This chapter was first published by IICLE®.

10 The Efficacy of Individual Retirement Arrangement Planning and Investments: Allocating Assets Between Taxable and Tax-Deferred Accounts

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The author gratefully acknowledges Tim French, CFP®, CPA; Dan Sciarretta, CFP®; and Cindy Sin-Yi Tsai for their substantial help in the update of this chapter.

I. [10.1] INTRODUCTION

A sound investment plan requires a well-conceived strategy. That strategy is a blueprint that addresses all aspects of the plan: objectives, time horizon, asset allocation, diversification, risk tolerance, specific investment vehicles, and tax efficiency, to cite a few. A key part of implementing the plan is to effectively place specific investments in either taxable or tax-deferred accounts, otherwise referred to as the "asset location" decision. This chapter provides a guide to selecting investments for location in either taxable or tax-deferred accounts within the context of an individual's overall investment strategy.

The concept of tax deferral has been a key consideration for generations through the purchase of appreciating assets, such as real estate or stocks. Tax deferral opportunities were greatly expanded by Congress via the Employee Retirement Income Security Act of 1974 (ERISA), Pub.L. No. 93-406, 88 Stat. 829, and the Internal Revenue Code whereby employees were permitted to defer paying income taxes on contributions to qualified pension and profit-sharing plans and earnings thereon. This allowed what would otherwise be taxable income to grow tax deferred until the participant received distributions from the plan at retirement or termination. The migration from corporate-sponsored defined-benefit plans to defined-contribution plans over the last several decades, together with the popularity of tax-free rollovers from these plans, has left many investors with substantial assets in tax-deferred accounts. As individual retirement arrangements (IRAs), 401(k)s, Keoghs, and other tax-deferred vehicles have grown in importance, so too has the study of how to optimize the location of different assets within taxable and tax-deferred accounts.

While there are many appropriate asset classes for an investor, there are those that are more suitable within a tax-deferred account. An example of this is an investment in high-yield (or "junk") bonds. While this investment may be appropriate as part of an investor's total portfolio, due to its tax inefficiency, high-yield bonds are best located within a tax-deferred account. This chapter considers different asset location strategies, each designed to help an investor achieve the greatest after-tax return.

The advantages of traditional tax-deferred accounts are two-fold. First, the investor reduces taxable income by the amount of contributions to a tax-deferred account, subject to dollar and income limits under the Code. Therefore, more money can be initially invested (*e.g.*, assuming a tax rate of 39.6 percent, an investor would be able to invest $100 in a tax-deferred account for every $60.40 in a taxable account). The second advantage is that invested assets are permitted to grow tax free until distribution, at which time they are taxed at the investor's then marginal income tax rate. In a taxable account, distributions (*e.g.*, income and capital gains) are taxed throughout the life of the investment. Although a detailed discussion is beyond the scope of this chapter, investors should be aware of the differences between qualified plans and IRAs. Contribution limitations, ERISA protections, and distribution rules will all vary according to the plan type. In addition, Roth IRAs provide a different option for investors and are discussed further in §§10.9 – 10.11 below.

Before one can contemplate an asset location strategy, he or she must build a foundation on which to apply the strategy — an investment policy framework. This framework consists of two phases: development and implementation.

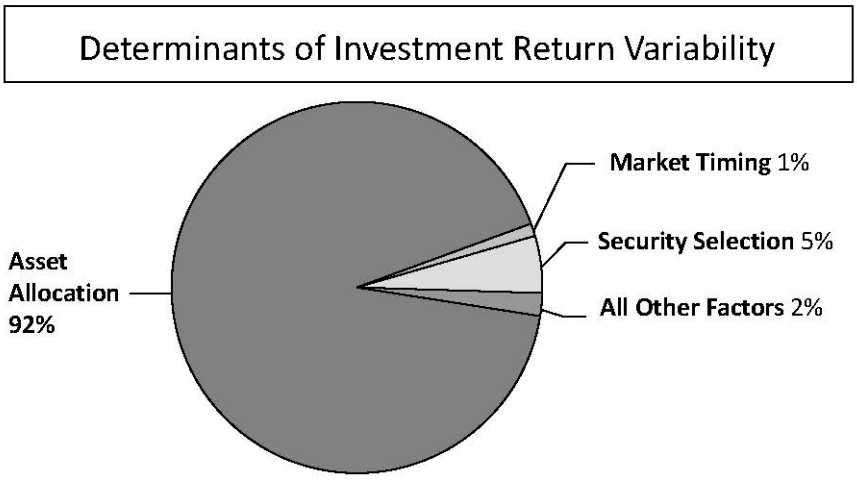
The output of the development phase is a written investment policy statement (IPS). This process includes quantifying and prioritizing the investor's financial goals, determining the level of risk tolerance and required return, and considering investment constraints based on time horizon, tax bracket, and liquidity needs. Ultimately, this process will lead to the development of a target asset allocation. An investor (and his or her advisor) should always consider the entire portfolio when developing the allocation. Investors should adopt one overall asset allocation that guides all of their investment assets, not separate, unrelated allocations for taxable and tax-deferred accounts.

Once the IPS is developed, the second phase — implementation — must begin. This process includes selecting specific investment managers, identifying custody and brokerage relationships, and periodically measuring and reviewing performance, as well as rebalancing the portfolio. It is during this phase that the asset location decision takes place.

II. [10.2] THE IMPORTANCE OF ASSET ALLOCATION

The foundation of the investment policy framework is asset allocation (*i.e.*, how a total portfolio is divided among different asset classes, such as stocks, bonds, and real estate). The revolutionary study by Gary P. Brinson, L. Randolph Hood, and Gilbert L. Beebower in 1986 became the linchpin of today's mainstream investment philosophy. Gary P. Brinson et al., *Determinants of Portfolio Performance*, 42 Fin. Analysts J., No. 4, pp. 39 (July/Aug. 1986), available for purchase at www.cfapubs.org/loi/faj. By studying the returns of different pension plans, Brinson and his colleagues determined that a plan's asset allocation was the most important variable in explaining the variation among different plans' portfolio returns. Then and now, many believe that stock selection or market timing are the primary drivers of returns. However, Brinson, Hood, and Beebower found that asset allocation (referred to as "investment policy" in the article) itself was the most important factor. Although many practitioners and academics have questioned the Brinson, Hood, and Beebower methodology and interpretations and many more have misquoted the paper's conclusions, today there is still little doubt that asset allocation is a key determinant of portfolio performance. Therefore, an investor should focus on creating a long-term asset allocation that reflects thoughtful consideration of risk, return, time horizon, liquidity, and other factors in the development of the investment policy statement.

Importance of Asset Allocation



Source: Brinson, Gary P., L. Randolph Hood, and Gilbert L. Beebower. "Determinants of Portfolio Performance." *Financial Analysts Journal* 42, no. 4 (July/August 1986): 39-44.

III. [10.3] DIVERSIFICATION

A valuable output of the asset allocation decision is diversification. While it is now taken for granted that an investor should hold a diversified portfolio of investments, this was not always the case. In fact, in 1990 the Nobel Memorial Prize in Economics was awarded to Harry Markowitz and William Sharpe for their work on modern portfolio theory and the Capital Asset Pricing Model, respectively. Their research, performed in the 1950s and 1960s, determined that a portfolio's overall risk was related to the statistical correlation of the returns of its various asset class components; the less correlated the portfolio's components, the lower the volatility of the portfolio and the more "efficient" the outcome for the investor. Thus, investing in several uncorrelated asset classes allows an investor to decrease risk while maintaining a desired expected return or, alternatively, increase expected return while maintaining the desired level of risk. For instance, an investor who invests only in bonds is likely to achieve the same expected return over long periods of time with lower risk by investing in a portfolio of both stocks and bonds.

This concept is not only important to individual investors but also elemental to the proper administration of trusts because of the ubiquity of the prudent investor rule. The RESTATEMENT (THIRD) OF TRUSTS adopted modern portfolio theory as the guide for how a prudent investor, and subsequently a prudent trustee, should act. RESTATEMENT (THIRD) OF TRUSTS §227 (1992). In the past, based on the prudent person rule, holding any risky investments may not have been considered prudent because each investment was viewed in isolation. However, now the standard is to view prudent portfolios in the context of the risk of the total portfolio. Depending on the purposes, terms, and requirements of the trust, a single-asset portfolio is unlikely to be considered a prudent investment strategy.

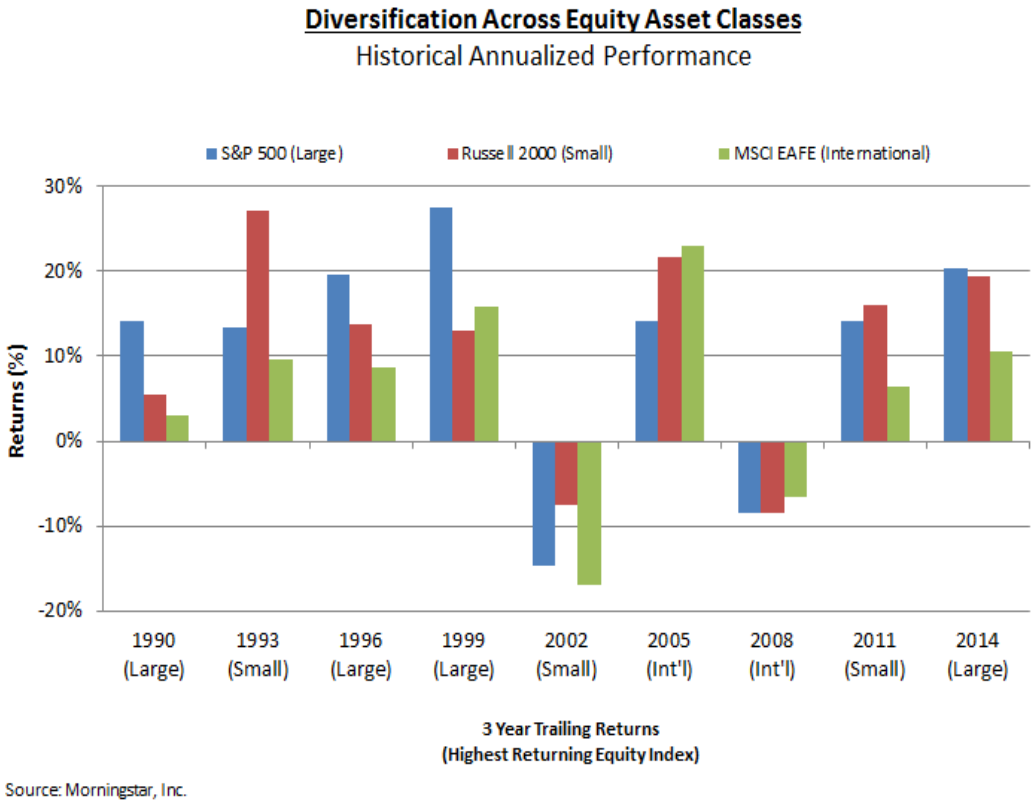
The benefits of diversification are evidenced in both risk and return. As an example, assume that an investor who invests 50 percent in intermediate-term bonds and 50 percent in large cap equity can expect a return of 4.9 percent and a standard deviation of these returns (volatility or risk) of 11.0 percent. If that same investor diversifies the portfolio's holdings to 30 percent cash, 30 percent intermediate-term bonds, 10 percent real estate investment trusts (REITs), 10 percent large cap equity, 10 percent small cap equity, and 10 percent international equity, then using historical return assumptions, the portfolio has the same 4.9 percent expected return, with a much-lower 8.6 percent expected standard deviation (risk). Furthermore, if the investor wishes to increase return rather than decrease volatility, he or she could diversify the portfolio's holdings to 25 percent cash, 25 percent intermediate-term bonds, 5 percent REITs, 15 percent large cap equity, 15 percent small cap equity, and 15 percent international equity. This portfolio would produce the same expected standard deviation of 11.0 percent as the first portfolio but offer a higher 5.5 percent expected return. Both of these portfolios are more "efficient" than a portfolio constructed simply of intermediate-term bonds and large cap equity. These results are summarized in the table below:

The Benefits of Diversification

Allocation	Expected Return	Expected Standard Deviation
Portfolio A ▪ 50% Intermediate-Term Bonds ▪ 50% Large Cap Equity	4.9%	11.0%
Portfolio B ▪ 30% Cash ▪ 30% Intermediate-Term Bonds ▪ 10% Real Estate ▪ 10% Large Cap Equity ▪ 10% Small Cap Equity ▪ 10% International Equity	4.9%	8.6%
Portfolio C ▪ 25% Cash ▪ 25% Intermediate-Term Bonds ▪ 5% Real Estate ▪ 15% Large Cap Equity ▪ 15% Small Cap Equity ▪ 15% International Equity Source: Morningstar, Inc.	5.5%	11.0%

The concept of risk reduction through diversification has evolved from the simple notion of investing in 10 – 15 different stocks to investing across and within various asset classes. To study the importance of diversifying across different equity asset classes, the author investigated returns for nonoverlapping three-year time periods from 1988 through 2014, considering three traditional

equity asset classes — large-cap stocks as represented by the S&P 500 Index, small-cap stocks as represented by the Russell 2000 Index, and international stocks as represented by the MSCI EAFE Index. Within the nine periods studied, each asset class came out as the top performer at least twice. During the late 1980s and throughout the 1990s, U.S. large cap stocks did very well. All three asset classes posted negative returns during 2000 – 2002, but small cap stocks were not hit quite as hard. Between the downturn in the early 2000s and the financial crisis of 2008, international stocks outperformed both small and large domestic stocks. This illustrates that unless an investor is able to predict which asset class will outperform, he or she would be better served by diversifying holdings among many different classes of assets. Diversification allows an investor to benefit from the appreciation of the best-performing asset class, without significantly suffering from the poor performance of another asset class. The results are summarized in the graph below:



Source: Morningstar, Inc.

While diversifying across asset classes may appear adequate, an investor is even better served by also diversifying across styles within asset classes (*e.g.*, the growth and value styles of selecting stocks). "Growth" and "value" can be hard to define, and the definitions are not always consistent between portfolio managers, but most managers generally agree that a growth company has growing earnings, a higher price/earnings ratio, and low (or no) dividend yield. Conversely, a value company is one that trades for a price less than its "intrinsic value" or "private market" value, has a higher dividend yield, and a lower price/earnings ratio. Roger G. Ibbotson and Mark W. Riepe, *Growth Vs. Value Investing: And the Winner Is . . .*, 10 J.Fin.Plan. 64 (June 1997). Of course, these definitions are not absolute; what might be a value company to one manager may be a growth company to another. For instance, a growth manager who seeks

"growth at a reasonable price" tends to look for growth stocks that are not overvalued while a "relative value" manager tries to find value companies that are not too expensive relative to others in their sector. These two types of managers could end up buying the same stocks. In addition, many companies move from being growth companies to value companies as they mature through their business life cycles. One well-known example of this is Microsoft (MSFT). While MSFT was a growth company in its early years, many mangers now consider it a value company.

IV. [10.4] TAX EFFICIENCY OF INVESTMENTS

The primary determinant of whether an asset should be held in a tax-deferred or taxable account is the differing tax treatment (generally referred to as the "tax efficiency") of that asset. As is common with most sections of the Internal Revenue Code, the tax treatment of various investment vehicles is complicated and not necessarily uniform, but understanding this treatment is vital to the proper application of an asset location strategy because generally all distributions from non-Roth IRA tax-deferred accounts, irrespective of the underlying investment, are treated as ordinary income.

The total return of an investment is comprised of appreciation and income. While the return attributable to the appreciation is almost always tax deferred until the sale of the asset, the income portion of the return is treated differently depending on the type of distribution. Taxable interest, nonqualified dividends, and short-term capital gains distributions are treated as ordinary income and taxed at the investor's marginal income tax rate. Conversely, qualified dividends and recognized long-term capital gains on most investment assets are taxed at a favorable long-term capital gains tax rate (for the purposes of capital gains taxation, "long-term" is greater than one year). Currently the long-term capital gains tax rates are 0, 15, or 20 percent, depending on the investor's marginal income tax bracket. 26 U.S.C. §1(h). Additionally, a 3.8 percent surtax is applied to net investment income above certain thresholds. 26 U.S.C. §1411(a).

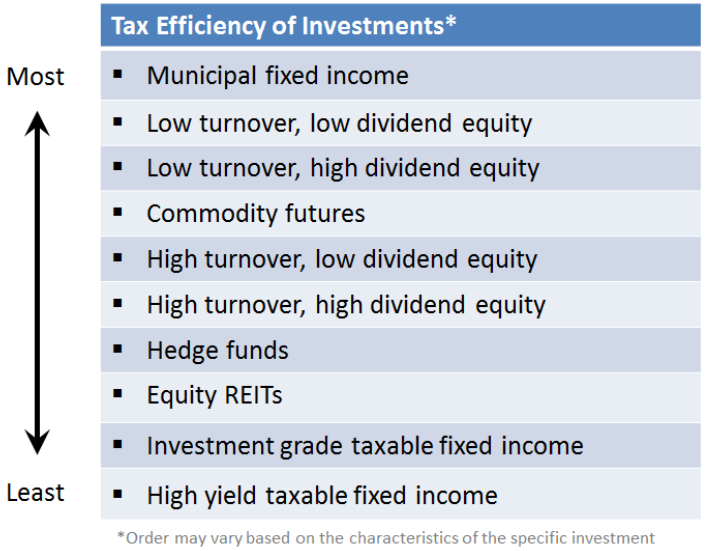
Generally speaking, bond returns come primarily from interest payments and are, therefore, taxed at the ordinary income tax rate. The exception to this rule is interest from municipal bonds, which has varying levels of tax exemption. Equity mutual fund distributions are comprised of dividends and short- and long-term capital gains distributions, and these amounts vary among the funds. (Throughout this chapter, mutual funds are used in the illustrations due to their popularity with investors over owning individual stocks.) This variance can mostly be explained by two factors: levels of dividends and amount of turnover (*i.e.*, trading of positions within the portfolio). If an equity mutual fund invests in stocks that pay dividends, this will understandably increase the return attributable to dividends. The lower the dividends paid, the greater the tax efficiency of the fund. "Turnover" is the rate at which individual holdings are bought and sold within a fund and is measured as a percentage of the portfolio that is sold in a year (*e.g.*, a fund with a 20-percent turnover rate would hold a stock for five years, on average). If a fund consists of stocks that pay no dividends and holds all of its stocks for more than a year, this hypothetical fund will distribute only long-term capital gains. Thus, the lower the turnover of a mutual fund, the greater the tax efficiency of that fund. Because bonds generally derive 100 percent of their total return in the form of interest payments, whereas equity mutual funds have a mix of income and appreciation, equity mutual funds are generally more tax efficient than bond funds (with the exception of municipal bond funds).

Municipal bonds are the most tax-efficient asset class. These bonds, issued by state and local municipalities, are always exempt from direct federal taxation (although interest from "private activity bonds" is taxable under the alternative minimum tax) and may be exempt from state taxation if the investor resides in the same state as the bond issuer.

At the opposite end of the tax-efficiency spectrum are investment-grade and high-yield taxable bonds, hedge funds, and equity real estate investment trusts. Hedge funds do not have a common strategy, only a common structure, as a private partnership or limited liability company. Hedge funds can invest in bonds, large- or small-cap stocks, and derivatives and hold long or short positions. They can invest in dozens of strategies ranging from the very risky (*e.g.*, commodity speculation) to the less risky (*e.g.*, "market neutral"). The tax efficiency of hedge funds varies from fund to fund based on the specific investment strategy. However, in general, most hedge funds are tax inefficient. This is because turnover within hedge funds is usually high, as the managers perform transactions without regard to tax treatment or holding period; therefore, the majority of distributions in most cases are ordinary income and short-term capital gains, taxed at the investor's highest marginal income tax rate.

In addition to municipal bonds, the most tax-efficient assets are low-turnover, low-dividend-paying equities followed by low-turnover, high-dividend-paying equities. Dividends have a smaller effect on tax efficiency than does turnover if they are qualified dividends and thus taxed at favorable rates. Qualified dividends meet certain characteristics outlined in Code §1(h)(11) and are currently taxed the same as long-term capital gains. Gain or loss from commodity futures receives a hybrid tax treatment (*i.e.*, 60 percent long-term capital gain and 40 percent short-term). The advantage of having a majority of gain taxed as long term makes this asset class rather tax efficient. The next most tax-efficient assets are high-turnover, low-dividend-paying equities, followed by high-turnover, high-dividend-paying equities. Equity REITs are somewhat tax inefficient. These securitized real estate holdings are treated differently than traditional equity mutual funds. REITs are exempt from paying corporate income taxes if they distribute 90 percent or more of their taxable income to shareholders in the form of dividends. However, these dividends are not qualified dividends.

Finally, although not commonly used in retirement accounts, it is worth noting that private real estate and private equity funds can be very tax efficient depending on their structure and the underlying investments. Private real estate is often tax efficient because a large portion of the return is the deferred appreciation from the sale of investment properties. Additionally, the tax structure of private real estate (often partnerships) allows for losses, depreciation, fees, and expenses to flow through to the individual investor. Generally, private equity investments are tax efficient due to the long-time horizon before investments are liquidated. The tax efficiency of the most common investment assets is summarized in the table below:



V. THE CASE STUDY

A. [10.5] Background of the Case Study

To help quantify the asset location decision, the author of this chapter developed a case study with very basic assumptions. Although this study was, by definition, an academic exercise, it approached the topic with a real-world goal: to determine which asset location strategy would yield, at the end of a given time period, the greatest after-tax wealth.

The study focused on a single 50-year-old investor who is assumed to live to age 92 and consume the last of his assets at death (casually known as the "die-broke scenario"). He has built a $4 million portfolio with 50 percent in a tax-deferred account and 50 percent in a traditional taxable account. For simplicity, it was assumed that he will make no more contributions to either account during the time period. One might question the lack of additional contributions given the obvious advantages of tax-deferred accounts. This assumption is due to the goal of this study, which was not to determine the usefulness of tax-deferred accounts, as that is well documented, but rather to determine what assets to locate within the accounts after they are funded. The study also assumed that the tax-deferred account would not be fully liquidated upon retirement. Instead, distributions out of the tax-deferred account were assumed to begin at age 71 in equal annual installments until death. The analysis ignores state taxes and assumes that the investor is subject to the highest federal tax bracket (including the net investment income tax) until death (currently 43.4 percent on ordinary income and 23.8 percent on long-term capital gains). 26 U.S.C. §§1, 1411. Although there is little doubt that tax laws will change over the next 42 years, absent clairvoyant insight into the future actions of Congress, the current tax laws are a reasonable assumption.

The investor was assumed to have the option of investing in four investments within two asset classes: taxable bonds, municipal bonds, tax-efficient equities, and tax-inefficient equities. While §10.4 above discusses the differences in tax treatment between these asset classes, the case

study used proxies to replicate the investor's portfolio. It is generally understood that passively managed (index) equity mutual funds are more tax-efficient than most actively managed equity mutual funds. This is due to lower turnover as index funds generally rebalance a smaller number of times per year, rather than continually trading. The dividend yield assumed for both the tax-efficient and the tax-inefficient funds was 2.0 percent. With respect to capital gains, the study used the well-known Vanguard 500 Index Fund as the proxy for distributions from a tax-efficient equity mutual fund. This fund has averaged a 0.5-percent short-term capital gains distribution and a 1.0-percent long-term capital gains distribution per year. For a proxy of a tax-inefficient equity mutual fund, the case study used the midpoint of all actively managed mutual funds as reported by Morningstar. This midpoint fund has averaged a 1.5-percent short-term capital gains distribution and a 3.0-percent long-term capital gains distribution per year. Therefore, the tax-efficient equity mutual fund is three times more efficient than the tax-inefficient equity mutual fund.

The investor was assumed to reinvest all distributions within the tax-deferred account and all after-tax distributions in the taxable account. While this may seem like a minor point, reinvestments in the taxable equity mutual funds will increase the investor's tax basis, thereby reducing the taxable gain upon sale. This differs in the tax-deferred account, in which all amounts will be taxed as ordinary income upon distribution.

Investment returns for each of the four investments were based on the 45-year mean return provided by Morningstar, Inc. While the returns of any asset class in any given year are unlikely to be equal to its historical return, given the long time horizon of the study, the long-term historical return is a reasonable expected performance assumption. The tax and return assumptions that apply to the study are as summarized below:

Case Study Assumptions
▪ Federal ordinary income tax rate: 39.6%
▪ Federal qualified dividend tax rate: 20.0%
▪ Federal long-term capital gain tax rate: 20.0%
▪ Net Investment Income Tax: 3.8%
▪ Excludes applicable state taxes
▪ Performance assumptions:
Large cap equities: 10.5% (dividend yield 2.0%)
Intermediate-term taxable bonds: 6.2%
Intermediate-term municipal bonds: 4.5%

Finally, the study calculated the most beneficial asset location strategy under these assumptions for the investor by calculating the net present value (NPV) of future annual cash flows as of age 70. This allows an easy dollars-to-dollars comparison of which strategy produces the greatest after-tax wealth.

To test different asset location strategies, the study assumed that the investor had a simple asset allocation of 50 percent stocks and 50 percent bonds and tested this allocation with three asset location combinations. In each case, the entire tax-deferred or taxable account was invested in one asset class. In Case I, the investor used his tax-deferred account to invest in taxable bond funds and his taxable account to invest in tax-efficient equity mutual funds. In Case II, the tax-deferred account was used to invest in equity mutual funds (it does not matter whether they are efficient as all earnings are ultimately taxed at ordinary income tax rates) while the taxable account was invested in municipal bond funds. Finally, in Case III, the tax-deferred account was invested in taxable bond funds while the taxable account was invested in tax-inefficient equity mutual funds. These combinations are summarized in the following table:

Case Study Assumptions		
	Traditional IRA	Taxable
Case I	$2 million of Taxable Bond Fund	$2 million of Tax-Efficient Equities
Case II	$2 million of Equities	$2 million of Municipal Bond Fund
Case III	$2 million of Taxable Bond Fund	$2 million of Tax-Inefficient Equities

B. [10.6] Case Study Conclusion

The results of the initial case study discussed in §10.5 above are displayed in the table below. Examining the results of the three asset location strategies tested, Case I and Case II were vastly superior to Case III. This is not surprising because rarely, if ever, will tax-inefficient equities located in a taxable portfolio outperform tax-efficient equities, nor will they maximize wealth if IRA assets are available as an alternative location.

Conclusion of Case Study			
	Traditional IRA	Taxable	After-Tax NPV at Age 70
Case I	$2 million of Taxable Bond Fund	$2 million of Tax-Efficient Equities	$24,895,796
Case II	$2 million of Equities	$2 million of Municipal Bond Fund	$23,325,796
Case III	$2 million of Taxable Bond Fund	$2 million of Tax-Inefficient Equities	$21,890,104

C. [10.7] Factors That Would Influence the Outcome

Although the case study and conclusion discussed in §§10.5 and 10.6 above are useful in identifying the appropriate assets to locate in a tax-deferred versus taxable account under a given set of assumptions, they are limited by those very assumptions. In practice, investors have many more than four investment options and almost certainly have a more sophisticated asset allocation. There are many other factors that will affect an investor's after-tax wealth.

Liquidity should be a major consideration in the asset location decision. If an investor has a need for liquidity to fund living expenses, make major purchases, handle emergencies, or achieve other goals, then using the tax-deferred account to hold an entire bond allocation, while using all taxable accounts for equity investments, may not be appropriate. While most likely to increase wealth in the long term, the riskiness of equity markets increases the probability that an investor may need access to cash flow at an inopportune time (*e.g.*, after a sharp market downturn). Bonds provide greater liquidity and a steadier income stream to investors because of the scheduled interest payments and because bond markets generally have lower volatility than equity markets.

Tax law changes could have a profound impact on the asset location decision. If there were a compression between the ordinary income tax rate and the long-term capital gains tax rate, then holding equity mutual funds in a tax-deferred account would become more attractive. This lower spread in turn would reduce the benefit of holding bonds in tax-deferred accounts. If the ordinary income tax rate increases but the capital gains rate does not (*i.e.*, the spread increases), this would strengthen the benefit of placing bonds in tax-deferred accounts and equities in taxable accounts. In any event, an investor who expects to be in a lower tax bracket during retirement would find that his or her tax-deferred accounts are relatively more attractive.

An investor's time horizon and withdrawal rate are also vitally important to the analysis. The longer the time between now and retirement, the greater the probability that the investments will appreciate (which favors equities outside the retirement accounts) and the greater the probability of a tax law change (which could favor equities inside the retirement accounts). In addition, while the case study in §10.5 above used historical returns to model the portfolio returns, there have been periods of time when bonds have outperformed stocks. Therefore, the asset location decision is less reliable given a shorter time horizon. A faster rate of withdrawing money from tax-deferred accounts will generate additional taxes as well as limit potential future investment growth, resulting in a reduction in an investor's after-tax wealth.

A major consideration is the availability of tax-efficient or tax-inefficient assets. Qualified plans offer a limited array of investment choices, so an investor's ideal asset location may be thwarted. In addition, while investment-grade taxable bonds were the most tax-inefficient assets used in the case study, they are not necessarily the most tax-inefficient assets present in most portfolios; in fact, they have a reasonable substitute in the form of municipal bonds. If the investor has a hedge fund allocation in his or her investment policy statement, then he or she could benefit more by placing it in his or her tax-deferred accounts and placing municipal bonds in his or her taxable accounts.

An investor's postretirement goals should also be a consideration. While the case study assumed the die-broke scenario, many investors may not have a need for individual retirement

arrangement assets and instead may have charitable intentions. IRA funds can be donated to charity, using the unlimited charitable deduction, while at the same time avoiding income and estate taxation. See Chapter 6 of this handbook.

Another consideration should be overall fixed-income diversification. Although investment-grade fixed-income securities are materially less risky than stocks, it is still optimal to maintain a diversified fixed-income portfolio. It is common practice to diversify within an equity asset class across many different securities, within different sectors (*e.g.*, finance, technology, and healthcare), market capitalizations (*e.g.*, small, mid, and large), and even geographically. Unfortunately, many investors do not focus on diversification within their bond portfolios. However, it is important to note that fixed-income securities within each fixed-income sector (*e.g.*, Treasury, municipal, corporate, and high-yield) at varying maturities and with unique quality ratings (*e.g.*, AAA, AA, and A) act differently through the stages of the business cycle and changes in interest rates. As a result, a bond portfolio with many different types of securities can provide more overall diversification. The tax-deferred accounts provide the flexibility to invest in many sectors of the taxable bond market to achieve proper diversification without adverse tax implications, while the taxable account is the proper home for municipal bonds.

Finally, the actual observed market spread between returns of stocks and bonds, as well as between taxable and municipal bonds, has an impact. If municipal bond yields are sufficiently close to (or even greater than) after-tax taxable bond yields, as has been the case several times since 2010, then it would be just as advantageous for the investor to hold municipal bonds in the taxable account as to hold taxable bonds in the tax-deferred account. If this is the case, then the tax-deferred account can be used in part for equity (or other) investments, and the bond allocation can be held in the taxable account, depending on the relative after-tax returns of those other investments. Conversely, if after-tax taxable bond yields greatly outpace those of municipal bonds, it likely would be most advantageous for the investor to use primarily the tax-deferred account for the bonds.

D. [10.8] Other Tax Considerations

When determining the optimal asset location strategy, there are several other unique benefits to taxable accounts worth noting. One of the biggest advantages in holding equities outside retirement accounts is the ability to use capital losses to offset capital gains. While these losses in the taxable accounts can offset taxable gains, they can additionally be carried forward to offset future gains or to reduce ordinary income up to $3,000 annually. 26 U.S.C. §1211(b). Following the bear markets of 2000 – 2003, 2008, and 2009, many investors acquired a large "asset" in the form of a capital-loss carryover. This offset characteristic is not available within tax-deferred accounts, in which gains and losses are not taxed but distributions made from the accounts are taxed at ordinary income tax rates.

In addition, if the investor owns foreign securities in a taxable account, then the foreign tax credit may be used to reduce income taxes. 26 U.S.C. §§27, 901. This tax credit is not extended to investments within a tax-deferred account.

Finally, while the heirs of a decedent receive a step-up in basis at death in taxable accounts under current law, tax-deferred accounts are treated as income in respect of a decedent. 26 U.S.C. §691. A thorough discussion of the complex tax rules regarding tax-deferred accounts is beyond

the scope of this chapter, but put simply, these assets do not receive a step-up in basis and are taxed at ordinary income tax rates. It is obviously better to inherit property that receives a step-up in basis at death than one that is entirely subject to tax at ordinary income tax rates.

VI. ROTH INDIVIDUAL RETIREMENT ARRANGEMENTS

A. [10.9] Consideration and Case Study

It is important to acknowledge the increasing percentage of retirement assets located in Roth individual retirement arrangements. A Roth IRA provides the opportunity for permanent tax deferral; while an investor does not receive a tax deduction for contributions, all investments grow, and are distributed, tax free. Roth IRAs also have the added advantage of never having required minimum distributions, which begin at age 70½ for traditional IRAs. This is particularly advantageous for high-net-worth individuals who likely do not require the income from their tax-deferred accounts during retirement.

Analyzing the attractiveness of a Roth IRA requires a modification to the original case study discussed in §§10.5 – 10.8 above. The revised study first assumes an investor has only a Roth IRA and a taxable investment account. (See §10.10 below for an analysis of the benefits of converting a traditional IRA to a Roth IRA.)

The table below shows the results of the author's analysis using all the same assumptions as the original case study but substituting a Roth IRA for the traditional IRA. Once again, Case III is the laggard, with bonds in the Roth IRA and inefficient stocks in the taxable account, but note the tremendous advantage for Case II — over $4.2 million of after-tax net present value more than Case I and $7.2 million more than Case III! This result clearly illustrates that because Roth earnings and distributions are never subject to income tax, placing a higher-expected-return asset in that account results in substantially higher after-tax investor wealth. An even greater advantage could ensue if an investor does not need the Roth account balances to live on, as there are no mandatory distribution requirements for a Roth account. Roth assets can continue to grow tax free until death, potentially allowing significant additional wealth creation.

Conclusion of Case Study with Roth IRA			
	Roth IRA	Taxable	After-Tax NPV at Age 70
Case I	$2 million of Taxable Bond Fund	$2 million of Tax-Efficient Equities	$28,632,278
Case II	$2 million of Equities	$2 million of Municipal Bond Fund	$32,884,766
Case III	$2 million of Taxable Bond Fund	$2 million of Tax-Inefficient Equities	$25,626,586

B. [10.10] Roth Individual Retirement Arrangements Conversion

Beginning in 2010, owners of traditional individual retirement arrangements were allowed to convert them to Roth IRAs, regardless of their income level, provided that tax was paid on all existing IRA balances. Future earnings and distributions are then income tax free. Analyzing the potential benefits of conversion requires comparing the following two cases discussed in §§10.5 – 10.9 above: (1) Case I, with $2 million of equities in a traditional IRA and $2 million of municipal bonds in a taxable account, and (2) Case II, a $2 million converted Roth IRA account, when tax was paid upon conversion from the municipal bonds in the taxable account, thus resulting in the taxable account having a balance of $1.208 million (or total assets in both Case II accounts of $3.208 million). The study assumes that the $2 million in the IRA account was converted at the maximum ordinary income tax rate of 39.6 percent. Because of the large reduction in the overall portfolio in Case II, the assumed 50/50 stock/bond asset allocation now requires that $396,000 of the bond allocation be located in the Roth IRA account. The results are illustrated in the chart below:

Roth IRA Conversion Scenario					
	Traditional IRA	Roth IRA	Taxable	Total Starting Portfolio	After-Tax NPV at Age 70
Case I	$2 million of Equities		$2 million of Municipal Bond Fund	$4,000,000	$23,325,590
Case II		$1,604,000 Equities & $396,000 Taxable Bond Fund	$1,208,000 Municipal Bond Fund	$3,208,000	$28,713,351

C. [10.11] Roth Individual Retirement Arrangements Conversion Conclusions and Considerations

Despite the $792,000 immediate decline in wealth due to the conversion tax (see §10.10 above), Case II, with its Roth individual retirement arrangement, results in over $5.3 million of after-tax net present value advantage over the traditional IRA of Case I! Though the benefits of a Roth IRA conversion seem obvious in this example, given the assumptions made, as expected there are several caveats.

First, future tax laws are a significant consideration. There is a very low probability that tax laws will remain constant for the entirety of an investor's lifetime. Will Roth IRAs continue to produce tax-exempt income for taxpayers at all income levels? Investors must be aware of the substantial political risk they are taking before choosing to convert their traditional IRA to a Roth IRA.

Next, while investment returns should not be a major factor in the conversion decision, time horizon will make a difference. Investments in the Roth IRA must have an ample amount of time to appreciate in order to make up for the money lost to taxes from converting. Remember, however, that many investors' time horizons encompass both a spouse's and surviving children's life expectancies, thereby enhancing the probability of there being sufficient time to recoup amounts paid in taxes to convert the Roth IRA.

It is important to emphasize that the favorable results of conversion assume that an investor has sufficient assets outside the IRA to pay the tax. Using IRA assets for conversion tax would not be economically prudent.

VII. [10.12] REAL-LIFE EXAMPLE

The case studies discussed in §§10.5 – 10.11 above can be illuminated by applying the findings to a more diversified portfolio. This should begin by determining the types of assets in the taxable versus tax-deferred accounts. Generally, due to absolute limitations on contributions and income phase-outs, the typical investor in the highest tax bracket would have significantly more wealth in a taxable account than a tax-deferred account. Therefore, this example assumes an investor has $1 million of total investments — $200,000 in a traditional IRA, $100,000 in a Roth IRA, and $700,000 in a taxable account. The example assumes this investor's investment policy statement indicates a moderate risk tolerance and calls for an asset allocation consisting of 35 percent in equities (12.5 percent in large cap, 10 percent in small cap, and 12.5 percent in international), 30 percent in intermediate-term fixed income, 20 percent in hedged/opportunistic strategies, 10 percent in real estate (in the form of equity real estate investment trusts), and 5 percent in commodity futures. This sample asset allocation is detailed below:

Sample Allocation	
Asset Class	**Target (%)**
Large Cap Equity	12.5
Small Cap Equity	10
International Equity	12.5
Hedged/Opportunistic	20
Intermediate-Term Fixed Income	30
Real Estate (Equity REITs)	10
Commodities	5
Total	**100%**

Using this policy allocation, the investor should first place the most tax-inefficient assets in his or her IRA, with the proviso that the Roth account should house the highest-expected-return assets. Therefore, the entire allocation to REITs will reside in the Roth IRA, and both taxable fixed-income and hedged/opportunistic strategies — two relatively tax-inefficient asset classes — will be located in the traditional IRA. However, there is not enough value in the traditional IRA ($200,000) to hold the entire allocation to bonds ($300,000) and hedged/opportunistic strategies ($200,000). To insure fixed-income diversification and provide investor liquidity, one third of the bond allocation is placed in taxable bonds in the traditional IRA while two thirds is invested in municipal bonds in the taxable account. Similarly, the hedged/opportunistic allocation is divided between the IRA and taxable accounts. This leaves the entire equity allocation to be placed in the taxable account to best use equities' potential tax efficiency. The implementation of this allocation is summarized below:

Sample Asset Class Location		
Traditional IRA $200,000	**Roth IRA $100,000**	**Taxable $700,000**
Taxable Fixed Income $100,000	REITS $100,000	Large Cap $125,000
Hedged/ Opportunistic $100,000		International $125,000
		Municipal Bond $200,000
		Hedged/ Opportunistic $100,000
		Commodities $50,000
		Small Cap $100,000

VIII. [10.13] THE NEED FOR REBALANCING

A well-designed asset location strategy must be underpinned by a dedication to periodically rebalancing the portfolio. One of the defining characteristics of a diversified portfolio is that the various asset classes each earn different returns. Therefore, shortly after the portfolio is implemented, the asset class weights no longer match the target allocation. Advisors and investors put a great deal of time and effort into creating an asset allocation appropriate for an investor's risk tolerance and goals. Rebalancing the portfolio allows expected risk and return profiles to remain constant; without rebalancing, the portfolio may become too risky or too conservative for the investor.

To rebalance the portfolio, the investor should sell overweighted asset classes and buy underweighted asset classes. Studies have shown that rebalancing reduces volatility and forces the investor to "buy low and sell high" as appreciated assets are reduced and lower-returning assets are added.

Convincing an investor to rebalance can be an uphill battle. In a taxable portfolio, rebalancing likely will increase taxes and transactions costs. In addition, rebalancing runs counter to our human nature, as shown by studies in behavioral finance, by forcing the investor to sell off the top-performing assets while buying those that have underperformed. Nicholas Barberis and Richard Thaler, *A Survey of Behavioral Finance*, National Bureau of Economic Research, Working Paper 9222 (Sept. 2002), www.nber.org/papers/w9222. Human nature leads investors to want to "let the winners run."

There are several rebalancing techniques available. Some are calendar based (*e.g.*, monthly or quarterly) while others use weight triggers (*e.g.*, when an asset class moves more than five percent from its target weighting). Furthermore, some investors solely rebalance between asset classes (*e.g.*, large cap and small cap) while other investors also rebalance by style (*i.e.*, growth and value). Studies of rebalancing have shown that it is the dedication to rebalancing that is most important, not the particular technique. Tsai, Cindy Sin-Yi, *Rebalancing Diversified Portfolios of Various Risk Profiles*, 14 J.Fin.Plan. 10, 104 (Oct. 2001), http://connection.ebscohost.com/c/articles/5343948/rebalancing-diversified-portfolios-various-risk-profiles. The only real mistake is not rebalancing at all, as rebalancing has been shown to not only decrease volatility but also potentially increase pre-tax and post-tax returns. Weinstein, Steven B. et al., *The Importance of Portfolio Rebalancing in Volatile Markets*, 6 J. Retirement Plan., No.4, 37 (July/Aug. 2003), www.altairadvisers.com/docs/default-document-library/jorp-rebalancing-4-03.pdf?sfvrsn=2.

Rebalancing within a tax-deferred account has the added benefit of not having any tax consequences. Therefore, capital gain and loss issues may be ignored, while the investor is concerned only with transaction costs. Investors should then, if possible, focus rebalancing efforts within tax-deferred accounts. Another efficient option is to rebalance when new money is added to the portfolio, thereby avoiding the expense of selling appreciated positions.

IX. [10.14] CONCLUSION

This chapter demonstrates the importance of the asset location decision in optimizing an investor's after-tax wealth. Investors must create and implement investment strategies that include a sound investment policy with a target asset allocation. A review of the tax situation, in conjunction with the asset allocation, will lead the investor to place the correct investments in tax-deferred and taxable accounts. The investor generally benefits the greatest by placing the most tax-inefficient assets in the tax-deferred accounts (with the highest-expected-return asset in a Roth IRA), allowing for both liquidity needs and consideration of the time horizon until assets will be spent. Unfortunately, the investor cannot control many aspects of the investment strategy, including the future performance of markets. However, a logical, well-devised asset location plan can help maximize after-tax wealth. Although the asset location decision may not increase the pretax performance of a portfolio, if executed properly, it can significantly increase a portfolio's after-tax rate of return. For taxable investors, what really matters is not what you make but what you keep.

X. [10.15] REFERENCES

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