IRAs and traditional IRAs.

A second lesson from Table 2 is that, when stocks are held in taxable accounts, the stock management style matters. The Tax Code encourages individuals to allow capital gains to grow unrealized or unharvested, and the longer the gains grow unharvested the better it is for the investor. The more passive the stock management strategy, the more favorable is the treatment from the Tax Code. Compared to the day trader, the active investor's gains are subject to the lower long-term capital gain tax rate. Unless realized gains will be used to offset realized losses, individuals should seldom realize short-term gains (an exception might be if they believe the stock is significantly overvalued). Compared to the active investor, the passive investor allows taxes to be deferred for years. For long horizons, this results in a substantially lower effective tax rate. Compared to the passive investor, the exempt investor never pays taxes on the gains.

A third lesson related to tax-efficient investing is that individuals should aggressively realize losses on assets held in taxable accounts (that are large enough to offset transaction costs). Although this lesson is not evident in Table 2, an example will illustrate the advantage of realizing losses. But first, let us review the section of the Tax Code dealing with capital losses on assets held in taxable accounts.

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Short-term losses—those realized on assets held less than a year—are used to offset short-term gains. Long-term losses are used to offset long-term gains. If there is a net short-term loss—that is, short-term losses exceed short-term gains—and net long-term gain or vice versa then the net loss offsets the net gain. If there are still net losses then up to \$3,000 can be used each year to offset taxable income. The \$3,000 limit applies to a couple filing jointly and to a single taxpayer. Married persons filing separately can deduct losses of up to \$1,500 per year. Remaining losses are carried forward indefinitely but expire when the taxpayer dies.

The following example illustrates the advantage of realizing losses. At the beginning of the year, two individuals invest \$15,000 in a stock held in a taxable account. It declines in value and is worth \$12,000 at the end of that year. The passive investor holds the stock, so his investment is worth \$12,000 at the end of the year. The tax-aware investor sells the stock before year end, realizes the \$3,000 loss, and uses this loss to offset taxable income or capital gains. If it is used to offset taxable income then the loss saves him \$840 in taxes, [$\$3,000 (.28)$]. After this first year, his stock plus tax savings is worth \$12,840, 7% more than the passive investor. The tax-aware investor not only has more wealth than the passive investor at the end of the first year, but assuming similar return prospects looking forward, he will always have more after-tax wealth.

The Tax Code encourages investors to play a heads-we-win-tails-the-government-loses strategy. They should let capital gains grow unharvested and thus untaxed, while letting the government share in capital losses. Ironically, behavioral finance studies suggest that many people follow the opposite strategy: They are quick to realize gains and refuse to realize losses. Psychologically, it seems that by selling the appreciated stock and locking in winnings they confirm for themselves (and their peers at cocktail parties) that they made good investment decisions. In contrast, realizing a loss would be like admitting they made a mistake. So they refuse to realize the loss and let the government share in their loss.

In summary, it is not enough to save for retirement. You also want to save in the most tax-efficient savings vehicles. These are the Roth IRA and traditional IRA. In essence, the government encourages annual savings, and it will allow returns on savings in these vehicles to grow effectively tax exempt. This is an enticing carrot for those of us that heed the call. But it is up to us to respond. In addition, when stocks are held in taxable accounts the Tax Code encourages individuals to realize losses (that are large enough to offset transaction costs) and let capital gains grow unharvested.

Obviously, it is hard to predict future changes to the Tax Code. However, suggested reforms in recent years have called for the continued existence of Roth-like and traditional IRA-like

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accounts. For example, in 2005, Bush's Advisory Panel on Federal Tax Reform recommended new names and large contribution limits for these types of accounts. In one proposal, they recommended a Save at Work account that would allow workers to save up to \$14,000 in *pretax* funds each year or \$18,000 if age 50 or over. So this account would be essentially like the traditional IRA. In addition, the Panel recommended a Save for Retirement account that would allow workers to save up to \$10,000 of *after-tax* funds each year plus a Save for Family account that would allow a taxpayer to save an additional \$10,000 of *after-tax* funds each year. These accounts would be essentially like the Roth IRA. By whatever name, these savings vehicles are the most tax-advantaged when saving for retirement.

ASSET LOCATION

Table 2 has investment implications for the asset-location decision. It suggests that bonds (excluding municipal bonds) should be held in retirement accounts and stocks, especially passively held stocks, should be held in taxable accounts, while attaining the target asset allocation. Retirement accounts include Roth and traditional IRAs. In-depth analyses by Reichenstein (2001) and Dammon, Spatt, and Zhang (2004) among others support this view. Table 3 presents an intuitive explanation of this asset-location advice for the active stock investor. When held in a Roth IRA or a traditional IRA, the after-tax values of bonds and stocks grow effectively tax free. When held in a taxable account, bonds' returns are taxed at 25%, while stocks' returns are taxed at 15% for this active investor. Since the asset held in retirement accounts grows effectively tax free, the key question is whether it would be better to let the government tax 25% of bonds' returns or 15% of stocks' returns. Intuitively, it is better to let the government tax 15% of stocks' returns. Thus he should hold bonds in retirement accounts and stocks in taxable accounts, while attaining his target asset allocation.

Table 3: Intuitive Explanation of Optimal Asset-Location for an Active Investor

<i>Asset Location</i>	<i>Active Investor</i>
1. Stocks in taxable accounts	15% tax rate
Bonds in retirement accounts	0% tax rate
2. Bonds in taxable accounts	25% tax rate
Stocks in retirement accounts	0% tax rate

Retirement accounts include Roth IRA, traditional IRA and similar savings vehicles.

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Furthermore, the spread between the effective tax rates on bonds and stocks when held in taxable accounts indicates the advantage of this asset-location strategy. For the active investor, the spread is 25%-15% or 10%. This spread is wider for individuals in higher ordinary income tax brackets. The spread is also wider for passive investors since the effective tax rate on stocks is less than 15%, and it is even wider for the exempt investor. Thus, this asset-location strategy is most important to high-income taxpayers who manage stocks passively.

Generalizing, individuals should hold bonds and other assets whose returns are taxed at ordinary income tax rates in retirement accounts and stocks, especially passively held stocks, in taxable accounts. Good assets to hold in retirement accounts include all fixed-income assets and income-producing real estate including real estate funds.³ Ideal assets to hold in taxable accounts are those that are expected to generate substantial capital gains that will be passively managed for long horizons. Good choices include most index funds, Exchange Traded Funds, tax-managed stock funds, and individual stocks that the investor would be willing to hold passively. Other good choices might include raw real estate and precious metals.

In summary, the Tax Code encourages individuals to hold bonds and other assets whose returns are taxed at ordinary income tax rates in retirement accounts, and stocks, especially passively managed stocks, in taxable accounts. Since stocks are more volatile than bonds, this location strategy also maximizes the opportunity to harvest tax losses.

EXAMPLES

This section presents an example and discusses some unique situations.

Suppose Ann and Doug, a 60-year-old married couple, have the balance sheet presented in Table 4. It has \$1,600,000 of *pretax funds* invested in 401(k) and 403(b)s, which are listed as traditional IRAs. In addition, they have \$400,000 of financial asset in taxable accounts with market values of assets in taxable accounts equal to their cost bases. They expect to be in the 25% bracket during retirement. To calculate their asset allocation, their first step is to convert all assets to after-tax values. The traditional IRA-like accounts are worth \$1,200,000 after taxes for a total after-tax portfolio of \$1,600,000.

Assume Anne and Doug's target asset allocation calls for 50% bonds and 50% stocks, where bonds include all fixed-income assets. Table 4 presents one reasonable asset location. It has \$790,000 after taxes (or about \$1,053,000 of pre-tax funds) in bonds held in traditional IRAs,

³ Most real estate funds such as Real Estate Investment Trusts (REITs, pronounced reets) pay large non-qualifying dividends that are subject to ordinary income tax rates.

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\$410,000 after-taxes (or about \$547,000 of pre-tax funds) in stocks held in traditional IRAs, \$390,000 of stocks and \$10,000 of money market funds held in taxable accounts. The \$10,000 in the money market fund is their liquidity reserve and must be held in a taxable account. However, with the exception of this liquidity reserve, their portfolio follows the preferred asset-location strategy.

Table 4: After-Tax Asset Allocation and Location

	After-Tax Value	Pretax Value	Savings Vehicle
Bonds	\$790,000	\$1,053,000	traditional IRA
Stocks	410,000	547,000	traditional IRA
Stocks	390,000	390,000	taxable account
Cash	<u>10,000</u>	10,000	taxable account
	\$1,600,000		

If they hold actively-managed and passively-managed stocks and stock funds, they should locate the actively-managed stocks and stock funds in their retirement accounts and the passively-managed ones in their taxable accounts. There are no tax consequences to active management inside retirement accounts. Meanwhile, unrealized gains on the passively-managed stocks would be allowed to grow unharvested in the taxable account.

The step-up feature of the Tax Code has implications for individual investors. For example, suppose someone is terminally ill. In this case, he should refrain from realizing capital gains in the taxable account until after his or her death, since the step-up in basis might eliminate all of the tax liability.

One final example illustrates that many individuals can easily accommodate most of this article's advice. Heather and Hank, age 40 and 45, have been saving consistently in traditional IRAs and Roth IRAs, so most of their assets are held in these retirement accounts but they have some funds in taxable accounts. Previous to now, they have held active stock funds and high-grade bonds in their taxable accounts, so they have negligible capital gains or losses. Following this article's advice, except for their liquidity reserves, they invest the remaining \$50,000 of their taxable accounts in a passive stock fund. They make no other contributions to this stock fund. Forty years later, Hank dies when the market value of the fund is \$750,000. If Heather lives in a community property state, at his death the cost basis rises to \$750,000 and they avoid taxes on

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40 years of capital gains. If Heather lives in a common law state then the cost basis rises to \$400,000, rising by half the unrealized gains. After his death, Heather can use these funds to finance her remaining years. If she does not need the funds, she can leave them to her beneficiary, in which case no one would pay taxes on the 40 years of gains and potentially years of additional gains.⁴ This simple game plan takes advantage of many of the advantages provided by the Tax Code. The couple saves all they can in the most tax-advantaged savings vehicles. In general, they hold stocks in taxable accounts and primarily bonds in retirement accounts, while attaining their desired asset allocation. The passive stock fund allows capital gains to grow tax deferred for decades, and potentially all of these deferred capital gains are eventually tax exempt.

SUMMARY

The Tax Code does not create a level playing field. Rather, it encourages the following behavior. First, when saving for retirement you should save in the most tax-favored savings vehicles, which are those that look like the Roth IRA (including the Roth 401(k)/403(b)) and traditional IRA (including 403(b), 401(k), 457, Keogh, and SEP-IRA). Second, when calculating your asset allocation, you should first convert all assets' market value to after-tax values. Funds in traditional IRAs should be converted to after-tax values by multiplying by $(1-t)$, where t is the expected tax rate during retirement. In addition, values of assets held in taxable accounts may need to be adjusted for unrealized gains or losses. You should then calculate your asset allocation using these after-tax values. This after-tax asset allocation provides a better measure of your true asset allocation because it compares after-tax values to after-tax values. Third, for assets held in taxable accounts, you should harvest losses and generally allow capital gains to grow unharvested. Finally, *while attaining your target asset allocation*, you should locate bonds and other assets whose returns are taxed at ordinary income tax rates in retirement accounts and stocks, especially passively managed stocks, in taxable accounts.

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⁴ Existing legislation is scheduled to limit the step-up in basis for people who die in 2010 to \$1.3 million plus an additional \$3 million for property going to a surviving spouse. This limitation is scheduled to sunset on January 1, 2011. Even if not changed, this provision will affect few people.

TRENDS AND ISSUES

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