

Introduction

Major Themes

Three examples illustrate the major themes in this book.

Example 1. Tom and Frank are both age 30. They are currently in the 28 percent tax bracket, expect to remain in this bracket, and are saving for retirement 35 years hence. Tom invests \$1,000 in a bond fund held in a taxable account. It earns 8 percent a year before taxes and 5.76 percent a year after taxes [$8\% \cdot (1 - 0.28)$]. In 35 years, it is worth \$7,100 after taxes [$\$1,000 \cdot (1.0576)^{35}$]. Frank invests \$1,000 in the same bond fund for 35 years but holds it in a Roth IRA. In this example, returns are tax-exempt in the Roth IRA. In 35 years, it is worth \$14,785 after taxes [$\$1,000 \cdot (1.08)^{35}$]. They each invested the same amount of funds in the same investment for the same investment horizon. Yet, Frank ends up with more than twice the after-tax wealth. Taxes matter! Indeed, the choice of a savings vehicle (and its associated tax structure) matters a great deal. The first part of this book thoroughly examines savings vehicles in the United States. It models each savings vehicle's tax structure and thoroughly examines related investment implications. In addition, it examines tax-advantaged opportunities to save for education needs. This section helps individuals make the best use of the Tax Code and allows financial professionals to add value to client accounts by giving advice on the best use of the Tax Code.

Example 2. Steve and Teresa Adams, a 45-year-old couple, are currently in the 28 percent tax bracket and expect to remain there during retirement. They decide to reduce this year's consumption by \$2,000 and save for retirement. Since purchases of goods and services are made with after-tax funds, they each need to save \$1,000 of after-tax funds. Steve invests \$1,000 in a Roth IRA. Teresa defers \$1,389 in her 401(k) plan. The \$1,389 contribution reduces taxable income by the same amount, which reduces taxes by \$389 [$\$1,389 \cdot 0.28$]. The \$1,389 of before-tax funds in the 401(k) represents \$1,000 of after-tax funds plus the \$389 tax savings.

They both invest in the same mutual fund. Assume it earns 9 percent a year for 30 years, at which time the funds are withdrawn and spent on retirement needs. Steve invests \$1,000 of after-tax funds this year and it grows to \$13,268 at age 75 [$\$1,000 \cdot (1.09)^{30}$]. Teresa invests \$1,389 of before-tax funds this year. At age 75, it is worth \$18,427 before taxes [$\$1,389 \cdot (1.09)^{30}$], and \$13,268 after taxes [$\$18,427 \cdot (1 - 0.28)$]. At age 45, the \$1,389 of before-tax funds in Teresa's 401(k) is equivalent to the \$1,000 of after-tax funds in Steve's Roth IRA. At age 75, the \$18,427 of before-tax funds in Teresa's 401(k) is equivalent to the \$13,268 of after-tax funds in Steve's Roth IRA.

This example illustrates two important and related principles. First, when making the saving decision, the proper comparison is between a \$1,389 investment in a 401(k) and a \$1,000 investment in a Roth IRA (or any other nondeductible savings vehicle); we should compare investments that represent the same amount of *after-tax dollars*. Comparable investments reduce current-year consumption by the same amount.

Second, when calculating their asset allocation, \$1,389 in a 401(k) must be considered equivalent to \$1,000 in a Roth IRA, and, later, \$18,427 in a 401(k) must be considered equivalent to \$13,268 in a Roth IRA. They both buy the same amount of goods and services. Acceptable methods of calculating their asset allocation must compare *after-tax funds* to other *after-tax funds*. We should convert the \$18,427 of before-tax funds in the 401(k) to \$13,268 of after-tax funds and then compute the asset allocation based on after-tax dollars.

Suppose at age 75 Steve transfers the \$13,268 in his Roth IRA into a stock fund, Teresa transfers the \$18,427 in her 401(k) into a bond fund, and these are their only assets. What is the couple's current asset allocation? According to the traditional approach, it is 42 percent stocks [$\$13,268 / (\$13,268 + \$18,427)$], and 58 percent bonds. The traditional approach is internally inconsistent in that it does not distinguish between before-tax funds and after-tax funds. The new approach first converts funds to after-tax values and then calculates the asset allocation based on these values. It says the Smiths have a 50 percent stock and 50 percent bond asset allocation. Unlike the traditional approach, this new approach recognizes the equivalence between the \$13,268 in a Roth IRA and the \$18,427 in a 401(k).

Example 3. A single woman just retired at age 65 and has \$500,000 in a 401(k) invested in a stock fund and \$500,000 in a taxable account invested in a bond fund. The market value and book value of the bond fund are \$500,000. She expects to be in the 30 percent tax bracket during retirement. In addition, she receives monthly income totaling \$1,250 from Social Security. What is her asset allocation? According to the traditional approach, it is 50 percent stocks and 50 percent bonds. We believe the traditional approach makes two mistakes. First, it makes no distinction between the before-tax funds in the 401(k) and the after-tax funds in the taxable account. Second, it ignores the value of the retirement income streams—Social Security benefits in this example. If she withdraws \$1,000 from the 401(k), she pays \$300 in taxes and can buy \$700 of goods and services. If she withdraws \$1,000 from

the taxable account, she can buy \$1,000 of goods and services. After conversion to after-tax values, her financial portfolio contains \$350,000 in stocks—the after-tax value of the 401(k)—and \$500,000 in bonds. For retirement planning, we advocate that she view Social Security payments and other retirement income streams (such as military retirement and company defined-benefit plans) as bonds in her extended portfolio and calculate the asset allocation of this extended portfolio. If the present value of Social Security payments is \$150,000 after taxes, then her extended portfolio contains \$350,000 after taxes in stocks and \$650,000 in bonds, where the latter is the sum of the \$500,000 in the bond fund and \$150,000 in Social Security “bonds.” For retirement planning, we contend that she should view her current asset allocation as 35 percent stocks [$\$350,000 / (\$350,000 + \$650,000)$] and 65 percent bonds.

This book contains two parts: “Savings Vehicles” and “A New Approach to Calculating a Family’s Asset Allocation.” They both emphasize the need to distinguish before-tax funds and after-tax funds. After-tax funds should be compared to other after-tax funds when making saving decisions, when planning for retirement, and when calculating the asset allocation. The sections fit together like two gloves. A \$1,000 contribution to a Roth IRA is a larger investment than a \$1,000 contribution to a 401(k) because the Roth IRA contains after-tax funds. In retirement planning, \$1,000 in a Roth IRA is larger than \$1,000 in a 401(k) because the Roth IRA contains after-tax funds. Part I examines tax strategies when saving for retirement and education, which are the two most important goals for most people. It thoroughly examines the choice of savings vehicles and related investment implications. It helps financial professionals give advice to their clients. Should a client save in a Roth IRA or a 401(k) account with matching contributions? Should he or she save in a mutual fund or a non-qualified tax-deferred annuity? What are the advantages and disadvantages of a 529 plan and a Coverdell Savings Account? Part II presents a new approach to calculating a family’s asset allocation. Unlike the traditional approach, the new approach distinguishes between before-tax and after-tax funds and includes the value of Social Security and other retirement income streams.

Investment Premise

John and Mary Smith have arranged an initial meeting with you, their prospective financial advisor. They are beginning to save for their retirement in 35 years and must make at least three decisions:

1. They must decide whether to save through a taxable account, a non-qualified tax-deferred annuity, or a 401(k) plan.
2. They must choose an asset mix.
3. They must select individual bonds and stocks or, more likely, bond and stock mutual funds.

The first half of this book looks primarily at the first decision. It asks which of these savings vehicles is best for accumulating retirement wealth. It shows that the Smiths' after-tax retirement income will probably be twice as large if they save through a 401(k) plan instead of a taxable account. The choice of a savings vehicle, and its associated tax structure, matters. In addition, the first half includes a chapter that examines tax-advantaged strategies for saving for education needs. The Economic Growth and Tax Relief Reconciliation Act of 2001 significantly increased the opportunities for individuals to save tax-efficiently for retirement and education needs. In short, the first half shows individuals and financial professionals how to best use the Tax Code when saving for retirement or education.

As noted earlier, the second half looks primarily at the asset allocation decision. It presents a new method of calculating a family's asset allocation that distinguishes before-tax and after-tax funds and considers the value of Social Security and other retirement income streams.

In addition, the book provides insight on the Smiths' third decision—at least, if they want to hold stocks in a taxable account. In a taxable account, the stocks' taxation depends upon the dividend yield and how quickly capital gains are realized. One good choice for the stock portion of their taxable account is thus to *passively* hold low-yield stocks. Another good choice is a stock index fund, especially one that has few stocks entering and leaving the index. We also make other recommendations.

A major theme of this book is the choice of savings vehicles for the Smiths and other people who are saving for retirement or, perhaps better stated, for the retirement portion of their savings. If the Smiths are saving for a new car or a vacation, this portion of their savings should be in a taxable account. The Smiths, however, can and should carefully choose the savings vehicles for the portion of their savings *intended to meet their retirement needs*.

This book examines the pros and cons of saving for retirement through the major savings vehicles in the United States. The major savings vehicles include (1) a taxable account, (2) a non-qualified tax-deferred annuity, (3) a deductible pension, such as a 401(k) plan, and (4) a Roth IRA. Chapter 2 discusses the characteristics of each of these vehicles extensively. It projects the ending after-tax wealth from investments in, respectively, bonds and stocks for a wide range of investment horizons. For the Smiths and others saving for retirement, the best savings vehicle is usually the one that maximizes the expected after-tax wealth. Other factors are considered, such as the 10 percent penalty tax that usually applies to withdrawals before age 59½ from a deductible pension. However, if the savings will be used during retirement, the penalty tax will not apply. Thus, the objective function—that is, the criterion used to define “best”—is the savings vehicle that maximizes after-tax retirement wealth.

This objective function points out the book's limitations. First, because it assumes savings will be used to meet retirement needs, it ignores issues related to

estate taxes and bequests. Thus, the recommendations may or may not be “best” for someone facing estate taxes.

Second, the choice of savings vehicles relies on projected returns, projections of ending wealth, and thus the projected benefits of one savings vehicle over another. The first several chapters in this book project bond returns at 6 percent and stock returns at 11 percent. Taken at face value, the projections suggest no one should invest in bonds. That would be an inappropriate interpretation. They are point estimates and do not consider the range of possible outcomes; that is, they do not consider differences in risk. *Each individual should first determine whether he or she wants an investment in bonds or stocks, and then choose the appropriate savings vehicle.* We retain the 6 percent and 11 percent return assumptions to keep the analysis tractable. We also present the ending-wealth models so other return projections can easily be examined. One ending-wealth model is complex, and that is the model for stocks held in a taxable account. This model is available as an Excel spreadsheet at www.wiley.com/go/reichenstein. This model, as all models, is explained in an end-of-chapter appendix.

Suppose someone must decide whether to save in a Roth IRA or a taxable account. The Roth IRA provides a larger ending wealth when asset returns are positive. The Roth IRA should be chosen because the best prediction *before the fact* is that returns will be positive. *After the fact*, returns may be negative. However, this possibility *after the fact* does not negate the need to make decisions *before the fact*. In retirement planning the investment horizon almost always exceeds 10 years and is often 20 or 30 or 40 years. For these horizons we can be reasonably confident that returns will be positive and, therefore, that the advice to choose the Roth IRA is appropriate. In short, most of this book’s advice prevails for a wide range of assumed returns and is not dependent upon the precise return projections.

Politicians forge tax laws in an environment of conflict and compromise. Thus, it is not surprising that tax laws produce an uneven playing field. It makes a big difference whether an investment is subject to tax structure A or tax structure B. Consequently, financial professionals can add value to their clients’ portfolios by helping them choose the best combination of savings vehicles.

In the best of all worlds, the Smiths would choose the best bonds and stocks and hold them in the best savings vehicle. Financial analysts and financial planners may be able to add value by helping their clients choose good bonds and stocks. This study shows that they can also add value—probably more value—by helping their clients choose appropriate savings vehicles.

Tax and Investment Literature

This section briefly discusses two parts of the recent tax-investment literature. Then, it discusses tax topics considered in this book and topics ignored in this book.

History

Tax considerations have received increased attention in the investment literature. For the past several years, we have concentrated our research on the interaction between investments and tax considerations. This book combines much of that literature.

We wish to discuss two parts of the rest of the tax-and-investment literature. In *Integrated Wealth Management*, Jean L.P. Brunel discusses a range of tax-and-investment issues for the very wealthy. For example, this book discusses the types of trusts and their use in helping reduce estate taxes and in meeting multigenerational family needs. Also, it discusses the common problem among the very rich of a large portion of wealth being in a low-cost basis asset—often the founder’s shares of a firm’s common stock. *Integrated Wealth Management* is an excellent source of ideas, especially for professionals with very wealthy clients. In contrast, our book is much more narrowly focused, but the material applies to a broader spectrum of individuals.

We also wish to discuss the literature on the tax costs of realizing capital gains in a taxable account. Jeffrey and Arnott (1993) contributed the original work in this area. Their article spurred a series of articles that looks at these tax costs and asks whether active managers’ alphas—a measure of value added—are sufficient to overcome these costs.¹ Jeffrey (1995) draws attention to two realities confronting investors and students of investing. First, “*Taxes are simply another item of expense* which, like salaries and fees and commissions, should be evaluated and managed to insure that they are always adding value” (emphasis in the original). For taxable investors, taxes are usually the largest and most controllable of these transaction costs. Second, “few people in the money management business understand and articulate the first reality, i.e., that taxes *are* a very important item of expense” (emphasis in the original).

Taxes have been largely ignored for at least two reasons. First, they complicate performance analysis. Tax rates vary across investors. It is not easy to choose a representative tax rate. In the United States, the marginal federal tax rate in 2002 for individuals varied from zero to 38.6 percent. Considering state and local taxes would widen this range. While dividends are fully taxable to the individual investor, they are largely tax-exempt to the corporate investor. Moreover, money managers’ largest customers have been tax-exempt defined-benefit pensions and endowments. A second reason for ignoring taxes is that it is in the best interest of many financial professionals to do so. As Jeffrey (1995) notes, “active managers are in the business of selling alpha”—a measure of value added—that is reduced by taxes, and “brokers are compensated by commissions on the trades that generate the taxes.” So, there is every incentive on the “sell side” of Wall Street *not* to highlight tax considerations.

One thing is certain: Taxable investors notice and care about taxes. The outsized stock market returns in the 1980s and 1990s have given rise to outsized taxes and, naturally enough, attempts to reduce the tax drag. In response, in 1993

Morningstar Mutual Funds began reporting tax-adjusted returns, as well as the tax-efficiency of mutual funds. In 1994, the Association for Investment Management and Research (AIMR), which awards the Chartered Financial Analyst certification, released standards for after-tax performance measurement. Separately, mutual fund companies and investment advisors have introduced tax-managed funds that were explicitly designed to minimize the tax bite to taxable individual investors. It is safe to say taxes, and the desire to reduce them, will not go away.

Tax Topics Considered

This book examines the investment implications of the major savings vehicles in the United States. In addition, it examines tax-advantaged strategies when saving for education. Questions addressed include:

- Which savings vehicle provides the largest retirement income?
- When is it preferable to save in a non-qualified tax-deferred annuity instead of a taxable account?
- Should stocks be held in a pension and bonds in a taxable account, or vice versa?
- Should an individual convert funds from a traditional IRA to a Roth IRA—thus incurring an immediate tax liability—or retain funds in the traditional IRA?
- What factors should influence the decision to invest in the Roth IRA or the traditional IRA?
- What are the costs of realizing capital gains in a taxable account?
- What are good choices for the stock portion of a taxable account?
- What are the advantages and disadvantages of saving for a child's education in a 529 plan, a prepaid state tuition plan, and a Coverdell Savings Account?
- In education planning, what tax strategies best support college funding?

Tax Topic Ignored

In general, we ignore estate taxes. However, estate taxes remain a major issue to the wealthy. Individuals with estate planning needs should consult their tax specialist before implementing the strategies recommended in this book.

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Notes

1. Related literature includes Hertog and Gordon (1994a and 1994b), Jeffrey and Arnott (1994), and Jeffrey (1995).