

# The Long and Short of Tax Efficiency

DORSEY D. FARR

**DORSEY D. FARR**

is vice president and senior economist at Balentine & Company in Atlanta, GA. [dfarr@balentine.com](mailto:dfarr@balentine.com)

*Anyone may so arrange his affairs that his taxes shall be as low as possible; he is not bound to choose that pattern which will best pay the treasury; there is not even a patriotic duty to increase one's taxes.*

—Judge Learned Hand

For many private investors, tax efficiency is addressed by employing investment managers with low portfolio turnover or by incorporating a “tax efficient core” as part of a broadly diversified portfolio. The pursuit of tax efficiency via low turnover portfolio sometimes translates into a strategy based on passive security selection, since even relatively low degrees of turnover can result in severe tax inefficiency (see Dickson and Shoven [1993] and Jeffrey and Arnott [1993]). Alternatively, a “tax efficient core” portfolio is generally built from a universe of large cap U.S. stocks such as the S&P 500 or Russell 1000, consisting of passive security selection combined with an active approach to tax management via continuous realization (a.k.a. “harvesting”) of losing positions. For example, a recent brochure from one advisor to high net worth individuals contains a hypothetical portfolio structure consisting of a “tax efficient core portfolio” benchmarked against the S&P 500, as well as a series of satellite portfolios focused on “small and mid-cap managers.” In this example, the core portfolio, the tax efficient portion of the overall port-

folio, consists of 25% of the equity allocation. The equity component of the total portfolio is approximately 50%, and the portfolio also contains a sizeable allocation to tax inefficient strategies such as hedge funds and “enhanced” cash. While the construction of the portfolio may loosely follow Brunel [2001] and Stein [2001] in spirit, it is difficult to argue that the overall portfolio is really tax efficient. Indeed, both the low turnover approach and the tax efficient core approach pay “lip service” to tax efficiency, but the strategies offer limited opportunities for tax efficiency when combined with tax inefficient satellite investments.

In this article, we suggest that there are situations where the pursuit of tax efficiency can and should take place outside of an investor's core portfolio. We consider two types of investors: the first is an investor with a low basis, concentrated portfolio attempting to transition toward a diversified portfolio. Tax efficiency for such an investor must go far beyond employing a manager with low turnover or a single large cap manager who actively harvests losses for tax purposes. The second type of investor is an “active trader” whose core investment practice generates a substantial amount of short term capital gains.<sup>1</sup> Without some alternative mechanism for tax efficiency or extraordinarily large pre-tax returns, such a strategy can result in poor after-tax returns.

Our proposed solution, ironically, relies on hedge funds, which are notoriously known

as tax inefficient investment strategies. We maintain that some types of hedge funds—when managed accordingly—can be an excellent vehicle for increasing the tax efficiency of a portfolio. Unfortunately, very few hedge funds recognize tax efficiency as a legitimate portfolio management objective. This is somewhat surprising given that taxable investors account for a large portion of hedge fund capital, and we believe the pursuit of tax efficiency provides a substantial opportunity for both hedge fund managers and funds of hedge funds.

The remainder of this article is organized as follows. We first discuss the advantages of a particular hedge fund strategy—a market neutral long-short portfolio—in the pursuit of tax efficiency. Next, we explore an example of a sub-portfolio that incorporates a long-short investment strategy which might be used to enhance the tax efficiency of an investor's overall portfolio. We then turn to hypothetical examples where such a portfolio might improve the after-tax returns of two different investors—an investor with a low basis, concentrated portfolio and an active trader whose investment approach results in a substantial amount of short term capital gains. The final section offers some concluding observations.

## HEDGE FUNDS AND TAX EFFICIENCY

Hedge fund investments represent a sizeable and growing portion of private investors' portfolios.<sup>2</sup> Taxable investors use hedge funds either to enhance portfolio returns or to reduce overall portfolio volatility, depending upon the particular strategy. Although a large percentage of wealthy individuals and families invest in hedge funds, most hedge fund strategies are notorious for being extremely tax inefficient investments because of their inherently short term trading perspective and relatively high turnover.<sup>3</sup> However, when managed accordingly, some types of hedge funds can provide the opportunity to increase the overall tax efficiency of a portfolio. As demonstrated by Apelfeld, Fowler, and Gordon [1996], high turnover does not necessarily reduce after-tax returns since there is both "good" and "bad" turnover.

Because a hedge fund can invest in long positions as well as short positions, it is possible for a hedge fund manager to construct a "zero beta" portfolio using a long-short strategy (Black [1972]). That is, a long-short approach allows an investor to construct a market neutral portfolio that generates a return comparable to the return provided by the risk free asset.<sup>4</sup> With this in mind, a portfolio manager could also incorporate active tax manage-

ment by continuously realizing losses in order to enhance the portfolio's tax efficiency.<sup>5</sup>

By combining the dual portfolio management objectives of market neutrality and tax efficiency, the portfolio manager can produce a return equal to the risk free rate while generating a large amount of realized losses over a short time period. Roughly speaking, the short positions in the portfolio will typically result in losses during a rising market, while the long positions produce offsetting gains. In a declining market, the reverse scenario is true. In either case, positions with gains can be held in order to defer realization of capital gains, while losses may be actively harvested (realized) for tax purposes. The ability to sell short substantially increases the opportunity for loss harvesting—especially in a bull market environment.

There is growing number of traditional (long-only) portfolio managers pursuing tax efficiency as a core portfolio management objective. These managers generally offer exposure to the market but provide a limited degree of tax efficiency, since the potential for loss realization is dependent upon the market environment. Generally speaking, a bull market provides far less opportunity for realizing losses than a bear market—although tax efficient management is no less important in a bull market (Berkin and Ye [2003]). However, given that equity markets tend to increase over time, a long-only approach generally provides superior returns to a market neutral approach, and a market neutral long-short approach generally provides greater opportunity for loss harvesting than a long-only approach.

These two extremes highlight the existence of an important trade-off between the rate at which losses may be realized and the degree of market exposure. It is possible that a market neutral portfolio can generate losses equal to invested capital over a relatively short time span, while a manager that pursues a high level of market exposure has a more limited opportunity for loss realization. While most tax efficient portfolio managers may understand that the degree of tracking error relative to a market benchmark is inversely related to the potential for loss harvesting in an upward trending market, very few managers choose to deviate far from an approach with near perfect market exposure.<sup>6</sup>

Another crucial element associated with tax efficient portfolio management is the lockup phenomenon. Tax efficient portfolio management requires that no trade take place unless the expected value added outweighs the transactions cost (including tax costs) associated with the trade; however, at some point, the imbedded gains built

## EXHIBIT 1

### Hypothetical Manager and Portfolio Characteristics

	Expected Return	Standard Deviation	Loss Rate
Manager 1	9.0%	20%	15%
Manager 2	3.0%	6%	35%
Tax Advantaged Portfolio	6.0%	10.4%	25%

Notes: Loss Rate represents the average amount of realized losses per year during a two year period as a percentage of invested capital. The Tax Advantaged Portfolio is a combination of 50% Manager 1 and 50% Manager 2.

into a portfolio become so large that the portfolio becomes “locked”—the tax cost of any sale outweighs the expected gains from trading. In this regard, hedge funds have another advantage over long-only portfolios in that a long-short portfolio is far less susceptible to the portfolio lockup phenomenon. A long-only portfolio—particularly in a bull market—can reach the point of portfolio lockup very quickly, but portfolio lockup is generally far less of a concern with a long-short strategy. With a market neutral long-short portfolio, the potential for loss harvesting is far more dependent upon the volatility of market returns than the direction of market returns. Indeed, it may be more likely that a long-short portfolio realizes losses equal to invested capital (reducing the cost basis to zero) prior to approaching the point of portfolio lockup. A tax efficient long-only portfolio typically reaches the lockup point without ever coming close to realizing losses equal to the amount of invested capital.

### COMBINING MULTIPLE STRATEGIES

Given the aforementioned trade-off between the degree of market exposure and the potential for loss realization, it is interesting to consider strategies that incorporate a combination of different approaches. A manager that employs a long-only strategy with active tax management should be able to achieve a (pre-tax) return similar to a broad market index. A long-short manager that seeks to maximize realized losses while attempting to produce a return equal to the risk free rate generally sacrifices market exposure in exchange for greater loss realization. There exist combinations of the two approaches

that provide a return between the risk free return and the equity market return with varying degrees of potential for loss harvesting. Such a portfolio could produce a substantial level of realized losses without an actual capital loss while maintaining some degree of market exposure.

Consider a multi-manager portfolio consisting of  $n$  managers—each with a different investment objective and investment universe. One manager operates a long-short portfolio and the other  $n - 1$  managers operate long-only portfolios. All of the managers actively harvest losses in order to promote tax efficiency. The long-only managers achieve modest levels of loss harvesting,

but provide an assured level of exposure to the equity markets. The long-short manager pursues aggressive loss harvesting, but does not achieve a return greater than the risk free rate. The manager universes are mutually exclusive in order to eliminate the potential for wash sale problems (i.e., any one manager does not need to worry about the actions of the other managers).

In Exhibit 1, we examine a simple case with only two managers, where one of the managers operates a long-short portfolio and the other manager operates a portfolio benchmarked against a small cap stock universe. We assume the expected returns for the long-short manager and the long-only manager are 3.0% and 9.0%, respectively. We also assume that the market neutral portfolio is uncorrelated with the long-only portfolio. We label the combined portfolio the *tax advantaged portfolio*.

Given our assumptions about the expected returns, volatility, and loss harvesting rates for each manager, a portfolio consisting of a 50% allocation to the long-only manager and a 50% allocation to the long-short manager will exhibit the properties in the bottom row of Exhibit 1 (labeled “Tax Advantaged Portfolio”). We present several alternative portfolio combinations in Exhibit 2. The statistics for the hypothetical portfolios contained in Exhibit 2 highlight the potential for an investor to customize the “tax efficiency/market exposure trade-off” by adjusting the allocation among various investment strategies.

## EXHIBIT 2

### Alternative Portfolio Combinations

Allocation (% Manager 1)	Expected Return	Standard Deviation	Loss Rate
20%	4.2%	6.2%	31%
40%	5.4%	8.8%	27%
50%	6.0%	10.4%	25%
60%	6.6%	12.2%	23%
80%	7.8%	16.0%	19%

Note: Loss Rate represents the expected average annual level of realized losses over a two year period. The portfolio statistics presented above are based on the hypothetical characteristics for each individual manager contained in Exhibit 1.

### APPLICATIONS

#### EXAMPLE 1:

#### *Transition of a low basis, concentrated portfolio to a diversified portfolio.*

Many wealthy investors hold extremely concentrated portfolios, often consisting of as much as 80%-90% in a single security. Such portfolios typically have low projected returns relative to the often high expected level of risk. While the reasons that investors hold such portfolios vary, a common theme is the tax burden associated with the transition to a fully diversified portfolio. While a diversified portfolio generally has a much more favorable return distribution than a concentrated portfolio, the costs associated with diversification often seem prohibitive.

With a sufficient level of loss harvesting, a long-short portfolio could be used to virtually eliminate the tax implications associated with the transition from a low basis, concentrated portfolio to a broadly diversified portfolio. Consider an investor who wishes to reduce the risk of a single security portfolio by transitioning out of the concentrated position, but is concerned about the obvious tax consequences associated with the transition to a diversified portfolio. Using a tax advantaged long-short portfolio, the investor could accept a limited amount of market exposure for a period of time in exchange for the potential to aggressively harvest losses in order to enhance the tax efficiency of the transition to a diversified portfolio.

Since there exists a trade-off between market exposure and the tax benefits derived from aggressive loss harvesting, it is best to employ this strategy when the opportunity cost associated with being out of the market is low (i.e., this is a particularly attractive strategy when stocks are perceived to be overvalued).

Some research suggests that immediate diversification is superior to monetization techniques such as a variable pre-paid forward transaction—unless the proceeds from the monetization are invested in a tax efficient investment strategy. In an extreme bull market, the optimal strategy might be to simply pay the tax and invest in an index portfolio. However, in an environment where market returns are projected to be relatively poor, the odds increase that the opportunity cost associated with a low level of market exposure may be less than the potential benefit from pursuing the tax advantaged strategy.

In order to fund the tax advantaged portfolio, an investor could pursue a monetization strategy such as a variable pre-paid forward (VPF). While immediate diversification involves a certain tax penalty in the year of sale, the tax advantaged long-short strategy combined with a VPF *delays* and significantly *reduces* the tax burden associated with a transition from a concentrated portfolio to a diversified portfolio. In this example, the tax advantaged long-short strategy plays a key role in reducing the costs associated with realizing capital gains and hence improving the after-tax return during the transition period.

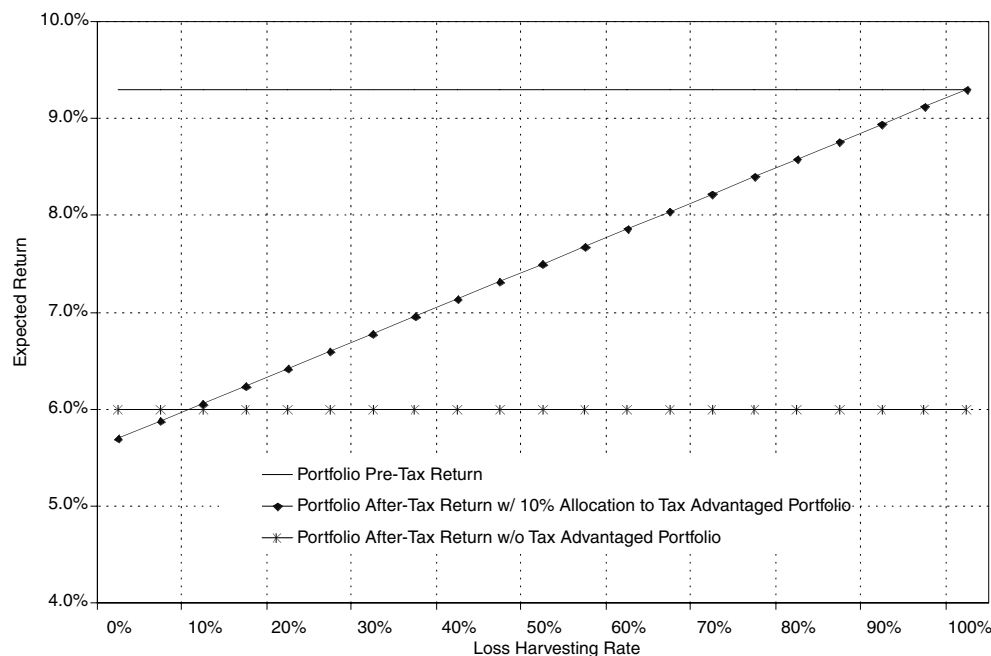
#### EXAMPLE 2:

#### *Increasing tax efficiency for an active trader.*

A second application of the long-short approach to tax efficiency—but perhaps one with even greater benefit—involves an investor who generates a large number of short term capital gains as a result of an active core investment practice. Consider, for example, an investor who frequently generates short term gains as a result of an extremely high degree of portfolio turnover or a large allocation to tax oblivious hedge fund strategies. Absent a sufficient number of short term losses to offset some of the gains, this type of strategy can be very tax inefficient. A tax efficient long-short strategy provides the potential to enhance the after-tax return of a high frequency trading strategy. The ability to offset short term gains is especially valuable, since short term gains are taxed at unfavorably

## EXHIBIT 3

### Effect of Loss Harvesting on After-Tax Return



Note: The analysis above assumes a pre-tax return of 10% for a tax oblivious portfolio, a pre-tax return of 3% for the tax advantaged portfolio, a 40% tax rate, and a 10% allocation to the tax advantaged portfolio.

high rates relative to long term gains.

Suppose an investor expects to earn a 10% return, all of which is generated via short term gains. The after-tax return is only 6% (assuming a tax rate of approximately 40%). If the investor allocates a portion of her total portfolio to a long-short portfolio that aggressively harvests losses, she could substantially improve the overall after-tax return—even if the long-short portfolio represents a drag on the pre-tax return. Exhibit 3 contains a demonstration of the effects on after-tax returns of a 10% allocation to a tax advantaged strategy with various rates of loss harvesting. Even modest amounts of loss harvesting have a significant positive impact on after-tax returns.<sup>7</sup> A 10% allocation to a tax advantaged long-short portfolio with a 35% annual loss harvesting rate and an expected return of 3% results in a 100 basis point increase in the after-tax return of the total portfolio. In this example, the tax advantaged long-short strategy is especially valuable since realized losses are used to offset short term gains in the portfolio.

## CONCLUSIONS

Some estimates suggest that taxable investors hold as much as 80% of all hedge fund assets.<sup>8</sup> Given that taxable investors account for such a large percentage of hedge fund capital, we find it odd that very few hedge fund managers actually embrace tax efficiency as a legitimate portfolio management objective. It is especially odd given that a long-short portfolio offers so much potential for tax efficiency relative to a long-only portfolio.

We believe that the pursuit of tax efficiency provides a substantial opportunity for both hedge fund managers and funds of hedge funds. Based on the applications described above, a long-short hedge fund manager

has the ability to offer a far more attractive investment vehicle to taxable investors by combining the dual portfolio management objectives of market neutrality and tax efficiency. Moreover, the manager of a fund of hedge funds has the ability to increase the after-tax return for their investors by as much as 100 basis points simply by allocating a small portion of the asset base to a highly tax efficient long-short portfolio. Incorporating tax efficiency into the portfolio management process should be a goal of any hedge fund or fund of hedge funds designed for taxable investors, and taxable investors should actively pursue hedge funds that emphasize tax efficiency as a portfolio management objective.

## ENDNOTES

<sup>1</sup>The active trader could equivalently be an investor with a large allocation to active investment strategies such as tax-oblivious hedge funds.

<sup>2</sup>A recent survey of private family offices found that hedge funds represent 14% of respondents' total assets and most respondents plan to increase the commitments to hedge funds during the next few years (see Family Office Exchange [2003]).

<sup>3</sup>Lamm and Ghaleb-Harter [2001] note that hedge funds

have historically produced very attractive risk adjusted returns—even on an after-tax basis.

<sup>4</sup>Throughout we refer to the expected return for the long-short portfolio as the risk free return. In the presence of manager skill, there is the potential for value added above and beyond the risk free return; however, we are implicitly assuming efficient markets and that systematic risk is the only type of risk that is rewarded.

<sup>5</sup>Means [2002] also discusses the possibility of using a market neutral portfolio to promote tax efficiency. Unfortunately, very few hedge funds incorporate tax efficiency into their portfolio management process. As of this writing, we know of only a few hedge funds that attempt to enhance after-tax returns via active loss harvesting.

<sup>6</sup>Long-only strategies benchmarked against a high volatility universe offer greater opportunity for loss harvesting than those benchmarked against a low volatility universe. In both cases, the idiosyncratic volatility of individual stocks is particularly important. The potential for loss harvesting is also positively related to the number of securities in a universe—there is greater opportunity for loss harvesting in a universe with a large number of constituents relative to a universe with a small number of constituents. See Narasimhan and Stein [1999] and Berkin and Ye [2003].

<sup>7</sup>Any rate of loss harvesting above 10% per year results in a greater after-tax return.

<sup>8</sup>See Merrill Lynch/Cap Gemini Ernst and Young [2001].

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