Private Wealth Management: A Review

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Private wealth management is the investment management specialization focused on high-net-worth individuals and families. Portfolio design and investment solutions in private wealth management are customized to reflect the complexities of the investor's unique circumstances. This review reflects the current best thinking on private wealth management.

Private wealth management is the investment management specialization focused on high-net-worth individuals and families. Private wealth management encompasses both *taxable investment management* and complex *personal financial planning* concerns and represents an increase in technical sophistication over 1980s-era financial planning. The word "private," although not strictly necessary, connotes the intensely personal and consultative relationship good wealth managers have with their clients. **Figure 1** positions private wealth management at the center of some allied fields.

Distinct from institutional money management—or even asset management in which the ultimate investor is a taxable individual investor—private wealth management requires comprehensive and customized solutions to a client's complex investment goals. By contrast, asset management typically involves a focused investment mandate that is standardized across investors, as in the case of mutual funds.

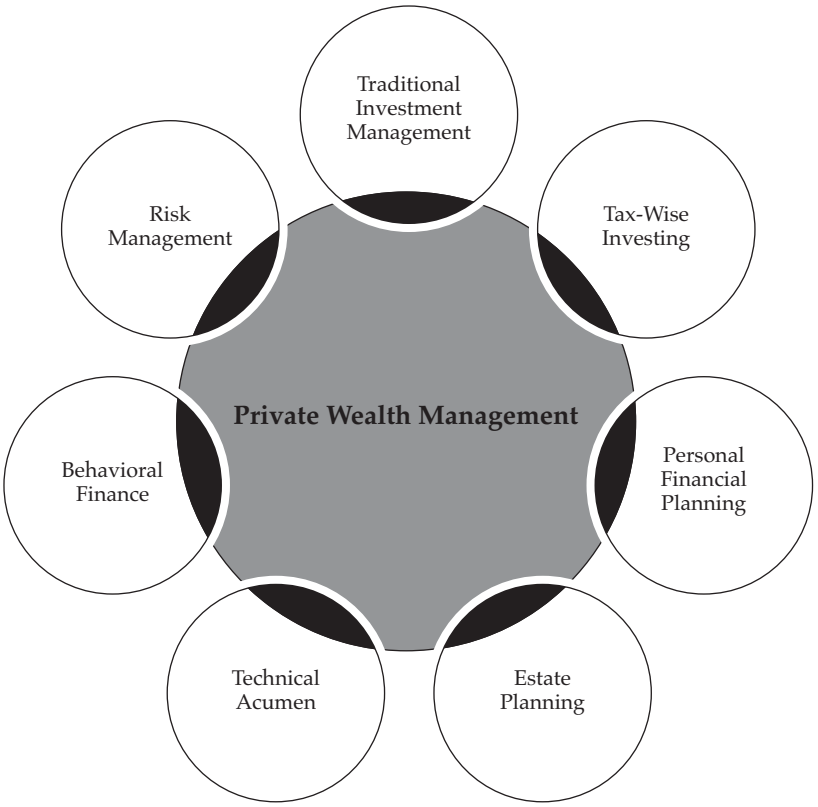
Private wealth management, then, is a field centered on investment management but considers the client's complete financial picture in a well-integrated fashion that incorporates the dynamic nature of the client's explicit and implied assets and liabilities, the complexity of his or her tax profile, and the nuances of behavioral biases. **Figure 2** represents these factors graphically.

Conventional texts on investing give private wealth management short shrift. A popular 1,000+ page MBA textbook includes only 6 pages on the issues specific to individual taxable investors. Thus, private wealth managers must turn to the source literature for insights.

Investment professionals switching from managing portfolios for institutions to managing portfolios for individuals quickly learn the peculiarities of private wealth management. As Figure 2 illustrates, portfolio design and investment policy development are affected by the investor's views and circumstances with respect to

- return and spending requirements,
- risk tolerance,
- taxation,

Figure 1. A View of Private Wealth Management



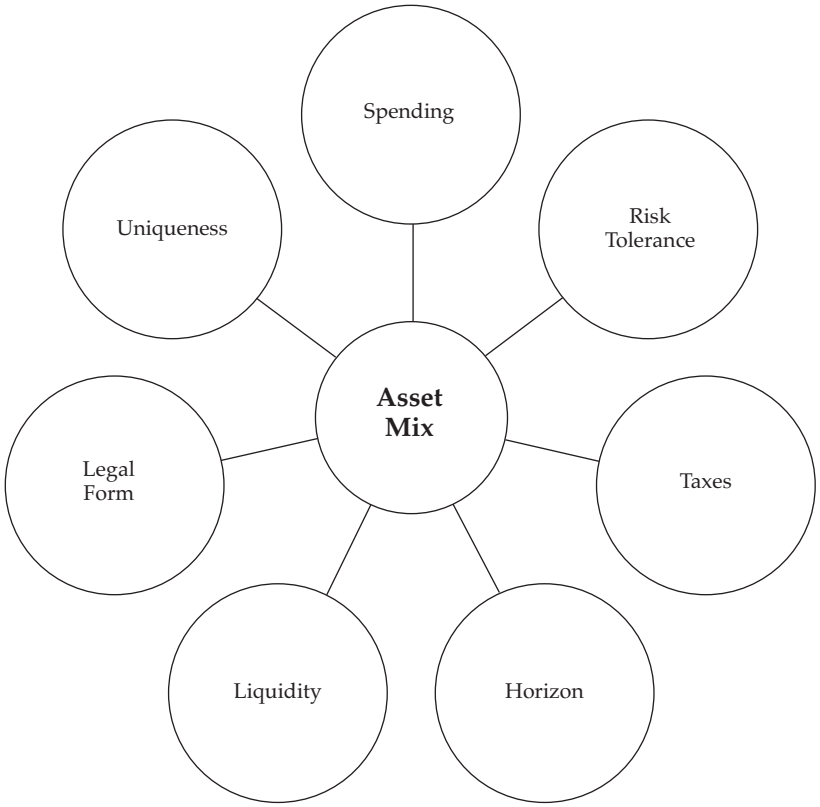
- investment horizon,
- liquidity needs,
- legal structures and requirements, and
- individual circumstances.

It is easy to think of simple instances of how these factors might apply differently to individuals and institutions. Numerous highly competent financial analysts have developed advanced insights on many of these topics. Accordingly, we will review the practitioner and academic literature on private wealth management topics that relate to the aforementioned seven portfolio factors.

Because tax and legal arrangements vary geographically, a great deal of private wealth management is necessarily local. Much of the peer-scrutinized literature of private wealth management is specific to the United States. Nonetheless, the issues of private wealth management transcend borders. Global analogues to country-specific concepts exist. For example, much of the research on traditional IRAs from the United States can be generalized to tax-deferred accounts globally. In Canada, for instance, Registered Retirement Savings Plans (RRSPs) function quite similarly to traditional IRAs, and Tax-Free Retirement Plans (TFRPs) function similarly to Roth IRAs. Horan and Robinson (2010a, 2010b) demonstrate this global nature clearly as it relates both to investment management and estate planning. Although local rules and regulations vary, many fundamental principles have global application within specific jurisdictions.

Many industry observers and participants partition the wealth management marketplace based on assets under management, placing investors into such categories as mass affluent, high net worth (HNW), or ultra-HNW. Although this categorization can be useful because relevant issues can differ dramatically among the groups (as with estate planning), it is important to note that many of the same issues apply to all groups, albeit in slightly

Figure 2. Factors Affecting the Asset Mix



different ways. For example, mass affluent investors may be concerned about the strategies to maintain spending from a retirement portfolio. And although HNW investors may not be exposed to the same longevity risk that mass affluent investors have, they are often concerned about sustainable spending rates from their portfolio in an intergenerational context, which introduces many of the same analytical issues. This literature review addresses issues confronting private wealth clients generally, rather than a single type, even though specific articles we cite may focus on a particular wealth category.

This literature review is an update of Jennings and Reichenstein (2006) and is distinct in at least three ways. First, it naturally includes a review of the literature since that publication. Second, it provides a thematic narrative of how each highlighted contribution relates to the others within an organizationally cohesive taxonomy. Third, the reference list includes abstracts to provide more guidance about each citation's contribution.

This review proceeds as follows: First, we consider the central issue of the strategic asset mix and overall investment policy. This section includes subsections on private wealth management's elaborations on strategic asset allocation—topics including alternative assets, tax-adjusted portfolio optimization, asset location, behavioral asset allocation, the extended portfolio, and asset/liability management. We then examine details of portfolio implementation, including manager structure and rebalancing. Next, we consider factors relevant to building and spending a portfolio. We follow this section with shorter sections on low-basis stock, tax management, estate planning, behavioral finance, legal concerns, and performance evaluation. Our conclusion includes suggestions for keeping current with the rapidly evolving literature of private wealth management. **Exhibit 1** conveys many of these issues graphically.

Exhibit 1. Overview of Private Wealth Management

Policy	Implementation	Other Issues
• Asset mix	• Style structure	• Inheritance
• Subportfolios	• Rebalancing	• Philanthropy
• Tax adjustments	• Low-basis stock	• Behavioral finance
• Extended portfolio	• Asset location	• Legal concerns
• Asset/liability management	• Tax	• Ethics
	• Saving and decumulation	

Strategic Asset Allocation and Investment Policy

Investment policy in private wealth management differs from institutional asset allocation in a number of ways. For example, any Markowitz mean–variance optimization must reflect after-tax values for both risk and return. The portfolio may include low-basis stock. The diversification and return attributes of alternative investments must be balanced with their tax inefficiency. Individuals may have stock options. A broad interpretation of asset allocation must include off-balance-sheet assets and liabilities, such as defined-benefit pensions and prospective college tuition payments. Finally, in an after-tax environment, the hurdles for market timing and tactical asset allocation, which were already high, are worse.

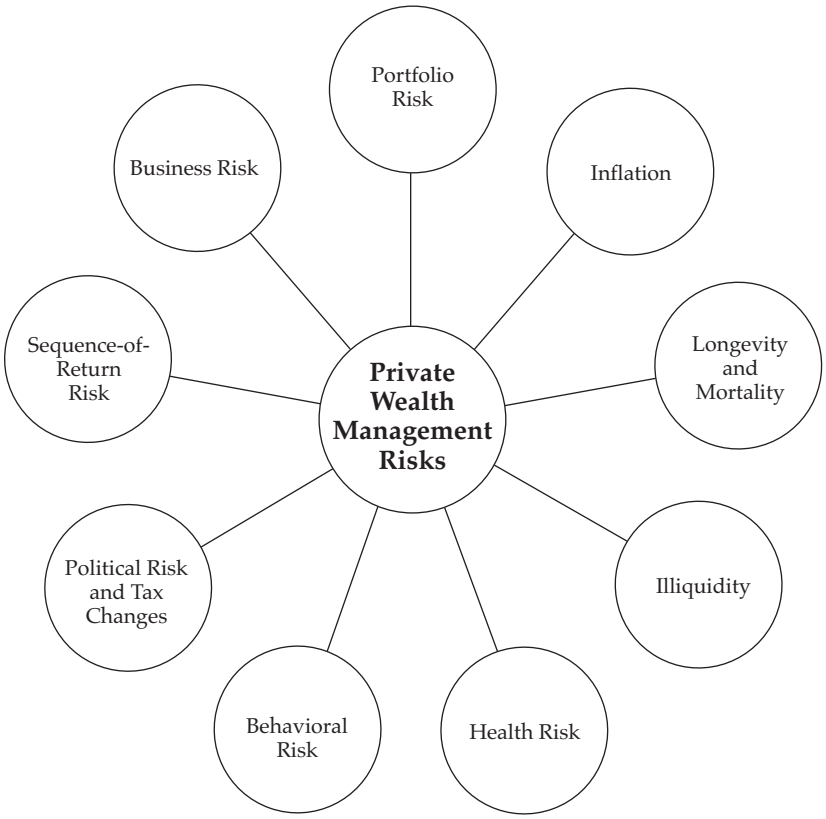
The preceding paragraph conveys something of the complexity of asset allocation for private wealth management. The benchmark reference for private wealth management is Brunel (2006a). He considers the asset allocation implications of low-basis stock, after-tax management of open-architecture multimanager stables, principles of tax efficiency, and whether style diversification is an impossible challenge after taxes. He also emphasizes the human side of the asset allocation decision, including the importance of managing the changeover from the current portfolio, and stresses the greater importance of wealth accumulation and asset location over periodic returns. And last but not least, he advocates for focusing on the total portfolio, not its components.

Bronson, Scanlan, and Squires (2007) also convey the complexity of the individual asset allocation decision. In an extended case study, they enumerate many "hard" and "soft" issues that go into successfully managing individuals' portfolios, while placing significant emphasis on developing an investment policy statement. They also discuss situational profiling, psychological profiling, and Monte Carlo simulation in an individual investment management context.

Campbell (2004) considers both long-horizon and life-cycle investment perspectives for individuals making the asset allocation decision. His approach includes dynamic expected returns as well as declining investor horizons. In his version of "strategic asset allocation," special emphasis is given to long-term inflation-linked bonds, such as TIPS (Treasury Inflation-Protected Securities), as the default risk-free asset for long-horizon individual investors. Retirees might also consider inflation-indexed annuities as their risk-free asset (Bodie and Treussard 2007). Many of these ideas are assembled in Horan (2009), who provides a compendium of CFA Institute and Research Foundation of CFA Institute articles that have advanced the private wealth management body of knowledge.

Risk plays a role in setting the asset mix. Note that risk perception, risk tolerance, risk drag, and volatility harvesting differ in private wealth management from conventional portfolio management (see **Figure 3**). First, individuals seem substantially more focused on loss as a definition of risk and less accepting of the institutional focus on volatility. Accordingly, downside risk measures may merit extra attention (see Jacobsen 2006; Leibowitz and Bova 2010). Properly calibrating risk tolerance is vital in selecting among efficient portfolios. Given the difficulty of obtaining reliable results from *ex ante* conversations or risk questionnaires, actual reactions to the market events of 2008–2009 may prove the most useful in assessing risk tolerance. Stutzer (2004) says "accurate assessment of [risk aversion] is problematic at best" (p. 38) and suggests focusing on minimizing shortfall probabilities against a benchmark or a target return. Messmore (1995) demonstrates how volatility widens the spread between the arithmetic and geometric average return; because the geometric average drives ending wealth, mastering this concept (called "risk drag" or "variance drain") should be required of all private wealth managers.

Figure 3. Private Wealth Management Risks



The impact of volatility is particularly pernicious for individuals who are making systematic withdrawals (as in the retirement distribution phase) or who have concentrated equity positions. Chhabra and Zaharoff (2001) stress the importance of failing to meet personal goals in calibrating risk.

Another way that risk in private wealth management differs from traditional risk management is in the appreciation of the potential *value* of volatility. Volatility in the traditional framework equals risk, a bad thing. Instead, volatility—uncorrelated volatility particularly—can be valuable in the private wealth management framework. Although no one seeks losses, the ability to harvest them creates tax shields. Harvesting these losses provides a tax-free way to realize capital gains on winning investments. Even when the individual has no need for current spending, realizing such tax-free gains resets the tax basis on the winning assets. Constantinides (1984) shows how volatility creates value in this "tax option"; we discuss this topic later in the Tax Management section.

Tax consequences make revising an asset allocation more difficult for individual investors than institutional ones. Brunel (1999a) considers the consequences of changing the asset mix as an after-the-fact reaction to a loss. He characterizes this desire to change as a response to a faulty asset mix decision made earlier. He demonstrates conclusively the intuition that the cost of panic-induced selling is worse for taxable investors than for institutions. DiBartolomeo (2006) also stresses the cost of correction. Both articles underscore the importance of making the correct asset mix decision in the first place.

Similarly, unwinding a client's prior asset allocation may also have tax consequences. Both taxes and illiquidity of previously purchased assets may force the private wealth manager to compromise on his or her ideal "clean sheet of paper" asset allocation. Brunel (2006a, ch. 11) characterizes this situation as a "cost of getting there" (to the new, correct asset allocation). This difficulty underscores the customized nature of private wealth management.

Before proceeding to more complex topics and thereby building a case for the sophisticated value that private wealth managers can bring to their clients, we would like to emphasize clients' sophistication. No one knows their situation better than they do. Bodie and Crane (1997) offer insights on how individuals really manage their portfolios. After a number of other studies examined individual investors' retirement accounts and found them underdiversified, Bodie and Crane examined individuals' retirement accounts in the context of their total portfolios. In contrast to the folk wisdom among private wealth managers and the conclusions of the earlier studies, Bodie and Crane find that the total portfolios are well diversified and are structured consistently with finance theory and best practices prescribed by experts. In short, clients are more sophisticated than early studies showed.

Alternative Assets. Modern portfolios may include exposure to so-called alternative assets. For individual investors, alternative assets present unique challenges. Most private wealth clients lack institutional scale, so achieving reasonable within-class diversification may be difficult. Funds of funds afford diversification but at a price of additional fees. Furthermore, manager transitions within a single fund of funds have tax consequences that are generally not factored into fund-of-funds portfolio management. Many hedge fund strategies are high turnover, commodities based, or otherwise tax inefficient. It is somewhat ironic that hedge funds, which were initially more of a high-net-worth strategy than an institutional one, may be inappropriate for taxable accounts even as they become more institutionally acceptable.

Other investments, such as REITs and fixed income, are also tax inefficient. But unlike the volatility of some tax-inefficient investments, alternative investments' volatility creates opportunities for tax-loss harvesting. Finally, private wealth clients benefit from alternatives' potentially lower correlation with traditional asset classes, just like institutional investors do. Building on this motivation, Brunel (1999b) considers what role alternative assets should play for taxable investors by using multiperiod after-tax portfolio optimization software. His definition of alternatives is somewhat nebulous, but the description and risk–return characteristics look like hedge funds. Brunel concludes that taxable investors should favor alternatives more than tax-exempt investors do, especially investors with average to above-average risk profiles. Nonetheless, Brunel (2003a) points out that hedge funds are not homogeneous and should not be considered an asset class per se. Moreover, alternative assets have unique liquidity, market, and operational risks that are not present in traditional investments; Runquist (2004) introduces a set of articles from CFA Institute that investigates a number of issues with hedge funds for private wealth investors.

Liquidity concerns might temper this favorable view of alternatives. Many alternative asset classes are illiquid, and illiquidity can be especially insidious for private wealth clients whose changing circumstances (e.g., health, marital status, or interests) can create unexpected liquidity needs. Milevsky (2004) demonstrates that low correlation between a given asset class and the remainder of the portfolio—a feature Brunel (1999b) lauds—increases the likelihood of breaching a given policy weight. Therefore, he finds that low-correlation illiquid asset classes should receive *smaller initial allocations* than traditional mean–variance analysis suggests. Terhaar, Staub, and Singer (2003) and Siegel (2008), although general investment pieces (not specialized for private wealth management), seem prescient in recommending a much smaller allocation to alternative assets than other articles published before the 2008 crash.

One alternative asset class that unambiguously has particular benefits to taxable investors is timberland. Benefits include having returns in the form of tax-advantaged capital gains rather than ordinary income, depletion deductions at harvesting, and the ability to use passive losses prior to harvesting. Corriero (2005) concludes that these tax attributes should cause timberland to be a viable asset for taxable investors.

Tax-Adjusted Portfolio Optimization. One of the greatest challenges facing wealth managers is incorporating taxes into an efficient asset allocation framework. It is well known that taxes affect portfolio returns (see, for example, Poterba 1999, 2000; Reichenstein 2001, 2006a, 2007; Horan 2005, 2007b). Siegel and Montgomery (1995) demonstrate the importance of taxes by recreating the classic Ibbotson–Sinquefield return series but on an after-tax basis. They show conclusively that taxes and inflation substantially dampen the

astounding compound returns demonstrated in the Ibbotson–Sinquefield series—especially for equity investors. Luck (2003) and Horvitz and Wilcox (2003) also demonstrate the value of active tax management, such as loss harvesting. In short, taxes matter.

Less well understood is that taxes also affect investment risk. To put it simply, governments share in investment risk through taxation on assets held in taxable accounts. Suppose asset returns are taxed entirely as ordinary income at the rate of t. If the standard deviation of pretax returns is σ and all investment losses provide tax deductions in the year they are incurred, then the standard deviation of after-tax returns is $\sigma(1 - t)$. That is, an investor bears only $1 - t$ of the pretax risk. Reichenstein (2007) provides an example, and others provide formal proofs (see, for example, Horan 2007a, 2007b; Horan and Al Zaman 2008).

The government's role in sharing risk and return has implications for asset allocation, asset location, and portfolio optimization. Jacob (1998, 1999) provides an early overview of the difference between traditional portfolio optimization and optimization for private wealth clients. Jacob is a pioneer of multiperiod, after-tax optimization as an alternative to classic mean–variance analysis. Her papers rely on a then-groundbreaking after-tax optimizer. Leibowitz (2003) shows how capital gains taxation can make the after-tax equity risk premium larger than the tax-free risk premium. Leibowitz and Bova (2009), for example, show that taxes change the reward-to-risk ratios and that the incentive to take risks may be greater for taxable investors. Reichenstein (2001, 2007), Wilcox, Horvitz, and diBartolomeo (2006), and Rogers (2006) apply these concepts to mean–variance optimization and show that optimal tax-adjusted asset allocations are substantially different from those derived in a tax-free environment. Horan (2007a) extends the approach to a broader set of taxable environments and predicates notions of tax-adjusted return on after-tax values rather than pretax values.

In addition, Reichenstein (2001, 2006a, 2007), Horan (2005, 2007b), and Horan and Al Zaman (2008) suggest adjusting the pretax balances in tax-deferred accounts to after-tax dollars and calculating asset allocation based on the assets' after-tax values. Each of the just-mentioned authors approaches the problem from a slightly different perspective. Horan and Al Zaman review the approaches, outline their relative merits, and extend the models by incorporating an asset's cost basis.

In general, however, the basic approach to tax-adjusted portfolio optimization involves adjusting expected returns, standard deviations, and (possibly) market values to reflect taxes. An important concept is that the same asset held in two different types of accounts essentially becomes two distinct after-tax assets (see Reichenstein 2001) because its after-tax expected return and after-tax standard deviation depend on the type of account in which it is held. For example, stocks and bonds held in taxable and tax-deferred accounts represent four different after-tax assets. More generally, n assets held in m account types may be effectively $n \times m$ distinct "assets" in an after-tax portfolio optimization. The variance–covariance matrix for n assets across m accounts, therefore, may grow to have $n \times m$ rows and $n \times m$ columns. Another important insight is that this type of tax-adjusted portfolio optimization solves the asset allocation and asset location problems simultaneously, which is discussed in the next section.

In many jurisdictions, low-turnover equity strategies have return components that are taxed less heavily than ordinary income and are sometimes deferred. Therefore, stocks generally have less tax drag as an asset class than bonds that are taxed at higher rates with little opportunity for deferral. As a result, Horan and Al Zaman (2008) show that tax-adjusted portfolio optimization typically produces two results:

- Taxable investors generally require a higher equity allocation than pretax investors to achieve the same risk exposure because taxes absorb some of the pretax risk.
- Equity tends to be located in taxable accounts rather than tax-deferred accounts because equity returns are tax preferenced.

See Dammon, Spatt, and Zhang (2004) and Shoven and Sialm (2004) for related studies.

Asset Location and Ownership Structure. A military aphorism holds that amateurs talk strategy while professionals talk logistics. That is, amateurs talk about the glamorous topic while professionals talk about the details. With private wealth management, the equivalent saying might be: Amateurs talk returns while professionals talk asset location.

The asset location decision is a distinguishing characteristic of private wealth management. Some, like Rogers (2006), see asset location's antecedents in the management of nuclear decommissioning trusts. Others trace it to Black (1980) and Tepper (1981) in the context of pension and nonpension assets. "Asset location" is the act of placing specific assets in specific accounts to optimize after-tax outcomes. For example, if an investor has funds in both tax-deferred and taxable accounts, should she hold bonds in the tax-deferred accounts and stocks in the taxable accounts or vice versa? One school of thought encourages putting higher-return assets (such as stocks) in the tax-advantaged accounts. The other school considers the impact of asset location on both after-tax return and after-tax risk and recommends locating tax-inefficient assets (such as bonds and REITs) in tax-advantaged accounts. Although this debate is evolving, the best and most-current critical thinking supports sheltering the tax-inefficient assets in the tax-advantaged accounts, as shown in the following discussion.

Private wealth managers can add value for their clients by providing asset location insights. Bodie and Crane (1997), who, as mentioned earlier, find that individuals' asset allocations are more sophisticated than first impressions suggest, also find that investors can benefit from better asset location decisions.

Shoven and Sialm (1998) provide an early inquiry into which asset location strategy will most likely maximize the projected after-tax ending wealth. When they frame it as a defer-or-not question, the tax-deferred account dominates: Individuals should exhaust their ability to save in tax-deferred accounts before saving in taxable accounts. They also find that high-tax-bracket investors should invest in tax-exempt municipal bonds held in taxable accounts before buying corporate bonds to be held in tax-deferred accounts. Following from that conclusion, they find that most individual investors should locate stocks in tax-deferred accounts and municipal bonds in taxable accounts. The authors conclude: "The typical actively managed equity fund gains more from being in a [tax-deferred account] than a typical bond fund" (p. 25). However, if the stock investment is tax efficient, then the conclusion changes: Bonds should be located in the tax-deferred account, and tax-efficient stock funds should be located in the taxable account.

Reichenstein (2001) and Dammon, Spatt, and Zhang (2004) consider the location strategy's impact on expected ending wealth and the volatility of ending wealth. They encourage holding tax-inefficient assets (such as bonds and REITs) in tax-deferred accounts and stocks (especially passively held, low-turnover stocks) in taxable accounts. Unlike Shoven and Sialm (1998), Dammon et al. favor these locations even when tax-free bonds are available.

Brunel (2001) expands the asset location decision to include assets held in trusts and other entities. His case study considers a hypothetical wealthy family and covers the holding structures for the assets, including taxable accounts, tax-deferred accounts, grantor retained annuity trusts, generation-skipping trusts, charitable remainder trusts or charitable lead trusts, variable life insurance policies, and foundations. He concludes that effective use of asset locations can improve a portfolio's after-tax expected returns and decrease volatility while incurring lower initial portfolio diversification costs. The article is a good primer on the benefits of various trusts and other holding structures. Brunel (2006a, ch. 5) also covers multiple asset locations from an ultra-high-net-worth perspective.

Hughes (2001) and Silfen (2005) expand the asset location decision to include multiple generations of the same family. Hughes labels this intergenerational treatment of asset location "investor location." A key idea is to manage the "family bank" that grants and loans money to the younger generations to finance their personal and professional growth. (It need not be a literal bank.) An important insight in intergenerational asset location, or investor location, is to hold the fastest-growing assets in the younger generations' accounts, allowing them to grow free of the first generation's estate tax. Hughes also addresses mentorship and family governance. Be aware that he assumes away "defection risk" within his happy-and-optimally-invested family; that is, no one takes his or her money out of the family-wide investment scheme. Brunel (2006a, pp. 22–24 and 96–99) includes complex family asset location case studies.

Internationally, the asset location decision might hinge on which assets to hold onshore and which assets to hold offshore. Hauser (2002) illustrates some of these issues in the context of estate planning, and Arnold and McIntyre (2002) outline some location decisions in the context of tax planning.

The choice of domicile of the family involves a great many factors, including cultural affinity, quality of life, asset protection, physical protection (e.g., kidnapping), estate planning (e.g., forced heirship rules), tax efficiency, and more. Marcovici (2007) places the discussion in the context of increasingly global transparency, and McCullough, Hayman, Garbutt, and Lesperance (2010) present an analysis relating specifically to Canada.

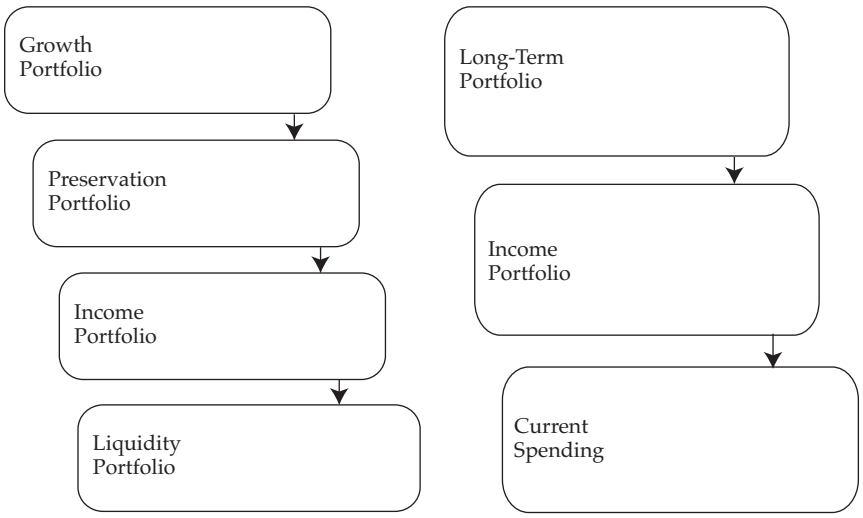
Subportfolios and Behavioral Asset Allocation. Private wealth management has a wealth allocation framework called "behavioral asset allocation." One of the tenets of behavioral finance is the idea of "mental accounting." Mental accounting occurs when investors ignore the fungibility of money and create separate mental compartments within a portfolio. For example, a family might maintain separate investments designated for different spending goals, such as vacations, college expenditures, and retirement. The mental accounts might *figuratively* be a separate subportfolio (e.g., where a stock is labeled for a particular purpose) or might *literally* be a separate account. In behavioral finance, mental accounting is seen as an irrational deviation from rational economic behavior. The behavioral asset allocation framework in private wealth management uses some "mental judo"; that is, because people tend toward subportfolios and mental accounting, why not use this tendency to enhance private wealth management?

In behavioral asset allocation, the optimal portfolio is parsed into subportfolios. Each subportfolio may be based on a specific investment goal or an approximate time horizon. As an example, Brunel (2003b) divides the portfolio into components designed to provide for a specific objective—growth, capital preservation, income, and liquidity. Similarly, a portfolio can be divided based on time horizons—current spending, 1-to-10 years, and more than 10 years. As shorter-term portfolios are depleted, the longer-term portfolios replenish them from cash flows and liquidations (see **Figure 4**).

Instead of being a pathology of irrational behavior, behavioral asset allocation is a means of advocating for rational, but potentially difficult, investment behavior. Behavioral asset allocation provides an alternative approach to explaining (or "selling") the strategic asset mix to a skeptical client. Brunel (2003b) advances the case that a behavioral asset allocation explanation of an optimal portfolio can help high-net-worth clients understand and accept alternative asset classes.

A number of articles consider behavioral asset allocation, including Chhabra (2005), Nevins (2004), and Fraser and Jennings (2006). Nevins bases his subportfolios on client goals, whereas other behavioral asset allocation approaches use timeline-based subportfolios. Brunel (2005–2006) includes a behavioral asset allocation case study with a $50-million-in-assets family.

Figure 4. Examples of Behavioral Asset Allocation Subportfolios

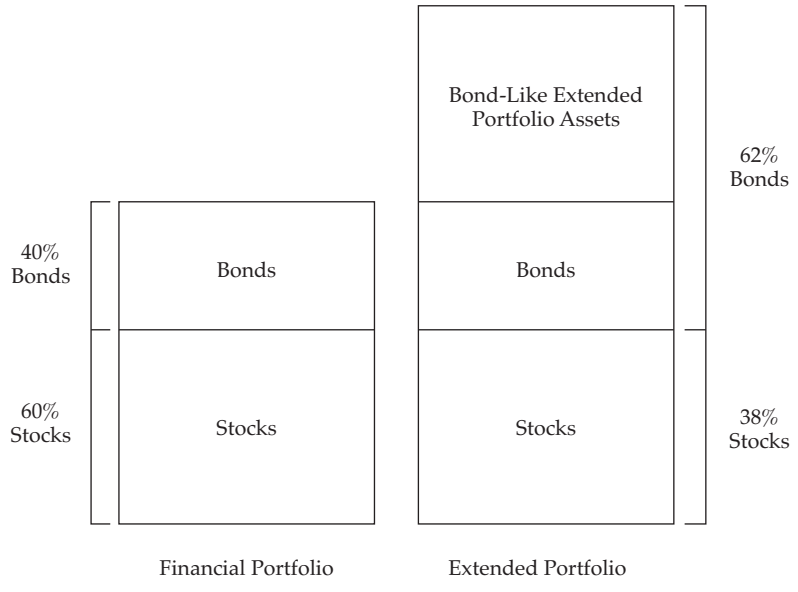


In general, behavioral asset allocation is a complement to, not a substitute for, mean–variance analysis or other rational-economic portfolio construction techniques. One barrier to behavioral asset allocation gaining widespread acceptance is the concern that using subportfolios necessarily implies "suboptimization." That is, separately optimizing subportfolios is highly unlikely to produce the globally optimal portfolio when all subportfolios are considered together; Horvitz and Wilcox (2007) demonstrate this inevitability. Chhabra (2007) clarifies that in the bulk of the behavioral asset allocation literature, subportfolios are not typically considered independent silos. In contrast, Brunel (2006b, 2007), unlike most behavioral asset allocation researchers, *does* "suboptimize" separately within subportfolios but finds the amount of efficiency loss (or suboptimality) is small. Das, Markowitz, and Statman (forthcoming) obtain similar results.

The Extended Portfolio and Asset/Liability Awareness. Wealth managers consider clients' complete financial picture—not just their financial portfolio. What assets and liabilities should "count" when managing wealth? Reichenstein (1998, 2006a) and Reichenstein and Jennings (2003) recommended that private wealth managers manage an individual's *extended portfolio*, which contains all assets and liabilities that affect cash flows in retirement. Although their focus is on single-generation wealth management (and thus retirement), their findings could be generalized to incorporate estate issues. In related papers, Fraser, Jennings, and King (2001) and Jennings and Reichenstein (2001a, 2001b, 2003, 2008) discuss approaches for valuing "extended portfolio assets," such as Social Security, military retirement, and other pension benefits. They also show how considering these assets affects the financial portfolio (see **Figure 5**).

Chen, Ibbotson, Milevsky, and Zhu (2006) and Benzoni, Collin-Dufresne, and Goldstein (2007) argue similarly for human capital as an extended portfolio asset in influencing the allocation of the traditional financial portfolio. Human capital should affect asset allocation, but human capital differs from other asset classes insofar as it has mortality risk. Life insurance, however, hedges this risk. Chen et al. develop a model to help individuals jointly make their asset allocation and life insurance decisions. Benzoni et al. link labor income with stock dividends and make the counterintuitive case for a younger investor having a smaller equity exposure than an older investor.

Figure 5. How the Extended Portfolio Changes Perspective



Source: Based on Fraser, Jennings, and King (2001) and Jennings and Reichenstein (2001b).

Similarly, Black, Ciccotello, and Skipper (2002) advocate for "comprehensive personal financial planning," including a wide range of off-balance-sheet assets and liabilities; their approach is broader than the retirement focus of Reichenstein (1998) and Reichenstein and Jennings (2003) and broader than the expanded-asset view of Chen, Ibbotson, Milevsky, and Zhu (2006). Black, Ciccotello, and Skipper's view of the family portfolio includes such assets as "government benefits, insurance, expected inheritances or other family support, and human capital" (p. 3). In addition, they include such liabilities as mortgages and future expenditures "including but not limited to tax, housing, education, and health care" (p. 3). Theirs is one of the broadest definitions of the extended portfolio in the literature.

Wilcox, Horvitz, and diBartolomeo (2006) encourage private wealth managers to form a time series of implied balance sheets for each client. Assets and liabilities are assets and liabilities, both implied and actual. For example, the present value of future savings from employment is an implied employment asset, whereas the present value of spending in retirement is an implied liability. The ratio of discretionary wealth to total assets, where discretionary wealth is total assets less total liabilities, determines the client's appropriate level of investment aggressiveness. Clients with large relative discretionary wealth can invest aggressively, whereas clients with no or little discretionary wealth to total assets should invest conservatively. Wilcox (2008) extends the analysis to incorporate the uncertain nature of investment goals resulting largely from longevity risk and shows that this uncertainty suggests a more conservative investment posture.

Modern financial engineering offers the potential to better address client needs than traditional approaches have. Bodie (2003) contrasts life-cycle investing with single-period Markowitz optimization and describes how advances in financial engineering as well as developments in individual investor psychology can be used to help investors reach their goals. Like Bodie, Merton (2003) offers insights on life-cycle investing and sophisticated financial products. For individual investors, Merton advocates considering the risk of human capital, the risk of future reinvestments, volatility of spending versus volatility of wealth, the importance of targeted expenditures (i.e., liabilities), and "condo value insurance" (which hedges against residential real estate declining in value). Warshawsky (2007) discusses how investors can efficiently hedge risks associated with longevity and long-term health care by bundling a life annuity and long-term care insurance. His work is part of a larger body of readings on life-cycle investing edited by Bodie, McLeavey, and Siegel (2007) and another subsequent set of readings focused on retirement by Bodie, Siegel, and Sullivan (2009).

Institutional pension management has long incorporated the idea of asset/liability management (ALM) or liability-driven investing (LDI). It is a truism that investors without liabilities do not need to invest; the point of the asset portfolio is to defer consumption to pay for future liabilities. Amenc, Martellini, Milhau, and Ziemann (2009) attempt to more practically operationalize the insights of institutional ALM and LDI in the private wealth management context. They emphasize that liability awareness requires consideration of the properties of assets that hedge those liabilities. For many individual investors, these liabilities include inflation-sensitive future consumption and the future purchase of real estate. Although not labeled as such, a type of ALM applied to taxable private clients is seen in the work of Wilcox, Horvitz, and diBartolomeo (2006).

The case for thinking about the extended portfolio of assets and liabilities is compelling. Private wealth managers can add value for clients by incorporating these ideas into portfolio management. The uniqueness of each investor's "off-balance-sheet" assets means wealth managers can add value by customizing the financial portfolio.

Portfolio Implementation

After the strategic asset mix is decided, the work of the private wealth manager is not complete. The operational realities of private wealth management differ from those of institutional investment management. In the following, we consider two aspects of portfolio implementation—manager structure and rebalancing—where private wealth management has a distinctive approach.

Manager Structure. An institutional manager may apply a multimanager approach, whereby he tries to select the best manager for each asset class. For example, he may select a large-cap value manager and a large-cap growth manager among a stable of managers. A stock price increase might cause a stock to be sold by the value manager and bought by the growth manager. The institutional manager of a multimanager stable faces only an unnecessary two-way transaction cost in this example. The private wealth manager using such an open-architecture, multispecialist approach additionally may incur an unnecessary tax liability from the nearly simultaneous sale and repurchase. This simultaneous purchase and sale could violate wash sale rules. This example demonstrates one of the tax inefficiencies inherent in a multimanager approach for private wealth managers.

Whatever one believes about the general arguments for a multimanager approach—alpha-generating specialists and/or the opportunity for value-added style timing and tactical tilts—the barriers to an *after-tax* multimanager approach are higher. Using parametric Monte Carlo simulation, Brunel (2000a) concludes that the only outcome producing added value requires exceptional style forecasting skills and large bets; nonetheless, the after-tax benefit is minor. In a second simulation, he concludes that a multistyle, multimanager stable is likely to outperform a generalist on an after-tax basis only when the managers' alphas are large; even so, investors must bear a tracking error to obtain that outperformance. Brunel concludes that a broad core portfolio is more likely to produce better after-tax, risk-adjusted performance than a multistyle, multimanager stable. He characterizes active style diversification as an "impossible challenge" (see also Brunel 2006a, ch. 18). Similarly, Rogers (2001) concludes that a core–satellite approach dominates multimanager approaches. In particular, he finds the three-sizes-by-three-valuations approach (e.g., Morningstar's style box) to be too complex and too tax inefficient. Stein and McIntire (2003) take a different tack and encourage coordinating the separate accounts through an overlay portfolio manager charged with tax management of the total portfolio; they find that an overlay manager can add 0.30–0.60 percent annually along with other nonquantified benefits, but good overlay managers may charge more than that in fees. These studies of a multimanager approach encourage focusing instead on a core-and-satellite approach, whereby the core equity portfolio consists of a broad-based (i.e., multicap, multistyle) equity portfolio that is managed tax efficiently. In core–satellite investing, this core is supplemented with smaller allocations to specialist satellite managers who augment the core portfolio and provide size and style tilts to the overall portfolio (see Brunel 2006a, ch. 6).

Some might thus expect that taken to an extreme, the core portfolio would use equity index funds and the satellite managers receive smaller and smaller allocations. Traditional index funds, although very tax efficient, are also *tax oblivious*. That is, the index providers do not consider tax consequences in changing the indices. Even very broad total market funds are tax oblivious. A better core holding, then, is a tax-managed fund that tracks an index but takes advantage of loss-harvesting opportunities and is aware of capital gains holding periods. Therefore, tax-efficient management goes beyond a simple active-*versus*-passive debate.

Quisenberry (2003, 2006) starts from the core-and-satellite premise and seeks to determine the appropriate size of the tax-efficient core portfolio. Using an information ratio approach, he concludes that allocating half of the portfolio, or more, to the core is appropriate. Increased core allocations are warranted with

- higher expected market returns,
- less-skilled satellite managers,
- more-risky satellite managers, and
- more-tax-inefficient satellite managers.

In the extreme, as when satellite managers cannot add alpha, the whole portfolio is invested in the core.

Alpha–beta separation is a contemporary manifestation of the manager structure question. Alpha–beta separation and its corollary, *portable alpha*, attempt to split manager skill (alpha) from market exposures (beta). Theoretically, doing so allows accessing multiple, diverse alpha sources while maintaining the desired risk–return profile using the blunter object of beta exposures. Porting the alpha or maintaining a beta exposure generally requires the use of futures contracts or other derivatives, which may be less tax efficient than the underlying assets. Therein lies the difficulty for taxable investors; in the United States, for example, futures contracts are taxed annually without capital gains deferrals. Because beta returns are generally larger than alpha returns, alphas are

unlikely to be large enough to "pay their own taxes" induced by using futures. See Clarke, de Silva, and Thorley (2009) on alpha–beta separation, Jeffrey and Arnott (1993) on alphas needing to pay their own taxes, and Chance (2007) on the tax inefficiency of derivatives-based strategies.

Rebalancing. The tax cost of rebalancing is another topic of significance to private wealth managers. Although rebalancing helps control risk, the private wealth manager must compare the costs and benefits of rebalancing. In general, the optimal solution is often to balance part-way back to the strategic asset mix.

Leland (1999), Donohue and Yip (2003), and Masters (2003) provide important generalist works on rebalancing. A number of factors influence rebalancing ranges for particular asset classes:

- the risk of the asset class,
- the risk of the remainder of the portfolio,
- the risk tolerance of the investor,
- the correlation of the asset class with the remainder of the portfolio, and
- transaction costs.

Private wealth managers considering these factors should note particularly the inclusion of transaction costs. Taxes are a form of transaction cost—and are likely much larger than explicit transaction costs. Heavy tax transaction costs can substantially widen the no-trade region where rebalancing should not occur. The fact that taxes are paid on gains and at least partially recaptured on losses can produce asymmetries in rebalancing ranges. (Taxes increase transaction costs when an asset has appreciated but lower transaction costs through realizing capital losses when an asset has depreciated. Accordingly, rebalancing ranges will be wider for gains and tighter for losses.)

Under this interpretation, the same asset held in a taxable account and a tax-advantaged account is treated differently in rebalancing. Rebalancing the asset held in the tax-advantaged account does not have tax-related transaction costs. Accordingly, a single asset, such as stocks, has two different rebalance ranges.

If portfolios are sufficiently out of balance to merit trading, what should private wealth managers do? Donohue and Yip (2003) recommend rebalancing back to range edges. For example, if the relevant range is 55–65 percent stocks and the 65 percent limit is surpassed, go back to 65 percent stocks. In contrast, Masters (2003) recommends rebalancing half-way back from the range edge to the target allocation, 62.5 percent from the preceding example. This conclusion arises from his cost-*versus*-benefit approach to rebalancing. Whichever approach one finds more persuasive, the private wealth manager needs to incorporate taxes as a transaction cost into his or her thinking—likely widening the ranges over tax-exempt investors and producing an asymmetry.

Horvitz (2002) provides a no-equations consideration of rebalancing in private wealth management. He takes the view that practical impediments and operational realities are generally given short shrift in the mathematical rebalancing literature. He gives particular consideration to the problems of rebalancing illiquid assets, such as private equity or real estate, and concludes "there may be little point in rebalancing only those portions of a portfolio that are liquid" (p. 49).

Saving and Spending Strategies

All finance professionals are aware of the importance of systematic saving to build wealth. Whether in the context of retirement planning or creating wealth through a family business, life-cycle investing is principally divided into accumulation and distribution phases. This section focuses on ideas that, although typically developed in either the mass affluent or high-net-worth investor setting, have applications to most all high-net-worth investors.

Savings and Wealth Accumulation. Ibbotson, Xiong, Kreitler, Kreitler, and Chen (2007) develop guidelines for savings rates for a variety of individual circumstances. For various income levels and ages, they show the annual savings rate required to replace 80 percent of income. This savings rate is adjusted downward based on the amount of current savings. Because they include Social Security and focus on retirement income replacement, they show that high-income individuals need much higher savings rates than low-income individuals. Similarly, Leibowitz, Durham, Hammond, and Heller (2002) port the institutional concept of the pension funding ratio to come up with guidance on appropriate asset-to-salary ratios for different income replacement levels, time until retirement, expected returns, and savings rates.

Although targeting specific income replacement and savings rates is common practice, particularly among many financial planners, many researchers argue that replacement rates are the wrong target (see, for example, Kotlikoff 2007). Rather, the proper goal might be to smooth one's lifestyle over time, which is not synonymous with consumption smoothing because some consumption spending (like paying for a college education) can cluster. Targeting replacement rates ignores how much of preretirement income is dedicated to saving, consumption, or maintaining one's lifetime lifestyle.

Developing projections of future wealth accumulations, even if savings can be forecasted well, is difficult and subject to upward bias when practitioners use arithmetic average returns for forecasting because the distribution of terminal wealth is highly skewed (even when returns are normally distributed), making average outcomes much larger than median outcomes. Kan and Zhou (2009) provide an unbiased estimate of median, and other quantiles of, terminal wealth. They show that averages and many other estimates of ending wealth exceed the median outcome.

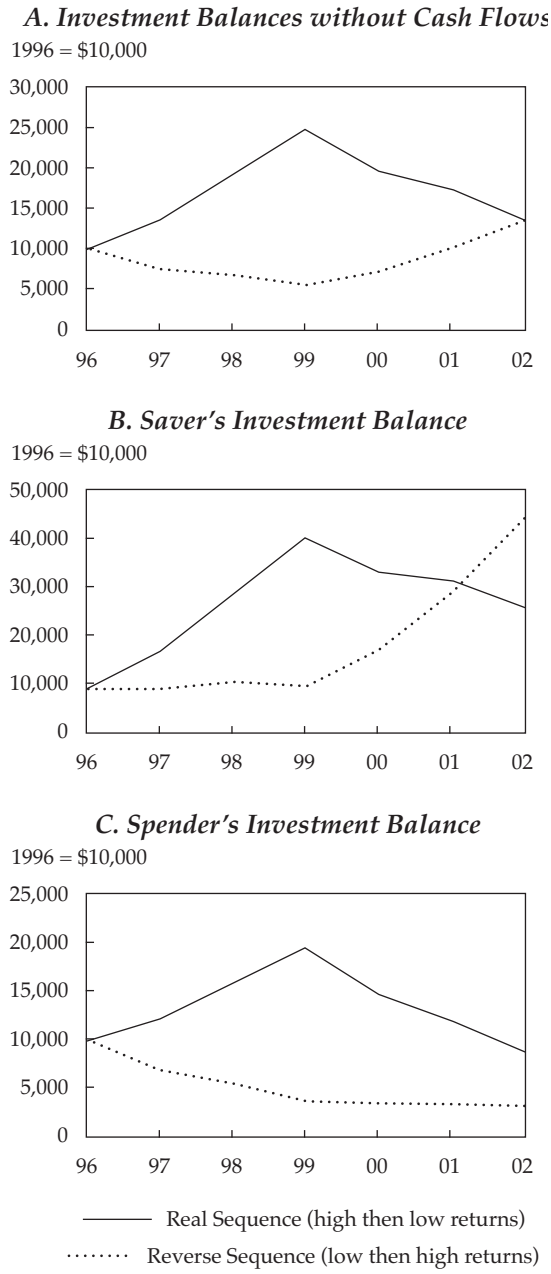
Dollar-cost averaging is often a savings strategy for individuals. Although much has been written about the efficacy of dollar-cost averaging, the typical examples are trite and contrived. In contrast, Dubil (2004, 2005) provides an analytically sophisticated alternative to much of what has been written on this topic. He uses average-price options to evaluate the benefits of dollar-cost averaging, particularly its risk reduction. Private wealth managers should note that periodic withdrawals (as in retirement) are the mirror image of dollar-cost averaging. For example, periodic spending in retirement effectively sells more shares at lower prices and fewer shares at higher prices. By extension, although dollar-cost averaging mitigates the impact of volatility on wealth accumulation, periodic withdrawals amplify it.

One illustration of this concept is called *sequence–of–return risk*, in which poor initial returns in a systematic withdrawal program create losses that substantially impair portfolio longevity (the length of time before it runs out of money) and can be virtually impossible to overcome in subsequent periods. **Figure 6** shows the wealth consequences for an aggressive investor during and after the dot-com bubble; in each panel, the lines show (1) the actual sequence of returns as well as (2) the exact same returns taken in reverse order. To emphasize the obvious, the real and reverse sequences have the exact same average return, but the sequence matters crucially. Savers prefer low returns early, and retirees/spenders prefer high returns early.

Sustainable Spending Rates. When planning for retirement needs, wealth managers face two major unknowns: the investor's lifespan and future returns. A key question is: What is the maximum initial percentage of the financial portfolio that can be withdrawn each year such that the investor can be reasonably confident that he will not outlive the portfolio? The question is similar to optimal spending rates for endowments because the investment horizon is so long. Because a person's lifespan is uncertain, most studies assume a long horizon to be reasonably confident that the portfolio will last a lifetime. Because even low inflation is a risk over retirement time horizons of 30 years or more, most studies increase initial spending with inflation in subsequent years. Other factors affecting the sustainable withdrawal rate include the asset allocation, the level of acceptable *shortfall risk* (i.e., the probability of running out of money during the retiree's lifetime), and whether the individual annuitizes part of the portfolio. In addition, a burgeoning literature reports on adjustments to withdrawal amounts based on market returns.

Bengen (1994) and Cooley, Hubbard, and Walz (1998) were the first researchers to estimate the maximum sustainable withdrawal rate. Bengen uses historical sequences of returns to estimate the maximum initial withdrawal rate that would have allowed a portfolio to survive at least 30 years, while adjusting for inflation. He concludes that portfolios with 50–75 percent stocks would have supported a maximum initial withdrawal rate of about 4 percent of the portfolio. Because of the sequence-of-return risk illustrated in Figure 6, Bengen concludes that shortfall risk (a.k.a., portfolio ruin, run-out risk) is most likely to occur when retirement begins immediately before a poor series of returns, such as 1973–1974.

Figure 6. Sequence-of-Return Risk: 1996–2002 Example



Cooley et al. examine the probabilities that a given initial withdrawal rate will survive a retirement period. They use historical sequences of returns to estimate the probabilities that bond–stock portfolios will survive 15- to 30-year retirement periods. They conclude that the portfolio is more likely to survive if it contains at least 50 percent stocks. If annual withdrawals are increased with inflation, then initial withdrawal rates above 5 percent are susceptible to high probabilities of shortfall risk within 30 years.

Spitzer, Strieter, and Singh (2007) summarize much of the evidence regarding new retirees with 30-year horizons. They confirm prior withdrawal rate research that a new retiree who has at least a 50 percent stock exposure can withdraw 4.0–4.5 percent of the portfolio in the initial year, an inflation-adjusted equivalent amount each year thereafter, and be 90–95 percent confident that the portfolio will not run out of money over 30 years.

Portfolios usually run out of money when retirement occurs shortly before a severe bear market. In addition, they examine the interactions among withdrawal rate, risk tolerance, and asset allocation. First, the stock allocation should be at least 50 percent. Second, the stock allocation that minimizes shortfall risk increases with the withdrawal rate. For example, for a 4 percent withdrawal rate, the lowest shortfall risks occur at about 30–55 percent stocks, whereas for a 5.5 percent withdrawal rate, the lowest risks occur at about 70–85 percent stocks. Furthermore, withdrawal rates of 5.5–6.0 percent can be achieved only if someone is willing to tolerate shortfall risk of 25–30 percent.

The aforementioned studies assumed that withdrawals are rigidly predetermined, but several authors have illustrated that incorporating flexibility by conditioning the withdrawal to some degree on investment performance substantially increases the initial withdrawal rate. For example, Guyton (2004) shows that forgoing an inflation increase in the year following a year of negative returns increases the safe spending rate from around 4 percent to around 6 percent. Stout and Mitchell (2006) examine more elaborate withdrawal algorithms that limit how much can be withdrawn if the portfolio declines. The bottom line is if retirees are willing to reduce the withdrawal amount after poor returns, then the probability of shortfall risk can be reduced.

Spitzer (2008) also allows for midcourse adjustments during retirement. Consistent with prior studies, he finds that for a 10 percent shortfall risk and a 30-year horizon, the maximum initial withdrawal rate is 4.4 percent, and this occurs when the stock allocation is 50 percent. For a 20-year horizon, the maximum withdrawal rate is 5.7 percent when the stock allocation is 40 percent. For a 10-year horizon, the maximum withdrawal rate is 10.1 percent when the stock allocation is 35 percent. Therefore, suppose someone begins retirement with a 30-year planning horizon, makes an initial withdrawal of 4.4 percent of the portfolio, withdraws the same inflation-adjusted amount each year thereafter, and maintains a 50 percent stock allocation with annual rebalancing. Years later, when the planning horizon is 20 years, the retiree may switch to a 5.7 percent withdrawal rate of the then-current portfolio value and reduce the stock allocation to 40 percent. If early-year returns prove to be average or above average, then the retiree should be able to increase the withdrawal amount compared with the amount dictated by the original real withdrawal amount; remember, shortfall risk is primarily associated with poor returns in the early retirement years. In short, Spitzer provides important guidelines for midretirement adjustments that many private wealth investors should consider.

The studies discussed thus far use simulation analysis based on the actual return history of various asset classes. Another methodology is to simulate returns based on an assumed return distribution. Cooley, Hubbard, and Walz (2003) compare these two methodologies and show that given similar means and standard deviations, the methods provide similar results for withdrawal rates around 4 percent and 50/50 stock/bond asset allocations. Differences may be pronounced, however, for withdrawal rates above 7 percent and for high equity allocations.

Milevsky and Robinson (2005) expand the literature in a couple of directions. First, they develop a closed-form estimate of the probability of ruin with forward-looking estimates of average returns and standard deviations. Second, they consider the random nature of life expectancy by incorporating mortality estimates. As one would expect, they find that the sustainable withdrawal rate increases with the portfolio's arithmetic average return but decreases with standard deviation of returns. They also find, as do Stout and Mitchell (2006), that sustainability increases with an individual's mortality rate because mortality shortens the horizon over which withdrawals must be sustained. Using risk–return assumptions that are conservative by historical standards, they find that the maximum sustainable withdrawal rate is about 4.4 percent for an average 65-year-old retiree willing to tolerate a 10 percent chance of running out of funds in his or her lifetime. If the retiree is willing to tolerate only a 5 percent chance of running out of money, the maximum withdrawal rate is about 3.3 percent. A key contribution of this article is that it models the stochastic nature of both returns and life expectancy analytically.

Ameriks, Veres, and Warshawsky (2001) conclude that the sustainable withdrawal rate can be increased if part of the portfolio is annuitized. In an annuitization, an individual exchanges part of the portfolio for a guaranteed lifetime monthly income. They use historical sequences of returns and Monte Carlo simulations to estimate the maximum initial withdrawal rate that would allow a retirement portfolio to survive 20–40 years. They conclude

that the portfolio should include "significant stock market exposure." Separately, they conclude that buying an immediate fixed annuity would improve the probability that the portfolio will last a lifetime. This study's seminal contribution is that it demonstrates the favorable impact of annuitizing part of a portfolio on the probability that the portfolio will produce the desired inflation-adjusted income over a lifetime.

Hu and Scott (2007) discuss some of the behavioral obstacles to annuitization. In addition to partial annuitization discussed earlier, other strategies to overcome behavioral barriers include phased annuitization and deferred annuitization. Dus, Maurer, and Mitchell (2005) and Scott (2008) find value in delaying annuitization until after retirement. Although annuitization reduces the risk of outliving one's portfolio, annuitization is often costly because of adverse selection. That is, insurance companies assume individuals who annuitize will live longer than average. Dus et al. weigh the relative merits of phased withdrawals and annuitization. Although their analysis takes place in a German context, a key conclusion—that delayed annuitization may be optimal—has more general relevance. Scott examines the merits of a longevity (or deferred) annuity. Unlike an immediate annuity that commences payments immediately, the longevity annuity begins payment after a specified period, say 20 years. His longevity annuity differs from merely delaying annuitization in that it is purchased at retirement. He explains why there is limited value in insuring near-term annuity payments. By contrast, there is considerable value in insuring payments several years hence because the probability of being alive then is much lower. The advantage of this approach is that it transfers to an insurer the risk it is best able to manage. As a result, a longevity annuity is far less expensive and allows a substantially higher level of sustainable spending than an immediate annuity. He encourages allocating as much as 15 percent of wealth to longevity annuities.

The annuitization decision may also affect the asset allocation decision. Milevsky and Kyrychenko (2008) develop a rudimentary utility-maximization model that predicts that investors who have purchased downside risk protection in a variable annuity contract should accept more risk in their retirement portfolios. Their examination of investor behavior supports this prediction. Ibbotson, Milevsky, Chen, and Zhu (2007) introduce a comprehensive model of lifetime financial advice that captures many of the interactions between investment and insurance decisions, including annuitization. In addition to linking the life insurance decision to human capital, Ibbotson et al. examine the optimal timing of annuitization.

Finally, Scott, Sharpe, and Watson (2009) critique the 4 percent rule. They note that using a risky investment portfolio to fund a constant spending plan is not risk free. A risky portfolio may not guarantee as high an initial withdrawal rate as a default-free inflation-linked bond portfolio, but it has a chance of "excess funds" remaining after 30 years. But if the retiree is only interested in consumption for 30 years, then they conclude that the 4 percent rule is suboptimal. Their analysis presumes U.S. Treasury, or other sovereign, debt is indeed default-risk free.

Risk Management. The annuitization decision is really just one of several risk management challenges faced by individual investors. In addition to facing longevity risk (i.e., the risk of living too long), investors face mortality risk (i.e., the risk of dying before human capital is monetized into labor income), medical risk (i.e., the risk of costly health expense), property risk (i.e., the risk of creditors having claims on assets), business risk, political risk, and legal risk, just to name a few. Figure 3 shows several of these risks. It is the job of the wealth manager to identify, quantify, and manage the relevant risks.

The magnitude and nature of mortality risk, for example, is most likely dependent on one's age and is most commonly hedged through life insurance. Ostaszewski (2003) and Ibbotson, Milevsky, Chen, and Zhu (2007) analyze the life insurance decision within the context of asset allocation and human capital. Brown and Finkelstein (2009) review the long-term care insurance literature. Zietz (2003) reviews the insurance literature more generally. Interestingly, life insurance might also be a tax-efficient estate planning tool in the presence of estate taxes (Macklin 2001).

Tax-Efficient Withdrawal Strategies in Retirement. Absent the decision to annuitize all of their financial capital, individuals are faced with the dilemma of how to maximize the longevity of their portfolio. This section addresses the following questions: In order to maximize a portfolio's longevity, should a retiree withdraw funds from taxable accounts before retirement accounts or vice versa? What is the best strategy for deciding when to withdraw funds from a traditional IRA and a Roth IRA?

Reichenstein (2006b, 2006c) examines the first question: Should a retiree withdraw funds from taxable accounts before retirement accounts or vice versa? His ideas revolve around two key tax-based principles. First, returns are generally taxed more heavily in taxable accounts than in retirement accounts. Examples of retirement accounts include tax-deferred accounts, such as a traditional IRA or 401(k) in the United States, a Personal Pension Scheme or stakeholder pension in the United Kingdom, and a Registered Retirement Savings Plan in Canada. The same holds true for tax-exempt accounts, such as a Roth IRA in the United States or the Tax-Free Savings Account in Canada. Therefore, as a rule of thumb, retirees should withdraw funds from taxable accounts before retirement accounts. Reichenstein (2006b) models two withdrawal strategies: (1) required minimum distributions (RMDs) followed by taxable account, tax-exempt account, and tax-deferred account and (2) RMDs followed by tax-deferred account, tax-exempt account, and taxable account. Detailed models suggest that the first strategy may allow a $1 million portfolio to last two years longer and a $2 million portfolio to last five years longer than the second strategy. That is, the better sequence for ordering withdrawals is as follows:

1. required minimum distributions from tax-deferred accounts,
2. taxable accounts,
3. tax-exempt accounts, and
4. other distributions from tax-deferred accounts.

There are exceptions, however, to this rule of thumb. First, before the retiree is required to begin RMDs, her taxable income may be low because withdrawals from taxable accounts are often tax-free returns of principal. In this case, she should either withdraw sufficient funds from tax-deferred accounts or, when possible, convert sufficient funds from tax-deferred accounts to tax-exempt accounts to fully use lower tax brackets. Second, if the retiree has substantial unrealized capital gains on assets held in taxable accounts and will await a step up in basis at death or plans to donate the appreciated asset to charity (depending on the estate tax rules of the jurisdiction), then she should withdraw funds from retirement accounts before liquidating the appreciated asset.

The second key principle is that the investor effectively owns $(1 - t)$ of the tax-deferred account's principal and the government effectively owns the remaining t of principal, where t is the tax rate in the withdrawal year. The objective is to minimize the government's share of principal, which can be accomplished by withdrawing funds from tax-deferred accounts whenever the retiree is in a year with an unusually low tax rate. Such years are likely to occur (1) before RMDs begin, (2) in years when the retiree makes a large charitable contribution, and (3) in years when there are large deductible medical expenses.

Reichenstein (2006b) concludes that the relationship between the retiree's and beneficiary's tax brackets could influence the retiree's decision to withdraw funds from tax-deferred accounts before tax-exempt accounts or vice versa. Everything else the same, if the retiree's tax bracket exceeds the beneficiary's, then the retiree should withdraw funds from tax-exempt accounts and leave the tax-deferred account balances to the beneficiary, and vice versa.

Horan (2006a, 2006b) addresses the second question: What is the best strategy for deciding when to withdraw funds from tax-deferred accounts and tax-exempt accounts? First, when tax rates are assumed to be uniform and constant, the withdrawal sequence between these two accounts is irrelevant (Horan 2006b). However, when investors are subject to a progressive tax rate schedule, retirees should follow an informed strategy of taking taxable distributions from a tax-deferred account up to the top of a "low" tax bracket and satisfying the remainder of their spending from the tax-exempt account (Horan 2006a). The definition of "low" tax bracket varies with the retiree's level of income and wealth. Compared with the strategy of withdrawing funds from tax-deferred accounts first and tax-exempt accounts second or vice versa, this optimal strategy may lengthen the portfolio's longevity by a year or two. In short, he concludes that "retirees can significantly improve the sustainability of their retirement portfolios by embarking on an optimal withdrawal program that exploits opportunities to take traditional IRA distributions at low tax rates" (p. 83).

In summary, a portfolio's longevity may be lengthened by two to five years by spending funds from taxable accounts before retirement accounts. Furthermore, a portfolio's longevity may be lengthened by a year or two by withdrawing funds from tax-deferred accounts up to the top of a "low" tax bracket and withdrawing additional funds from tax-exempt accounts. Combining the two strategies suggests that retirees may add several years to a portfolio by withdrawing funds in a tax-smart manner.

The Role of Social Government Retirement Insurance. Many jurisdictions have a social safety net that provides retirement income for its citizens. Frequently called "social security," it often represents a significant source of income, especially for non-high-net-worth investors. Jennings and Reichenstein (2001a) emphasize that the present value of these benefits may be large enough to influence even high-net-worth investors' portfolios. Although programs vary widely from one jurisdiction to the next, a common element is the provision of lifetime income that mitigates longevity risk. For many investors, this social government retirement insurance is an important risk management tool.

Often, beneficiaries are given a choice of when to begin receiving benefits, with the promise of higher benefits if they choose to delay initiation. Several studies have determined which starting date maximizes the present value of benefits in a U.S. setting. Sun and Webb (2009) and Meyer and Reichenstein (2010) also determine which date or dates minimize longevity risk. For single taxpayers who will live an average lifetime and who will not be subject to an earnings test, the present value of benefits is approximately the same no matter when benefits begin. Therefore, based on the present value criterion, singles with short life expectancies should begin benefits early and vice versa. To minimize longevity risk, singles should delay benefits to age 70. The decisions for couples revolve around spousal and survivors benefits. The consensus opinion appears to be that the higher earner should delay the start of benefits based on his or her earnings record until age 70, whereas the lower earner should probably begin benefits early. Munnell and Soto (2005) consider only the present value criterion and conclude that if the lower earner's primary insurance amount (PIA) is at least 40 percent of the higher earner's, the present value of benefits is maximized when the lower earner begins benefits at age 62 and the higher earner begins at 69. Sun and Webb (2009) and Meyer and Reichenstein (2010) consider both criteria and conclude that the higher earner should delay the start of benefits based on his or her earnings record until age 70; a key insight is that this delay will maximize the surviving spouse's benefits. Meyer and Reichenstein (2010) note that the higher earner should begin spousal benefits when he or she attains full retirement age and then switch to benefits based on his or her earnings record at 70. There is less consensus on whether the lower earner should begin benefits early or nearer full retirement age, but it also appears to be a less important issue.

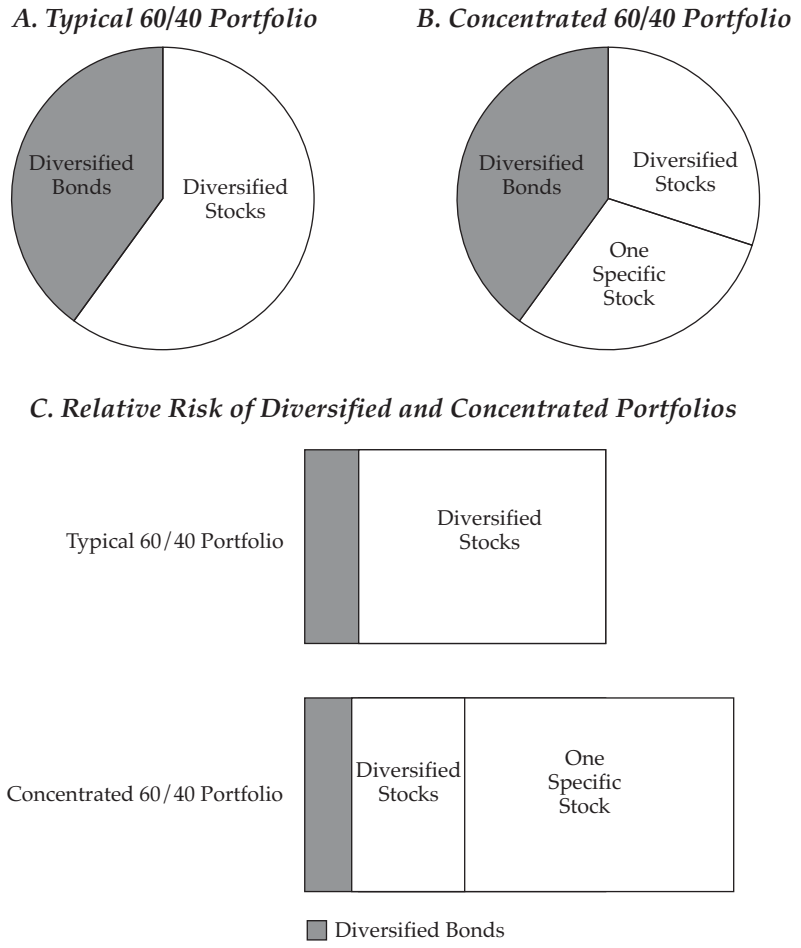
Concentrated Holdings of Low-Basis Stock

Many high-net-worth clients have a disproportionate share of their portfolio in legacy holdings of low-basis stocks. Boyle, Loewy, Reiss, and Weiss (2004) characterize this situation as an "enviable dilemma"—enviable because it is a source of wealth but a dilemma because the concentrated holdings unbalance the portfolio and typically have heavy taxes due if sold. It is a common observation in wealth management circles that the rich got wealthy from a concentrated investment in their own company but they must be diversified to stay wealthy. This is the root of the dilemma.

The investment case for selling concentrated holdings is strong. Individual stocks are significantly riskier than portfolios. Messmore (1995), Boyle, Loewy, Reiss, and Weiss (2004), and Ødegaard (2009) show the significant "risk drag" or "variance drain" this concentration has on the compound growth of wealth. **Figure 7** shows two 60/40 stock/bond portfolios, but in one, half of the stock portfolio is in a single stock. Even with generous assumptions, the concentrated portfolio is much riskier.

Two factors militate against selling: psychology and taxes. Entrepreneurial success, corporate success, inheritance, and even investment success—all have the potential to create psychological ties to the investment, which is sometimes characterized as loyalty to the family legacy. Furthermore, diversification is the antithesis of

Figure 7. Example of How Concentrated Portfolios Increase Risk



how the wealth was created, so the thought of selling creates cognitive dissonance. Boyle et al. (2004, ex. 5) enumerate the potential psychological barriers to selling concentrated stock—anchoring, long-shot bias, overconfidence, regret avoidance, framing, loss avoidance, and underestimating extreme events. We consider these topics in the Behavioral Finance section later.

Taxes also discourage selling. When the tax bill is large relative to the investor's prior income, the tax consequences can seem particularly daunting. On the one hand, when the owner is older, the possibility of a step-up in basis at death can discourage selling. On the other hand, today's lower capital gains rates are more attractive than formerly. Using Monte Carlo simulation, Stein, Siegel, Narasimhan, and Appeadu (2000) show that, even after paying capital gains tax, diversifying typically results in greater long-term wealth accumulation.

Prospect theory, from behavioral finance, teaches that losses are more painful than equal-size gains are pleasant. If the concentrated stock is the main investment of the wealthy family, then the imperative for selling is much stronger.

A number of strategies deal with concentrated stockholdings. Outright sale, of course, is the simplest and the most advisable on strictly analytical grounds. Exchange funds afford diversification, albeit at a cost of illiquidity and lack of control over the investment. If the investor has other wealth, it can be managed to maximize tax-loss harvesting, which offsets realized gains on the concentrated stock. There are also hedging strategies—generally options based (buying puts or selling calls) and some requiring no cash outlay (cashless collar)—that limit exposure to the concentrated stock. DiBartolomeo (2006) describes a strategy with three elements: (1) margining the concentrated stock, (2) buying a completion portfolio of diversified stocks that complement the concentrated

position, and (3) shorting futures to unwind the extra market exposure. Charitable remainder trusts can accomplish both diversification and philanthropic goals. Gordon (2001) and Welch (2001) explore the consequences of more-restrictive taxation, including constructive sales pitfalls, on hedging strategies. Boczar (2007) outlines the fiduciary duty of the wealth manager to consider various alternatives and compares various strategies from multiple tax perspectives. Welch (2002) points out that the solution is rarely "all or none." Successfully implementing one of these strategies on a small scale can lead to broader acceptance of it along with other diversification strategies.

Brunel (2006a, ch. 10) and Boyle, Loewy, Reiss, and Weiss (2004) provide useful surveys. Jacob (1998) also considers diversification of low-basis stock in an overall asset allocation context. Welch (2002) puts particular emphasis on charitable techniques and gives a useful introduction to the topic.

Tax Management

For many private wealth management clients, a substantial part of their financial portfolio is held in taxable accounts. In taxable accounts, private wealth managers should be less concerned with pretax returns than with after-tax returns. Therefore, they must consider the tax costs of realizing capital gains and the benefits of allowing unrealized gains to grow tax deferred. In addition, they must consider the tax benefits of harvesting capital losses.

Jeffrey and Arnott (1993) have authored a seminal work in private wealth management and the landmark study on taxable investment management. They consider the tax consequences of actively managing stocks in taxable accounts. The quest for alpha by active investment managers generates turnover. In taxable accounts, this turnover generates capital gains taxes, which lowers after-tax returns. Jeffrey and Arnott document the significant cost of turnover to after-tax returns. A 10 percent turnover ratio implies a 10-year (1/0.10) average holding period, whereas a 25 percent turnover ratio implies a four-year holding period. Because of this inverse (and nonlinear) relationship between turnover and holding period, even a low level of turnover is costly. In a comparison of 10-year results from 71 actively managed equity funds with a passively managed S&P 500 Index fund, only two funds were able to provide substantially higher returns after capital gains taxes than the index fund did. Indexing is hard to beat on an after-tax basis.

Articles by others extend Jeffrey and Arnott. Arnott, Berkin, and Ye (2000) control for survivorship. They also conclude that indexing is hard to beat on an after-tax basis. Arnott, Berkin, and Ye (2001) focus on three sources of mismanagement of taxable assets:

- unnecessary realization of capital gains,
- failure to harvest losses, and
- failure to prefer lower-dividend stocks.

Berkin and Ye (2003) use Monte Carlo simulation to demonstrate the value of loss harvesting and highest-in, first-out (HIFO) tax-lot accounting. They find that the cumulative benefits of tax management continue to rise over time; the annual "tax alpha" is largest in the early years and decreases through time. Portfolios with contribution streams enhance the benefits of loss harvesting, whereas withdrawals reduce them. Tax management works best with high stock-specific risk, lower average return, and higher yields. Loss harvesting and HIFO accounting are shown to be complementary tax management tactics.

Several studies consider the tax benefits of loss harvesting, including Berkin and Ye (2003), Chincarini and Kim (2001), Horvitz and Wilcox (2003), and Stein and Narasimhan (1999). Horvitz and Wilcox go so far as to suggest splitting the portfolio into a buy-and-hold component and a high-turnover subportfolio designed to throw off tax-loss benefits. Perhaps surprisingly, there is also a case for "gain harvesting"—realizing capital gains early.

Constantinides (1984) has produced an early and important work emphasizing the tax-timing option implicit in trading—the option to realize capital losses and defer capital gains. By thinking of this tax-shifting ability as a literal option, Constantinides highlights the value of high-variance stocks in a taxable environment. This value arises because, according to the Black–Scholes–Merton option-pricing model, variance increases the value of options. Private wealth managers would do well to remember that volatile assets, particularly if uncorrelated with other assets, are more valuable in after-tax investment management than traditional mean–variance thinking would suggest (see also Brunel 2006a, pp. 72–73).

Chincarini and Kim (2001) focus on the tax burden of dividends, which affects even index funds. They demonstrate that tax management, including systematic liquidation of stocks in a low-dividend portfolio, can add significant value.

Davidson (1999a, 1999b) considers tax management of bond portfolios. Tax management is important even when managing tax-exempt municipal bond portfolios, where individuals should harvest losses and avoid taxable gains. With high-yield corporate bonds, individual investors should realize gains and losses. "Gain harvesting" benefits from capital gains taxes being lower than ordinary income taxes. (Premium bonds amortize to par—turning capital gains back into ordinary income.) For both municipal and high-yield corporate bond portfolios, the value of tax management increases with the maturity of the portfolio.

Harvesting gains may even be beneficial in managing equities; Stein, Vadlamudi, and Bouchey (2008) show that harvesting lightly taxed long-term gains resets the holding periods and creates an option to harvest heavily taxed short-term losses. Their result of after-tax added value from gain harvesting depends on a number of conditions—especially a significantly different capital gains tax rate on short- and long-term gains.

In commingled investment vehicles, the actions of other investors can trigger tax consequences for even buy-and-hold investors (see Arnott, Berkin, and Ye 2001). Using simulated mutual funds built from the 50 largest U.S. stocks, Dickson, Shoven, and Sialm (2002) demonstrate that the consequences of this externality can be large. Investors do seem aware of the importance of tax externalities; Bergstresser and Poterba (2002) conclude that mutual fund inflows and outflows are better explained by funds' after-tax returns than their pretax returns. This is tangible feedback to wealth managers who wonder if their clients are likely to care about taxes.

U.S. taxes include a step-up in basis at death (except in 2010). That is, beneficiaries inherit assets with the tax basis equal to the value at death (or six months after death). This situation creates a dichotomy between assets that will be consumed in retirement and those that will be bequeathed. See Mulvihill (2005) on how this affects portfolio structure and tax management.

Estate Planning

Many wealth management clients will not consume all of their wealth in their lifetimes and will leave an estate to others. Intergenerational planning requires an understanding of legal and regulatory structures, such as trusts and foundations, as well as estate and income taxes. See Horvitz (2008) for an understanding of how estate taxes affect after-tax wealth accumulation. Although a large literature exists on estate planning in the legal and insurance traditions, the private wealth management professional is properly concerned with investment considerations of estate planning. That is, the traditional thinking on estate planning must be integrated with an investment perspective to be useful to the private wealth manager. There has been little writing that provides such integration, but we present some notable exceptions in this section.

The first task of integrating estate planning and investment decisions is determining the amount of capital required to safely provide for an investor's standard of living and other primary investment goals. Bernstein Wealth Management Research (2008) defines this figure as *core capital*. The wealth manager can then safely plan strategies to transfer available capital in excess of this amount to others (heirs, charitable endeavors) without jeopardizing core goals. Bernstein Wealth Management Research (2008) develops Monte Carlo simulations that incorporate uncertainties associated with investment returns and longevity to determine which strategies and structures tend to produce the greatest after-tax wealth accumulations.

As noted, bequest and consumption are two different roles for a portfolio. Accordingly, portfolios need to be managed differently depending on the goal, particularly in tax regimes that have a step-up in basis at death. See Mulvihill (2005) on how these dual goals affect portfolio construction.

The dimensions of estate planning are many, including family dynamics, philanthropic intent, forced heirship rules, and of course, estate taxes. Although managing exposure to estate tax is a discipline unto itself, it overlaps substantially with investment management. Horvitz (2008), for example, presents a salient analysis of the implications of estate taxes on investment returns. As of 2010, a U.S. citizen with two married children and four

grandchildren can transfer $104,000 a year without a tax filing, which means a couple can make more than $2 million in tax-free gifts in a decade. Estate tax rules are typically in some state of flux; however, lifetime gift and estate tax exclusions allow families opportunities to transfer wealth without tax. Many individuals who would otherwise be subject to the estate tax absent a giving program may be able to avoid estate taxes entirely. Poterba (1998), Joulfaian and McGarry (2004), and Horan and Robinson (2010b) discuss lifetime gifts as an estate tax reduction mechanism that allows gifted principal to grow free of estate tax. Poterba (1998) and Joulfaian and McGarry (2004) conclude that the wealthy underutilize tax-free lifetime giving. Poterba examines a number of possible explanations: unawareness, "control" within a family, precautionary savings against medical expenses, better investment opportunities, illiquidity, and other estate planning options.

Estate Planning Tools. Many tools are available to the wealth manager to help achieve a client's estate planning goals. Although their legal recognition and tax treatment vary from one jurisdiction to the next, common estate planning tools include trusts, foundations, life insurance, companies, and family limited partnerships. Brunel (2006a, ch. 5) discusses these tools in some detail and uses an illustrative case to show how they can be effectively used to meet investor needs.

Friedman (2000) evaluates the estate planning toolkit from an investment perspective. Using a case study involving a family with $100 million, he demonstrates the substantial benefit of estate planning techniques in terms of ending wealth. Estate planning tools can be evaluated across at least three dimensions: control, asset protection, and tax reduction. Whether a trust is discretionary or nondiscretionary, for example, determines who controls how the assets are managed and which outside creditors may have a claim to those assets. As a result, a trust (which is a concept unique to common law jurisdictions) may place assets in a structure with a lighter tax obligation. See Hayton (2003) for a review of trust law. Civil law jurisdictions typically do not legally recognize the trust relationship and instead recognize the similar, but distinct, concept of a foundation as a legal entity. The wealth manager can consider different trust structures that balance control, asset protection, and tax reduction goals.

In addition to providing potential risk management benefits, life insurance can be a tax-efficient vehicle for transferring excess capital upon death. Death benefit proceeds paid to life insurance beneficiaries are tax exempt in many jurisdictions, and in some cases, no tax reporting consequences arise. In addition, premiums paid by the policy holder are typically neither part of the policy holder's taxable estate at the time of his or her death nor subject to a gift and estate tax. In addition to possible tax benefits, life insurance effectively allows assets to transfer to the policy holder's beneficiaries without the time, expense, potential challenges, and publicity associated with probate. Many wealth owners also use life insurance to help heirs pay inheritance tax triggered by the wealth owner's death. In other words, life insurance is a liquidity planning technique in that it can generate liquidity to pay estate taxes.

Family limited partnerships (FLPs) are important estate planning vehicles that facilitate coordination and management of family wealth. Historically, interests in FLPs were subject to sizable minority-interest and lack-of-marketability discounts when they were valued for estate tax purposes, which can be valuable when determining estate taxes (see, for example, Block 2007 and Teall 2007). Using FLPs to manage estate taxes requires knowledge of the current case law, but there are nontax business purposes for using FLPs in wealth management, including improving investment efficiency, meeting investment minimums, and allowing poorer family members access to better management (see Thompson 2001 and Kiziah 2007). Finally, Hughes (2001) considers asset location within a multigenerational family as an estate planning mechanism.

In a similar vein, private companies, especially controlled foreign corporations (CFCs), may be a useful place to locate assets. A possible benefit of placing income-generating assets in a CFC is that tax on earnings of the company may be deferred until either the earnings are actually distributed to shareholders or the company is sold or shares otherwise disposed. In addition, a CFC may be established in a jurisdiction that does not tax the company or its shareholders.

Philanthropy. Many wealthy families support charities. For them, philanthropic activity is often complicated by tax structures and non-eleemosynary goals.

A number of high-net-worth families are attracted to private foundations and donor-advised funds. The tax advantage of a private foundation is that it maximizes the amount of money operating charities eventually receive, making them viable giving vehicles even for gifts less than $1 million. Furthermore, private foundations have "leaving a legacy" and "binding the family together" attributes, which are attractive to some. Bernstein Wealth Management Research (2005) provides an overview of the role of private foundations for the philanthropically inclined. The study considers how much can be directed to the private foundation—particularly when in conflict with a bequest motive. Once the money is inside a foundation, the study calibrates the likelihood of maintaining a given level of inflation-adjusted annual contributions. Even with a heavy equity tilt, perpetual viability is doubtful for a private foundation with a 5 percent payout requirement.

Paulson (2002) considers the role of charitable lead trusts. Boyle, Loewy, Reiss, and Weiss (2004), Friedman (2001), and Welch (2002) evaluate philanthropic vehicles in discussing how to dispose of low-basis stock. Charitable vehicles, whether charitable lead trusts, private foundations, or otherwise, have the advantage of being able to realize capital gains with much lower taxes due.

Hauser (2004) and Trickett (2002) provide contrasting views on the underlying motivation for charitable giving. Hauser deconstructs a range of possible motivations for charitable giving—noblesse oblige, Andrew Carnegie's gospel of wealth (the deleterious consequences of inheritance), social recognition, duty, tax benefits, social venture philanthropy, and family dynastic justifications. In the end, Hauser concludes that the etymology of the word "philanthropy" (i.e., love of mankind) is at the root of charitable giving. Trickett (2002) articulates the connection between faith and philanthropy. Hughes (2008) cautions that well-meaning gifts can lead to "the state of victimhood known as entitlement" (p. 6).

Behavioral Finance

The emergent field of behavioral finance lies at the intersection of psychology, finance, and (perhaps) biology. As such, it is an important topic for private wealth managers. Although individuals who manage institutional investments are subject to the same behavioral biases as anyone else, institutions are more likely to have systems and processes that help limit the negative consequences of behavioral biases.

Our focus here is on works of specific relevance to private wealth managers. Several sources provide introductions to behavioral finance. Belsky and Gilovich (1999) provide a good general introductory book; Shefrin (2000) has produced a more-rigorous work (see also Brunel 2006a, ch. 2, and Statman 1999, 2002). For the wealth manager, the challenge becomes how to develop processes and practices that insulate an investment plan from the behavioral tendencies shared by most investors. Evensky (1997) and more recently Pompian (2006, 2009) present techniques and exercises that help wealth managers illustrate biases to their clients and create systems and portfolios that combat the potentially deleterious effects of behavioral biases on investment decisions.

Perhaps *the* seminal work on psychological influences on investment decision making is Kahneman and Tversky (1979). They show that, when faced with the prospect of choosing between a certain loss and a gamble in which one could lose even more money or break even, people tend to choose the gamble in an effort to avoid the possibility of loss—a risk-seeking phenomenon called *loss aversion*. Byrne and Brooks (2008) review many other behavioral biases largely from the context of the analyst.

Barber, Odean, and Zheng (2005) provide insights both on the importance of expenses to mutual fund investors and the behavioral finance concept of *framing*, which emphasizes that how information is conveyed can be as important as the information content. They consider an application of the behavioral finance concept of framing: It matters how expenses are conveyed to investors. Investors tend to avoid load funds but are less reluctant to buy high-expense funds. Investors prefer "no-transaction-fee" funds despite their higher expense ratios. Private wealth managers might well consider the importance of how expenses and other investment issues are framed to clients.

Rational finance and behavioral finance are often at odds. Private wealth management encourages loss harvesting for tax purposes, yet this is psychologically hard. Odean (1998) considers the behavioral finance *disposition effect*, the tendency to hold losers and sell winners. He finds the disposition effect lowers investors' returns.

Behavioral finance touches on a number of topics considered in this literature review. Brunel (2005–2006, 2006b), Chhabra (2005), Fraser and Jennings (2006), and Nevins (2004) apply the findings of behavioral finance to asset allocation in the wealth allocation framework called "behavioral asset allocation." Poterba's (1998) coverage of the underutilization of lifetime gifts for estate planning is directly related to behavioral finance.

Legal and Ethical Concerns

The Uniform Prudent Investor Act is law in most U.S. states and jurisdictions. Fender (1998) and Meyers (2005a, 2005b) consider its implications. Fender lays out a series of steps that demonstrate *procedural prudence* that will be familiar to CFA charterholders:

- analyze the current position,
- design the optimal investment portfolio structure,
- formalize an investment policy statement,
- implement the investment policy, then
- monitor and evaluate.

Meyers (2005a, 2005b) considers the Uniform Prudent Investor Act's interaction with the Uniform Principal and Interest Act. He bifurcates the classic mean–variance efficient frontier into the income beneficiary frontier (more bonds) and the remainder beneficiary frontier (more stocks); in so doing, he emphasizes a key conflict. Because the Uniform Prudent Investor Act has a total return focus, this conflict between income and remainder beneficiaries is difficult to resolve. Meyers (2005a, 2005b) also emphasizes the difficulties taxes introduce into balancing income and remainder beneficiaries' interests. Meyers (2005a) focuses on the fiduciary standard, and Meyers (2005b) backtests alternative investment and distribution strategies.

Although the focus of the Uniform Prudent Investor Act is on trusts, it represents a modern articulation of fiduciary standards that reflects modern portfolio theory and an emphasis on total return. The pamphlet *Prudent Investment Practices* (Foundation for Fiduciary Studies 2003) considers a broader range of fiduciary standards. It is an attempt to codify procedurally prudent investment practices. The idea of this pamphlet is that, although the various legal standards may not technically apply in every situation, valuable concepts can be extracted from particular laws and applied more generally. Although not everyone will agree with all of the practices the pamphlet proscribes and prescribes, *Prudent Investment Practices* is a valuable review of numerous fiduciary standards.

The regulatory landscape is changing for clients with assets located outside their home country. International wealth management is occasionally characterized as the practice of placing assets in jurisdictions with bank secrecy laws to avoid detection by taxing authorities in an individual's home country. Income on these "undeclared funds" would, therefore, escape taxation by the home country that might otherwise impose a tax obligation if the income were reported. Recent private banking scandals have highlighted this practice. Nonetheless, a wealth management adviser can often create value for a client or family by developing an investment policy, asset location policy, or estate plan that minimizes taxes in legally and ethically acceptable ways. In that regard, it must be emphasized that tax avoidance is distinct from tax evasion. *Tax avoidance* is developing strategies that conform to both the spirit and the letter of the tax codes of jurisdictions with taxing authority. *Tax evasion*, in contrast, is the practice of circumventing tax obligations by illegal means, such as misreporting or not reporting relevant information to tax authorities.

Although not reporting income on undeclared funds is clearly inappropriate, offshore banking should not be equated with tax evasion. Banking secrecy may provide legitimate benefits in the form of security, privacy, intra-family dynamics, and politics. Moreover, offshore banking centers can offer an efficient way to provide financial services to clients residing in other countries.

Finally, Marcovici (2007) discusses the movements toward global tax transparency. He contends that private wealth managers must adapt to the growing intolerance of bank secrecy and tax evasion. In addition, Statman (2007) surveys perceptions of financial market fairness in eight countries and identifies differences.

Tax-Adjusted Performance Evaluation

If a wealth manager incorporates tax considerations into his investment decision making, it follows that his performance should also be measured on a tax-adjusted basis. Interestingly, however, Horan and Adler (2009) report in a survey of U.S.-based wealth managers that very few report their performance on a tax-adjusted basis, even though the survey respondents show a high degree of tax sensitivity in their investment management practices. They speculate that complexities, such as the uniqueness of a client's tax situation, have hampered its adoption. Nonetheless, Dickson and Shoven (1993) document dramatic differences in mutual fund rankings depending on whether performance is measured on a pretax or after-tax basis. Peterson, Pietranico, Riepe, and Xu (2002) show that a mutual fund's after-tax performance is related to its investment style, redemptions and cash inflows, and past tax efficiency.

Rogers (2006) traces the demand for tax-adjusted performance measurement techniques to the preferential tax treatment of nuclear decommissioning trusts. Price (1996) details methods that take into account the tax implications of the manager's investment decisions and external cash flows outside the manager's control.

Tax-adjusted performance can be measured in three basic ways. A "preliquidation" method accounts for taxes realized during the measurement period but does not recognize any tax liability (benefit) associated with unrealized gains (losses) embedded in the portfolio's ending market value (Lawton and Remington 2007). A "postliquidation" method, by contrast, assumes unrealized gains are recognized at the end of the measurement period. The preliquidation method can understate a portfolio's tax liability, whereas the postliquidation method can overstate it. Price (2001) argues that after-tax benchmark returns should be calculated using changes in after-tax value based on preliquidation values. Poterba (1999, 2000), in contrast, argues that after-tax performance should recognize some tax burden related to unrecognized gains. The Global Investment Performance Standards (GIPS®) *Guidance Statement for Country–Specific Taxation Issues* (2005) requires U.S. after-tax rates of return to be calculated based on portfolio values using a preliquidation method. Post-liquidation returns may be presented as supplemental information. The 2010 GIPS standards have since removed country-specific guidance on taxation and delegated their development to country committees.

A third method, which conforms to neither of these extremes, measures tax-adjusted performance as the change in a portfolio's tax-adjusted value. It considers future tax liabilities arising from embedded unrealized capital gains without assuming they are recognized immediately. For example, Stein (1998) recommends calculating the return based on the amount of cash in today's dollars that would replicate the expected after-tax cash flows over some forecast horizon of the target portfolio. Horan, Lawton, and Johnson (2008) integrate the Stein approach into a less-laborious model that forecasts likely taxable events in percentage terms rather than monetary terms, incorporates a portfolio's cost basis, and accounts for the impact of taxes on portfolio risk as measured by Horan (2007a, 2007b).

Once one decides on how to best measure tax-adjusted performance, the next challenge is to develop a tax-adjusted benchmark against which it can be compared. Minck (1998) and Brunel (2000b) propose solutions that draw on insights from the private equity industry. Stein, Langstraat, and Narasimhan (1999) develop a benchmark based on Stein's (1998) approach and argue that an ideal benchmark for a new, well-diversified portfolio is an indexed portfolio with the same investment style, cash flows, and cost basis as the target portfolio. Horan, Lawton, and Johnson (2008) extend this idea by developing a hypothetical benchmark that combines the investor's tax profile with the investment management profile of the pretax index. An insight shared by all these authors is that a proper after-tax benchmark is unique to each client.

Keeping Current

The literature cited here represents our snapshot of the most important writings on private wealth management as of March 2010. Many of the authors cited are consistent contributors to the wealth management literature.

CFA Institute sponsors useful conferences on wealth management topics and publishes proceedings of many conference presentations. To keep current in private wealth management, we suggest that readers review the following journals:

- *Financial Analysts Journal,*
- *Financial Services Review,*
- *Journal of Financial Planning,*
- *Journal of Investing,*
- *Journal of Portfolio Management,* and
- *Journal of Wealth Management.*

Of these, *Financial Services Review* is the most academic journal. It is the journal of the Academy of Financial Services, which is a major academic association for "individual finance" professors. The *Journal of Wealth Management* covers a range of topics from investment strategies to managing an investment office. This journal spends more time on issues pertaining to high-net-worth investors than the *Journal of Financial Planning* does, which is the publication of the Financial Planning Association. The *Journal of Financial Planning* covers a range of topics from investment strategies to regulatory updates and is focused on more-general financial planning topics. The *Financial Analysts Journal, Journal of Investing,* and *Journal of Portfolio Management*, as general investment journals, have broader mandates than private wealth management but are important resources. Recently, the *Financial Analysts Journal* has included one article on private wealth management in most issues. The "mainline" academic finance sources, such as the *Journal of Finance*, only rarely cover private wealth management topics.

In addition to keeping up with investment management trends, the wealth manager is well served by keeping abreast of industry trends. A complete review of the relevant resources is beyond our scope here, but Merrill Lynch and CapGemini develop annual global and regional world wealth reports that track some interesting trends among high-net-worth investors and practitioners. Ang (2010) interviews nine private bankers in Asia to identify the key developments that are shaping the regional private banking industry. Interestingly, he identifies human resource factors, such as recruitment and training, rather than product development as critical to remaining competitive. Bicker (1996), Chorafas (2006), and Maude (2006) also present useful book-form surveys of the global, particularly European, wealth management landscape.

Contemporaneously with the growth and development of private wealth management as a distinct investment specialty, the literature of private wealth management has also grown and developed. Bright authors continue to bring innovative insights to bear on the complex issues facing high-net-worth investors. Since the 2006 literature review, the profession has become increasingly sophisticated in addressing the important issues that arise. And since 2006, investors have faced daunting new risks. With powerful trends like globalization, mass customization, information proliferation, and ever faster and more complicated investment decision cycles, there is every prospect for dynamic change in private wealth management. Private wealth managers benefit from the deep understanding contained in the evolving literature.

The opinions included are those of the authors and not necessarily those of any organization with which the authors are affiliated. The authors may be reached at wj@williamjennings.com, stephen.horan@cfainstitute.org, and bill_reichenstein@baylor.edu. *Special thanks to the Research Foundation of CFA Institute, Jean Brunel, and Moshe Milevsky.*

This publication qualifies for 1 CE credit.

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Amenc, Noël, Lionel Martellini, Vincent Milhau, and Volker Ziemann. 2009. "Asset-Liability Management in Private Wealth Management." *Journal of Portfolio Management*, vol. 36, no. 1 (Fall):100–120.

> "The objective of this article is to shed light on the potential benefits of asset-liability management techniques, originally developed for institutional money management, in a private wealth management context. The authors show that much of the complexity of optimal asset allocation decisions for private investors can be captured through the addition of a single state variable—liability value—which accounts in a parsimonious way for investors' specific constraints and objectives. An asset-liability management approach to private wealth management has a direct impact on the selection of asset classes because it requires a consideration of the liability-hedging properties of various asset classes, that would, by definition, be absent from an asset-only perspective. An asset-liability perspective also leads to the use of the liability portfolio as a benchmark, or numeraire, acknowledging that, for private investors, terminal wealth per se is not as important as the investor's ability to achieve goals, such as preparing for retirement or buying property." (p. 12)

Ameriks, John, Robert Veres, and Mark J. Warshawsky. 2001. "Making Retirement Income Last a Lifetime." *Journal of Financial Planning*, vol. 14, no. 12 (December):60–76.

> "The goal of this article is to explore the sustainability of investment portfolio withdrawals using two distinct methodologies—historical analysis and Monte Carlo simulations—to address the risk of extreme longevity. The article also examines whether annuitizing a portion of client assets makes it more likely that retirees can enjoy higher incomes over longer retirements." (p. 60)

Ang, Ser-Keng. 2010. "A Qualitative Study on the Challenges of Private Banking in Asia." *Journal of Wealth Management*, vol. 12, no. 4 (Spring):68–77.

> "The study described in this article examines the factors that have been commonly cited by relevant literature as the key drivers of success in private banking. With finite resources to address a highly attractive but increasingly competitive market, it is imperative that management understands the most critical factors for success as they attempt to build solid and sustainable businesses in Asia. Nine private bankers, representing a cross section of bankers with varying experience and organization platforms, were interviewed. The study highlights the need for management to address strategic issues in Asia, including adopting a clear target-market-based strategy in a highly fragmented market; espousing an attitude that the recruitment, training, motivation, and retention of high-quality human resources is a key competitive tool; and addressing the demands of a rapidly changing environment." (p. 68)

Arnold, Brian J., and Michael J. McIntyre. 2002. *International Tax Primer*. 2nd ed. The Hague, Netherlands: Kluwer Law International.

> This dense text reviews the fundamental notions of taxation in a global context and illustrates their application in various countries. It is a useful resource for those focused on international wealth and tax planning.

Arnott, Robert D., Andrew L. Berkin, and Jia Ye. 2000. "How Well Have Taxable Investors Been Served in the 1980s and 1990s?" *Journal of Portfolio Management*, vol. 26, no. 4 (Summer):84–93.

> "This article examines the performance of large equity mutual funds over the past ten, fifteen, and twenty years. On both a before- and after-tax basis, the authors find that the average mutual fund underperformed the Vanguard Index 500 fund. Although part of this under-performance is attributed to a small-size bias inherent in active management, an analysis of the pure tax effects also shows that funds have not been managed in a tax-efficient manner. The authors suggest a few simple ways to improve after-tax performance." (found at www.iijournals.com/doi/abs/10.3905/jpm.2000.319766)

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"Although the aggregate amount of taxable money under management actually exceeds the value of tax-exempt money such as in pensions and endowments, far too often these assets are invested without proper consideration for taxes. The authors identify sources of taxable asset mismanagement and give methods of improvement. They also describe considerations for selecting a tax-efficient manager and give details of actually effecting a tax-efficient strategy. Lastly, the authors close with a roster of actions a taxable investor should and should not do." (found at www.iijournals.com/doi/abs/10.3905/joi.2001.319446)

Barber, Brad M., Terrance Odean, and Lu Zheng. 2005. "Out of Sight, Out of Mind: The Effects of Expenses on Mutual Fund Flows." *Journal of Business*, vol. 78, no. 6 (November):2095–2119.

"We argue that the purchase decisions of mutual fund investors are influenced by salient, attention-grabbing information. Investors are more sensitive to salient, in-your-face fees, like front-end loads and commissions, than operating expenses; they buy funds that attract their attention through exceptional performance, marketing, or advertising. We analyze mutual fund flows over the last 30 years and find negative relations between flows and front-end-load fees. In contrast, we find no relation between operating expenses and flows. Additional analyses indicate that marketing and advertising, the costs of which are often embedded in funds' operating expenses, account for this surprising result." (p. 2095)

Belsky, Gary, and Thomas Gilovich. 1999. *Why Smart People Make Big Money Mistakes and How to Correct Them: Lessons from the New Science of Behavioral Economics*. New York: Simon & Schuster.

Wealth managers are increasingly realizing the importance of behavioral finance to being effective in their jobs. This book provides an outstanding and wide-ranging introduction to the field. Although there are more rigorous surveys of behavioral finance (such as Shefrin 2000), this book is particularly approachable.

Bengen, William P. 1994. "Determining Withdrawal Rates Using Historical Data." *Journal of Financial Planning*, vol. 7, no. 4 (October):171–180.

"At the onset of retirement, investment advisors make crucial recommendations to clients concerning asset allocation, as well as dollar amounts they can safely withdraw annually, so clients will not outlive their money. This article utilizes historical investment data as a rational basis for these recommendations. It employs graphical interpretations of the data to determine the maximum safe withdrawal rate (as a percentage of initial portfolio value), and establishes a range of stock and bond asset allocations that is optimal for virtually all retirement portfolios. Finally, it provides guidance on 'mid-retirement' changes of asset allocation and withdrawal rate." (p. 171)

Benzoni, Luca, Pierre Collin-Dufresne, and Robert S. Goldstein. 2007. "Portfolio Choice over the Life-Cycle When the Stock and Labor Markets Are Cointegrated." *Journal of Finance*, vol. 62, no. 5 (October):2123–2167.

"We study portfolio choice when labor income and dividends are cointegrated. Economically plausible calibrations suggest young investors should take substantial short positions in the stock market. Because of cointegration the young agent's human capital effectively becomes 'stock-like.' However, for older agents with shorter times-to-retirement, cointegration does not have sufficient time to act, and thus their human capital becomes more 'bond-like.' Together, these effects create hump-shaped life-cycle portfolio holdings, consistent with empirical observation. These results hold even when asset return predictability is accounted for." (found at www.afajof.org/journal/abstract.asp?ref=0022-1082&vid=62&iid=5&aid=1271&s=-9999)

Bergstresser, Daniel, and James M. Poterba. 2002. "Do After-Tax Returns Affect Mutual Fund Inflows?" *Journal of Financial Economics*, vol. 63, no. 3 (March):381–414.

"This paper explores the relationship between the after-tax returns that taxable investors earn on equity mutual funds and the subsequent cash inflows to these funds. Previous studies have documented that funds with high pretax returns attract greater inflows. This paper presents evidence, based on a large sample of retail equity mutual funds over the period 1993–1999, that after-tax returns have more explanatory power than pretax returns in explaining inflows. In addition, funds with large overhangs of unrealized capital gains experience smaller inflows, all else equal, than funds without such unrealized gains. A large capital gain overhang discourages both gross fund inflows and gross outflows, but the inflow effect dominates the outflow effect." (p. 381)

Berkin, Andrew L., and Jia Ye. 2003. "Tax Management, Loss Harvesting, and HIFO Accounting." *Financial Analysts Journal*, vol. 59, no. 4 (July/August):91–102.

"Virtually all companies and individuals are faced with the management of taxable assets. To manage these assets efficiently, investors need to be aware of the impact of taxes on investment returns. In the study we report in this article, we quantified the benefits of loss harvesting and highest in, first out (HIFO) accounting by using Monte Carlo simulations and investigated the robustness of these strategies in various markets and with various cash flows and tax rates. We concluded that a market with high stock-specific risk, low average return, and high dividend yield provides more opportunities to harvest losses. In addition, a steady stream of contributions refreshes a portfolio and allows the benefits of loss harvesting to remain strong over time. Conversely, withdrawals reduce the advantages of realizing losses. Our findings show that no matter what market environment occurs in the future, managing a portfolio in a tax-efficient manner gives substantially better after-tax performance than a simple index fund, both before and after liquidation of the portfolio." (p. 91)

Bernstein Wealth Management Research. 2005. "Looking Beyond Perpetuity: Customizing a Private Foundation." Blackbook Report (August).

This 40-page document contrasts the attributes of private foundations with other charitable vehicles. In particular, the tax advantage of a private foundation maximizes the amount of money operating charities eventually receive, making them viable giving vehicles even for gifts under $1 million. The study considers how much can be directed to the private foundation—particularly when in conflict with a bequest/legacy motive. Once the money is inside a foundation, the study calibrates the likelihood of maintaining a given level of real annual contributions; even with a heavy equity tilt, perpetual viability is doubtful for a private foundation with a 5 percent payout requirement.

———. 2008. "Multigenerational Wealth Management: Getting a Legacy Up." Alliance Bernstein's Global Wealth Management Research Series (April).

"Once a family has significant wealth, the problem becomes how to preserve it for future generations—a surprisingly difficult task. Effective multigenerational wealth management requires a family to tackle the personal issues that determine who should benefit from the wealth, the tax hurdles that stand in the way of its efficient transfer, and the capital markets uncertainties that make it challenging to invest it prudently." (p. 1)

Bicker, Lyn. 1996. *Private Banking in Europe.* London: Routledge.

This book provides a survey of private banking in Europe. The text offers a useful international perspective despite being somewhat dated. In particular, the discussion of Swiss private banking partnerships and independent *gerants de fortune* is relevant to wealth managers anywhere.

Black, Fischer. 1980. "The Tax Consequences of Long-Run Pension Policy." *Financial Analysts Journal*, vol. 36, no. 4 (July/August):21–28.

> "A firm's pension fund is legally separate from the firm.… The tax treatment accorded the pension fund differs notably from that accorded the firm. Some have argued that a firm can capitalize on the difference by accelerating the funding of its pension plan. The benefits of full funding are wasted, however, unless the added contributions to the fund are invested in bonds; higher pension contributions now mean lower contributions later, hence higher taxes later. The benefits come from earning, after taxes, the pretax interest rate on the bonds in the pension fund. If the firm wants to take advantage of the differing tax treatment of bonds without altering the level of its current pension contributions, it can (1) sell stocks in the pension fund and then buy bonds with the proceeds while (2) issuing debt in the firm and buying back its own shares with the proceeds. An investment in the firm's own stock creates no more tax liability than an investment in stocks through the pension fund." (p. 21)

Black, Kenneth, Conrad S. Ciccotello, and Harold D. Skipper. 2002. "Issues in Comprehensive Personal Financial Planning." *Financial Services Review*, vol. 11, no. 1 (Spring):1–9.

> "Increasing numbers of firms within the financial services industry continue to organize around the concept of delivering comprehensive personal financial planning (PFP) services. PFP delivery models reflect the desire to control client relationship and realize economies of scope. In this article, we argue that the need for comprehensive PFP is well grounded theoretically, although research to guide the appropriate application of the theory remains lacking. Comprehensive PFP is not without its potential costs, including risks associated with lessened advisor diversification at the client level, reduced transparency, and agency problems. To address these risks, consumers likely will turn to credentials as a proxy for quality and trustworthiness." (p. 1)

Block, Stanley. 2007. "The Liquidity Discount in Valuing Privately Owned Companies." *Journal of Applied Finance*, vol. 17, no. 2 (Fall/Winter):33–40.

> "While it is well accepted that a privately held company's value should be reduced for lack of marketability, assigning the value of the discount is a difficult matter. Research in the past four decades has relied on restricted stock studies and pre-IPO studies. Both approaches have inherent drawbacks and require better methodology. This study follows the approach of Koeplin, Sarin, and Shapiro (2000) in comparing privately traded firms' valuation to publicly traded firms in the same industry over a comparable time period. For 91 public and private firms between 1999 and 2006, the average discount is 20%–25%. This study is unique in that it breaks down the discount by industry, with the highest discount found in manufacturing and the lowest in financial firms." (p. 33)

Boczar, Thomas J. 2007. "Mitigating the Legal Duties of Fiduciaries and Financial Advisors to Manage Stock Concentration Risk: Conceptualizing and Implementing a 'Best Practices Framework.'" *Journal of Wealth Management*, vol. 10, no. 1 (Summer):16–34.

> "This article describes the rapidly expanding duties of fiduciaries and financial advisors to manage single stock concentration risk. The results of an informal but comprehensive survey indicate that most fiduciaries and advisors currently manage stock concentration risk in an ad hoc, almost antiquated, fashion. A 'best practices' framework is developed that could be used by fiduciaries and advisors to assist them in satisfying their legal duties. By following these best practices, stock concentration risk management services will be delivered through a systematic, uniform and consistent methodology with the result that each and every client should implement the strategy that is optimal given their particular circumstances." (found at www.iijournals.com/doi/abs/10.3905/jwm.2007.684876)

Bodie, Zvi. 2003. "Applying Financial Engineering to Wealth Management." In *Investment Counseling for Private Clients V*. Charlottesville, VA: Association for Investment Management and Research.

> "The traditional investment paradigm, the Markowitz mean–variance model, focuses only on total wealth at the end of a single (long) period. The assumption is that time diversification will make equities 'safe.' A more appropriate approach is the Samuelson–Merton life-cycle paradigm, a multiperiod model that stresses the need for hedging and insurance in addition to precautionary saving and diversification. A corollary of this new model is that the investment industry ought to provide affordable products tailored to suit the average investor's means and needs." (p. 3)

Bodie, Zvi, and Dwight B. Crane. 1997. "Personal Investing: Advice, Theory, and Practice." *Financial Analysts Journal*, vol. 53, no. 6 (November/December):13–23.

> "Data from a unique survey containing information on the composition of the respondents' total asset holdings—both inside and outside their retirement accounts—shed light on individual asset-allocation behavior. Individual asset allocations are consistent with the recommendations of expert practitioners and with the prescriptions of economic theory. The survey respondents maintain in cash and near-cash investments a proportion of their wealth that declines as wealth increases. They hold these safe assets outside their retirement accounts. The proportion of total assets that they hold in equities declines with age and rises with wealth. They do not appear to manage their assets across retirement and nonretirement accounts to maximize tax efficiency." (p. 13)

Bodie, Zvi, and Jonathan Treussard. 2007. "Making Investment Choices as Simple as Possible, but Not Simpler." *Financial Analysts Journal*, vol. 63, no. 3 (May/June):42–47.

> "Target-date funds (TDFs) for retirement, also known as life-cycle funds, are being offered as a simple solution to the investment task of participants in self-directed retirement plans. A TDF is a 'fund of funds' diversified across stocks, bonds, and cash with the feature that the proportion invested in stocks is automatically reduced as time passes. Empirical evidence suggests that a simple TDF strategy would be an improvement over the choices currently made by many uninformed plan participants. This article explores a way to achieve even greater improvement for people who are very risk averse and have high exposure to market risk through their labor." (p. 42)

Bodie, Zvi, Dennis McLeavey, and Laurence B. Siegel, eds. 2007. *The Future of Life-Cycle Saving and Investing*. Charlottesville, VA: The Research Foundation of CFA Institute.

> "On 25–27 October 2006, Boston University School of Management hosted a unique conference on the future of life-cycle saving and investing. Its aim was to create a cross-functional dialogue among the key players in the industry about how best to meet the goal of serving the public with valuable investment and planning options in a manner that leverages the power of the marketplace. Co-sponsored by the Federal Reserve Bank of Boston's Research Center for Behavioral Economics and Decision-Making and the Research Foundation of CFA Institute, the conference was based on the premise that economic science provides a useful analytical framework for designing and producing the next generation of saving and investment solutions for households. The emphasis in this inaugural conference was on retirement, which is now a pressing policy concern in the United States. Future conferences will deal with other aspects of personal finance." (p. xvii)

Bodie, Zvi, Laurence Siegel, and Rodney Sullivan, eds. 2009. *The Future of Life-Cycle Saving and Investing: The Retirement Phase*. Charlottesville, VA: The Research Foundation of CFA Institute.

> "In October 2008, about 150 economists, actuaries, research scientists, investment managers, and advisers met for two days at Boston University to analyze the most pressing financial issues facing the 'Boomer' generation in developed nations with aging populations. The conference took place just before the election of Barack Obama as U.S. President, and the global economy was in the worst financial crisis since the Great Depression. The retirement savings, home values, and stock portfolios

of U.S. families were hard hit, and the short-run outlook for employment and growth was not good. Most of the invited speakers and other participants addressed issues related to long-run trends of a society in which the elderly population is becoming a significantly larger proportion of the total. In this book, we present the parts of the conference that we believe will be of greatest interest to decision makers in government and business as well as professional consultants, advisers, and educators." (p. x)

Boyle, Patrick S., Daniel J. Loewy, Jonathan A. Reiss, and Robert A. Weiss. 2004. "The Enviable Dilemma: Hold, Sell, or Hedge Highly Concentrated Stock?" *Journal of Wealth Management*, vol. 7, no. 2 (Fall):30–44.

"It's not unusual for investors, fiduciaries, and trustees to find themselves with too much of a good thing: owning or overseeing a large quantity of a highly appreciated low-basis stock. In this emotional issue, investors are typically torn: hold the stock that's made them rich and avoid the large tax bill, begin to diversify, or hedge? On average, investors haven't gotten paid to take on the incremental risk of single stocks. But that fact alone isn't enough to act upon, and indeed there are no singular answers. In this study the authors present an analytical framework that highlights the critical trade-offs underlying any single-stock decision, which has to factor in the investor's unique circumstances. These include his long-term goals, risk tolerance, and total portfolio, as well as the volatility of his single stock. We use all of this information to identify courses of action to consider. This analysis can be applied to other risk-management diversification strategies, such as liquidating over time and hedging with derivatives." (p. 6)

Bronson, James W., Matthew H. Scanlan, and Jan R. Squires. 2007. "Managing Individual Investor Portfolios." In *Managing Investment Portfolios: A Dynamic Process*. Edited by John L. Maginn, Donald L. Tuttle, Jerald E. Pinto, and Dennis W. McLeavey. 3rd ed. Hoboken, NJ: John Wiley & Sons.

Relying chiefly on an extended case study, this chapter considers the "hard" and "soft" issues that go into successfully managing individual investors' portfolios. Significant emphasis is given to developing an investment policy statement. It also considers situational profiling, psychological profiling, and Monte Carlo simulation.

Brown, Jeffrey R., and Amy Finkelstein. 2009. "The Private Market for Long-Term Care Insurance in the United States: A Review of the Evidence." *Journal of Risk and Insurance*, vol. 76, no. 1 (March):5–29.

"This article reviews the growing literature on the market for private long-term care insurance, a market notable for its small size despite the fact that long-term care expenses are potentially large and highly uncertain. After summarizing long-term care utilization and insurance coverage in the United States, the article reviews research on the supply of and the demand for private long-term care insurance. It concludes that demand-side factors impose important limits on the size of the private market and that we currently have a limited understanding of how public policies could be designed to encourage the growth of this market." (found at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1378340)

Brunel, Jean L.P. 1999a. "Revisiting the Fallacy of Market-Timing in an After-Tax Context." *Journal of Private Portfolio Management*, vol. 2, no. 2 (Fall):16–25.

"In this article, the author also considers market timing, not as a strategy, but as a reaction to an earlier faulty decision. Rather than viewing market timing as the result of investor belief that they can always foresee price movements at the asset level earlier than other participants, Brunel considers market timing as a reaction of panic by investors who have adopted too aggressive an asset allocation strategy or have not taken the time to create such a long-term strategy. He compares the performance of a 'panicky' investors portfolio to the result of a normal portfolio mix, naively rebalanced on a monthly basis, on both pre- and after-tax bases and concludes that the cost of making a market timing error is substantially higher in the after-tax world. While such a conclusion may not be a surprise, Brunel argues it makes the case for adopting an appropriate and comfortable strategic asset allocation even stronger." (p. 7)

———. 1999b. "The Role of Alternative Assets in Tax-Efficient Portfolio Construction." *Journal of Private Portfolio Management*, vol. 2, no. 1 (Summer):9–25.

"The author considers the role alternative assets play in a taxable portfolio and suggests that investors who pay taxes ought to have a greater portion of their wealth, ceteris paribus, invested in alternative assets relative to tax-exempt investors. The analysis starts with the intuition that fix[ed]-income assets are relatively tax-inefficient, and the diversification power of alternative assets should lead them to play a greater portfolio role. The author compares the results of pre- and after-tax portfolio optimization. He suggest[s] that, in line with the original intuition, investors who optimize their asset allocation on an after-tax basis will seek a greater exposure to equity and alternative assets than those who ignore the impact of taxes at the asset allocation stage. Furthermore, an analysis that biases the decision process toward minimizing taxes rather than risks shows that the optimizer shifts even more dramatically out of fixed-income investments toward alternative assets." (p. 7)

———. 2000a. "Active Style Diversification in an After-Tax Context: An Impossible Challenge?" *Journal of Private Portfolio Management*, vol. 2, no. 4 (Spring):41–50.

"The author asks whether style diversification retains its arguable pretax benefits when considering taxes. First, he reviews the two generic arguments—market timing and manager focus—offered to support the suggestion that style diversification actually produces value added on a pretax basis. Then, he presents and discusses the results of two experiments designed to evaluate the extent to which style timing and manager focus can add value on a pretax basis, in various circumstances. Finally, the author repeats these same experiments on an after-tax basis to review the impact of either approach on an after tax basis. He concludes that diversification benefits do not seem to persist when taxes are taken into account, and that a more successful strategy might be to take as a broad portfolio focus as possible, in order to capture the tax-efficiency benefits likely to arise across asset classes or sub-categories." (p. 7)

———. 2000b. "An Approach to After-Tax Performance Benchmarking." *Journal of Private Portfolio Management*, vol. 3, no. 3 (Winter):61–67.

"A vexing question for investors who must be concerned with taxes relates to assessment of after-tax performance of a full portfolio or of any of its component parts. Performance analysis usually has two main components: measuring returns, pre- or after-tax; and assessing the returns. The author reviews a common benchmarking approach in the private equity industry and draws an analogy between the private equity problem and the issues faced in assessment of after-tax performance. He proposes two variants on the private equity performance assessment approach as possible solutions to the problem. The main drawbacks of direct use of vintage year portfolios are both complexity and the fact that vintage year portfolios would still not allow one to differentiate between various levels of unrealized capital gains in portfolios at the onset. An alternative would group portfolios into various baskets determined according to the ratio of market-to-book value of the portfolio at the initial management mandate." (p. 7)

———. 2001. "Asset Location—The Critical Variable: A Case Study." *Journal of Wealth Management*, vol. 4, no. 1 (Summer):27–43.

"The author explores the issue of asset location, focusing more specifically on the long run return and risk implications of using fewer or more asset locations. The article is structured in the form of a case study, which first introduces a hypothetical wealthy family and then discusses the various holding structures from which the family may select to achieve their investment goals more effectively. The author presents three possible solutions, comprising one, three and seven individual locations, identifying the principal portfolio composition differences and their implication on expected investment characteristics. The article illustrates the importance of a careful analysis of the various location options, showing that the seven-location portfolio provides both higher expected after-tax returns, lower volatility and lower initial portfolio diversification costs. The author concludes with a brief discussion of the concept of dynamic asset location, which allows an investor to enhance the tax-efficiency of his or her portfolio further, by using the potential to effect transactions between a grantor and a defective trust." (p. 6)

———. 2003a. "A New Perspective on Hedge Funds and Hedge Fund Allocations." In *Investment Counseling for Private Clients V*. Charlottesville, VA: Association for Investment Management and Research.

"The hedge fund universe is not homogeneous and should not be considered a coherent asset class. Rather, hedge fund management is an extension of traditional active management, with some critical differences. Thus, if investors seek to place portfolio constraints on hedge fund allocation, they should do so not to limit general exposure to an asset class but rather to achieve a certain level of exposure to manager and liquidity risk." (p. 9)

———. 2003b. "Revisiting the Asset Allocation Challenge through a Behavioral Finance Lens." *Journal of Wealth Management*, vol. 6, no. 2 (Fall):10–20.

"The author looks into the potential application of Statman's behavioral finance portfolio to help investors and their advisers formulate an appropriate strategic asset allocation. He starts by reviewing a few major behavioral finance findings and moves on to propose a set of four potential fundamental investment objectives, which investors must prioritize and among which they must allocate 100% of their wealth. He then designs sub-portfolios specifically geared to deliver on each of these objectives. The overall strategic asset allocation is then derived from aggregating these sub-portfolios into a single whole. The author concludes with observations on the unintended benefits of such an approach and an admonition that it does not in any way invalidate the fundamental principles underpinning the strategic asset allocation process." (found at www.iijournals.com/doi/abs/10.3905/jwm.2003.320479)

———. 2005–2006. "A Behavioral Finance Approach to Strategic Asset Allocation: A Case Study." *Journal of Investment Consulting*, vol. 7, no. 3 (Winter):61–69.

Similar to Chhabra (2005) and Nevins (2004), Brunel offers insights into behavioral asset allocation. The case study concerns a family with a net worth of $50 million.

———. 2006a. *Integrated Wealth Management: The New Direction for Portfolio Managers*. 2nd ed. London: Euromoney Books.

"Newly revised and updated, Jean Brunel's best-selling text on advising high-net-worth portfolio managers is now available. The Editor of *The Journal of Wealth Management* provides you with unique insight into how to make strategic, long-term decisions in the best interests of your clients. This new edition includes two new chapters on behavioural finance in the strategic asset allocation process; and investing in hedge funds and alternative investments." (found at www.euromoneybooks.com/product.asp?PositionID=1069901&ProductID=5387&123=abc&PageID=15471&Letter=I)

———. 2006b. "How Sub-Optimal—If at All—Is Goal-Based Asset Allocation?" *Journal of Wealth Management*, vol. 9, no. 2 (Fall):19–34.

"Following the success enjoyed by goal-based allocation over the last several years, the author investigates what the focus away from traditional finance and toward behavioral finance may be costing, if anything, in terms of traditional investment efficiency. The author starts with a review of the modern portfolio theory framework and offers a hypothesis as to how the demonstrated inability of individuals to stick to a single optimal portfolio might be interpreted. He then goes on to review the behavioral solution of a hypothetical case study and compares the outcome with a traditional optimization. His analysis suggests that, once goal based allocation is re-formulated to allow some focus on the total portfolio trade-off between risk and return, the cost in terms of theoretical sub-optimality may be viewed as trivial. He does however concede that this experiment is unlikely to close the debate between the two branches of finance, as the analysis allows each side to claim some form of victory." (found at www.iijournals.com/doi/abs/10.3905/jwm.2006.644216)

———. 2007. "Is a Behavioral-Finance-Based Allocation Really Suboptimal?" *CFA Institute Conference Proceedings Quarterly*, vol. 24, no. 1 (March):19–27.

"Because people are more path dependent than terminal utility dependent, traditional portfolio optimization and investment allocation do not meet the needs of individual investors, especially high-net-worth investors. A behavioral finance model can be more effective for such investors, and it can be adjusted to minimize its suboptimalities." (p. 19)

Byrne, Alistair, and Mike Brooks. 2008. "Behavioral Finance: Theories and Evidence." *Research Foundation Literature Reviews*. Charlottesville, VA: The Research Foundation of CFA Institute.

"That behavioral finance has revolutionized the way we think about investments cannot be denied. But its intellectual appeal may lie in its cross-disciplinary nature, marrying the field of investments with biology and psychology. This literature review discusses the relevant research in each component of what is known collectively as behavioral finance." (p. 1)

Campbell, John Y. 2004. "Measuring the Risks of Strategic Tilts for Long-Term Investors." In *The New World of Pension Fund Management*. Charlottesville, VA: Association for Investment Management and Research.

"Asset allocation has long been thought of in the classic mean–variance framework. But this framework contradicts conventional investment wisdom by implying that the only difference between a conservative and an aggressive investor's portfolio is how much cash to hold (not the composition of the portfolio of risky assets). The problems of this static asset allocation approach are only partially solved by tactical asset allocation. Strategic asset allocation, which responds to shifting expected returns while taking into account the long-term risk properties of each asset class, is a more satisfactory paradigm, but investors need to use it with caution." (p. 12)

Chance, Don M. 2007. "Taxation without Replication." *Journal of Portfolio Management*, vol. 34, no. 1 (Fall):73–83.

"It is well known that investors can structure derivatives portfolios to replicate a position in an underlying asset and synthetically create an index fund. While an individual investor can achieve perfect replication on a before-tax basis, taxes make derivatives inferior to direct investment in the index, because synthetically generated dividends and capital gains do not benefit from the preferential tax treatment accorded direct investment in the index. Derivative strategies also have lower after-tax expected returns and Sharpe ratios and are less volatile than the index. Option strategies benefit from a tax inequity favoring low exercise prices but are still inferior to direct investment in the index. Thus, synthetic indexing may be effective on a before-tax or non-taxable basis, but it fails for taxable individual investors because today's tax code disadvantages derivatives replicating strategies." (found at www.iijournals.com/doi/abs/10.3905/jpm.2007.698036)

Chen, Peng, Roger G. Ibbotson, Moshe A. Milevsky, and Kevin X. Zhu. 2006. "Human Capital, Asset Allocation, and Life Insurance." *Financial Analysts Journal*, vol. 62, no. 1 (January/February):97–109.

"Financial planners and advisors increasingly recognize that human capital must be taken into account when building optimal portfolios for individual investors. But human capital is not simply another pre-endowed asset class; it contains a unique mortality risk in the form of the loss of future income and wages in the event of the wage earner's death. Life insurance hedges this mortality risk, so human capital affects both optimal asset allocation and demand for life insurance. Yet, historically, asset allocation and life insurance decisions have been analyzed separately. This article develops a unified framework based on human capital that enables individual investors to make these decisions jointly." (p. 97)

Chhabra, Ashvin B. 2005. "Beyond Markowitz: A Comprehensive Wealth Allocation Framework for Individual Investors." *Journal of Wealth Management*, vol. 7, no. 4 (Spring):8–34.

"In sharp contrast to the recommendations of Modern Portfolio Theory, a vast majority of investors are not well diversified. The author attempts to provide a solution to this diversification paradox, by expanding the Markowitz framework of diversifying market risk to also include the concepts of personal risk and aspirational goals. The wealth allocation framework enables individual investors to construct appropriate portfolios using all their assets, such as their home, mortgage, market investments, and human capital. The investor may choose to accept a slightly lower average rate of return in exchange for downside protection and upside potential. The resulting portfolios are designed to meet individual investors' needs and preferences, as well as to protect individuals from personal, market, and aspirational risk factors. A major conclusion of this work is that, for the individual investor, risk allocation should precede asset allocation." (found at www.iijournals.com/doi/abs/10.3905/jwm.2005.470606)

———. 2007. "Clarifications on 'Beyond Markowitz'." *Journal of Wealth Management*, vol. 10, no. 1 (Summer):54–59.

"The author addresses several specific issues raised about the Wealth Allocation Framework in two articles: Horvitz and Wilcox, and Fowler & de Vassal. He points out that a careful reading of both articles reveals that several of the questions raised about the Wealth Allocation Framework stem from the single incorrect assumption that the risk allocation buckets are silos and independent of each other. After having corrected this misconception, the author in turn addresses several of the objections raised in the two articles. Finally, he concludes that both the Discretionary Wealth Hypothesis and the Holistic Optimization of Goals approaches are consistent with the Wealth Allocation Framework and can (under certain restrictive assumptions) be viewed as special cases of this Framework." (found at www.iijournals.com/doi/abs/10.3905/jwm.2007.684879)

Chhabra, Ashvin B., and Lex Zaharoff. 2001. "Setting an Asset Allocation Strategy by Balancing Personal and Market Risks." *Journal of Wealth Management*, vol. 4, no. 3 (Winter):30–33.

"The authors start with the proposition that there is a need to expand beyond the traditional framework for evaluating asset allocation strategy and introduce a new concept they call 'personal risk.' Their approach assumes that an investor's preferred asset allocation is influenced by his or her tolerance for fluctuations in the market value of the portfolio, and the probability of achieving his or her financial goals. The latter—the aforementioned personal risk—is measured by the ratio of anticipated net cash outflows to the portfolio's current market value. This article defines the concept of personal risk and introduces a framework to create a strategic asset allocation that balances personal and market risks." (found at www.iijournals.com/doi/abs/10.3905/jwm.2001.320416)

Chincarini, Ludwig, and Daehwan Kim. 2001. "The Advantages of Tax-Managed Investing." *Journal of Portfolio Management*, vol. 28, no. 1 (Fall):56–72.

"Recent advances in on–line portfolio trading have brought investors much closer to achieving the frictionless model often assumed in portfolio theory. Taxes, though, remain a significant barrier. The authors show that even a passive equity fund, such as the Vanguard 500, has a significant drag in the form of taxes, leaving an investor with only 54% of pre-tax value after 24 years. They find that passive portfolio investors can reduce taxes substantially by selling losing stocks and replacing them with characteristically matched stocks. The authors provide an analytic framework to quantify the effects of taxes on investment returns. The pre-tax returns are affected by two components: short versus long tax rates, and forgone earnings. They isolate the two effects to assess their extent. Using the effective tax rate as a measure of the tax drag, they find that the theoretical cost of forgone earnings is as high as 30% and that the theoretical cost of realizing short-term gains is as high as 31%. Different real-world equity strategies to reduce the investor's effective tax rates are found to cut taxes by as much as 4.8%, significantly increasing the after-tax return." (found at www.iijournals.com/doi/abs/10.3905/jpm.2001.319823)

Chorafas, Dimitris N. 2006. *Wealth Management: Private Banking, Investment Decisions, and Structured Financial Products*. Burlington, MA: Butterworth-Heinemann.

This rather general survey of wealth management is interesting for its consideration of the "mass affluent" category as an expansion opportunity for wealth managers with a high-net-worth focus. Another unique feature is its focus on structured financial products (derivatives with embedded options).

Clarke, Roger G., Harindra de Silva, and Steven Thorley. 2009. *Investing Separately in Alpha and Beta*. Charlottesville, VA: The Research Foundation of CFA Institute.

"The authors present a thorough coverage of alpha–beta separation issues, including the alpha–beta fund separation theorem. The theorem states that the optimal mix of alpha-only funds does not depend on the choice of beta exposures to the various asset classes." (found at www.cfapubs.org/doi/abs/10.2470/rf.v2009.n3)

Constantinides, George M. 1984. "Optimal Stock Trading with Personal Taxes: Implications for Prices and the Abnormal January Returns." *Journal of Financial Economics*, vol. 13, no. 1 (March):65–89.

"The tax law confers upon the investor a timing option—to realize capital losses and defer capital gains. With the tax rate on long term gains and losses being about half the short term rate, the law provides a second timing option—to realize losses short term and gains long term, if at all. Our theory and simulation over the 1962-1977 period establish that taxable investors should realize long term gains in high variance stocks and repurchase stock in order to realize potential future losses short term. Tax trading does not explain the small-firm anomaly but predicts a seasonal pattern in trading volume which maps into a seasonal pattern in stock prices, the January anomaly, only if investors are irrational or ignorant of the price seasonality." (p. 65)

Cooley, Philip L., Carl M. Hubbard, and Daniel T. Walz. 1998. "Retirement Savings: Choosing a Withdrawal Rate That Is Sustainable." *AAII Journal*, vol. 20, no. 2 (February):16–21.

"The appropriate annual withdrawal rate from a portfolio during the retirement years . . . depends on the mix of stocks and bonds in the portfolio, a planned payout period, and on a retiree's degree of risk aversion and preferences for consumption patterns. . . . Most retirees would likely benefit from allocating at least 50% to common stocks. . . . For stock-dominated portfolios, withdrawal rates of 3% and 4% represent exceedingly conservative behavior." (p. 21)

———. 2003. "A Comparative Analysis of Retirement Portfolio Success Rates: Simulation versus Overlapping Periods." *Financial Services Review*, vol. 12, no. 2 (Summer):115–128.

"One of the risks faced by retirees is the possibility of outliving money saved for the retirement years. Knowing the sustainability of withdrawal rates from a portfolio, or at least the risks associated with them, would greatly help retirees deal with this problem. Two procedures proposed to analyze the problem are Monte Carlo simulation and the overlapping periods methodology. This study compares and contrasts the implications of these two procedures for sustainable withdrawal rates from a retirement portfolio. Under some conditions, the procedures produce similar results, but in others the differences are quite large." (found at http://findarticles.com/p/articles/mi_qa3743/is_200307/ai_n9278657/)

Corriero, Timothy. 2005. "The Unique Tax Advantages of a Timber Investment." *Journal of Wealth Management*, vol. 8, no. 1 (Summer):58–62.

"Timberland investments have become an increasingly popular alternative asset class as investors search for competitive returns and portfolio diversification. In addition to the investment attributes of timberland, taxable investors stand to benefit significantly from certain unique tax advantages. In this brief article, the author explores the tax efficiency of timberland investments relative to traditional asset classes, reviews three of the primary tax advantages, and discusses the means to invest in the asset class. In addition, the article also provides a summary financial model to further illustrate the details of the tax advantages." (found at www.iijournals.com/doi/abs/10.3905/jwm.2005.502668)

Dammon, Robert M., Chester S. Spatt, and Harold H. Zhang. 2004. "Optimal Asset Location and Allocation with Taxable and Tax-Deferred Investing." *Journal of Finance*, vol. 59, no. 3 (June):999–1037.

> "We investigate the optimal intertemporal asset allocation and location decisions for an investor with both taxable and tax-deferred investment opportunities. With unrestricted borrowing opportunities, the investor optimally allocates his entire tax-deferred wealth to taxable bonds and combines either borrowing or lending with investment in equity in the taxable account to achieve his optimal overall risk exposure. When the investor is prohibited from borrowing, the optimal asset allocation in his tax-deferred account may consist of both bonds and stocks, but only if the wealth in his taxable account is allocated entirely to equity. The preference for holding taxable bonds in the tax-deferred account and equity in the taxable account reflects the higher ordinary income on bonds and the tax avoidance strategies available on equity. The effect of liquidity shocks on the optimal asset location policy is also examined. Our results are in striking contrast to the asset location choices observed in practice." (found at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=281681)

Das, Sanjiv, Harry Markowitz, and Meir Statman. Forthcoming. "Portfolio Optimization with Mental Accounts." *Journal of Financial and Quantitative Analysis*.

> "We integrate appealing features of Markowitz's mean-variance portfolio theory (MVT) and Shefrin and Statman's behavioral portfolio theory (BPT) into a new mental accounting (MA) framework. Features of the MA framework include a mental accounting structure of portfolios, a definition of risk as the probability of failing to reach the threshold level in each mental account, and attitudes toward risk that vary by account. We demonstrate a mathematical equivalence between MVT, MA and risk management using VaR. The aggregate allocation across MA sub-portfolios is mean-variance efficient with short-selling. Short-selling constraints on mental accounts impose very minor reductions in certainty equivalents, only if binding for the aggregate portfolio, offsetting utility losses from errors in specifying risk aversion coefficients in MVT applications. These generalizations of MVT and BPT via a unified MA framework result in a fruitful connection between investor consumption goals and portfolio production." (found at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1166899)

Davidson, R.B., III. 1999a. "Bond Management for Taxable Investors." In *Investment Counseling for Private Clients*. Charlottesville, VA: Association for Investment Management and Research.

> "Active tax and bond management can add value to an individual investor's bond portfolio. The keys to adding value are to efficiently harvest losses and recognize gains, take into consideration transaction costs, and model after-tax expected returns. Handling taxes in a bond portfolio framework requires comparing the impact of selling today with the return from holding the bond." (p. 59)

———. 1999b. "The Value of Tax Management for Bond Portfolios." *Journal of Private Portfolio Management*, vol. 1, no. 4 (Spring):49–55.

> "Taxes are an important issue in the management of bond portfolios for investors. The author reviews the benefits of trading municipal and high yield corporate bonds for the purpose of reducing taxes, thereby maximizing after-tax returns. Expected values for tax trading in the two markets are presented. The expected value of tax management is an ingredient that financial consultants should include in their asset allocation models for individual investors. In general, the value of tax trading increases with the average maturity of the portfolio and is sensitive to the investor's tax rates. With municipal bonds, investors should 'harvest' losses and avoid gains. The value of tax managing municipal portfolios increases with maturity, but it also decreases as the investment horizon increases. Tax management of high-yield corporate bonds takes advantage of the difference between the income and capital gains tax rates for individuals and the timing of tax payments. Its value increases with maturity, but unlike municipal, it is not sensitive to one's investment horizon and the strategy entails realizing gains as well as losses." (p. 9)

diBartolomeo, Dan. 2006. "Asset Allocation for High-Net-Worth Investors." In *Global Perspectives on Investment Management: Learning from the Leaders*. Charlottesville, VA: CFA Institute.

> "The asset allocation process for private clients is affected by a unique set of parameters that includes taxes, illiquid assets, a multiplicity of asset locations with varying tax treatments, and qualitative goals and preferences. The traditional mean–variance methodologies successfully used by institutional investors are unable to construct an 'optimal' portfolio in the context of a high-net-worth investor. The analytic hierarchy process, which incorporates qualitative as well as quantitative factors, offers an alternative approach to private client asset allocation." (p. 159)

Dickson, Joel M., and John B. Shoven. 1993. "Ranking Mutual Funds on an After-Tax Basis." NBER Working Paper 4393 (July).

> "This paper takes shareholder level taxes into account in determining the performance of growth and growth and income mutual funds over the 1963-1992 period. It ranks a sample of funds on a before and after-tax basis for investors in different income classes facing various investment horizons. The differences between the relative ranking of funds on a before and after-tax basis are dramatic, especially for middle and high income investors. For instance, one fund which ranks in the 19th percentile on a pre-tax basis ranks in the 61st percentile for an upper income, taxable investor." (found at www.nber.org/papers/w4393)

Dickson, Joel M., John B. Shoven, and Clemens Sialm. 2002. "Tax Externalities of Equity Mutual Funds." *National Tax Journal*, vol. 53, no. 3 (September):607–628.

> "Investors holding mutual funds in taxable accounts face a classic externality. The after-tax return of their investment depends on the behavior of others. In particular, redemptions may force the mutual fund to sell some of its equity positions in order to pay off the liquidating investors. As a result, it may be forced to distribute taxable capital gains to its shareholders. On the other hand, new investors convey a positive externality upon existing investors by diluting the unrealized capital gain position of the fund. This paper's simulations show that these externalities are important determinants of the after-tax performance of equity mutual funds." (p. 607)

Donohue, Christopher, and Kenneth Yip. 2003. "Optimal Portfolio Rebalancing with Transaction Costs." *Journal of Portfolio Management*, vol. 29, no. 4 (Summer):49–63.

> "Research has proven the optimality of a no-trade region around an investor's desired asset proportions to assure that trading occurs only when asset proportions drift outside this region, and then only to bring proportions back to the boundary of the no-trade region, not to the target proportions. Because current solution methods are complex, managers typically rely on ad hoc heuristics that are either calendar-based or volatility-based and whose performance against an optimal strategy is unknown. The authors characterize the size and shape of the no-trade region as a function of key problem parameters and compare the performance of different rebalancing strategies. The analysis suggests that extraction of key features associated with optimal rebalancing allows development of more tractable rebalancing heuristics that enhance the effectiveness of optimal rebalancing." (found at www.iijournals.com/doi/abs/10.3905/jpm.2003.319894)

Dubil, Robert. 2004. "The Risk and Return of Investment Averaging: An Option-Theoretic Approach." *Financial Services Review*, vol. 13, no. 4 (Winter):267–283.

> "Automatic stock investment plans are touted to offer dollar cost averaging (DCA) advantages. Rather than focusing on potential lower costs and thus enhanced returns, we analyze the impact of the averaging on the risk of the investment. We use an option theory-based simulation model to compute the standard deviation of the realized return, the probability of shortfall and the conditional expected shortfall for a periodic DCA plan. The plan's terminal value depends on the total number of shares

acquired over time. The number of shares is a stochastic variable that depends on the volatility of the underlying stock. We show that the risk reduction because of averaging is significant not only in terms of standard deviation, but also in terms of the expected shortfall of funds when the investment turns a loss. We show that the DCA benefits are greater, the longer the averaging, and the riskier the underlying investment." (p. 267)

———. 2005. "Investment Averaging: A Risk-Reducing Strategy." *Journal of Wealth Management*, vol. 7, no. 4 (Spring):35–42.

"As individuals go through life earning income they invest, they implicitly engage in dollar cost averaging (with the same investment they buy more when prices are low, and less when prices are high). They rebalance their stock-bond mix periodically, by selling appreciated assets, or buying more of depreciated assets. They do all of this on autopilot. They are told not to try to time the market. Instead, life and rigid rules dictate the timing of their investment. Does this passive behavior increase the risk that they will miss their retirement targets? The author concludes that just the opposite may actually occur. He shows that while the purported cost advantage of dollar cost averaging for a long-term investor is doubtful (asset prices increase over time, so delaying investment is costly), the reduction of investment risk is not. By investing smoothly over time rather than in large discrete chunks (or once up front), investors reduce not only the standard deviation of the terminal value of their investment upon retirement, but also the expected amount by which they may fall short in case they miss their retirement goal. The author argues that the latter measure is a much better metric of risk than the standard deviation or beta of a stock or portfolio." (found at www.iijournals.com/doi/abs/10.3905/jwm.2005.470608)

Dus, Ivica, Raimond Maurer, and Olivia S. Mitchell. 2005. "Betting on Death and Capital Markets in Retirement: A Shortfall Risk Analysis of Life Annuities versus Phased Withdrawal Plans." *Financial Services Review*, vol. 14, no. 3 (Fall):169–196.

"Retirees must draw down their accumulated assets in an orderly fashion, so as not to exhaust their funds too soon. We compared alternative phased withdrawal strategies to a life annuity benchmark using German data; one particular phased withdrawal rule seems attractive, as it offers relatively low expected shortfall risk, good expected payouts for the retiree during his life, and some bequest potential. Results are similar for the U.S. case. Delayed annuitization may also appeal, as it offers higher expected benefits with lower expected shortfalls." (p. 169)

Evensky, Harold. 1997. *Wealth Management: The Financial Advisor's Guide to Investing and Managing Assets*. New York: McGraw-Hill.

This book is a comprehensive guide to investment management for private clients. It covers practical issues ranging from fundamental investment management and portfolio theory to behavioral finance and tax-efficient investing. It is a useful reference for almost any wealth manager.

Fender, William E. 1998. "Trustee Investment and Management Responsibilities under the Uniform Prudent Investor Act." *Journal of Private Portfolio Management*, vol. 1, no. 3 (Winter):5–17.

"The Uniform Prudent Investor Act (UPIA) provides the requirements that trustees must follow in the investment and management of trust assets. The UPIA reflects the very significant changes that have occurred in the investment practices of fiduciaries over the last thirty years." (p. 5)

Foundation for Fiduciary Studies. 2003. *Prudent Investment Practices: A Handbook for Investment Fiduciaries.* Edited by the American Institute of Certified Public Accountants. Pittsburgh, PA: Center for Fiduciary Studies.

This pamphlet attempts to codify procedurally prudent investment practices. It draws on a broader menu of fiduciary standards than Fender (1998) and Meyers (2005a, 2005b), including ERISA, case law, and the Restatement of Trusts. The idea is that although the various legal standards may not

apply in every situation, valuable concepts can be extracted from particular laws and applied more generally. Even though not everyone will agree with all of the practices proscribed and prescribed, this pamphlet is a valuable review of numerous fiduciary standards.

Fraser, Steve P., and William W. Jennings. 2006. "Behavioral Asset Allocation for Foundations and Endowments." *Journal of Wealth Management*, vol. 9, no. 3 (Winter):38–50.

"The behavioral asset allocation framework developed for individual investors can help foundation and endowment trustees become more comfortable with 'uncomfortable' asset classes that would help overall portfolio efficiency. Eleemosynary investment, particularly at smaller charities, is typified by convention and conservatism. The behavioral asset allocation approach helps overcome this tendency by decomposing the total portfolio into timeline-based sub-portfolios that look to secure the nonprofit's payouts for many years and isolates the 'uncomfortable' assets in the longest-term sub-portfolios. We advance and apply the behavioral asset allocation framework in a new context, yet one relevant for high-net-worth individuals with charitable intent." (found at www.iijournals.com/doi/abs/10.3905/jwm.2006.661431)

Fraser, Steve P., William W. Jennings, and David R. King. 2001. "Strategic Asset Allocation for Individual Investors: The Impact of the Present Value of Social Security Benefits." *Financial Services Review*, vol. 9, no. 4 (Winter):295–326.

"This paper demonstrates the dramatic effect of social security wealth on individuals' asset allocation. We first discuss why social security wealth should be included in portfolio asset-mix decisions. We then draw parallels between social security benefits and inflation-indexed treasury bonds to help quantify the present value of social security benefits. Finally, we show the portfolio impact of including social security wealth under several asset-mix decision rules. Excluding social security wealth from the asset mix decision results in sub-optimal portfolios. Including social security wealth provides an incentive for including more stock in the asset mix." (p. 295)

Friedman, Gregory R. 2000. "Combining Estate Planning with Asset Allocation." In *Investment Counseling for Private Clients II*. Charlottesville, VA: Association for Investment Management and Research.

"Although estate planning has long played a critical role in preserving wealth for future generations, this area has been dominated by attorneys and trust administrators. Investment professionals, however, can benefit their clients by developing an understanding of how the mechanics of wealth-transfer techniques work. The integration of asset allocation techniques with estate-planning structures allows investment advisors to enhance the after-tax, multigenerational value of clients' overall portfolios." (p. 68)

———. 2001. "Philanthropy in Estate Planning." In *Investment Counseling for Private Clients III*. Charlottesville, VA: Association for Investment Management and Research.

"Many wealthy clients have philanthropic goals, but few receive sufficient guidance regarding how best to balance these goals with personal spending needs. Deciding how to distribute wealth can be a complicated and often emotional process. As a result, investment advisors need to understand their clients' wealth-distribution preferences and help quantify potential investment risks associated with different levels and forms of gifting. By helping identify who bears residual investment risk under varying gifting regimes, investment advisors can ensure that their clients' wealth is distributed in a way that fits each client's individual, family, and philanthropic ambitions." (p. 65)

Global Investment Performance Standards (GIPS®). 2005. *Guidance Statement for Country-Specific Taxation Issues*. Charlottesville, VA: CFA Institute.

"The purpose of the GIPS standards is to ensure accurate and consistent reporting of investment performance in a fair, comparable format that provides full disclosure. The GIPS standards create an ethical framework whereby investment performance results are calculated and presented according to fundamental principles based on the principles of fair representation and full disclosure. The GIPS standards do not address every aspect of performance measurement, valuation, attribution, or coverage of all asset classes. However, the IPC anticipates that the GIPS standards will evolve over time to include additional aspects of investment performance, which include developing some basic principles to broadly address the effects of taxation on investment performance." (p. 1)

Gordon, Robert N. 2001. "Hedging Low-Cost-Basis Stock." In *Investment Counseling for Private Clients III*. Charlottesville, VA: Association for Investment Management and Research.

"After the Taxpayer Relief Act of 1997 added a few twists to tax law regarding constructive sales, the hedging of low-cost-basis stock positions has become rather complicated. Using options to diversify concentrated holdings can trigger the constructive sale rules, depending on how the transaction is structured. Before a manager can recommend a hedging strategy to one of his or her clients, the manager must begin by identifying the client's reasons for wanting to hedge. Only then can the manager devise a strategy that avoids unnecessarily large tax bills and achieves the client's goals. A customized decision tree can help clients find the appropriate strategy for hedging low-cost-basis stock." (p. 36)

Guyton, Jonathan T. 2004. "Decision Rules and Portfolio Management for Retirees: Is the 'Safe' Initial Withdrawal Rate *Too* Safe?" *Journal of Financial Planning*, vol. 17, no. 10 (October):54–62.

"This paper establishes new guidelines for determining the maximum 'safe' initial withdrawal rate, defined as (1) never requiring a reduction in withdrawals from any previous year, (2) allowing for systematic increases to offset inflation, and (3) maintaining the portfolio for at least 40 years. It evaluates the maximum safe initial withdrawal rate during the extreme period from 1973 to 2003 that included two severe bear markets and a prolonged early period of abnormally high inflation. . . . This paper finds that applying these Decision Rules produces a maximum 'safe' initial withdrawal rate as high as 5.8 percent to 6.2 percent depending on the percentage of the portfolio that is allocated to equities." (p. 55)

Hauser, Barbara. 2002. *International Estate Planning: A Reference Guide*. Huntington, NY: Juris Publishing.

This text guides the reader through salient tax-planning issues that present themselves in an international context, such as the need for (or danger of) having wills in multiple jurisdictions and the treatment of different types of assets in probate (e.g., situs and non-situs).

———. 2004. "Charitable Giving: Noblesse Oblige, 'The Gospel of Wealth,' and Other Shibboleths." *Journal of Wealth Management*, vol. 7, no. 2 (Fall):23–29.

"The author starts with the observation that charitable giving is a big business, especially in the United States, where as much as $120 billion a year is estimated as the total of charitable contributions by individuals. She then questions what really motivates wealthy families to give to charities at all. Listing and discussing the various motivations frequently offered, she begs to disagree and submits that the true motivation for most family giving programs is instinctive and sympathetic. She concludes that, at the heart or foundation of charitable giving, we see an urge to help others to whom we can relate—whether in the neighborhood or around the globe—and suggests that this urge is instinctive and emotional. When we give in the best sense we give from a love of mankind." (found at www.iijournals.com/doi/abs/10.3905/jwm.2004.434563)

Hayton, David. J. 2003. *The Law of Trusts*. 4th ed. London: Sweet & Maxwell.

This book provides an introduction to the basic principles of equity and trusts in the United Kingdom and includes the Trustee Act 2000, the Trustee Delegation Act 1999, the Contracts (Rights of Third Parties) Act 1999, the Land Registration Act 2002, and the Human Rights Act 1998.

Horan, Stephen M. 2005. *Tax-Advantaged Savings Accounts and Tax-Efficient Wealth Accumulation.* Charlottesville, VA: The Research Foundation of CFA Institute.

"Until recently, the issue of tax-efficient investing has been largely overlooked by the mainstream literature. And simple heuristics to guide investors and their advisors are not always as obvious as they might initially seem. This monograph explores central issues surrounding the use of tax-deferred investment accounts as a means of accumulating wealth and presents a useful framework, grounded in basic time-value-of-money concepts, that can be readily implemented by investment professionals (U.S. as well as non-U.S. based) in various tax environments (current as well as those resulting from changes in the tax code)." (found at www.cfapubs.org/doi/abs/10.2470/rf.v2005.n2.3931)

———. 2006a. "Withdrawal Location with Progressive Tax Rates." *Financial Analysts Journal*, vol. 62, no. 6 (November/December):77–87.

"Optimal withdrawal strategies are developed for retirees with multiple types of tax-advantaged savings accounts. In an environment of progressive tax rates, the ability to convert pretax funds in traditional IRAs at low tax rates substantially increases investors' residual accumulations and withdrawal sustainability. Specifically, informed withdrawal-location strategies, in which traditional IRA distributions can be applied against exemptions, deductions, and lightly taxed tax brackets, can increase residual accumulations by more than $1 million. In these strategies, the optimal tax bracket through which an investor should take distributions is directly related to the investor's wealth level." (p. 77)

———. 2006b. "Optimal Withdrawal Strategies for Retirees with Multiple Savings Accounts." *Journal of Financial Planning*, vol. 19, no. 11 (November):62–75.

"This article develops optimal distribution strategies for investors having tax-advantaged savings accounts with both front-end tax benefits and back-end tax benefits. It develops withdrawal strategies under two tax rate environments: a single, uniform tax rate regime and a progressive tax rate regime. It then compares residual accumulations and withdrawal sustainability for various withdrawal strategies. The results indicate that investors benefit from having multiple types of accounts from which to make withdrawals." (p. 62)

———. 2007a. "An Alternative Approach to After-Tax Valuation." *Financial Services Review*, vol. 16, no. 3 (Fall):167–182.

"Reichenstein (2001, 2007) argues that the type of savings account in which an asset is held affects the after-tax return received by and after-tax risk borne by investors. He uses this powerful insight to develop the notion of after-tax asset values that are predicated on an asset's current after-tax consumption value. This paper builds on the risk-sharing insight and approaches after-tax asset valuation from an investment perspective based on future benefits. It also extends the model to accommodate a broader array of more realistic taxation environments. Examples of after-tax optimization indicate that the recommended asset disposition depends heavily on the model chosen." (p. 167)

———. 2007b. "Applying After-Tax Asset Allocation." *Journal of Wealth Management*, vol. 10, no. 2 (Fall):84–93.

"The notion of after-tax asset allocation is gaining acceptance among private wealth managers. This article presents practical methods of calculating an investor's after-tax asset allocation, particularly as it relates to taxable accounts. The after-tax value of a taxable account can be substantially less than its stated pretax value, especially for long time horizons. Interestingly, after-tax values of taxable accounts

are relatively insensitive to the investment's systematic risk but inversely related to the investment's tax burden and the risk-free rate. These results highlight the importance of converting balances in taxable accounts to after-tax values—a practice which heretofore has been dismissed by scholars and practitioners." (found at www.iijournals.com/doi/abs/10.3905/jwm.2007.690951)

Horan, Stephen M., ed. 2009. *Private Wealth: Wealth Management in Practice*. Hoboken, NJ: John Wiley & Sons.

This compendium assembles the best materials from various publications from CFA Institute and the Research Foundation of CFA Institute, including monographs, journal articles, and conference proceedings. The book is assembled in a thematic manner that reflects the wealth management process and includes such topics as life-cycle investing, risk management, tax-efficient investing, and performance measurement for private clients.

Horan, Stephen M., and David Adler. 2009. "Tax-Aware Investment Management Practice." *Journal of Wealth Management*, vol. 12, no. 2 (Fall):71–88.

"The authors examine the tax-aware investment practices of investment managers managing taxable accounts. Their sample of mostly well-experienced CFA charter holders exhibits a high degree of tax awareness in investment practices. Specifically, those managers surveyed adjust clients' return requirements and expected portfolio returns for taxes. They consider a security's holding period when making a decision to sell and engage in periodic tax-loss harvesting. Moreover, they consider taxes when making investment selections, allocating assets among different taxable entities and managing multiple managers. In contrast, relatively few managers report portfolio performance on a tax-adjusted basis or present their performance relative to a tax-adjusted benchmark." (found at www.iijournals.com/doi/abs/10.3905/JWM.2009.12.2.071)

Horan, Stephen M., and Ashraf Al Zaman. 2008. "Tax-Adjusted Portfolio Optimization and Asset Location: Extensions and Synthesis." *Journal of Wealth Management*, vol. 11, no. 3 (Winter):56–73.

"Models developed in a pretax framework do not necessarily apply in an after-tax framework, and this notion certainly applies to portfolio optimization. This article derives generalized tax adjustments to return and volatility inputs in an after-tax portfolio optimization algorithm. It extends the literature by incorporating an asset's cost basis, addressing a broader array of taxable entities, and deriving expressions for off-diagonal terms in the covariance matrix. They develop a comprehensive framework that distinguishes between tax-adjustments predicated on pretax market values and after-tax values. The distinction is important so that portfolio managers can avoid inadvertently blending two inconsistent approaches." (found at www.iijournals.com/doi/abs/10.3905/JWM.2008.11.3.056)

Horan, Stephen. M., and Thomas R. Robinson. 2010a. "Taxes and Private Wealth Management in a Global Context." In *CFA® Program Curriculum Level III*. Charlottesville, VA: CFA Institute.

This reading from the CFA Program curriculum surveys various tax regimes across the globe and develops generic models of after-tax wealth accumulation that can be applied in these regimes. It also examines tax-aware investment strategies, including after-tax asset allocation, asset location, and tax-loss harvesting.

———. 2010b. "Estate Planning in a Global Context." *CFA® Program Curriculum Level III*. Charlottesville, VA: CFA Institute.

This reading from the CFA Program curriculum identifies the major estate planning issues that present themselves in both a domestic and cross-border context. It describes basic concepts related to wills and probate and how they relate in various legal systems having forced heirship and marital property regimes. It draws the distinction between core capital necessary to maintain a family's standard of

living and excess capital that can be safely transferred. It then examines global techniques and tools for transferring this excess capital. Finally, it examines issues related to cross-border estate planning, such as residency, tax regimes, double taxation, and information transparency.

Horan, Stephen M., Philip N. Lawton, and Robert R. Johnson. 2008. "After-Tax Performance Measurement." *Journal of Wealth Management*, vol. 11, no. 1 (Summer):69–83.

"Measuring portfolio performance on an after-tax basis is a challenging matter. Whether one uses simple or complex models, one implicitly or explicitly makes certain assumptions about a taxable investor's time horizon and capital gains recognition behavior. This article integrates the after-tax performance measurement literature with recent advances in after-tax portfolio valuation. It implements a variation of Stein's [1998] full cost equivalent model using after-tax valuation techniques developed by Horan [2007a, 2007b]. The approach has several advantages. It can be applied relatively easily without sacrificing precision; it accounts for the impact of taxes on portfolio risk; and it can be used to develop a customized after-tax benchmark." (found at www.iijournals.com/doi/abs/10.3905/jwm.2008.706274)

Horvitz, Jeffrey E. 2002. "The Implications of Rebalancing the Investment Portfolio for the Taxable Investor." *Journal of Wealth Management*, vol. 5, no. 2 (Fall):49–53.

"Rebalancing is almost universally recommended as a method to control risk and to orient the investment portfolio to its appropriate risk/return point. The literature on rebalancing is effusive as to the benefits, but there is little commentary about the costs or the practical problems of implementation. Rebalancing is easiest with portfolios consisting of all liquid securities, which is the case with the conventional mix of stocks, bonds, and cash. Most institutional investors and many individuals include in their portfolio a substantial amount of illiquid investments such as private equity, venture capital, and real estate. These cannot be so easily rebalanced and there may be little point in rebalancing only those portions of a portfolio that are liquid, leaving the illiquid portions untouched." (found at www.iijournals.com/doi/abs/10.3905/jwm.2002.320443)

———. 2008. "Investment Implications of the Estate Tax." *Journal of Wealth Management*, vol. 11, no. 2 (Fall):47–52.

"Although the estate tax is mostly ignored in the finance literature, it is a critical factor affecting investment returns for taxable investors. The frequent legislative changes associated with the estate tax introduce undiversifiable risk without increasing expected return. The value of tax deferral is more meaningful when viewed in an estate tax context. Alternative investments may benefit from lower estate tax valuations depending on how they are structured." (found at www.iijournals.com/doi/abs/10.3905/jwm.11.2.47)

Horvitz, Jeffrey E., and Jarrod W. Wilcox. 2003. "Know When to Hold 'Em and When to Fold 'Em: The Value of Effective Taxable Investment Management." *Journal of Wealth Management*, vol. 6, no. 2 (Fall):35–59.

"Using historical returns of the S&P 500, the authors simulate the after-tax return enhancement from minimizing short-term capital gains, tax deferral of long-term gains, high cost-basis tax lot sales, and tax-loss harvesting. They also demonstrate the relationship of the estate tax to these investment strategies. They show that tax deferral is not an interest-free loan from the government, but rather that the tax code operates more like a partnership carried interest and that the mechanism of tax deferral is a non-linear function of different compounding rates. They extend prior research showing that tax-sensitive investors can reap significant after-tax return advantages that are hard to match with conventional active management. In an addendum, they analyze the effect of the newly enacted tax rates under the Jobs and Growth Tax Relief Reconciliation Act of 2003, and find that the benefits of tax deferral are less, but remain significant." (found at www.iijournals.com/doi/abs/10.3905/jwm.2003.320481)

———. 2007. "Back to Markowitz: The Problems of Portfolio Compartmentalization." *Journal of Wealth Management*, vol. 10, no. 1 (Summer):43–53.

"Certain practitioners experienced with advising wealthy individual investors have argued that Markowitz optimization for individuals is difficult to explain, implement, and maintain as long-term policy. Instead of portfolio optimization from Modern Portfolio Theory, these proposals use behavioral finance as the basis for asset allocation and encourage individuals to formally incorporate their cognitive biases, particularly 'mental accounting,' into their personal investment policy. A recent proposal by Chhabra advocates using three separate portfolios, *i.e.* 'buckets,' each with different risk and return characteristics, to correspond to how wealthy investors seem to think about their investments. The authors show that these behavioral approaches are sub-optimal, sometimes seriously so, and the buckets can work at cross purposes with each other. Compartmentalization can lead to poor tax results, sub-optimal diversification, and inefficient asset allocation." (found at www.iijournals.com/doi/abs/10.3905/jwm.2007.684878)

Hu, Wei-Yin, and Jason S. Scott. 2007. "Behavioral Obstacles in the Annuity Market." *Financial Analysts Journal*, vol. 63, no. 6 (November/December):71–82.

"As Baby Boomers enter retirement, they will look to the investment industry for ways to generate income from accumulated savings. Why most retirees do not purchase longevity insurance in the form of lifetime annuities is a long-standing puzzle. Mental accounting and loss aversion can explain the unpopularity of annuities by framing them as risky gambles where potential losses loom larger than potential gains. Moreover, behavioral anomalies can explain the prevalence of 'period certain' annuities, which guarantee a minimum number of payouts. Finally, investors may prefer 'longevity annuities' purchased today to begin payouts in the future to immediate annuities because investors overweight the small probability of living long enough to receive large future payouts." (p. 71)

Hughes, James E. 2001. "Asset Allocation for Family Groups." In *Investment Counseling for Private Clients III*. Charlottesville, VA: Association for Investment Management and Research.

"To slow down the process of entropy that inevitably erodes a family's wealth, investment advisors must help high-net-worth families understand the causes of entropy and the ways to disarm it. By equipping clients with the tools needed to promote family governance, encouraging them to establish and lead such institutions as a family bank, focusing on investor allocation, and educating beneficiaries, investment advisors can help their clients create an environment in which younger generations can pursue their dreams while preserving family wealth. When all of these issues are integrally managed, the advisor can expect long-term relationships with future generations of the client's family." (p. 4)

———. 2008. "The Path of Altruism: A Reflection on the Nature of a Gift and Its Consequences in Leading to Entitlement or Enhancement." *Journal of Wealth Management*, vol. 11, no. 3 (Winter):14–20.

"The author offers an instructive distinction between a gift and a transfer. A gift enhances the human and intellectual development of another; a transfer might initiate the downhill slide of another into the state of victimhood known as entitlement. Every act we perform toward another, whether individually or through our social capital as philanthropists, has these two possible outcomes. The author then distinguishes between three possible meanings for the concept of obligation: a duty, a responsibility, or compassion and gratitude. He proposes that any act toward another that begins as a duty will likely lead to dependence and reduction of the human spirit. An action that creates in another a state of 'being entitled' carries with it, for that person, a significant risk of becoming, in his or her own eyes, a victim with an ever-deepening loss of self-awareness and personal freedom. When that obligation is viewed with a sense of responsibility, an important positive step is achieved in that giving responsibly requires of the donor active caring about whether the gift will harm another. Finally, when obligation is manifested through gratitude as compassion, it leads to the enhancement of one's own spirit and to the enhancement of the spirits of those it touches. It is the practice of love for one's fellow man. It is the essence of philosanthropos and thus of philanthropy." (p. 6)

Ibbotson, Roger G., Moshe A. Milevsky, Peng Chen, and Kevin Zhu. 2007. *Lifetime Financial Advice: Human Capital, Asset Allocation, and Insurance*. Charlottesville, VA: The Research Foundation of CFA Institute.

> "In determining asset allocation, individuals must consider more than the risk–return trade-off of financial assets. They must take into account human capital and mortality risk in the earlier life-cycle stages and longevity risk in the later life-cycle stages. The authors show how to integrate these factors into individual investors' asset allocations through a systematic joint analysis of the life insurance a family needs to protect human capital *and* how to allocate the family's financial capital. The proposed life-cycle model then addresses the transition from the accumulation to the saving phases—in particular, the role (if any) of immediate payout annuities." (found at www.cfapubs.org/doi/abs/10.2470/rf.v2007.n1.4580)

Ibbotson, Roger, James Xiong, Robert P. Kreitler, Charles F. Kreitler, and Peng Chen. 2007. "National Savings Rate Guidelines for Individuals." *Journal of Financial Planning*, vol. 20, no. 4 (April):50–61.

> "This study creates savings guidelines for typical individuals with different ages, income levels, and initial accumulated wealth so the public can more easily determine how much to save for retirement. . . . The study shows the urgency of starting to save no later than age 35." (p. 50)

Jacob, Nancy L. 1998. "After-Tax Asset Allocation and the Diversification of Concentrated Low Cost-Basis Holdings: A Case Study." *Journal of Private Portfolio Management*, vol. 1, no. 1 (Spring):55–66.

> "MPT optimizers . . . operate in a world of no income or estate taxes, they assume the equality of the investor's initial tax-cost basis and the market value of each asset held, and they assume a single-period investment horizon, with fully liquid and infinitely divisible asset classes. Not surprisingly, financial advisors who still use MPT optimizers in the face of these shortcomings have learned to adapt to these problems in a variety of ways. These adaptations boil down to overriding the models' recommendations with a variety of ad hoc judgmental changes to the proposed asset mixes in order to subjectively account for the missing elements. This article demonstrates a different approach, one that directly incorporates into the MPT optimization process the complexities associated with taxes and multiperiod decision-making." (p. 55)

———. 1999. "After-Tax Asset Allocation." In *Investment Counseling for Private Clients*. Charlottesville, VA: Association for Investment Management and Research.

> "Investment managers for taxable clients have a fantastic tool—mean–variance optimization. After making some adjustments to this tool, managers can use it to add value in the asset allocation decision on an after-tax basis. The key is to look at the asset allocation decision along three dimensions—risk, return, and taxes. Taxable clients are now demanding this approach, and to remain competitive, managers must respond." (p. 28)

Jacobsen, Brian J. 2006. "The Use of Downside Risk Measures in Tax-Efficient Portfolio Construction and Evaluation." *Journal of Wealth Management*, vol. 8, no. 4 (Spring):17–26.

> "It has become almost a platitude to say that downside risk measures are superior to traditional risk measures such as standard deviation. One of the challenges of using downside risk measures as an alternative constructor of portfolios and diagnostic device is in their computational complexity, intensity, and opaqueness. The question investors, especially high-net-worth investors who are concerned about tax efficiency, must ask is whether downside risk measures offer enough benefits to offset their implementation costs in use. This article shows how to use downside risk measures to construct tax-efficient portfolios. A final insight is an outline of how to forecast risk using distributional scaling." (p. 5)

Jeffrey, Robert H., and Robert D. Arnott. 1993. "Is Your Alpha Big Enough to Cover Its Taxes?" *Journal of Portfolio Management*, vol. 19, no. 3 (Spring):15–25.

"Much capital and intellectual energy has been invested over the years in seeking to make portfolio management more efficient. But most of this effort has been directed at *tax-exempt* investors such as pension funds, foundations, and endowments, even though taxes are a major consideration for owners of approximately two-thirds of marketable portfolio assets in the United States. Individuals and insurance and holding companies are cases in point; and their assets are too often managed with a blind eye to the tax consequences of the management style. . . . We demonstrate here that, for many investors, taxes are clearly the largest source of portfolio management *inefficiency*, and thus of mediocre investment returns. This is the bad news. The good news is that there are trading strategies that can minimize these typically overlooked tax consequences." (p. 15)

Jennings, William W., and William R. Reichenstein. 2001a. "Estimating the Value of Social Security Retirement Benefits." *Journal of Wealth Management*, vol. 4, no. 3 (Winter):14–29.

"The authors start with a simple question: what is the value of an individual's assets that can be used to satisfy retirement income needs, focusing more specifically on Social Security benefits? Consistent with an approach introduced in earlier works published [in] *The Journal of Wealth Management*, they then ask how these benefits affect the individual's current asset mix. In particular, they delve further into earlier conclusions that the present value of projected Social Security payments be included as a 'bond' in personal portfolios. They note that individuals' portfolios are usually substantially different when the value of Social Security is included than when it is excluded, and [they] demonstrate that the profession has been miscalculating individuals' 'true' portfolios by excluding Social Security. If individuals optimize their traditional portfolios, which exclude Social Security, then they have excessively conservative, sub-optimal true portfolios." (found at www.iijournals.com/doi/abs/10.3905/jwm.2001.320415)

———. 2001b. "The Value of Retirement Income Streams: The Value of Military Retirement." *Financial Services Review*, vol. 10, no. 1–4:19–35.

"We examine issues surrounding the value of military retirement income. We then provide estimates of the expected present value of this income stream after taxes for singles, married couples, widows and widowers of military retirees. Finally, we contend that individuals should treat the after-tax present value of military retirement income as a bond in their family portfolio. When so considered, it can dramatically affect the family's asset allocation." (p. 19)

———. 2003. "Valuing Defined-Benefit Plans." *Financial Services Review*, vol. 12, no. 3 (Fall):179–199.

"We examine issues surrounding the valuation of defined-benefit pension plans including benefit formulas, integration with Social Security, postretirement benefit increases, and default risk. We obtain a reasonable valuation with three key estimates—the level of retirement benefits, the growth rate of postretirement benefits, and the discount rate. We consider the PBGC guarantee afforded many DB pensions. Usually, benefits are essentially default-risk-free, and the discount rate can be based on Treasury yields. We also offer methodological advances over current approaches. DB valuation is crucially relevant to asset allocation decisions and has litigation implications." (p. 179)

———. 2006. *The Literature of Private Wealth Management*. Charlottesville, VA: The Research Foundation of CFA Institute.

"Private wealth management has some similarities to institutional investment management but also some very different demands. Portfolio design and investment policy are affected by individuals' views and circumstances with respect to return requirements, risk tolerance, taxation, investment horizon, liquidity needs, and legal structures. This review presents a snapshot of the most important and compelling writings on the private wealth management perspective on these investment themes." (found at www.cfapubs.org/doi/abs/10.2470/rflr.v1.n3.4362)

———. 2008. "The Extended Portfolio in Private Wealth Management." *Journal of Wealth Management*, vol. 11, no. 1 (Summer):36–45.

> "The authors assert that a private wealth manager should manage an individual's extended portfolio that contains financial assets like stocks and bonds along with non-financial assets such as human capital and future benefits from Social Security and defined-benefit pension plans. The optimal allocation of an individual's financial portfolio must recognize that it is but one part of an extended portfolio. If human capital is bond-like then, when human capital is substantially larger than financial assets, an individual's financial portfolio should be heavily allocated to stocks. Similarly, benefits from a defined-benefit pension plan or a fixed payout annuity are essentially 'bonds' in an extended portfolio. Everything else the same, individuals with such bond-like extended portfolio assets should allocate a larger portion of their financial portfolios to stocks. The article examines these and other investment implications of this extended portfolio framework." (pp. 6–7)

Joulfaian, David, and Kathleen McGarry. 2004. "Estate and Gift Tax Incentives and Inter Vivos Giving." *National Tax Journal*, vol. 57, no. 2 (June):429–444.

> "The estate tax has received a great deal of attention from policy makers and the public in recent years. Yet we know little about its effect on the transfer of wealth. In this paper we explore the effect of the tax on inter vivos giving. In particular, we look at the degree to which wealthy individuals exploit the potential for tax-free transfers as a means of spending-down their estate, and examine the responsiveness of inter vivos transfers over time to changes in the tax law. To address these questions we employ two data sets, each with important strengths and weaknesses. Using panel data from the Health and Retirement Study (HRS) we find that many of the wealthy fail to take advantage of the gift tax annual exemption to make tax-free transfers in any given year. Even those that do make a transfer in one year, often do not repeat the transfer annually and transfer far less than the tax law would allow. We then use data from linked gift and estate tax returns to examine giving over a much longer period. We find in the aggregate that there are sizable shifts in the timing of giving in response to tax changes, but again, the wealthy appear to transfer very little during their lifetimes. Overall, we conclude that while taxes are an important consideration in transfer behavior of the rich, their behavior is not universally consistent with a tax minimization strategy." (p. 429)

Kahneman, Daniel, and Amos Tversky. 1979. "Prospect Theory: An Analysis of Decision under Risk." *Econometrica*, vol. 47, no. 2 (March):263–291.

> "This paper presents a critique of expected utility theory as a descriptive model of decision making under risk, and develops an alternative model, called prospect theory. Choices among risky prospects exhibit several pervasive effects that are inconsistent with the basic tenets of utility theory. In particular, people underweight outcomes that are merely probable in comparison with outcomes that are obtained with certainty. This tendency, called the certainty effect contributes to risk aversion in choices involving sure gains and to risk seeking in choices involving sure losses. In addition, people generally discard components that are shared by all prospects under consideration. This tendency, called the isolation effect, leads to inconsistent preferences when the same choice is presented in different forms. An alternative theory of choice is developed, in which value is assigned to gains and losses rather than to final assets and in which probabilities are replaced by decision weights. The value function is normally concave for gains. Decision weights are generally lower than the corresponding probabilities, except in the range of low probabilities. Overweighting of low probabilities may contribute to the attractiveness of both insurance and gambling." (p. 263)

Kan, Raymond, and Guofu Zhou. 2009. "What Will the Likely Range of My Wealth Be?" *Financial Analysts Journal*, vol. 65, no. 4 (July/August):68–77.

> "The median is often a better measure than the mean in evaluating a portfolio's long-term value. The standard plug-in estimate of the median, however, is too optimistic. It has a substantial upward bias that can easily exceed a factor of 2. This article provides an unbiased forecast of the median of a portfolio's long-term value. It also provides an unbiased forecast of an arbitrary percentile of a portfolio's long-term value distribution, which enables the construction of the likely range of a portfolio's long-term value for any given confidence level. The article offers an unbiased forecast of the probability of a portfolio's long-term value falling within a given interval. The article's unbiased estimators give a more accurate assessment of a portfolio's long-term value than do traditional estimators and are useful for long-term planning and investment." (p. 68)

Kiziah, Trent S. 2007. "Family Limited Partnerships: Seven Fundamental Rules to Avoid Costly Mistakes." *Journal of Wealth Management*, vol. 10, no. 1 (Summer):10–15.

> "Recent court cases have demonstrated that taxpayers are losing valuable estate tax discounts because they have failed to follow seven fundamental rules during the formation and operation of their family limited partnerships. In this article, the author discusses the seven fundamental rules which can prevent mistakes costing millions of dollars in estate taxes. He starts with an example in which liquid stocks are converted to a less liquid investment by use of a family limited partnership. He then proceeds through seven rules to illustrate potential problems and possible solutions." (found at www.iijournals.com/doi/abs/10.3905/jwm.2007.684875)

Kotlikoff, Laurence. 2007. "Is Conventional Financial Planning Good for Your Financial Health?" In *The Future of Life-Cycle Saving and Investing*. Edited by Zvi Bodie, Dennis McLeavey, and Laurence B. Siegel. Charlottesville, VA: The Research Foundation of CFA Institute.

> "Maximizing and preserving one's living standard is the hallmark of consumption smoothing—the economic approach to financial planning. Although conventional financial planning attempts to achieve consumption smoothing by having households set targets based on their current spending, this practice is essentially guaranteed to provide poor saving, insurance, and investment advice and to promote consumption disruption rather than consumption smoothing."

Lawton, Philip, and W. Bruce Remington. 2007. "After-Tax Return Calculation Methodology." In *Managing Investment Portfolios: A Dynamic Process*. 3rd ed. Edited by John L. Maginn, Donald L. Tuttle, Jerald E. Pinto, and Dennis W. McLeavey. Hoboken, NJ: John Wiley & Sons.

> "Fully updated, this new edition of a classic examines everything from asset allocation strategies to risk management frameworks. Blending theory with practice, the authors skillfully outline the entire flow of the portfolio management process—from formulating an investment policy statement to portfolio construction, trade execution, and monitoring and rebalancing a portfolio." (found at www.cfapubs.org/doi/abs/10.2469/inv.v2007.n4.4575.book)

Leibowitz, Martin L. 2003. "The Higher Equity Risk Premium Created by Taxation." *Financial Analysts Journal*, vol. 59, no. 5 (September/October):28–31.

> "Taxation and inflation combine to create some surprising results, and examples probed in this article show that the results apply to both fixed-income and equity investments. . . . Higher nominal interest rates can actually result in lower . . . real after-tax yields. In a taxed portfolio, the equity risk premium relative to the taxable risk-free rate can be significantly greater than the original tax-free risk premium. This 'tax enhancement' of the risk premium grows even larger with higher nominal interest rates." (p. 10)

Leibowitz, Martin L., and Anthony Bova. 2009. "Return-Risk Ratios under Taxation." *Journal of Portfolio Management*, vol. 35, no. 4 (Summer):43–51.

> "Intuition implies that taxes always detract from investment returns, which is, of course, true, but intuition tells us nothing about how an investor's return–risk balance might be altered by taxation. The authors address the issue by drawing upon a simple two-asset model composed of cash and a single equity asset, with the latter subject to an advantageous capital gains tax rate. It turns out that even though the taxed investor receives a lower net return, a differential tax structure can lead to return–risk ratios that are actually greater than their tax-free counterparts. Over short-term horizons, given standard assumptions, the taxed investor's return–risk advantages are not sufficient to provide high probabilities for achieving positive spreads over the risk-free rate. To capture such excess returns with an acceptable probability, investors—taxed or not—must move to significant equity positions, plan on five-year or longer horizons, or assume the presence of higher-than-standard equity return premiums." (p. 36)

———. 2010. "Return Targets and Percentile Fans." *Financial Analysts Journal*, vol. 66, no. 1 (January/February):28–40.

> "This article presents a highly intuitive approach for visualizing return distributions for a basic form of cash/equity allocations. This 'percentile fan' framework can help clarify some of the key risk–return trade-offs in intuitive ways for a wide set of asset owners. In particular, percentile fans can help investors express their portfolio objectives in terms of return targets or shortfall limits over one or more horizons. For some investors, these intuitive goals, especially when depicted in a visual context, can feel like a more natural approach than the standard mean–variance utility framework." (p. 28)

Leibowitz, Martin L., J. Benson Durham, P. Brett Hammond, and Michael Heller. 2002. "Retirement Planning and the Asset/Salary Ratio." In *Innovations in Retirement Financing*. Edited by Olivia S. Mitchell, Zvi Bodie, P. Brett Hammond, and Stephen Zeldes. Philadelphia: Wharton School of the University of Pennsylvania.

> "In this framework, a model user first specifies his target replacement ratio, or the ratio of postretirement to preretirement income. This income flow target can then be converted to a present discounted value and compared to actual assets in hand. From this calculation, asset shortfalls can be converted into increasing saving objective. This approach serves as a useful check on one's overall position, and it can offer the opportunity for sensitivity analysis as investment portfolios are changed." (p. 10)

Leland, Hayne E. 1999. "Optimal Portfolio Management with Transactions Costs and Capital Gains Taxes." Working Paper RPF-290, IBER, UC Berkeley (December).

> "We examine the optimal trading strategy for an investment fund which in the absence of transactions costs would like to maintain assets in exogenously fixed proportions, *e.g.* 60/30/10 in stocks, bonds and cash. Transactions costs are assumed to be proportional, but may differ with buying and selling, and may include a (positive) capital gains tax component.
>
> We show that the optimal policy involves a no-trade region about the target stock proportions. As long as the actual proportions remain inside this region, no trading should occur. When proportions are outside the region, trading should be undertaken to move the ratio to the region's boundary. We compute the optimal multi-asset no-trade region and resulting annual turnover and tracking error of the optimal strategy. Almost surely, the strategy will require trading just one risky asset at any moment, although which asset is traded varies stochastically through time. Compared to the current practice of periodic rebalancing of all assets to their target proportions, the optimal strategy with the same degree of tracking error will reduce turnover by almost 50%.
>
> The optimal response to a capital gains tax is to allow proportions to substantially exceed their target levels before selling. When an asset's proportion exceeds a critical level, selling should occur to bring it back to that critical level. Capital gains taxes lead to lower optimal initial investment levels. Similarly, starting from a zero-investment position, it is optimal to invest less initially in asset classes that have high transactions costs, such as emerging markets. Our analysis makes precise the effects of transactions costs on optimal initial investment and subsequent trading." (p. 1)

Luck, Christopher G. 2003. "Capturing Tax Alpha in the Long Run." In *Investment Counseling for Private Clients V*. Charlottesville, VA: Association for Investment Management and Research.

"For taxable investors, tax alpha (the value added from tax management) is far more valuable than pretax alpha. The benefits of tax management strategies, such as loss harvesting and HIFO (highest in, first out) accounting, can be quantified by using Monte Carlo simulations that are based on various assumptions about tax rates, return, volatility, and so on. Regardless of the market environment, a portfolio managed in a tax-efficient manner should consistently outperform a buy-and-hold portfolio." (p. 33)

Macklin, Lawrence J. 2001. "Trusts, Insurance, and Wealth Transfer." In *Investment Counseling for Private Clients III*. Charlottesville, VA: Association for Investment Management and Research.

"Effective estate planning includes having the proper trust or insurance structure. Trusts can be used to transfer assets to a spouse, make lifetime gifts to family members, or make donations to charitable organizations, but clients must be aware that the different kinds of trusts provide different degrees of control over assets and different levels of transfer cost reduction. Life insurance techniques can also provide a degree of control over assets while providing substantial income tax benefits. And because a variety of trust and insurance forms exist, they need to be carefully examined to ensure the effective transfer of client wealth." (p. 74)

Marcovici, Philip. 2007. "The Wealth Management Industry and Today's Wealth-Owning Families—From Chaos Comes Opportunity." *CFA Institute Conference Proceedings Quarterly*, vol. 24, no. 4 (December):67–73.

"Traditionally, whether acknowledged or not, a focus of international wealth management has been to use bank secrecy laws for the purpose of tax avoidance. An unstoppable trend toward greater global transparency, however, is rendering this model obsolete. International wealth managers who fail to adapt will not survive." (p. 67)

Masters, Seth J. 2003. "Rebalancing." *Journal of Portfolio Management*, vol. 29, no. 3 (Spring):52–57.

"While the power of rebalancing to improve returns and reduce risk is generally acknowledged, there is relatively little work focused on the best way to implement a rebalancing policy. Most rebalancing policies use arbitrary 'one size fits all' rules, and the more sophisticated approaches that have been proposed involve complex calculations. The author's simpler methodology allows investors to tailor their rebalancing policies to their risk tolerance, the cost of rebalancing, and the risk characteristics of each asset class in the portfolio. This approach addresses not only when to rebalance, but also how far back to rebalance. The result is a set of easily implemented rules for adhering to a rebalancing discipline." (found at www.iijournals.com/doi/abs/10.3905/jpm.2003.319883)

Maude, David. 2006. *Global Private Banking and Wealth Management: The New Realities*. Chichester, West Sussex, UK: John Wiley & Sons.

This book provides a high-level overview of the global (particularly non-U.S.) private wealth management marketplace. Although it has a heavier emphasis on the evolving industry structure rather than on investment insights, it nonetheless provides a useful business strategy and strategic management perspective.

McCullough, Tom, Scott Hayman, Jonathan Garbutt, and David Lesperance. 2010. "Canadian Citizenship: The Wealthy Global Family's Safe and Tax-Efficient Alternative." *Journal of Wealth Management*, vol. 12, no. 4 (Spring):46–59.

"Wealthy global families are becoming increasingly aware of their need for a well thought-out citizenship and residency strategy to protect their wealth and to safeguard their freedom of movement. In the uncertain world facing us today, prudent families understand the importance of keeping their options open and having multiple passport choices. Canada provides a safe and surprisingly tax-efficient alternative to many of the more well-known citizenships that the wealthy can consider

acquiring. Canada also has a world-class professional services and financial infrastructure, making it an ideal location for their family office, particularly in the new 'post-bank secrecy' world." (found at www.iijournals.com/doi/abs/10.3905/JWM.2010.12.4.046)

Merton, Robert C. 2003. "Thoughts on the Future: Theory and Practice in Investment Management." *Financial Analysts Journal*, vol. 59, no. 1 (January/February):17–23.

"Advances in financial science have made possible an improved menu of life-cycle investment products." (p. 17)

Messmore, Thomas E. 1995. "Variance Drain." *Journal of Portfolio Management*, vol. 21, no. 4 (Summer):104–110.

"For investors, there is an important difference between mean or average return and compound return over time. Too often, this difference, or leakage, which I call 'variance drain,' is overlooked, unquantified, or worse still, misunderstood by both investing clients and their investment managers. The purpose of this article is to discuss this important difference, rigorously derive a convenient approximation formula for measuring . . . it, quantify . . . when the impact is meaningful, and suggest strategies investment managers might use to minimize its cost to investors." (p. 104)

Meyer, William, and William Reichenstein. 2010. "Social Security: When to Start Benefits and How to Minimize Longevity Risk." *Journal of Financial Planning*, vol. 23, no. 3 (March):49–59.

"This study examines strategies for singles and couples who are deciding when to begin Social Security benefits." It considers two criteria: maximizing the present value of expected benefits and minimizing longevity risk. It also examines the starting date decision for singles and couples. (quote found at www.fpajournal.org/CurrentIssue/TableofContents/SocialSecurityWhentoStartBenefits/)

Meyers, Darryl L. 2005a. "Investment Considerations under the Prudent Investor Act: Applicable Law." *Journal of Wealth Management*, vol. 8, no. 2 (Fall):25–35.

"The author starts with the observation that much of estate planning concerns itself with navigating the shoals of the estate and gift tax systems to bring assets safely home to the client's desired beneficiaries. Unfortunately, this focus on the hazards of transfer often allows for scant consideration of how the assets should be managed once they are safely brought to port. It is not uncommon to provide simply that trust assets should be managed 'prudently,' as that term is defined by applicable state law, for the benefit of one or more individuals for life and distributed to one or more remainder beneficiaries when the lead interest ends. The author thus addresses the legal framework of fiduciary investing, the Uniform Prudent Investor Act and its corollary act, the Uniform Principal and Income Act, which form the basic legal framework within which fiduciaries perform their duties. He also briefly addresses income tax law as it applies to trust taxation." (found at www.iijournals.com/doi/abs/10.3905/jwm.2005.571006)

———. 2005b. "Investment Considerations under the Prudent Investor Act Part Two: Translation Analysis." *Journal of Wealth Management*, vol. 8, no. 3 (Winter):50–64.

"In Part Two in a series on fiduciary investment matters, the author focuses on how portfolio choice interacts with trust distribution policies to produce wealth flows to current and future trust beneficiaries. The author first frames the discussion through an examination of portfolio effects on beneficiary wealth during an extended period of historical returns. Next, the author examines whether different distribution choices, from simple income-only choices to more complex unitrust methods, can significantly impact wealth flows to beneficiaries. The author finds that in terms of wealth effects to all parties, portfolio choice dominates distribution policy choice over the period examined, although distribution policy can mitigate year-to-year variations in wealth flows. This conclusion leads to a recommendation that fiduciaries should move beyond the traditional balanced portfolio to incorporate asset classes that have a higher risk-return profile to ensure long-term portfolio performance." (found at www.iijournals.com/doi/abs/10.3905/jwm.2005.598422)

Milevsky, Moshe A. 2004. "Illiquid Asset Allocation and Policy Weights: How Far Can They Deviate?" *Journal of Wealth Management*, vol. 7, no. 3 (Winter):27–34.

"The author develops a simple approach for computing the probability that an initial asset allocation will breach a pre-specified policy weight over a given time horizon. The model is consistent with assumptions made in most Asset Liability Management (ALM) studies and the closed-form analytic expression 'buys' the user a variety of robust insights. After calibrating this model to broadly defined alternative investment asset class data, the author concludes that a conservative 5% commitment to an illiquid asset class has a 1/3 chance of doubling (i.e., to 10% of the fund) within 5 years, and tripling (i.e., to 15% of the fund) within 15 years. Paradoxically, the lower the effective correlation between the performance of a given asset class and the remainder of the portfolio—which is normally something to be coveted in strategic asset allocation—the greater the chances of breaching a given policy weight. The results suggest that initial target allocations to illiquid asset classes should be reduced relative to their liquid counterparts, when a conventional mean-variance analysis was used to obtain these policy weights." (found at www.iijournals.com/doi/abs/10.3905/jwm.2004.450957)

Milevsky, Moshe A., and Vladyslav Kyrychenko. 2008. "Portfolio Choice with Puts: Evidence from Variable Annuities." *Financial Analysts Journal*, vol. 64, no. 3 (May/June):80–95.

"This study investigated the asset allocation behavior of individuals who select an out-of-the-money long-dated longevity-put option on their investment funds. The asset allocations of these people within their variable annuity subaccounts are 5–30 percent more risky than the allocations of those who do not choose this protection. Investors who do not choose the longevity-put option follow the classic life-cycle, age-phased reduction in equity. A rudimentary model of utility-maximizing behavior is suggested that justifies the increased allocation to risk as long as the investor understands the payoff structure of the longevity put and is willing and able to exercise the annuity option if and when it matures in the money." (p. 80)

Milevsky, Moshe A., and Chris Robinson. 2005. "A Sustainable Spending Rate without Simulation." *Financial Analysts Journal*, vol. 61, no. 6 (November/December):89–100.

"Financial commentators have called for more research on sustainable spending rates for individuals and endowments holding diversified portfolios. We present a forward-looking framework for analyzing spending rates and introduce a simple measure, stochastic present value, that parsimoniously meshes investment risk and return, mortality estimates, and spending rates without resorting to opaque Monte Carlo simulations. Applying it with reasonable estimates of future returns, we find payout ratios should be lower than those many advisors recommend. The proposed method helps analysts advise their clients how much they can consume from their savings, whether they can retire early, and how to allocate their assets." (p. 89)

Minck, Jeffrey L. 1998. "Tax-Adjusted Equity Benchmarks." *Journal of Private Portfolio Management*, vol. 1, no. 2 (Summer):41–50.

"One would expect investment benchmarks to cater to the needs of the majority of investors who pay taxes, but most benchmarks do not take taxes into consideration at all. These tax-unaware benchmarks are inappropriate for taxable investors." (p. 41)

Mulvihill, Donald J. 2005. "Core and Satellite Portfolio Structure: Investment and Tax Considerations." *Journal of Wealth Management*, vol. 8, no. 1 (Summer):14–28.

"The author first observes that there are three primary sources of investment risk and return: interest rate risk, equity market risk, and active risk. Interest rate risk and equity market risk are associated with the variable returns to bond and stock markets. Active or manager risk includes the pursuit of additional returns from active portfolio management. This covers a wide range of activities including

market timing, security selection, and tactical asset allocation. He then observes that the traditional approach to portfolio structure involves hiring active portfolio managers to implement allocations to stock or bond markets. In that design, active management is bundled with market exposure. He turns to a description of a core and satellite approach, which involves separating active management from ownership of an asset class, examining the investment and tax considerations relevant to the choice of portfolio structure." (p. 5)

———. 2006. "Core and Satellite: Implementation Issues." *Journal of Wealth Management*, vol. 8, no. 4 (Spring):41–52.

"This is the second part of the author's article on core and satellite portfolio structure and focuses on implementation. Key issues include the choice of a core equity strategy, the desired allocation to active risk, and the satellite strategies used to pursue active returns. The author proposes a framework for integrating investment and investor-specific tax considerations into the allocation across equity risk, interest rate risk, and active risk. Four different types of satellite strategies are considered. They vary in their mix of active risk and equity beta. For each strategy, the framework allows for the calculation of an 'information ratio hurdle.' This is the minimum gross information ratio the investor must expect from an active manager in order to justify an allocation to a satellite strategy. The required information ratio seems to be lowest for market-neutral strategies and highest for those satellites that mix a small amount of active risk with a high equity beta." (found at www.iijournals.com/doi/abs/10.3905/jwm.2006.614435)

Munnell, Alicia H., and Mauricio Soto. 2005. "Why Do Women Claim Social Security Benefits So Early?" Issue in Brief No. 35, Center for Retirement Research at Boston College (October).

This study tries to explain why most women claim Social Security benefits so early. It concludes that "the structure of Social Security benefits, combined with the fact that husbands are generally a few years older than their wives, helps explain the seemingly irrational decision by most woman to retire early with actuarially reduced monthly benefits." (p. 6)

Nevins, Daniel. 2004. "Goals-Based Investing: Integrating Traditional and Behavioral Finance." *Journal of Wealth Management*, vol. 6, no. 4 (Spring):8–23.

"This article examines opportunities to improve wealth management by combining traditional finance theory with the observations of behavioral finance. Areas of focus include risk measurement, risk profiling, and methods for managing behavioral biases. In the area of risk measurement, the author stresses the importance of capturing investor preferences and goals and proposes several measures that are consistent with this objective. The author also critiques common risk profiling techniques, advocating separate risk tolerance estimates for separate goals rather than an overall risk tolerance for each investor, noting that the total portfolio framework of traditional finance is inconsistent with investors' tendencies towards mental accounting. A better result may be achieved by linking individual strategies to a specific goal or goals. The author describes a process for implementing his recommendations through examples, considering the challenges of investing to meet current lifestyle expenses and investing for a fixed planning horizon. The article closes with a call to align investment strategy development with common investor goals, arguing that this will promote consistency between the investment principles of the practitioner and the perspective of the individual investor." (found at www.iijournals.com/doi/abs/10.3905/jwm.2004.391053)

Odean, Terrance. 1998. "Are Investors Reluctant to Realize Their Losses?" *Journal of Finance*, vol. 53, no. 5 (October):1775–1798.

> "I test the disposition effect, the tendency of investors to hold losing investments too long and sell winning investments too soon, by analyzing trading records for 10,000 accounts at a large discount brokerage house. These investors demonstrate a strong preference for realizing winners rather than losers. Their behavior does not appear to be motivated by a desire to rebalance portfolios, or to avoid the higher trading costs of low priced stocks. Nor is it justified by subsequent portfolio performance. For taxable investments, it is suboptimal and leads to lower after-tax returns. Tax-motivated selling is most evident in December." (p. 1775)

Ødegaard, Bernt Arne. 2009. "The Diversification Cost of Large, Concentrated Equity Stakes. How Big Is It? Is It Justified?" *Finance Research Letters*, vol. 6, no. 2 (June):56–72.

> "While the hypothesis that ownership concentration can affect the value of a company has seen a lot of empirical study, little light has been shed on a complementary problem, that these concentrated owners have a cost of their position due to an undiversified portfolio. Using a unique data set of the actual diversification of all Norwegian equity owners, we show that the largest owners of a corporation in fact have very undiversified equity portfolios, and that such owners have significant costs to their concentrated portfolios. At the level of risk of a benchmark portfolio, if they were to move from their present portfolio composition in risky assets to a well diversified portfolio, their returns would have increased by about 13 percentage points in annual terms. We ask whether this cost can be explained by estimated benefits of ownership concentration (private benefits), and show that extant estimates of private benefits are too low to offset our cost estimates." (p. 56)

Ostaszewski, Krzysztof. 2003. "Is Life Insurance a Human Capital Derivatives Business?" *Journal of Insurance Issues*, vol. 26, no. 1:1–14.

> "Life and disability insurance, as well as annuities, traditionally have been analyzed as products providing protection against random losses. This article proposes that these products can be viewed as derivative instruments created to address the uncertainties and inadequacies of an individual's human capital, if human capital is viewed as a financial instrument. In short, life insurance (including disability insurance and annuities) is the business of human capital securitization." (p. 1)

Paulson, Bruce L. 2002. "Charitable Lead Trusts: Introduction to the Tax and Investment Decisions That Affect After-Tax Returns." *Journal of Wealth Management*, vol. 5, no. 1 (Summer):62–70.

> "The authors introduce the concept of peer-to-peer groups as a means of helping a special class of high net worth individuals: entrepreneurs who recently sold their business. They start with the major challenges faced by the recently divested entrepreneur, with a particular focus on the five important changes in perspective through which the investor must proceed. They then discuss the principal benefits of a peer-to-peer group: a confidential environment in which members can explore significant issues, and the trust that they gradually develop in one another. The authors provide specific illustrations of one peer-to-peer group." (found at www.iijournals.com/doi/abs/10.3905/jwm.2002.320436)

Peterson, James D., Paul A. Pietranico, Mark W. Riepe, and Fran Xu. 2002. "Explaining After-Tax Mutual Fund Performance." *Financial Analysts Journal*, vol. 58, no. 1 (January/February):75–86.

> "Published research on the topic of mutual fund performance focuses almost exclusively on pretax returns. For U.S. mutual fund investors holding positions in taxable accounts, however, what matters is the after-tax performance of their portfolios. We analyzed after-tax returns on a large sample of diversified U.S. equity mutual funds for the 1981–98 period. We found the variables that determined after-tax performance for this period to be past pretax performance, expenses, risk, style, past tax efficiency, and the recent occurrence of large net redemptions." (p. 75)

Pompian, Michael M. 2006. *Behavioral Finance and Wealth Management: How to Build Optimal Portfolios That Account for Investor Biases*. Hoboken, NJ: John Wiley & Sons.

This hands-on guide to behavioral finance outlines fundamental biases in investment behaviors shared by most investors. By way of case studies, it illustrates how the wealth manager can use these concepts in practice to protect portfolios from these biases.

———. 2009. *Advising Ultra-Affluent Clients and Family Offices*. Hoboken, NJ: John Wiley & Sons.

Similar to the above text, this book focuses on the specific applications to the ultra-high-net-worth family by focusing on the specific aspirations, attitudes, and behaviors of the ultra rich in a multigenerational context.

Poterba, James M. 1998. "Estate Tax Avoidance by High Net Worth Households: Why Are There So Few Tax-Free Gifts?" *Journal of Private Portfolio Management*, vol. 1, no. 2 (Summer):1–10.

"This article focuses on individual behavior and the extent to which high net worth households take advantage of inter vivos gifts to reduce the value of their taxable estate. Confirming the fact that a smaller-than-expected number of older households makes significant such gifts, the author provides potential alternative explanations for these findings." (page not numbered)

———. 1999. "Unrealized Capital Gains and the Measurement of After-Tax Portfolio Performance." *Journal of Private Portfolio Management*, vol. 1, no. 4 (Spring):23–34.

"While also looking into the issue of after-tax performance measurement, the author focuses more specifically on the taxation of capital gains. A standard approach to after-tax performance measurement assumes that realized capital gains are taxed at their current statutory tax rate while unrealized capital gains are effectively untaxed. Unrealized gains are thus treated in the same way as tax-exempt interest income. The author argues that this ignores the multiperiod aspect of after-tax portfolio planning. He presents a simple algorithm for evaluating the effective capital gains tax burden on realized gains. The solution is based on the probabilities that some portfolio liquidation will be required and that there will be unrealized capital gains in the portfolio at that time. The approach, which suggests that the tax rate on unrealized capital gains is non-zero, clarifies the link between an investor's future likelihood of realizing capital gains, and the current effective capital gains tax burden on realized gains." (p. 7)

———. 2000. "After-Tax Performance Evaluation." In *Investment Counseling for Private Clients II*. Charlottesville, VA: Association for Investment Management and Research.

"Focusing on after-tax returns is a great way to add value and gain competitive advantage in the investment management business. Managers need to understand the factors that affect tax efficiency, to realize that a 'one size fits all' performance measure and tax strategy will not work, and to integrate portfolio management with income tax and estate tax planning. Algorithms, such as the 'accrual equivalent' tax rate, can help managers educate clients about the various implications of taxes for their portfolios." (p. 58)

Price, Lee N. 1996. "Calculation and Reporting of After-Tax Performance." *Journal of Performance Measurement*, vol. 1, no. 2 (Winter):6–13.

"The investment performance that really matters to a taxable client is what is left after all taxes are paid. Many managers appreciate this but realize that including the negative impact of forced capital gains realization due to client withdrawals will significantly penalize their average after-tax performance. The author suggests the creation of after-tax composites by making a critical adjustment for non-discretionary withdrawals." (found at http://spgshop.com/calculationandreportingofafter-taxperformance.aspx)

———. 2001. "Taxable Benchmarks: The Complexity Increases." In *Investment Counseling for Private Clients III*. Charlottesville, VA: Association for Investment Management and Research.

"After-tax benchmarks must adhere to standard benchmark rules while incorporating tax-related concerns (such as income tax rates), but a big hurdle in establishing appropriate benchmarks is choosing which tax rate to use. An after-tax benchmark can best be constructed by using a combination of three levels of approximation as well as a shadow portfolio that allows for adjustments in cash flows and calculations of portfolio-specific cost bases." (p. 54)

Quisenberry, Clifford H. 2003. "Optimal Allocation of a Taxable Core and Satellite Portfolio Structure." *Journal of Wealth Management*, vol. 6, no. 1 (Summer):18–26.

"The author starts by noting that there is growing recognition in the financial services industry that the design and structure of equity portfolios with multiple managers should be fundamentally different for a taxable investor than for the typical institutional investor. Many have observed that taxable investors can reap significant benefits by adopting a 'core and satellite' portfolio structure. This structure consists of an index-like core manager who generates capital losses surrounded by satellite managers who are seeking to add alpha. The question then becomes, how much should be allocated to the core? In this article, the author quantitatively models the core and the satellite structure to find the optimal core allocation and answer the question. The study shows that allocations of 50% or more are often warranted." (found at www.iijournals.com/doi/abs/10.3905/jwm.2003.320470)

———. 2006. "Core/Satellite Strategies for the High-Net-Worth Investor." *CFA Institute Conference Proceedings Quarterly*, vol. 23, no. 4 (December):38–45.

"Although a core/satellite structure makes a great deal of sense on a pretax basis, it makes even more sense on an after-tax basis. Implementing the strategy 'optimally,' however, is crucial to a positive outcome. Of note, the strategy must use a broad, tax-managed core portfolio. High-net-worth investors should consider adopting the core/satellite structure, but they must be aware of its limitations, such as high transition/tax costs and noisy inputs." (p. 38)

Reichenstein, William. 1998. "Calculating a Family's Asset Mix." *Financial Services Review*, vol. 7, no. 3:195–206.

"I reach two conclusions about how a family should calculate its asset mix. First, if the assets will be used to finance retirement needs, the asset mix should be based on after-tax values, because goods and services are purchased with after-tax dollars. This novel conclusion rejects current practice. The second conclusion concerns which assets and liabilities should be included in the portfolio. If the purpose of the calculation is to consider a family's retirement needs, the asset mix should include the promises of defined-benefit pension plans and Social Security, and the family's mortgage should be treated as a short bond position. Also, if the family is willing to downsize or borrow against the residence, part of its value should be included in the portfolio." (p. 195)

———. 2001. "Asset Allocation and Asset Location Decisions Revisited." *Journal of Wealth Management*, vol. 4, no. 1 (Summer):16–26.

"The author applies a mean-variance optimization approach to examine the asset allocation and location decisions made by individuals. The experiment is limited to two assets—stocks and bonds—which are alternatively held through pension or through taxable accounts. They aim to determine the best combination of asset allocation and asset location, effectively asking the question: 'to the degree possible should stocks or bonds be located in the tax-sheltered pension account?' The author considers three types of investors: a trader (who realizes all capital gains within a year), an active investor (who realizes all gains each year but pays preferential tax rates), and a passive investor. He finds that, for traders, there is always more than one optimal portfolio, and there is no optimal asset location: Identical portfolio risk and portfolio return can be obtained with different combinations

of asset allocation and asset location. For active and passive investors, the optimal portfolio locates, to the degree possible, stocks in taxable accounts. The analysis offers several investment implications. For example, when someone makes the asset-location decision first, the conditional optimal asset mix calls for a relatively large exposure to the asset held in taxable accounts; thus the optimal stock weight is larger when stocks are held in taxable accounts than when they are held in pensions." (found at www.iijournals.com/doi/abs/10.3905/jwm.2001.320399)

———. 2006a. "After-Tax Asset Allocation." *Financial Analysts Journal*, vol. 62, no. 4 (July/August):14–19.

"Several studies have found fundamental flaws in the traditional approach to managing individual investors' portfolios, including a failure to distinguish between $1 of pretax funds in a 401(k) and $1 of after-tax funds in either a taxable account or Roth IRA. This study recommends that an individual's asset values be converted to after-tax values and the asset allocation be based on the after-tax values. In general, within the target asset allocation, individuals should hold bonds and other assets subject to ordinary income tax rates in retirement accounts and hold stocks, especially passively managed stocks, in taxable accounts." (p. 1)

———. 2006b. "Withdrawal Strategies to Make Your Nest Egg Last Longer." *AAII Journal*, vol. 28, no. 10 (November):5–11.

"Tax-based withdrawal strategies revolve around two ideas. First, returns are taxed more heavily in taxable accounts than retirement accounts—i.e., Roth IRA and qualified accounts such as 401(k). Therefore, as a rule of thumb, retirees should withdraw funds from taxable accounts before retirement accounts. Detailed models suggest that following this rule of thumb may allow a retiree's portfolio to last perhaps two to five years longer depending upon their level of wealth and tax rates. This article also notes exceptions to this rule of thumb. The second idea is to withdraw funds from qualified accounts whenever the taxpayer is in an unusually low tax rate. Such years are likely to occur 1) before RMDs begin, 2) in years when the retiree makes a large contribution, and 3) in years when there are large deductible medical expenses. Finally, everything else the same, if the retiree's tax bracket exceeds the beneficiary's then the retiree should withdraw funds from Roth IRAs and leave the qualified accounts' balances to the beneficiary, and vice versa." (p. 5)

———. 2006c. "Tax-Efficient Sequencing of Accounts to Tap in Retirement." *Trends and Issues*, TIAA-CREF Institute (October): www.tiaa-crefinstitute.org/articles/tr100106.html.

"This study discusses strategies for withdrawing funds from savings vehicles during retirement. Its key ideas flow from two principles. First, returns on funds held in Roth IRAs and traditional IRAs grow effectively tax exempt, while funds held in taxable accounts are usually taxed at positive effective tax rates. Therefore, in general, investors should withdraw funds from taxable accounts before withdrawing funds from retirement accounts—e.g., Roth IRAs and traditional IRAs. Second, the objective is to withdraw funds from a traditional IRA whenever the investor is in an unusually low tax bracket. This could occur before required distributions, in a year when the individual makes a large one-time contribution, or in years with large medical expenses. Finally, it considers the decision to withdraw funds from a traditional IRA before a Roth IRA or vice versa. Withdrawing funds from the traditional IRA makes sense 1) in years when the retiree is in a low tax bracket and 2) if the retiree's beneficiary will be in a higher tax bracket." (p. 1)

———. 2007. "Implications of Principal, Risk, and Returns Sharing Across Savings Vehicles." *Financial Services Review*, vol. 16, no. 1 (Spring):1–17.

"This study illustrates that the choice of savings vehicles [*e.g.*, taxable account, Roth IRA, or tax-deferred accounts such as 401(k)] affects the portions of principal effectively owned by, returns received by, and risk borne by individual investors. This study examines the implications of this analysis for (1) the calculation of an individual's assets allocation, (2) mean-variance optimizations, and (3) asset location. For example, it illustrates problems when traditional mean-variance optimization is applied

to an individual's portfolio. Separately, there is broad agreement among scholars that we should distinguish between pretax funds and after-tax funds when calculating an individual's asset allocation. This study suggests an approach to measuring an individual's asset allocation." (p. 1)

Reichenstein, William, and William W. Jennings. 2003. *Integrating Investments and the Tax Code.* Hoboken, NJ: John Wiley & Sons.

"The authors provide an essential reference tool for investment professionals who manage taxable accounts. The book contains comprehensive discussions, with case studies, of the issues important to maximizing after-tax ending wealth: how to analyze asset allocation and asset location (whether assets are kept in taxable or tax-deferred vehicles), choosing between low- and high-turnover investment vehicles, and choosing among investments that vary with respect to the proportion of expenses borne by investors." (found at www.cfapubs.org/doi/full/10.2469/faj.v60.n2.1954)

Rogers, Douglas S. 2001. "Tax-Aware Equity Manager Allocation: A Practitioner's Perspective." *Journal of Wealth Management*, vol. 4, no. 3 (Winter):39–45.

"This article is based on the view that tax-efficiency requires a broader and different focus when compared to typical tax-oblivious practices. Starting with the premise that tax-aware equity manager allocation is the next logical step 'after tax-efficient asset allocation' in the consultative process to enhance wealth, the author looks into a variety of manners in which a domestic equity market can be segmented. His first conclusion is that the traditional segmentation offering as many as nine sub-groups based on size and style is too complex and tax-inefficient. Investigating different alternatives, he concludes that an 'optimal' tax-aware equity allocation model should be based on a 'core/satellite' or 'hub-and-spoke' approach, in order to employ managers in a manner to potentially achieve optimal or superior after-tax returns." (found at www.iijournals.com/doi/abs/10.3905/jwm.2001.320418)

———. 2006. *Tax-Aware Investment Management: The Essential Guide.* New York: Bloomberg Press.

This book provides a nontechnical analysis of tax-aware investment management issues as well as tax-aware performance evaluation issues. It is viewed by many as the first comprehensive work on tax-aware investment management.

Runquist, Lori R. 2004. "Overview." *Integrating Hedge Funds into a Private Wealth Strategy*. Charlottesville, VA: Association for Investment Management and Research.

"Although the roots of the hedge fund industry can be traced back to 1949, hedge funds did not receive much attention until the early 1990s, when managers such as George Soros and Julian Robertson came on the scene. Thus, in 10 years, hedge funds have gone from being a relatively obscure investment strategy to one that investors have a hard time ignoring. . . . Historically, hedge funds were used almost exclusively by private clients (although that trend is changing). Thus, . . . because of their importance to private clients, the focus of this conference is the integration of hedge funds into private wealth strategies." (p. 1)

Scott, Jason S. 2008. "The Longevity Annuity: An Annuity for Everyone?" *Financial Analysts Journal*, vol. 64, no. 1 (January/February):40–48.

"As of 2005, U.S. individuals had an estimated $7.4 trillion invested in IRAs and employer-sponsored retirement accounts. Many retirees will thus face the difficult problem of turning a pool of assets into a stream of retirement income. Purchasing an immediate annuity is a common recommendation for retirees trying to maximize retirement spending. The vast majority of retirees, however, are unwilling to annuitize all their assets. This research demonstrates that a 'longevity annuity,' which is distinct from an immediate annuity in that payouts begin late in retirement, is optimal for retirees unwilling to fully annuitize. For a typical retiree, allocating 10-15 percent of wealth to a longevity annuity creates spending benefits comparable to an allocation to an immediate annuity of 60 percent or more." (p. 40)

Scott, Jason S., William F. Sharpe, and John G. Watson. 2009. "The 4% Rule—At What Price?" *Journal of Investment Management*, vol. 7, no. 3 (Third Quarter).

"The 4% rule is the advice most often given to retirees for managing spending and investing. This rule and its variants finance a constant, non-volatile spending plan using a risky, volatile investment strategy. As a result, retirees accumulate unspent surpluses when markets outperform and face spending shortfalls when markets underperform. The previous work on this subject has focused on the probability of short falls and optimal portfolio mixes. We will focus on the rule's inefficiencies—the price paid for funding its unspent surpluses and the overpayments made to purchase its spending policy. We show that a typical rule allocates 10%-20% of a retiree's initial wealth to surpluses and an additional 2%-4% to overpayments. Further, we argue that even if retirees were to recoup these costs, the 4% rule's spending plan often remains wasteful, since many retirees may actually prefer a different, cheaper spending plan." (found at www.joim.com/abstract.asp?IsArticleArchived=1&ArtID=323)

Shefrin, Hersh. 2000. *Beyond Greed and Fear: Understanding Behavioral Finance and the Psychology of Investing*. Boston: Harvard Business School Press.

This book is the seminal comprehensive treatment of behavioral finance. Part III of this book focuses on individual investors, but Part IV on institutional investors is also relevant to private wealth managers. This book provides a more advanced treatment of behavioral finance than that in Belsky and Gilovich (1999).

Shoven, John B., and Clemens Sialm. 1998. "Long Run Asset Allocation for Retirement Savings." *Journal of Private Portfolio Management*, vol. 1, no. 2 (Summer):13–26.

"In considering the circumstances of investors who hold assets in more than one tax environment, the authors contemplate both asset allocation and 'asset location' issues in the case where certain assets are held in a taxable portfolio while others are in a tax-exempt account. The article confirms the desirability of accumulating assets in tax-exempt or tax-deferred environments before accumulating them in taxable accounts and also suggests that certain assets are best suited to taxable or tax-exempt accounts, but not both." (page not numbered)

———. 2004. "Asset Location in Tax-Deferred and Conventional Savings Accounts." *Journal of Public Economics*, vol. 88, no. 1–2 (January):23–38.

"The optimal allocation of assets among different asset classes has received considerable attention in financial theory and practice. On the other hand, investors have not been given much guidance about which assets should be located in tax-deferred and which in taxable accounts. This paper analyzes the taxation of returns of stocks, taxable corporate bonds, and tax-exempt municipal bonds held in both types of accounts. We derive optimal asset allocations (which assets to hold) and asset locations (in which accounts to hold them) for a risk-averse investor saving for retirement. We show that locating assets optimally can significantly improve the risk-adjusted performance of retirement saving." (found at www.nber.org/papers/w7192)

Siegel, Laurence B. 2008. "Alternatives and Liquidity: Will Spending and Capital Calls Eat Your 'Modern' Portfolio?" *Journal of Portfolio Management*, vol. 35, no. 1 (Fall):103–114.

"High allocations to alternative investments by investors, such as foundations and endowments, raise infrequently discussed concerns about liquidity. As the percentage of assets under management invested in alternatives rises, the availability of liquid equities and bonds available to meet spending requirements, capital calls, and margin calls plummets. A series of simulations shows how severe this problem can become in bear markets. The remedy for this problem is to ladder gradually into illiquid assets, so that expected future cash flows from these assets partially or fully offset capital calls and other cash requirements. New and enthusiastic investors in illiquid alternative investments sometimes forget this principle. By adhering to it, an alternatives program can be successful, but not on an unlimited scale. It is also necessary to hold a considerable portion of a portfolio in liquid stocks and bonds." (found at www.iijournals.com/doi/abs/10.3905/JPM.2008.35.1.103)

Siegel, Laurence B., and David Montgomery. 1995. "Stocks, Bonds, and Bills after Taxes and Inflation." *Journal of Portfolio Management*, vol. 21, no. 2 (Winter):17–25.

> "The purpose of this article is to estimate the stock, bond, and bill returns that were available to a hypothetical investor facing federal income taxes and other investor costs over 1926-1993. (We cover three of the Ibbotson–Sinquefield asset classes: large-company stocks, long-term government bonds, and bills.) We also include tax-free municipal bonds in this study because our hypothetical investor, if rational, would rarely have held taxable bonds. Finally, we adjust these returns for inflation." (p. 18)

Silfen, Martin. 2005. "A Systematic Approach to Asset Location." In *Wealth Management*. Charlottesville, VA: CFA Institute.

> "Asset location, not to be confused with asset allocation, is the placement of assets among numerous taxable and tax-deferred accounts so that a client's stated goals are honored while terminal wealth is maximized. Because terminal wealth is influenced by a client's personal circumstances, tax rates, choice of taxable accounts, and capital market expectations, the naive strategy of identical allocations in all accounts is not optimal. Three hypothetical (although fairly typical) examples demonstrate that after-tax performance can be improved significantly by solving for the optimal asset location through easy-to-build spreadsheet projections." (p. 16)

Spitzer, John J. 2008. "Retirement Withdrawals: An Analysis of the Benefits of Periodic 'Midcourse' Adjustments." *Financial Services Review*, vol. 17, no. 1 (Spring):17–29.

> "Much research has addressed the question of how much money can safely be withdrawn from a retirement portfolio without prematurely running out of money (shortfall risk). Instead of constant (inflation adjusted) annual withdrawals, this study uses withdrawal amounts (and optionally, asset allocations) that are modified every five years over a 30-year withdrawal horizon. A bootstrap is used initially to obtain the conditional probability rules. Further simulations demonstrate that periodic (every five years) adjustments can decrease the risk of running out of money as well as increase the amount withdrawn, as compared to a 'constant withdrawal amount' strategy." (p. 17)

Spitzer, John J., Jeffrey C. Strieter, and Sandeep Singh. 2007. "Guidelines for Withdrawal Rates and Portfolio Safety during Retirement." *Journal of Financial Planning*, vol. 20, no. 10 (October):52–59.

> "Risk tolerance, asset allocation, withdrawal size, and expected returns all affect the process of withdrawing from a retirement portfolio. . . . Results show that withdrawal rates as high as 5.5 to 6 percent can be achieved, but only at a 25 to 30 percent chance of running out of money and with stock allocations of 75 to 100 percent. A 4.4 percent withdrawal rate with 50/50 bond/stock allocation has a 10 percent chance of running out of money [within 30 years]." (found at www.britannica.com/bps/additionalcontent/18/27037076/Guidelines-for-Withdrawal-Rates-and-Portfolio-Safety-During-Retirement)

Statman, Meir. 1999. "Behavioral Finance: Past Battles and Future Engagements." *Financial Analysts Journal*, vol. 55, no. 6 (November/December):18–27.

> "Market efficiency is at the center of the battle of standard finance versus behavioral finance versus investment professionals. But the battle is not joined because the term 'market efficiency' has two meanings. One meaning is that investors cannot systematically beat the market. The other is that security prices are rational. Rational prices reflect only utilitarian characteristics, such as risk, not value-expressive characteristics, such as sentiment. Behavioral finance has shown, however, that value-expressive characteristics matter in both investor choices and asset prices. Therefore, the discipline of finance would do well to accept the first meaning of market efficiency and reject the notion that security prices are rational. We could then stop fighting the market efficiency battle and focus on exploring (1) asset-pricing models that reflect both value-expressive and utilitarian characteristics and (2) the benefits, both utilitarian and value expressive, that investment professionals provide to investors." (p. 18)

———. 2002. "Financial Physicians." In *Investment Counseling for Private Clients IV*. Charlottesville, VA: Association for Investment Management and Research.

"Financial advisors should think of themselves—and present themselves—as financial physicians. Investors bring to financial advisors their stresses, fears, aspirations, and biases. Advisors can help investors balance wealth and well-being by using the tools of wise physicians: asking, listening, diagnosing, educating, and treating." (p. 5)

———. 2007. "Local Ethics in a Global World." *Financial Analysts Journal*, vol. 63, no. 3 (May/June):32–41.

"Ethics, fairness, trust, and freedom from corruption are parts of social capital, and social capital matters in financial markets. Investors consider not only the information they receive but also their trust in the accuracy of the information and the fairness of the markets in which to trade. Deficiencies in ethics and fairness mark all countries. But surveys of the perception among students and finance professionals of the fairness of insider trading in eight countries indicate that deficiencies are more pronounced in some countries than in others. Five factors are discussed that affect social capital: culture, globalization, income, education, and law enforcement." (p. 32)

Stein, David M. 1998. "Measuring and Evaluating Portfolio Performance after Taxes." *Journal of Portfolio Management*, vol. 24, no. 2 (Winter):117–124.

"In this article, we address portfolio valuation by proposing a 'full cost equivalent' value. This is essentially the present value of the portfolio under assumptions on the horizon, investment return, tax rates, and turnover. Our measure can be interpreted as a liquidation value at a tax rate that is lower than the investor's true rate. We address the benchmark issue by documenting after-tax returns of a carefully simulated S&P 500 portfolio, and by discussing how to approximate after-tax benchmarks." (p. 118)

Stein, David M., and Greg McIntire. 2003. "Overlay Portfolio Management in a Multi-Manager Account." *Journal of Wealth Management*, vol. 5, no. 4 (Fall):57–71.

"New portfolio structures are changing the rules of the investment game. Multi-Manager Separate Accounts combine the separate skills of a number of managers in a single account, providing benefits to the investor, the plan sponsor, and the manager. An effective multi-manager account requires what the investment industry is beginning to refer to as Overlay Portfolio Management. We describe the role of the overlay portfolio manager and simulate the value he may add through tax management. We show that an overlay manager is often able to add 0.30% to 0.60% or more each year in net after-tax return. The value we identify creates a compelling proposition for the separate account product industry, especially since significant additional non-quantified benefits also accrue." (found at www.iijournals.com/doi/abs/10.3905/jwm.2003.320465)

Stein, David M., and Premkumar Narasimhan. 1999. "Of Passive and Active Equity Portfolios in the Presence of Taxes." *Journal of Private Portfolio Management*, vol. 2, no. 2 (Fall):55–63.

"The authors focus on the impact of taxes on equity management styles, more specifically on the degree of portfolio management activity. They introduce the concept of active management, an endeavor which seeks to maximize after-tax returns from the management of taxes rather than from traditional security selection. They argue that active tax management adds substantial value, regardless of whether it works in conjunction with active or passive security selection strategies. They estimate the value of loss-harvesting using controlled simulations and discuss some of the practical aspects of tax management, such as risk control and portfolio transition. Finally they broaden the discussion to address the combination of active security selection and tax management and conclude that it appears that the combination of passive stock selection and active tax management is somewhat hard to beat." (p. 9)

Stein, David M., Brian Langstraat, and Premkumar Narasimhan. 1999. "Reporting After-Tax Returns: A Pragmatic Approach." *Journal of Private Portfolio Management*, vol. 1, no. 4 (Spring):10–21.

"The authors consider the issue of after-tax performance measurement. Their focus is on the pragmatic issues associated with calculating and reporting after-tax performance. They identify and define the essential components of a regular after-tax performance report. They also present a rationale and methodology for comparing portfolio performance to a carefully considered and customized after-tax benchmark." (found at www.iijournals.com/doi/abs/10.3905/jwm.1999.320340)

Stein, David M., Hemambara Vadlamudi, and Paul W. Bouchey. 2008. "Enhancing Active Tax Management through the Realization of Capital Gains." *Journal of Wealth Management*, vol. 10, no. 4 (Spring):9–16.

"The authors explore the tax-management strategy of realizing long-term capital gains in a portfolio of equities and quantify how much it can add to after-tax performance. This approach is counter to the more common strategy of deferring the realization of capital gains as long as possible while only realizing capital losses. They evaluate the associated costs and benefits: Benefits accrue if there is a large difference between tax rates on long-term and short-term gains, if the investor has a surfeit of short-term gains that are generated possible." (found at www.iijournals.com/doi/abs/10.3905/jwm.2008.701846)

Stein, David M., Andrew F. Siegel, Premkumar Narasimhan, and Charles E. Appeadu. 2000. "Diversification in the Presence of Taxes." *Journal of Portfolio Management*, vol. 27, no. 1 (Fall):61–71.

"This article proposes an approach for addressing the diversification dilemma of taxable investors by considering a very much simplified problem in which there are just two possible assets, the initial holdings and a diversified benchmark portfolio. Our approach has been to formulate a particularly simple decision problem. We have considered a single fixed-horizon investment, with only two possible extreme choices for portfolio formation. The formulation can be generalized in many pragmatically useful directions. Investors with large low-basis concentrated holdings are often reluctant to embrace the diversification recommendations of our model. For such investors, other pragmatic extensions are interesting. In practice, investors may also be able to obtain additional flexibility with derivative securities, exchange funds, or other investment vehicles." (p. 61)

Stout, R. Gene, and John B. Mitchell. 2006. "Dynamic Retirement Withdrawal Planning." *Financial Services Review*, vol. 15, no. 2 (Summer):117–131.

"This paper develops a dynamic model of retirement withdrawal planning that allows retirees and financial planners to improve the probability of retirement portfolio success while simultaneously increasing the average withdrawal rate. The key elements of the model are periodic adjustments of retirement withdrawal rates based on both portfolio performance and remaining life expectancy, and Monte Carlo simulation of both investment returns and mortality. The inclusion of mortality in fixed planning horizon models reduces the probability of retirement-portfolio ruin by almost 50%. When compared to fixed withdrawal rate models, dynamic withdrawal management incorporating mortality reduces the probability of ruin by another 35-40% while increasing average lifetime withdrawal rates by nearly 50%." (p. 117)

Stutzer, Michael. 2004. "Asset Allocation without Unobservable Parameters." *Financial Analysts Journal*, vol. 60, no. 5 (September/October):38–51.

"Some asset allocation advice for long-term investors is based on maximization of expected utility. Most commonly used investor utilities require measurement of a risk-aversion parameter appropriate to the particular investor. But accurate assessment of this parameter is problematic at best. Maximization of expected utility is thus not only conceptually difficult for clients to understand but also difficult to implement. Other asset allocation advice is based on minimizing the probability of falling short of a particular investor's long-term return target or of an investable benchmark. This

approach is easier to explain and implement, but it has been criticized by advocates of expected utility. These seemingly disparate criteria can be reconciled by measuring portfolio returns relative to the target (or benchmark) and then eliminating the usual assumption that the utility's risk-aversion parameter is not also determined by maximization of expected utility. Financial advisors should not be persuaded by advocates of the usual expected-utility approach." (p. 38)

Sun, Wei, and Anthony Webb. 2009. "How Much Do Households Really Lose by Claiming Social Security at Age 62?" Working Paper 2009-11, Center for Retirement Research at Boston College (April).

"Individuals can claim Social Security at any age from 62 to 70 although most claim at 62 or soon thereafter. Those who delay claiming receive increases that are approximately actuarially fair. We show that expected present value calculations substantially understate both the optimal claim age and the losses resulting from early claiming because they ignore the value of the additional longevity insurance acquired as a result of delay. Using numerical optimization techniques, we illustrate that for plausible preference parameters, the optimal age for non-liquidity constrained single individuals and married men to claim benefit is between 67 and 70. We calculate that Social Security Equivalent Income, the amount by which benefits payable at suboptimal ages must be increased so that a household is indifferent between claiming at those ages and the optimal combination of ages, can be as high as 19.0 percent." (found at http://crr.bc.edu/working_papers/how_much_do_households_really_lose_by_claiming_social_security_at_age_62__2.html)

Teall, John L. 2007. "Family Limited Partnerships and Control Discounts." *Financial Services Review*, vol. 16, no. 2 (Summer):155–165.

"Distributing assets to Family Limited Partnerships (FLPs) is an estate planning technique designed to reduce assets subject to estate taxation. This paper discusses power index models as measures of power along with extensions of indices to value minority discounts. Power indices and valuation models proposed here are directly applicable to valuing other business entities, particularly where control might be contested. Key among factors affecting control valuation is that voting power among FLP partners is not proportional to ownership. This point is especially important to FLP creation because tax-driven value reductions are directly tied to minority voter discounts." (p. 155)

Tepper, Irwin. 1981. "Taxation and Corporate Pension Policy." *Journal of Finance*, vol. 36, no. 1 (March):1–13.

"This paper focuses on the impact of taxes on optimal corporate pension policy. The analysis is based upon an integration of corporate and individual shareholder considerations. The major conclusions are that a company should fully fund its pension plan and should invest the pension fund totally in bonds." (found at www.afajof.org/journal/jstabstract.asp?ref=9839)

Terhaar, Kevin, Renato Staub, and Brian D. Singer. 2003. "Appropriate Policy Allocation for Alternative Investments." *Journal of Portfolio Management*, vol. 29, no. 3 (Spring):101–110.

"One of the greatest problems institutional investors face in evaluating alternative investments such as venture capital, real estate, and hedge funds is determining the normal or policy allocation. The typical approach relies on single-period optimization programs, using historical data as key inputs. This is subject to problems such as enormous allocations to private equity and other non-market-priced investments. Instead, the authors use a factor approach to build a consistent set of return and risk characteristics for conventional and alternative asset classes alike. Simulation techniques rather than optimization provide better insight into the characteristics of the portfolio over time as market swings and liquidity constraints force divergence from the desired policy mix." (found at www.iijournals.com/doi/abs/10.3905/jpm.2003.319888)

Thompson, Patricia M. 2001. "Family Limited Partnerships: Pros and Cons." In *Investment Counseling for Private Clients III*. Charlottesville, VA: Association for Investment Management and Research.

"Family limited partnerships (FLPs) can be useful instruments for estate planning in a variety of situations, but investment advisors and clients alike must understand the intricacies associated with them. For instance, FLPs are complex and expensive to create, and they are prone to U.S. Internal Revenue Service scrutiny. Nevertheless, not only do FLPs allow for valuation discounts, but they also allow clients to organize, control, and amend the partnership agreement as needed." (p. 84)

Trickett, David G. 2002. "Wealth and Giving: Notes from a Spiritual Frontier." *Journal of Wealth Management*, vol. 5, no. 1 (Summer):79–82.

"The author explores the connection between faith and giving, starting from the two important relationships in the human condition: faith and life, and wealth and power. What happens when these two relationships are brought together? He lays out elements of a conceptual framework to help those who are looking for ways to hold together seemingly disparate aspects of their daily lives. He shares some lessons learned by people on a faith-wealth-giving path." (found at www.iijournals.com/doi/abs/10.3905/jwm.2002.320437)

Warshawsky, Mark. 2007. "The Life Care Annuity." In *The Future of Life-Cycle Saving and Investing*. Edited by Zvi Bodie, Dennis McLeavey, and Laurence B. Siegel. Charlottesville, VA: The Research Foundation of CFA Institute.

"A life care annuity (LCA) is the combination of a life annuity and long-term care insurance (LTCI). In return for the payment of a premium (either in a lump sum or collected over time), the LCA provides a stream of fixed-income payments for the lifetime of the named annuitant. . . . In addition, the LCA provides an extra stream of payments if the annuitant (and/or the co-annuitant) requires long-term care. . . . The integration is intended to address inefficiencies in the separate markets for those products." (pp. 103–104)

Welch, Scott D. 2001. "Diversifying Concentrated Holdings." In *Investment Counseling for Private Clients III*. Charlottesville, VA: Association for Investment Management and Research.

"Meeting the special needs of clients who have concentrated equity holdings has become a productive way for investment managers to develop client relationships and stand out from the competition. Many hedging strategies for managing low-basis assets are available—from financial strategies using equity collars and variable prepaid forwards to charitable strategies and donor-advised funds. But the strategies are effective only when certain criteria are met, and the advantages and disadvantages of each must be carefully weighed in order to correctly structure the appropriate method for diversifying the risk of each particular client's position." (p. 42)

———. 2002. "Comparing Financial and Charitable Techniques for Disposing of Low Basis Stock." *Journal of Wealth Management*, vol. 4, no. 4 (Spring):37–46.

"Despite the market turmoil over the past twelve months, and corresponding dramatic fall in the price of most stocks, concentrated, low basis stock positions continue to constitute a significant percentage of the net worth of many investors and families. The author starts with the observation that holding a concentrated stock position is a risky proposition. However, once the decision has been made to reduce the concentration in a single stock, the next decision relates to the selection of the most appropriate strategy to implement the decision. The author observes that the correct strategy is rarely an 'all or nothing' approach, but rather a combination of the various techniques available. These different techniques can be broadly categorized into 'financial' or 'charitable' strategies. The article summarizes several of the more popular ones, and develops a template for determining the appropriate strategy for a given investor situation." (found at www.iijournals.com/doi/abs/10.3905/jwm.2002.320424)

Wilcox, Jarrod W. 2008. "The Impact of Uncertain Commitments." *Journal of Wealth Management*, vol. 11, no. 3 (Winter):40–47.

"Integrated wealth management implies individualized risk control. The *discretionary wealth approach* is used to calculate a better risk-aversion relationship for trade-offs between expected return and risk based on the investor's extended balance sheet, inclusive of present values of future financial commitments. We can improve it by taking into account the uncertainty with which the particular investor's discretionary wealth is estimated. Present values of retirement spending, taxes on unrealized capital gains and estates, and potential bequests and charitable contributions may be more usefully regarded as probability distributions than as point estimates. An example shows how uncertain future lifespan results in a more conservative portfolio, reducing in this case the optimal stock allocation from 80% to 73% to 64% as we make successive improvements in analysis." (found at www.iijournals.com/doi/abs/10.3905/JWM.2008.11.3.040)

Wilcox, Jarrod, Jeffrey E. Horvitz, and Dan diBartolomeo. 2006. *Investment Management for Taxable Private Investors*. Charlottesville, VA: The Research Foundation of CFA Institute.

"Private investors are more diverse than institutional investors and subject to complex tax laws. This handbook provides vital information—with a minimum of mathematics—on customizing applications of investment theory for a 'market of one.' Among the topics covered are the benefits of viewing private portfolio management as a manufacturing process." (found at www.cfapubs.org/doi/abs/10.2470/rf.v2006.n1.3933)

Zietz, Emily N. 2003. "An Examination of the Demand for Life Insurance." *Risk Management & Insurance Review*, vol. 6, no. 2 (September):159–191.

"For almost 50 years researchers have sought to explain consumer behavior concerning the purchase of life insurance. This study examines the literature relating to specific demographic and economic factors that may be identifiable as traits influencing the demand for life insurance, and discusses general environmental issues that may relate to life insurance demand. By organizing the wealth of literature in a useful and systematic format, noting consistencies and contradictions, this examination seeks to provide a better understanding of how and why life insurance purchases are made." (found at www3.interscience.wiley.com/journal/118849741/abstract)

