

Senior Consultant

The Voice of the Investment Management Consultant

[G r a p h i c o m i t t e d]

Overlay Portfolio Management in a Multi-Manager Account

David M. Stein, Parametric Portfolio Associates

New portfolio structures are changing the rules of the investment game. Multi-Manager Accounts¹ (MMAs) combine the unique skills of multiple managers into a single account, providing benefits to the investor, the advisor/sponsor and the manager.

An effective MMA requires what the investment industry is beginning to refer to as an Overlay Portfolio Manager² (OPM). While MMAs can be operated without an OPM – typically through administrative software that simply process trades from different sources within a single account – MMAs rely on the OPM to realize significant potential. Essentially, the OPM customizes portfolio decisions for each investor. The OPM coordinates tax-lot management, for example, by identifying the most appropriate tax lot for selling and by policing wash sales. He may step away lightly and briefly from the sub-managers' selections to realize tax losses. He coordinates account re-balancing when there are contributions and withdrawals or when managers are replaced. The OPM also coordinates security restrictions and social constraints, and frequently he is able to reduce trading and custodial costs.

Investors are ultimately attracted to separately managed accounts because of the potential for customization. Customization, if performed correctly, can both reduce risk and increase real after-tax return. Investors and advisors should evaluate MMAs as an evolution in separately managed accounts. In this spirit, MMAs should, relative to conventional separate account practices, provide increased coordination, leading to increased customization and culminating in increased after-tax performance. Successful OPM is a necessary part of the MMA value proposition.³

What Is OPM Worth To The Investor?

In this white paper, we describe the role of an OPM and attempt to quantify aspects of the value he adds. We focus on the quantifiable value added by tax management and identify significant performance

potential. If any multi-manager separate account structure, conventional or MMA, is implemented poorly, taxes can consume more than the pre-tax excess return (alpha⁴) that the managers add; but, if implemented well, it is possible to coordinate the taxable actions of the managers to significantly reduce the tax drag, without significantly compromising the active managers' alpha. The value added by a tax overlay depends on the nature of the active sub-managers, their overlap, their concentration and the manner in which the overlay is implemented. Our research shows that an overlay manager is often able to add .35%-1.0+% in after-tax returns each year for a 10-year period.

The value we identify creates a compelling proposition for the MMA product industry since additional non-quantified benefits also accrue. OPM value is added when rebalancing the portfolio, by coordinating client-directed contributions and withdrawals, by reducing trading and custody costs, and whenever previous decisions change (e.g., when securities are transitioned into or out of the portfolio, managers are replaced or the asset allocation changes) by reducing implementation and tax costs.

What We Won't Discuss

It is not our intent to discuss detailed issues related to sponsor implementation, portfolio management or trading. Many of these are not trivial. We focus only on portfolios comprised of U.S. equities; many of the ideas can be generalized to include global equities and fixed income. We also do not discuss reporting, a complex subject because of the need to attribute pre- and after-tax performance to the market return, to the active managers and to the overlay manager. While there are no industry standards for this reporting, the issues are quite solvable, and we have developed a system for doing so.

Multi-Manager Accounts (MMAs)

Driven by the availability of technology for "mass customization," some financial industry participants

While MMAs can be operated without an OPM ... MMAs rely on the OPM to realize significant potential

[G r a p h i c o m i t t e d]

are anticipating increasing popularity of separately managed accounts (Cerruli, 2002). Separate accounts allow the smaller investor to gain access to "institutional-quality" portfolio managers as well as customization and tax-management.

Over the past few years, the implementation of separately managed accounts has evolved from a single or multiple uncoordinated separate accounts to single accounts containing multiple managers or styles (MMAs). K. Keefe (2002) discusses the evolution of MMAs from a single investment firm providing multiple styles in a single account (first and second generation MMAs⁵) to multiple independent specialists providing models to a sponsor organization that provides customization and coordination in a single account (third generation⁶). For us, an MMA is a separate account in which individual managers are combined into a unified account. Compared to investing in multiple separate accounts, MMAs have distinct efficiencies and benefits.

What A MMA Provides

If implemented well, an MMA should have the following features:

- A structural design that expresses a clearly motivated investment philosophy and risk control
- Best-of-breed manager line-up, organized with little duplication of effort
- Flexible manager diversification and re-allocation
- Unified reporting
- Disciplined rebalancing
- Mandate customization
- Tax customization
- Low trading and custodial costs

Benefits of MMAs

With his assets in a single MMA portfolio, the investor has the benefit of relative simplicity, convenience and a unified view of his portfolio. He obtains excellent managers that provide a diversified portfolio and excess after-tax performance. The sponsor is able to provide this at lower custodial and trading cost, with lower portfolio minimums; he is able to simplify the re-balancing and allocation of assets to managers or investment styles. The sponsor adds value through his strategic

design, through the discipline he imposes and through manager selection.

However, implementation slippage and inefficiencies creep into the management of multiple separate accounts or MMAs, even when taxes are not relevant. An IBM pension-fund executive is known to have commonly complained: "All my managers are beating their benchmarks, so why is the aggregation doing so badly?" An MMA sponsor needs to avoid a duplication of effort amongst the managers. He needs to coordinate the trading and tax management that can occur across multiple strategies. This coordination has been achieved in the past by institutional-sized investors, both by taxable pension funds and by the wealthiest family offices. Coordination is

An IBM pension-fund executive is known to have commonly complained: "All my managers are beating their benchmarks, so why is the aggregation doing so badly?"

cost-effective when the assets under management are large, but it is increasingly possible to bring this experience to smaller accounts.

How should this be done? It is the function of the Overlay Portfolio Manager (OPM).

The Role of the OPM

In managing a set of highly customized portfolios, there are two types of decisions to be made: model decisions and account-specific decisions. Model decisions are those that are applicable to all accounts, e.g., active stock selection. If the manager wants to replace IBM with MSFT or to increase exposure to technology, he wants to do this across all his accounts. On the other hand, account-specific decisions are relevant just to individual accounts. If a particular investor will incur an unnecessarily expensive short-term capital gain when IBM is sold, or if he does not want to hold technology stocks, the decision needs to be customized for his account.

There is value to separating model and account-specific decisions, and having each made by a specialist. The best active managers make active model decisions and are not always equipped to customize these down to account-specific requirements. It is more efficient for the manager to concentrate on his model portfolio and to have another specialist (the OPM) focus on account-specific issues for each individual investor.

The OPM receives the managers' model portfolios and constructs an aggregate target portfolio for each client account. He maintains this target over time and manages the aggregate portfolio to track it closely. The OPM ensures individual investor restrictions are honored. With a focus on the tax-lot details, he can choose to step away from the target and obtain a tax benefit for the investor. He is in a position to make the trade-off between tax benefits and tracking differences from the target, even if the target changes frequently (sometimes because this target changes frequently). It is also natural to centralize risk-management with the overlay manager, thereby reducing the cost of active management.

So, the full-service overlay manager customizes active stock-selection decisions to the individual investor and enables tax management in the aggregate portfolio. He will:

1. Trade the portfolio: Avoid de minimus trades. Exchange stocks or tax lots among managers when appropriate. Absorb into and deliver stocks from a core (if one exists).
2. Coordinate and improve tax-lot management, e.g., maintain tax lot information, sell the best lot if held by more than one manager, harvest tax losses around the managers' holdings, police wash sales, defer gains from short-term to long-term and match losses with gains when required.
3. Coordinate account re-balancing: Allocate cash flows, contributions and withdrawals. Transition securities into or out of the portfolio. Transition holdings on manager replacement. Rebalance manager and asset-class weights.
4. Manage risks: Balance risks against tax-benefits and the cost of missing the target.

[G r a p h i c o m i t t e d]

Ensure the whole is within guidelines of the target. Ensure the whole is within specified guidelines of the market average

Note that OPM can be delivered along a continuum of functionality. In its most basic form, OPM is an administrative function that collects and implements trades, and possibly offers rudimentary wash sale policing or tax lot management. In this form, the benefits of an MMA are largely confined to convenience and reduced administration. At the other extreme, the OPM provides the items in the list stated above and more.

The OPM function is key within an MMA structure, yet to-date, active managers and MMA sponsors have focused mainly on the selling of active ideas. The overlay function cannot be accomplished from the sidelines or as an afterthought. It should be central. It takes focus, judgment, experience and cutting edge technology. It also requires investment operations that are integrated in the OPM process. It is a form of active management, not through stock selection but rather through tax management and customized implementation.

What Value Does OPM Add?

The question does remain: What is this worth to the investor if done well? The benefits of an overlay are complex, and some of them are difficult to quantify.⁸ In many cases, trading and custodial costs can be reduced as security duplication and trade overlap is managed or eliminated. There is reduced duplication of effort among the managers, e.g., the paperwork at account set-up and the reporting. The coordination of in-kind security flows, cash flows and manager allocation changes leads to both performance advantages and large operational efficiencies.

Perhaps easiest to quantify is the benefit that comes from on-going integrated tax management, and we focus now on this subject.

Quantifying The Value Of An Overlay Manager: The Model

We explore the performance benefits of a tax overlay manager with a simulated model. This allows us to quantify the benefits, attribute them to their various sources and study design issues. We are also able to measure the risks

being taken – risks of missing out on the managers' selections or of incurring additional market risk. As all models, ours is an approximation.

After-tax benefits depend on characteristics of the managers – the number of their holdings, their overlap, turnover and tax efficiency – and on the diversification of the aggregation. They also depend on the design and implementation of the overlay. Final performance certainly depends on the managers' success at attaining their alpha.

Monte Carlo Simulation

Our simulations are based on a fast but general portfolio re-balancing program, SQUAD. This is similar in spirit to the portfolio simulations described by Stein (1998, 1999) and Arnott, et al (2001). It enables us to follow actual and detailed portfolios over time as they are re-balanced to track a target each period and to realize capital losses, if required. The target can be either an actively changing or a passive portfolio. We can explore numerous questions, including the value of loss harvesting in different environments and how it evolves over time, the amount of short-term and long-term losses, the evolution of cost basis and portfolio lock-up, the trade-offs between tax benefits and tracking error, the trade-offs between number of holdings and tracking error, etc. We can study how the portfolio deviates from its ideal target.⁹

In general, we can drive our simulations with either real (historical) or hypothetical data. In this paper, we use hypothetical data.

Monte Carlo simulation is a powerful analytical tool for those of us who are mathematically challenged; it allows us to extend our intuition and predict. We can observe apparent inconsistencies, dig into the detail and determine that what was inconsistent was not the model or the theory, but our intuition. The exercise described here has provided numerous such examples.

To fix ideas, we study a particular example. We discuss sensitivities to the parameters and assumptions later.

The Example

We simulate a set of managers within a universe of 1,000 stocks (think of the Russell 1000 stock universe, for example). We simulate these managers, first in individually partitioned separate accounts and then in a combined MMA with an overlay manager.

Imagine six portfolio managers. There are two managers in each style: Growth, Value and Small Cap. One of the two managers is relatively diversified, the other relatively concentrated. The characteristics of each manager are shown in Table 1. Each manager incurs an expected tracking error relative to the market index; we have set the information ratio (alpha/tracking error) of each to .33. Each has a specified turnover, which determines rate of realization of capital gains (i.e., the fraction of the unrealized capital gain that is realized each year).

These are good managers, perhaps better than most. Tax management is not a major part of their focus, but their turnover is below that

Table 1.
Partitioned Structure – Manager Characteristics and Weights

Manager	Style	Holdings	Turnover	Tracking Error	Pre-Tax Alpha	Partitioned Structure: Target Weight
1	Diversified Growth	80	60%	5.0%	1.7%	30%
2	Concentrated Growth	35	80%	7.5%	2.5%	10%
3	Diversified Value	80	60%	5.0%	1.7%	30%
4	Concentrated Value	35	80%	7.5%	2.5%	10%
5	Diversified Small	80	80%	5.0%	1.7%	15%
6	Concentrated Small	35	80%	7.5%	2.5%	5%
Total Pre-Tax Alpha						1.9%
Benchmark Index		1,000	4%			

[Graphic omitted]

of many typical managers. In constructing a portfolio of the six managers, we weight them as shown in column 6 of Table 1; they provide a combined pre-tax expected alpha of 1.9% above the index per year.

The simulated OPM tracks a target portfolio, the weighted aggregation of the individual manager portfolios. We compare the following two cases.

Case 1. Six Managers, Partitioned and Uncoordinated. The managers each manage an account. Each manager has a target portfolio that evolves according to his stock selection; he re-balances each period perfectly to this target. The aggregate portfolio is the weighted combination of these portfolios.

Case 2. Six Managers with Overlay Management. With the same aggregate target as in Case 1, we model a single portfolio in which the stocks of the six managers are held. An overlay manager provides tax management and loss harvesting.

Modeling the Active Managers

Our universe of stocks is partitioned into the non-overlapping three styles: Large Growth, Large Value and Small Cap. The set of cap-weighted securities in the universe combine to form the index. Manager stocks are selected randomly within their style. They are initially equally weighted but are not subsequently re-balanced. Each period the specified percentage of unrealized gain is realized, and the stocks sold are replaced.

We need a stock selection alpha for the managers, and we want to do this without changing the index performance. We do this here by adding the alpha as a certain bonus at the end of the simulation. We add this stock selection alpha to the managers' performance as if it were certain, both pre-tax and post-tax.

Modeling the Overlay Manager and Alpha Drag

The overlay manager is modeled as a single tax-managed portfolio that is managed to track the target portfolio over time while realizing capital losses and identifying tax lots. Tracking is managed by constraining the exposures on individual securities around their target weights.

To bound the exposures, we start with the model portfolio of each manager and constrain its holdings to be positive and within .3% of that model's weights. The lower and upper bounds for the target are then the weighted aggregation of the managers' bounds for each security. These bounds define strict controls on security exposures. Certainly, in a live implementation and with information about manager conviction, for example, it is possible design a more sensitive process.

As in modeling the managers, we add a stock selection alpha to the pre- and post-tax performance. But the overlay manager may not always achieve the managers' alpha since he steps away from the target, and we need to reduce the managers' alpha. How much should

The overlay manager is modeled as a single tax-managed portfolio that is managed to track the target portfolio over time, while realizing capital losses and identifying tax lots

this alpha drag be? Clearly, the drag will depend on the managers and the nature of their alphas.

We use the following simple model to define the drag in this paper. For active managers (from whom we are certain to get an alpha), the overlay will lose an amount that is proportional to the information ratio. For example, if we expect the non-overlay portfolio to have an information ratio (alpha/tracking error) of .5, and the tracking to the target turns out to be .75%, then we set the alpha drag to be $.5 \times .75\% = .375\%$, and we reduce the pre-tax and post-tax performance of the overlay by this amount, as if it were certain. This drag seems to us to be high, but we use it conservatively nonetheless.

Base Parameters Summarized

- Here are our base parameters:
- Universe: 1000 stocks with 4% turnover

- Market returns: lognormal distribution, expected total return: 8%, volatility: 16%
- Dividends: 1.5%
- Average stock-specific volatility: 35%
- Time: 10 years
- No fees, trading costs¹⁰
- Manager rebalancing: managers drift. There is no rebalancing over time.
- Manager overlap: partition by style (Large Growth, Large Value, Small), overlap within style.
- Tax rates: 20% on long-term capital gains, 38.6% on dividends and short-term gains.
- Overlay bounds: .3% on active manager holdings.
- Rebalance frequency: quarterly
- Loss Harvesting: Harvest losses quarterly
 - Monte-Carlo simulations: 1,000 scenarios of stock-price movements.
 - Cash flow: initial investment of \$100.

In summary, our process for modeling the index and the managers works in the following order:

1. Generate the sequence of pre-tax index returns over the period.
2. Generate the sequence of pre-tax excess returns for each stock and determine cap weights each period.
3. Identify the stocks held by the managers and their weights. (The stocks are selected randomly from their sub-universe.)
4. Simulate the portfolios over time, identifying individual tax lots and pre- and post-tax performance.
5. Add the manager alphas to both the pre-tax and post-tax performance, as a certain value.
6. When there is an overlay manager, subtract the alpha drag from both the pre-tax and post-tax performance, as a certain value.

Quantifying the Value of an Overlay Manager: An Example

Case 1: Six Managers, Partitioned and Uncoordinated

As the first case, we consider what we expect to happen with partitioned managers in separate accounts. Table 2 shows the pre- and post-tax performance relative to both the target and the 1,000-stock index. Recall that the target

[G r a p h i c o m i t t e d]

in this case is the aggregation of the individual manager portfolios. In this and the similar tables to follow, the values are all annual values and expressed in “percent per year.” We are showing the averages of distributions of 1,000 simulations.

Following Stein (1999), we define tax alpha as the portion of after-tax alpha that comes from tax management. It measures the effect that tax management has on pre-tax alpha:

$$\text{Post-Tax Alpha} = (\text{Pre-Tax Alpha}) + (\text{Tax Alpha})$$

So that

$$\text{Tax Alpha} = (\text{Post-tax Alpha}) - (\text{Pre-tax Alpha})$$

In this case, the average pre-tax alpha is 1.90% and post-tax alpha is .56%. The managers have lost much of their pre-tax alpha to taxes; their tax alpha is -1.34%. This high cost of not paying attention to taxes has been documented previously.¹¹ In this case, it is the outcome of the simulations.

The managers all track their targets precisely; tracking error from the target is zero.

The average tracking error of the portfolios from the 1,000-stock index is 4.35%.¹²

Case 2: Six Managers with Overlay Management

Now consider how the six managers perform in an integrated account with overlay management. The parameters for the overlay manager are those described above: Up to 30 bp deviations are allowed on the manager holdings.

What is the alpha drag? The managers in combination provide an alpha of 1.9% at a tracking of 4.35% (Case 1), i.e., an information ratio of .44. The tracking to the target is .74%, and our alpha drag is $.44 \times .74\% = .33\%$.

Compared with Case 1, there is a significant difference shown in Table 3.

1. Pre-tax performance is slightly down; this is the overlay drag of 33%.
2. After-tax performance has improved. The tax alpha is now -.45%, substantially better than the -1.34% of Case 1. The improvement in tax alpha comes from a combination of managing tax losses and tax lots.¹³ Note

also that the target after-tax return has increased because the overlap of the managers requires less turnover.

3. Tracking error to the index, at 4.2%, is very similar to that of Case 1.
4. Tracking error to the target is .74%. While the portfolio does not perfectly track the aggregation of the managers’ portfolios, the deviations are very controlled.
5. Turnover – and therefore trading – is reduced. The number of holdings has increased; this is due not to more trading but to small holdings that are retained by the overlay manager rather than being sold.

It is important to note that this case is very sensitive to the characteristics of the managers and the implementation of the overlay. We discuss further aspects of this in the sensitivity analysis below.

Table 4 on the next page summarizes the after-tax alpha of each of Cases 1 and 2 together with an explicit attribution to the active managers and to tax management.

Sensitivity Analysis

The quantitative model we have presented makes numerous assumptions. We have attempted to provide what we think is a “typical,” relatively realistic case. In developing this, we did not tweak parameters and assumptions with a goal in mind. With alternative assumptions, it is possible for the value added by the overlay manager to be either higher or lower. Your own mileage, in particular, may vary. We will briefly address the sensitivity of the results to our assumptions regarding the simulation model, the choice of the managers and the nature of their out-performance, the portfolio structure and the implementation of the overlay manager. This topic is an extensive one, and can readily become the subject of another paper.

The Simulation

It should particularly be noted that in the simulations here we have used a very simple stochastic model of stock price movements: stocks individually move as the market, plus normally distributed noise. With this stochastic process, a simple risk model that only constrains security exposures is sufficient. Additionally, since real price returns suffer from fatter tails than the normal distribution,

Table 2.
Case 1: Six Managers, Partitioned and Uncoordinated

	Portfolio Return	Target Return	Difference from Target	Index Return	Difference from Index
Post-Tax	7.95%	7.95%	0	7.40%	.56%
Pre-Tax	10.20%	10.20%	0	8.30%	1.90%
Tax Alpha	0	0	0	0	-1.34%
Tracking Error	0	0	0	0	4.35%
Turnover	70%				
No. Holdings	345				

Table 3.
Case 1: Six Managers With Overlay Management

	Portfolio Return	Target Return	Difference from Target	Index Return	Difference from Index
Post-Tax	8.53%	8.14%	0.39%	7.40%	1.12%
Pre-Tax	9.88%	10.20%	-0.31%	8.30%	1.57%
Tax Alpha			0.70%		-0.45%
Tracking Error			0.74%	0	4.16%
Turnover	50%				
No. Holdings	400				

[G r a p h i c o m i t t e d]

Table 4.
Summary of Partitioned Structure
 (Alpha Measured Relative to Benchmark Index)

	Without Overlay Manager	With Overlay Manager
Partitioned Structure (6 managers, diversified by style/size)	After-Tax Alpha: 0.56%	After-Tax Alpha: 1.12%
	Pre-Tax Alpha: 1.9%	Pre-Tax Alpha: 1.9%
	Tax Management Alpha: -1.34%	Tax Management Alpha: -0.45%
	Alpha Drag: -0.33%	Alpha Drag: -0.33%
	Index Tracking: 4.3%	Index Tracking: 4.2%
	Turnover: 70%	Turnover: 50%
	Stocks: 345	Stocks: 400
	Target Tracking: 0%	Target Tracking: 0.7%

our estimates of tracking error may be overly optimistic. In a live implementation, more care needs to be taken to control risk and reduce the likelihood of extreme deviations from the target.

The Managers

Active portfolio managers differ widely with respect to the number of their holdings, their trading, tax efficiency and risk. In addition, sponsor choice of managers – their expected return, risk and overlap – can lead to different results.

In thinking about the number of the manager stocks and their overlap, the following holds. In general, the greater the number of unique stocks in the managers’ portfolios, the larger is the benefit from tax management. Holding the number of unique stocks constant, the more overlap in holdings there is among the managers, the greater is the benefit from tax management. While the turnover of the managers affects performance too (the higher the turnover, the greater the benefit), the after-tax benefit of the overlay is less sensitive to this parameter. Note that this does not mean we would recommend a design with many overlapping active managers, each holding a large number of stocks.

The effect of the managers’ pre-tax alpha is relatively transparent in this model. If the managers’ alpha is particularly high, then stepping away from it will be costly, and it is harder for the tax management overlay to overcome this cost. For low manager alpha, the value

added by the overlay increases. For example, the after-tax alpha of Table 4 changes to the following as we increase the manager information ratio (same tracking error and higher alpha):

After-Tax Alpha	
(Managers Have Information Ratio = .5)	
	<u>Partitioned Structure</u>
Without Overlay	1.73%
With Overlay	2.03%
After-Tax Alpha	
(Managers Have Information Ratio = 1)	
	<u>Partitioned Structure</u>
Without Overlay	4.28%
With Overlay	4.34%

The nature of the managers’ alpha is also relevant. We can imagine managers for whom the alpha drag model we have used is inappropriate. For example, imagine a manager who has certain foreknowledge when his holdings will drop in value for an extended time. To hold onto his securities to avoid a capital gain would be inadvisable, and our model of drag would be unsuitable. On the other hand, if the overlay manager knows about this particular skill, he could use it to the advantage of the portfolio. Of course, some managers are not suitable for inclusion in an MSA, e.g., managers who add value by identifying trading inefficiencies and trading frequently during each day.

The topic of using additional information from the active managers has large potential. We have assumed that the overlay manager knows nothing about the active selections

except that they are in the managers’ model portfolios. In general, a manager may be able to express a confidence in each stock or to quantify his return expectation over a specified period. With this information, the overlay manager is in an even better position to balance the portfolio and to consider explicitly the trade-off between return and tax cost for every stock and for the portfolio as a whole.

Portfolio Structure

The benefits of overlay management are closely intertwined with the portfolio structure (Stein, 2001). By reducing tracking risk to the market and fees, a portfolio with a core/satellite structure, i.e., a portfolio with a tax-managed core and concentrated satellite active managers, can add value to an MMA either with or without an overlay manager.

The Overlay Design and Implementation

Performance is sensitive to the implementation of the overlay, most notably the degree to which the overlay manager is able to diverge from the managers’ holdings. In designing an overlay, the choice of the overlay bounds is a function of the confidence in the active managers’ alpha and the alpha drag that results.

For the model here, the overlay manager is permitted to step away from target weights to a limited extent, and the bounds are not symmetric: over-weights are, in general, larger than under-weights. If we increase these bounds, we increase the tax-alpha and take more tracking risk from the target, incurring more alpha drag. If the bounds are increased too far, the tax-management benefits level off but tracking risks and drag do not; increasing the bounds too far destroys the contributions of the active managers.

A similar phenomenon occurs when we change the aggressiveness with which loss harvesting is pursued. Harvesting losses too aggressively and frequently adds little value but increases trading cost and risk.

Another design decision is that of whether to re-balance the managers’ allocations and the portfolio’s style exposures regularly. We have thus far chosen not to rebalance but to let the allocations drift over time. Were we to rebalance each quarter, turnover would increase and tax management alpha would increase.

[Graphic omitted]

The design and implementation of the overlay is a balance among numerous considerations. In practice, a design is often attractive with fewer active managers, each taking a larger degree of risk, and enough core that the aggregation has the desired risk profile and so that the core provides tax losses to offset the capital gains realized by the managers. The nature of the managers' alpha, and the drag on their performance is central. A goal of offsetting managers' gains with tax management losses can never be precisely accomplished since the core will produce more capital losses in early years than in later years, and in upward markets active managers will often produce more capital gains in later years than in early years. Market conditions will affect tax management as well. The balancing between core and active, the choice of active managers and the bounds on the tax management will always be an art.

Conclusion

Overlay portfolio management in a multi-manager account moves the responsibility for customization away from the typical asset manager (who is often either not doing it or is losing money doing it) to a specialist, who acts as an agent for the sponsor, and who is a large step closer to the investor. The benefits of an overlay portfolio manager are derived both from efficiencies in implementation and from account-specific after-tax performance. This is a powerful suggestion to the wrap and private client industry and has many benefits for the client, but may also have drawbacks for some constituents.

We have quantified the value added by overlay tax management using a computer simulation model to be anywhere from .35% to 1+%, depending on the starting point and on the overall portfolio structure and design.

Our simulations allow us to explore overlay and structural design decisions. We recommend a core/satellite rather than a partitioned structure. We believe that the active managers are best concentrated, and that for more active alpha, the investor is best off with aggressive active managers or a hedge fund; we recommend paying taxes from another account if possible to avoid an additional realization of capital gains. The balance between active and

core depends on investor preferences for risk, on confidence in the managers' alpha, on their rate of realization of capital gains and on market expectations which affect the rate of realization of capital losses in the core (Quisenberry, 2002).

Our quantified estimates of added value here derive only from on-going tax management within the portfolio. We have not quantified operational efficiencies, trading efficiencies or benefits that can be garnered from in-kind transitions, manager allocation changes, manager replacement, coordination of cash and security flows, and others. Indeed, we believe that the quantified benefits can be dwarfed by the after-tax and operational benefits of these other activities.

While the benefits of an overlay portfolio manager can be substantial, it is not possible to do this well from the sidelines or as an afterthought. It should be central.

While the benefits of an overlay portfolio manager can be substantial, it is not possible to do this well from the sidelines or as an afterthought. It should be central. It takes focus, judgment, experience and cutting edge technology. It is active portfolio management, not through stock selection but rather, through customized implementation and tax management. ■

End Notes

¹The term "Multi-Manager Account (MMA)" is by no means widely accepted. Others have used terms such as "Multiple Style Portfolio (MSP)," "Multi-Disciplinary Portfolio (MDP)," or a similar "account," MSA or MDA. They are all fundamentally similar notions.

²We use OPM both for Overlay Portfolio Manager and Management.

³MMA's are a powerful investment product in that they have the potential to deliver

increased customization and after-tax performance while simultaneously improving the administrative experience of the client and advisor.

⁴We use the terms "alpha" and "excess return" interchangeably in this paper.

⁵Keefe differentiates first and second generation MMA's by the nature of distribution – a first generation MMA is distributed through a captive or proprietary channel; second generation through distribution unaffiliated with the manager.

⁶Recent product announcements, including our own partnerships with several firms, describe "fourth generation" MMA's as involving multiple independent specialists, customization and coordination, as well as advisor-level flexibility in manager choice and allocation.

⁷Avoid selling short-term holdings when close to maturing to long-term.

⁸We are focused on quantifying general benefits. Client or account-specific benefits from many OPM activities are often clear and easy to quantify. As examples, investors and advisors can fairly easily estimate the benefits of tax-efficient coordination of withdrawals, portfolio transitions and allocation changes - relative to what would have happened in the absence of an OPM.

⁹A more detailed discussion of the simulation program can either be obtained directly from Parametric or from a more detailed paper on this same topic which we expect to publish late in 2002.

¹⁰Fees and costs can be very variable. So as not to distract from our main points, this simulation assumes them to be zero. We show portfolio turnover, and transaction fees can be readily estimated. In general, overlay management decreases trading. The presence of transaction or market impact costs reduces the nominal return, but on a relative basis, the overlay becomes more attractive.

¹¹Compare with Stein (1998) and Jeffrey and Arnott (1993) who address this loss of performance to taxes.

¹²Because of the distribution of capitalization size in the index, it turns out that the manager excess returns are positively correlated with one another and negatively correlated with the index.

¹³A more intricate analysis shows that the major portion of this benefit comes from managing tax losses rather than from identifying tax lots.

References

1. Association for Investment Management and Research, Redraft of the AIMR After Tax Performance Presentation Standards, www.aimr.org/pdf/standards/invite_comment.pdf, 2001.
2. Arnott, R.D, A.L. Berkin, and J. Yu, "Loss Harvesting: What is it Worth to the Taxable Investor?", *Journal of Wealth Management*, Spring 2001, 10-18.
3. Cerruli 2002, Industry Statistics – citation.
4. Keefe, K., SMA Forum, www.smaforum.com, 2002.
5. Jeffrey, R.H., and R. Arnott, "Is Your Alpha Big Enough to Cover its Taxes?", *Journal of Portfolio Management*, Spring 1993.
6. Quisenberry, C., in preparation 2002.
7. Stein, D.M., "Equity Portfolio Structure and Design in the Presence of Taxes," *Journal of Wealth Management*, 4 (2), Fall 2001, pp. 37-42.
8. Stein, D.M., "Measuring and Evaluating Portfolio Performance After Taxes," *Journal*

of Portfolio Management, 24(2), Winter 1998.

9. Stein, D.M. and P. Narasimhan, "Of Passive and Active Equity Portfolios in the Presence of Taxes," *Journal of Private Portfolio Management*, Fall 1999, pp. 55-63.

About the Author

David Stein, Ph.D., is a managing director of Parametric Portfolio Associates, a Seattle-based firm dedicated to advancing the state-of-the-art tax-sensitive investing. As chief investment officer, he leads Parametric's Investment, Research and Technology activities. Prior to joining Parametric, Dr. Stein held senior Research, Development and Portfolio Management positions at GTE Investment Management Corp., The Vanguard Group and IBM Retirement Funds. Previously, as a research scientist at IBM Research Laboratories, he designed computer hardware and software systems. He is on the After-Tax Subcommittee of the AIMR-PPS standards committee and on the advisory board of the *Journal of Wealth Management*. He holds a Ph.D. from Harvard University in Applied Mathematics, and a M.Sc. degree from the University of Witwatersrand, South Africa.

Notes

Senior Consultant

THE VOICE OF THE INVESTMENT MANAGEMENT CONSULTANT

- James P. Owen
Co-Founder
- Stephen C. Winks
Co-Founder, Publisher & Editor-in-Chief
- Sydney LeBlanc
Consulting Editor
- Mamie Woo McNeal
Production Editor
- Eddie Bryant
Marketing Consultant



Advisory Board

- Jerry Bott
Merrill Lynch
- John Brock
Brock-Hazzard/First Union Securities
- Dick Charlton
New England Pension Consultants
- Bob Cluck
Canterbury Capital
- Harold Evensky
Evensky Brown & Katz
- Jeff Frum
Wells Fargo
- Rich Gleason
Salomon Smith Barney
- Kathleen E. Hegenbart
Salomon Smith Barney
- Brian Hunter
Prudential Securities
- Greg Hunter
Alex Brown
- Bill Johnson
CapTrust
- John Kelsey
Salomon Smith Barney
- Keith Phillips
Morgan Stanley Dean Witter
- Bob Rowe
Morgan Stanley Dean Witter
- Dick Smith
Capstone Investment Group
- Jim Yanni
Yanni Partners

Senior Consultant

1457 Crystal Springs Lane
Richmond, Virginia 23231
Ph 804-643-1075 ■ Fax 804-643-1544
www.SRCONSULTANT.COM