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Research Brief

Equity Portfolio Management for Taxable Investors

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Abstract

Equity portfolio management has come a long way since the early 90's when it became evident that taxes matter a great deal, that they undermine many a portfolio manager's attempts at seeking return, and that they can be managed to advantage. In this chapter we review and comment on the cutting edge of this art. We identify the following four degrees of tax sophistication in managing equity investments:

1. The measurement of after-tax return and the evaluation of performance
2. The development of a tax-sensitive investment strategy
3. The customization of a portfolio to the investor's tax issues and *active tax management*
4. The coordination of tax management among managers and broader investor issues

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Introduction

You may not be interested in taxes, but taxes are interested in you.

Tax-sensitive equity portfolio management is best discussed from a strategic, coordinated point of view such as that of Brunel [2002], which integrates planning, asset allocation, asset location and tax-sensitive portfolio management. However, this is a broad subject, and our goal in this paper is to discuss the topic from a more limited portfolio-centric viewpoint: how to manage an equity portfolio in the presence of taxes. It is the place where a great deal of value can be inadvertently and carelessly lost. In an earlier paper, Stein and Garland [1998] reviewed the art of managing equity portfolios in the presence of taxes, and we now update this with an informal perspective, with opinions and attitude. We provide a brief review and comment on the latest developments and future directions.

In discussing taxes here, we assume that investments are for the long term, and that the goal is to preserve wealth rather than to create it. Compared with an institutional pension fund, a private taxable investor has a more limited lifespan and incurs higher costs for borrowing, transactions and advice; his financial situation is more unstable and likely to undergo significant changes, and of course, he pays taxes. What's good for General Motors is not good enough for him.

Taxes represent a very large performance drag, often larger than transaction costs, management fees, or inflation. The popular sentiment is that investors should not allow their investment decisions to be dominated by tax considerations. While this is true, tax considerations do significantly affect investment returns. Failing to understand taxes can be expensive, particularly if taxes are allowed to erode returns over the long term.¹

Incorporating taxes into the investment decision is not easy. Taxes impose additional complexity, both conceptual (rethinking the strategy) and pragmatic (requiring customization). And they are relatively boring; they distract the advisor from more interesting topics such as the state of the economy or the valuation of individual companies. Yet taxes affect both return and risk, and their management cannot be tacked on as an afterthought.

The field of tax-sensitive investment management is still quite immature, though developing quickly. In the mid 1990's, few equity managers paid more than lip service to tax issues, but this is changing. More and more investors and their advisors are concerned with taxes, wealthy investors are requesting their advisors

¹ This is still the case with the 2003 JTTRA tax rates. Even though the opportunity to actively manage taxes is slightly lower than before, the cost of mismanaging taxes is still high: there are new requirements to manage dividends, and the difference between short-term and long-term capital gains rates is 20%.

to produce after-tax reports (IPI[Ref]), and regulators (SEC[2001]) are requiring this for mutual funds; AIMR [2002] has revised its standards for after-tax performance reporting. It is now not uncommon to see advertisements in the popular press and on billboards touting tax efficiency. At the same time the separate-account industry, with its tax-advantaged customization, is growing (Cerulli[2002]). There is increased attention in both the learned and practitioner journals: there is a new Journal of Wealth Management, and the Financial Analysts' Journal recently published what may be its first ever article relating to tax management of portfolios (Berkin[2003]).

On the other hand, there are hold-outs. Parts of the consultant community are reluctant to embrace the subject and still focus exclusively on pre-tax performance, and some managers do not want to report after-tax performance.

It is sometimes useful to classify tax-sensitive investment managers by the degree of their tax sensitivity. There are four stages of tax sensitivity and portfolio managers exhibit their tax sophistication along this dimension. Moving from one stage to the next often requires a conceptual shift or a willingness to add complexity to the management process.

Stage 1: The measurement of after-tax return and the evaluation of performance

A manager who does not measure after-tax performance does not quantify how his decisions affect the portfolio. After-tax reporting is the starting point for tax-sensitive investment management.

This stage is one of *understanding taxes*.

Stage 2: The development of a tax-sensitive investment strategy

Once one understands after-tax performance one is necessarily driven to an investment strategy that differs from tax exempt. The articulation of this strategy is the manager's next step. This stage is one of *adapting to taxes*.

Stage 3: The customization of a portfolio to the investor's tax issues and *active tax management*

Since one size does not fit all, customization of the portfolio management is needed, often in a separate account. This stage is one of proactively *embracing the management of taxes*.

Stage 4: The coordination of tax management among managers and broader investor issues

Finally, returning to the realization that true tax management requires a coordinated strategy and that tax decisions are not made in isolation, the tax-sensitive advisor or manager desires to coordinate his decisions with other managers. This stage is one of *triumphing over taxes*.

Stages 1 and 2 require a philosophical shift from pre-tax approaches. Stages 3 and 4 require a technological infrastructure.

Stage 1: The measurement of after-tax return and the evaluation of performance

The first stage of tax sensitivity requires understanding after-tax performance. It is after-tax performance that matters, pre-tax performance is an unattainable illusion. A manager or consultant who does not report after taxes does not have a good sense of what has been accomplished, nor does his investor.

The SEC regards after-tax performance as necessary investor information for mutual funds. AIMR has defined standards for separate accounts and for manager composite reporting. By making simplifications (as is done in all performance reporting), the subject becomes reasonably straightforward and computations are not complex. Both the SEC and AIMR measure taxes using a simplified rate (the maximum marginal federal rate or an “anticipated tax rate”) and deduct taxes when they are realized. Disclosures are designed to explain, clarify and to prevent misleading interpretations. These are major improvements over pre-tax performance measurement with its assumption of zero taxes.

However, after-tax performance reports can be tricky, and must be interpreted with care. First, since return measures a rate of change of value, we need to value the taxable portfolio. For a portfolio with an unrealized tax liability, this needs definition.² Second, because after-tax performance depends on investor cash flows and other decisions, not all investors receive the same after-tax performance. Some practitioners seem to become confused by this, but it is central to after-tax performance: an individual investor’s after-tax performance is idiosyncratic and his portfolio requires customization. Well-managed tax-efficient portfolios within a single investment firm will necessarily have different holdings with different cost bases. While tax-exempt managers can achieve a low dispersion of returns, a tax sensitive manager who treats each client individually will have a relatively high dispersion of returns.

Next, there arises the question of how we should evaluate after-tax return. To determine who is a good or bad manager requires comparison with an after-tax benchmark. This is a more complex issue, and the industry has not addressed standards yet, though there are some interesting proposals.

Note that we have evaded a precise definition of “tax efficiency.” Efficiency, an engineering term, implies measurable performance relative to an ideal. Some like to quantify tax efficiency by measuring after-tax performance relative to pre-tax performance. Because pre-tax performance is unattainable, it is not directly relevant. In cases when after-tax performance exceeds pre-tax performance (as is common), efficiency by this definition then exceeds 100%. This is not meaningful. I prefer to use the term efficiency informally, referring qualitatively to the focus that the manager pays to taxes.

² See Stein [1998] for more on the valuation of the unrealized tax liability.

Some in the industry want to avoid reporting after-tax returns. Doing so is not always responsible.

Stage 2: The development of a tax-sensitive investment strategy

Once a portfolio manager understands how taxes affect performance, he usually adapts his management discipline so as to be aware of taxes. The primary issue is the following: the portfolio is exposed to taxation (to the realization of capital gains) every time the manager or investor changes his mind.

Active portfolio management concentrates the mind. The fundamental tax-management decision that an active manager faces is that of determining how much alpha he needs to justify his trade. Here is an extremely simple illustration. Suppose that we hold Security A with market value \$100 and cost basis \$50. We are indifferent to A, expecting it (and the market) to appreciate by 8% per year (no dividends) for 20 years. We prefer Security B, which we expect will appreciate 10% per year for the next three years, and thereafter to behave like the market. In Table 1 we compute the expected final value after 20 years, showing both pre-liquidation and post-liquidation values, for the two decisions – to do nothing or to trade.³

<i>Table 1: Comparison of two decisions, do nothing or trade, after 20 years</i>			
	<i>Pre-liquidation</i>	<i>Post-liquidation</i>	<i>Average</i>
<i>If we do nothing:</i>	\$466	\$404	\$435
<i>If we trade:</i>	\$456	\$401	\$428

In this case it would be preferable to hold the security; in order to justify the trade we would need an alpha of 2.6% per year for 3 years. More generally, Table 2 shows the alpha required to justify the capital gain on a sale. The alpha will depend on the cost basis of the initial security and on the “holding time”, the time over which we expect the replacement stock to outperform.

Since the trading decision depends on the cost basis, i.e., on the individual investor’s cash flow, in general the decision will differ for each investor.

³ The model here is as follows. We are assuming a tax rate $t = 15\%$ on capital gains, cost basis/market value $c = 50\%$. V_0 = initial value; L_0 = initial liquidation value, $L_0 = V_0 - (V_0 - cV_0)t = V_0 [1 - t(1 - c)]$

For *pre-liquidation value, V:*

Hold: $V_1 = V_0 \times (1.08^{20})$. *Trade:* $V_2 = L_0 \times (1.1^3) \times (1.08^{17})$

ost liquidation value, W:

Hold: $W_1 = V_1 - (V_1 - cV_0)t$ *Trade:* $W_2 = V_2 - (V_2 - L_0) \times t$

In determining the preferred decision above, we use the average of pre-liquidation and post-liquidation values. For higher tax rates and particularly higher short-term rates, the alpha requirement is greater.

Table 2. Alpha (Excess return) required to justify a capital gain as a function of cost basis and holding time.

		<i>Cost Basis</i>										
		0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
<i>Holding Time</i>	1	17.2	15.2	13.3	11.4	9.6	7.9	6.2	4.6	3	1.5	0
	2	8.3	7.3	6.4	5.6	4.7	3.9	3.1	2.3	1.5	0.7	0
	3	5.5	4.8	4.3	3.7	3.1	2.6	2	1.5	1	0.5	0
	4	4.1	3.6	3.2	2.8	2.3	1.9	1.5	1.1	0.8	0.4	0
	5	3.2	2.9	2.5	2.2	1.9	1.5	1.2	0.9	0.6	0.3	0

The realization of capital gains is a drag on equity performance. If we can build a buy-and-hold portfolio, we can avoid realizing gains and defer them instead. This is the main reason why cap-weighted indexed portfolios are popularly tax-efficient: most cap-weighted indexed portfolios require only small amounts of trading to keep them aligned with their target.⁴

Of course, it is rarely possible to imagine an investment scenario under which we will not change our minds. We are all subject to uncertainties, our investment and financial situations change over time, and tax rates are sure to change. Yet, realizing that there is an expense incurred in changing our minds, we need to make our decisions so as to reduce the cost of taxes when they do become necessary. The higher the tax on changing your mind the more necessary it is to seek what is known as a *dynamic decision-making policy*.⁵

After an extended market rise, a low turnover tax-efficient portfolio becomes “locked-up,” i.e., its value grows to be much larger than its cost basis. For the taxable investor this is a good thing, it is evidence that taxes have been deferred, have not been paid unnecessarily, and that the portfolio has increased in value. However, it then becomes costly to change the portfolio.⁶ This is a special case of the fundamental tax-management decision. Lock-up is a necessary cost of seeking tax deferral.

⁴ There are exceptions to this generalization.

⁵ The theory of statistical decision-making identifies a *decision policy* that specifies how a decision will be made at each point in time given the realization of future uncertain events. One can distinguish between decision policies that are *static* from one those that are *dynamic*. A static decision is made now, using current information, and uses no knowledge of how future decisions will be made. A dynamic decision, on the other hand is made in full knowledge of how future decisions will be made; when you act, you do so knowing that you will act again in the future, and anticipating how you will act given future events. Stein and Siegel[2002] provide an example of a dynamic decision as applied to the realization of employee options.

⁶ While it is costly to change the portfolio at this point, this cost is less than it would have been had the taxes been paid at an earlier stage.

An even more extreme example of lock-up is the concentration of low-basis holdings. Many investors, after building their wealth, find themselves with concentrated holdings and are reluctant to diversify because of the tax cost of doing so. But the risks with too much concentration are high. There are numerous approaches to diversifying, some using derivative strategies or exchange funds (Welch[2002]), and it is often best to simply bite the tax bullet (Stein et al [1999]).

So, one should not take the recommendation of tax deferral too far. Taxes should not be avoided; they should be managed. Jeffrey [2001] recognizes lock-up as a critical issue, and he talks of the “pruning decision” as where managers will earn their keep. An active manager’s pruning decision will be closely related to his alpha projection. A passive manager’s pruning decision will be related to his tracking risk and the manner in which the universe he is targeting evolves over time. Some tax-managed portfolios are pruned almost continuously.

The portfolio manager’s goal then is to become locked up with a portfolio that is desirable rather than one that is risky. The expert tax manager recognizes this at the start, and sets an investment policy with this in mind. Some strategies – e.g. value strategies or small-cap strategies – are particularly sensitive to lock-up; higher taxation is an implicit cost of these strategies.

More generally, in seeking a portfolio that realizes gains at a low rate, one needs to consider also the structure of the equity investment (Stein[2001], Evensky[2002]). After-tax value is often lost through poor structure, for example, an equity portfolio that is partitioned into style and cap subsets with overlap among managers that change frequently. Such a design requires expensive maintenance and undermines tax-efficiency. In addition to the portfolio manager’s alpha tax, many types of capital gain taxation lurk to trap the unwary investor: a rebalancing tax; a manager selection tax, and a benchmark reconstitution tax. To avoid these rather structure the equities with a broad core equity investment that is passive and tax managed in cooperation with satellite concentrated active managers. The satellites can be relatively small portfolios that are unconstrained with respect to risk and are not too focused on taxes.

Stage 3: The customization of a portfolio to the investor’s tax issues and active tax management

Having reduced taxation by seeking to defer capital gains, the portfolio manager reaches the third degree in tax sensitivity when he realizes that individual portfolio performance can be improved through customization, by taking into account the cost basis of the investor’s tax lots. The management of the individual portfolio then depends on that portfolio’s investment flows. This means embracing the concept of taxes and adding value by actively managing them.

Commingled accounts such as mutual funds are at an inherent tax disadvantage here since all investors are treated alike. Additionally, mutual funds cannot distribute capital losses. Exchange traded funds are in only a slightly better position.⁷ Customization requires a separate account.⁸

This topic of customized active tax management is the one that separates the men from the boys. An active portfolio manager seeking to add value can do so either by selecting securities or by actively managing taxes, and these two approaches typically conflict with one another. The subject of active tax management has now been well documented and simulated (see Stein and Narasimhan[1999], Arnott et al [2001]). The active tax manager maintains – and exploits – tax lot information in the portfolio, and informs decisions by taxes every time the portfolio is rebalanced and every time there is a cash inflow or outflow. He transitions securities into or out of the portfolio, and regularly harvests capital losses around his target holdings. He matches capital losses with gains whenever possible, and avoids wash sales. He does this while managing the alpha expectations of his securities and balancing the trade offs among tax costs or benefits, alpha expectations, and portfolio risks. Active tax management can be implemented in a portfolio that changes frequently, in a market-tracking or in a customized core portfolio.

When the investor has capital gain tax liabilities and uses harvested losses to reduce them, the value of harvesting losses can be substantial. Loss harvesting can be worth .80%-1.20% or more per year over a ten-year period above passive tax management at little incremental risk. This can be worth as much as, or more than, stock selection. Usually the economic value added is “front loaded” and declines over time; it depends on the market environment (in weaker markets the value is higher) and on the volatility of the securities. If the investor has substantial short-term gains that he wishes to offset, the process can be turbo-boosted, realizing small amounts of long-term capital gains in order to increase the realization of the more valuable short-term capital losses.

Few managers have the ability to actively manage taxes well. To do so requires a technological infrastructure for maintaining detailed tax information on the portfolios and for automating portfolio rebalancing. Automated portfolio management systems are not yet widely available for doing this well and those that do exist require expert piloting. Because of the effort and costs of customization, some techniques are appropriate only for wealthier investors. The industry – with technology – is always evolving to make these approaches available at lower asset levels as well.

Stage 4: The coordination of tax management among managers and broader investor issues

⁷ Because of the way an exchange traded fund distributes assets in-kind to certain redeeming shareholders, it is able to distribute slightly fewer capital gains than a mutual fund with the same mandate.

We have thus far been discussing our topic from a portfolio-centric viewpoint. Once an investor has embraced separate account customization and employs multiple managers, it becomes clear that portfolio management needs to transcend its local viewpoint. Tax-sensitivity is better addressed from a strategic, coordinated point of view. Let us now get back to some broader issues.

Brunel [2002] and Stein and McIntire[2003] discuss issues associated with uncoordinated multiple managers. Inefficiencies creep into the management of multiple separate accounts. Multi-manager accounts that combine the separate skills of a number of managers in a single account are becoming popular. These avoid a duplication of effort amongst the managers, and coordinate trading, tax and risk management. An effective multi-manager account requires what the investment industry is beginning to refer to as *overlay portfolio management*.

The overlay manager makes account-specific decisions. He coordinates the trading and seeks to add value through active tax management at lower account minimums. The value he adds comes from operational efficiencies (convenience, reduced paperwork, unified reporting) and improved after-tax performance. Stein and McIntire quantify the value added by overlay tax management to be from .3% to .6% and more, depending on the starting point and on the overall portfolio structure and design. It requires a capability for “mass customization”.

The subject of overlay portfolio management in an equity portfolio is just one aspect of coordinating taxation. There are many other opportunities as well. There is an opportunity for tax-sensitive re-balancing among asset classes (Jacob [1995]), but there is little published knowledge on this subject. The *location* of assets (Dammon et al [] and Friedman[1999]) addresses questions of coordinating between taxable and tax-deferred retirement accounts or tax exempt charitable trusts. Improved performance can be achieved by the careful determination of where to hold highly taxed assets and where to hold more tax-efficient assets. There are often opportunities for improving coordination among the investment manager, the tax accountant, and the trust and estate attorney.

In general, the focus needs to be on tax planning rather than on tax minimization.

Most tax planners typically assume that the current tax rate will remain in place indefinitely. While we know that taxes will always exist, tax rates are uncertain and almost surely will change. Indeed, current US tax laws (2003) are designed to change within the coming years. Investment managers are in a position to place a bet on tax rate changes or to hedge against undesirable moves, and this can be a useful endeavor. Compared with forecasting security returns, changes in interest rates or economic trends, forecasting tax rate changes is easier. Tax rates move relatively slowly and are fixed only after a great deal of public

⁸ There do exist commingled partnerships in which the actions of some investors provide advantages to other investors.

debate. Anticipating tax law changes can lead to improved valuation of securities and to the intelligent timing of the restructure and rebalancing of investments.

These are the evolving industry directions.

Conclusion

Equity portfolio management has come a long way since the early 90's when it became evident that taxes matter a great deal, that they undermine many a portfolio manager's attempts at seeking return, and that they can be managed to advantage. In this chapter we have reviewed the cutting edge of this art. We have identified the following four degrees of tax sophistication in managing equity investments:

1. The measurement of after-tax return and the evaluation of performance
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Taxes should not be avoided, they should be managed. To do this well requires Tax management is an integral aspect of portfolio management. All investment ideas need to adapt to changing market environments and opportunities, and this applies also to tax management, which will evolve as tax rates and tax rules change.

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