Being Tactical About Trading and Taxes

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Tax Efficiency in Tactical Solutions

In a prior research paper, *Being Strategic about Tactical Allocations*, we explored reducing overall portfolio turnover – which will oftentimes increase tax efficiency – through optimization methods that balance turnover costs and tracking error.[1] These methods, however, were agnostic to tax rates and holding period, which are large drivers of tax-based investment decisions.

If we believe that our models add value, then we should compare the trade off of immediately acting on a trade or rebalance signal that causes a short-term capital gains tax versus deferring action until after our gains are long-term qualified (what we will call "tax maturity").

In this commentary, we take an intuitive approach to addressing this problem. For a more thorough development of the framework, please refer to our research paper, *Being Tactical About Taxes and Trading*.[2]

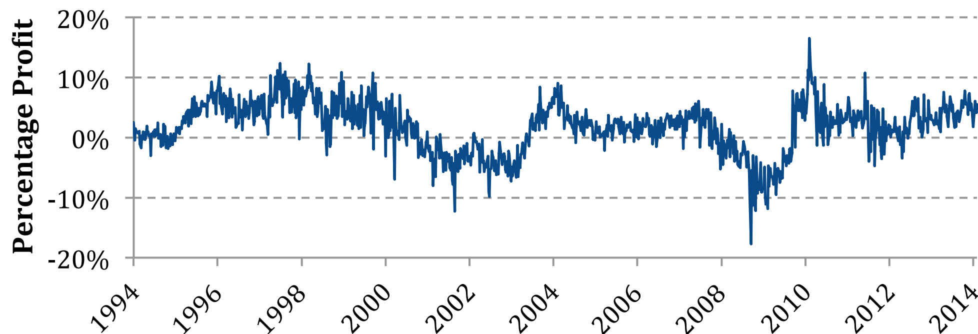
Deciding When to Trade

Tactical strategies rely on a variety of methods for selecting assets that should be bought or sold to meet investment objectives. Financial advisors also make similar decisions in client accounts. Considering these decisions in isolation neglects the very real impact of taxes on the overall outcome in after-tax accounts. Each decision to trade must be examined in the context of taxes. Thus, the central question is: When do the benefits from trading outweigh the costs of taxes?

Some trading scenarios are intuitive. For example, when tax maturity is close, the decision to hold postpone a trade until the sale qualifies for the long-term capital gains tax rate may be clear despite a tactical decision to sell immediately.

The decision becomes less obvious when we are further from tax maturity or when the decision involves selling one security in favor of another rather than simply holding the proceeds in cash.

[1] www.thinknewfound.com/wp-content/uploads/2011/05/Being-Strategic-About-Tactical-Allocations.pdf
[2] www.thinknewfound.com/wp-content/uploads/2014/04/Being-Tactical-About-Trading-and-Taxes.pdf



This graph plots the profit difference realized when SPY is sold one week prior to the one year mark (at a 35% tax rate) versus at the one year mark (15% tax rate).

An Overview of the Framework

Using the following methods, we will gain insight into how strong our confidence in the tactical decision must be in order to justify the trade. The end result will be a likelihood of the trade being profitable after taxes, given our current beliefs.

Accounting for Lost Opportunity

One key to the issue of taxes and trading is that there are costs associated with both deciding to trade and deciding *not* to trade. Suppose we are selling asset 1 and buying asset 2. The goal is that, if we execute the trade, the gain on asset 2 minus the gain on asset 1 (the lost opportunity) will overcome the tax cost that arises from paying higher taxes on short-term capital gains.

Determining the Inputs

The necessary parameters for calculating the probability of a profit can be divided into two groups:

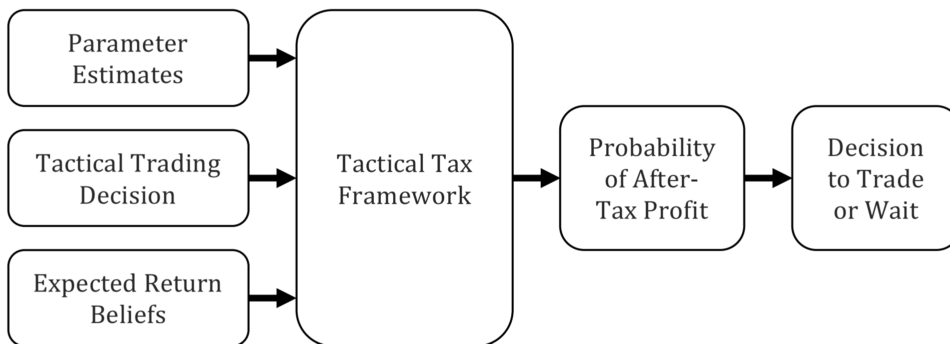
Known Parameters	Unknown Parameters
Time until tax maturity, current profit, and tax rates	Asset volatility, correlation, and expected return

Of the unknown parameters, the asset volatilities and correlations can be estimated using recent historical data with some degree of accuracy. The expected returns on the assets are more

difficult to estimate from historical data and are therefore primarily rooted in an investor's subjective beliefs.

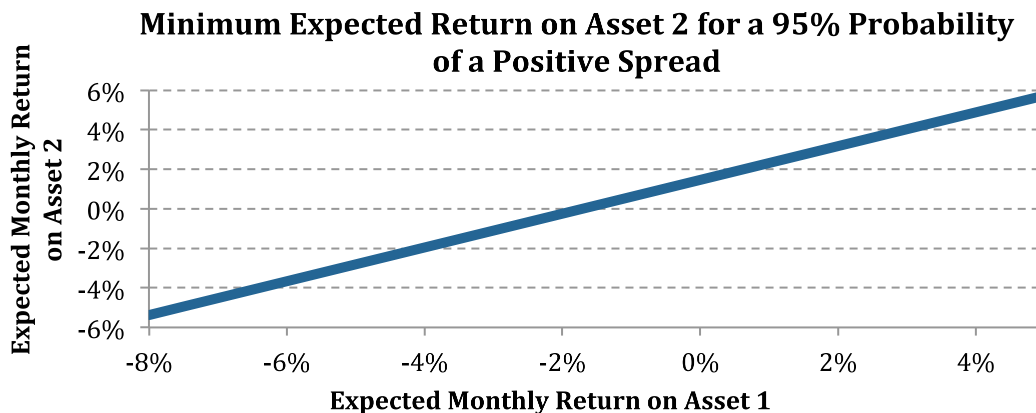
Translating Beliefs into Results

The source of the expected return values is irrelevant for making the final trading decision; what is relevant is the confidence in the expected return values. From a conservative set of beliefs, we can calculate a minimum probability of a profitable trade. This probability can then be used to decide whether to trade or wait.



Utilizing the Framework

For a particular trade, we can calculate the probability of overcoming the tax hurdle for a variety of expected returns. Using what we know about the tactical model, we can determine how far off our estimates would need to be before the trade is not profitable.



The relationship between the minimum expected returns on the assets is approximately linear.

In this example, if we believe asset 1 will be flat until tax maturity, we must believe, from our model or some other means, that asset 2 will

return at least 1.5% monthly until tax maturity to be 95% confident of a profitable trade.

Heuristic Effects with Changing Parameters

A way to get a more general idea of the behavior of the probability is by examining how changes in the underlying parameters affect the probability. Some heuristics that hold for typical parameter sets are:

If the Parameter Increases…	The Probability…
Expected Return on Asset 1	↓
Expected Return on Asset 2	↑
Asset 1 Volatility	↑
Asset 2 Volatility	↑
Correlation	↓
Time Until Tax Maturity	↑
Current Profit	↓

Having beliefs about the evolution of these parameters can aid in determining whether to trade immediately or wait.

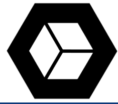
Conclusion

A pillar of outcome oriented investing is providing investment strategies that meet investors' goals. Simply beating a benchmark may not yield the best final result for an investor if the investment is not tax-efficient. However, two issues arise when implementing tactical tax solutions across the board:

1. The method requires the estimation of five parameters, two of which, namely the expected return on each asset, are generally subjective. The decision to trade is also the most sensitive to these values out of all the estimated parameters.

2. Investors have unique tax situations, which affect the cost that must be overcome when making a trade. Even if a manager is able to accurately forecast the expected return on the assets, the decision to trade for one investor may be the opposite for another.

Ultimately, calculating the probability of a positive payout is feasible on an investor-specific level but is not tractable on an aggregate basis.



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