Modern Tactical Asset Allocation

Harindra de Silva, CFA
President
Analytic Investors, Inc.
Los Angeles

In the past five years, tactical asset allocation (TAA) has experienced a renaissance after its fall from grace in the 1990s. This rebirth is the result of an expansion of TAA beyond domestic market factors to include global market factors and cross-sectional security characteristics. Implementation today is most frequently accomplished through a separate management structure in lieu of the overlay structure that was commonly used in the early days of TAA. The result has been a vast reduction in the operational complexities and performance measurement challenges that plague users of the overlay structure.

Tactical asset allocation (TAA), as I define it, is a very active strategy but not at all a market-timing strategy. It is an investment approach that shifts cash to the most attractive markets, usually within a long–short framework. A distinct advantage of a TAA approach is that the long–short context provides the optimal portfolio allocation as a function of the investor's risk level. And because investors do not all share the same risk level, it follows that TAA is not always a zero-sum game.

I will begin here with a brief review of the evolution of TAA, from its inception to its current application. Next, I will discuss the current factor-based approach to TAA and, then, the two possible implementation methods, an overlay versus a pure alpha strategy. In the early 1980s, enthusiasm for the strategy caused assets managed under a TAA mandate to balloon. Undoubtedly, TAA was incredibly successful in its ability to get investors out of the market in October 1987. But by the 1990s, general disappointment in the performance of the strategy had usurped its popularity, which, however, is no longer the case. The strategy is now viewed as a complement to a strategic asset allocation and even as an alternative to a hedge fund allocation. Often, a global TAA strategy is seen as an alternative to a global macro strategy.

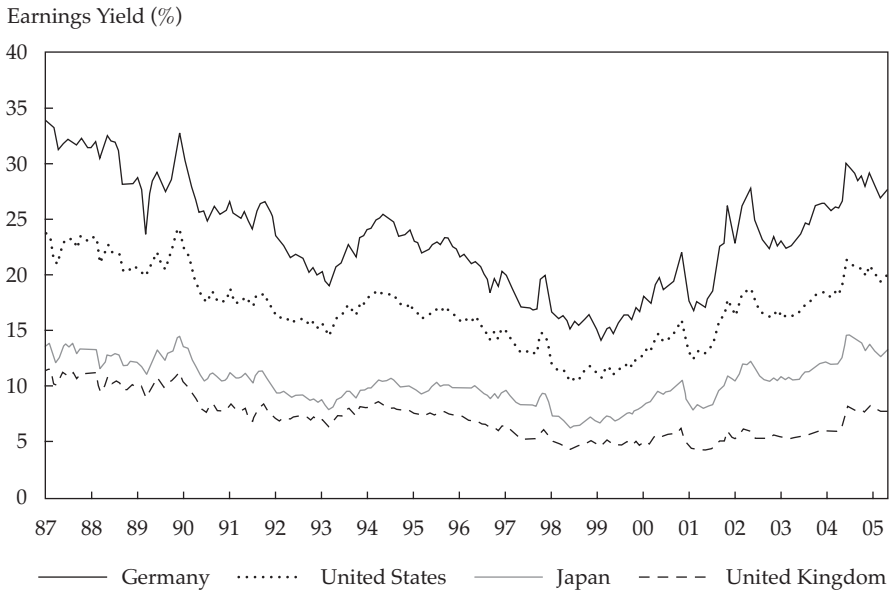
This presentation comes from the Asset Allocation: Alpha and Beta Investment Strategies conference held in Marina del Rey, California, on 6–7 April 2006.

Evolution of TAA Strategies

The earliest versions of TAA strategies focused on adding value by forecasting relative returns between U.S. stocks and bonds or cash. These strategies, understandably, garnered a lot of criticism because of their very limited breadth; they basically made only one decision. If that one decision was wrong, the result was a dissatisfied client or investor. So, although the strategies were working satisfactorily by 1987, the general consensus in the market was that TAA would never have a high information ratio because of its limitations regarding the number of decisions it could make and the infrequency with which they were made. The response was to widen the opportunity set to a global platform with the intent of increasing the number of decisions being made—the stock/bond/cash decision for each country—and, therefore, the likelihood of adding value more consistently.

The problem with this approach is that equity market valuations are not independent, as illustrated in **Figure 1**. Observe the relatively high correlations in the earnings yields for these countries. Markets tend to be systematically over- or undervalued relative to cash and fixed-income securities, so even though TAA appears to make independent decisions based on the relative valuation of each market, the decisions are not independent. In fact, the strategy may signal a move from stocks to bonds to cash at the same time for all markets because the decision is based on a shared type of variable—a valuation variable. Thus, the value that

Figure 1. Earnings Yield for Various Countries, 1987–March 2006



TAA adds is episodic because the strategy has a low information ratio as a result of its continued lack of breadth. For example, as seen in Figure 1, all markets fell in the late 1990s; then, in the wake of the burst dot-com bubble in 2000, the earnings yields in all markets rose because all stocks were cheap. As a consequence, only minimal gains were captured by using the TAA signal because of how the strategy was typically applied at that time.

Current Approach: Factor-Based Allocation

The next refinement to TAA was to explore cross-section or factor-based allocation. Most of the work today is being done in this area. My colleagues and I (Clarke, de Silva, and Murdock 2005) have recently published our research on factor-based allocation in which we focus on forecasting the relative performance of global equity markets. Our research included the 13 equity markets listed in **Exhibit 1**. We used only markets with an active futures contract to eliminate concerns over transaction costs associated with rebalancing the long–short portfolios used in the study.

For example, on a monthly basis, we formed two portfolios by grouping equity markets with above-average earnings yields into one portfolio and equity markets with below-average earnings yields into another. All markets in the two portfolios were equally weighted. The performance of the two portfolios from

Exhibit 1. Markets and Representative Indices

Country	Equity	Fixed Income	Currency
Australia	ASX200	10-year governments	AUD
Hong Kong	Hang Seng		
Japan	Topix	JGBs	JPY
Canada	S&PTSX60	10-year governments	CAD
United States	S&P 500	10-year Treasuries	USD
United Kingdom	FTSE 100	Gilts	GBP
Switzerland	SMI		CHF
Sweden	OMX		
Euro Zone		Bunds	EUR
France	CAC40		
Germany	DAX		
Italy	MIB30		
Netherlands	AEX		
Spain	IBEX		

1988 through early 2005 is graphed in **Figure 2**. The high-earnings-yield markets thus generally outperform the low-earnings-yield markets. Although this application can be interpreted as a market-timing decision, it is not because the strategy is fully invested in equity for the entire time. The difference between factor-based allocation and market timing is the emphasis of the former on equity market selection and of the latter on the equity-versus-bond decision. Most TAA strategies have moved in this direction over the past 5–10 years.

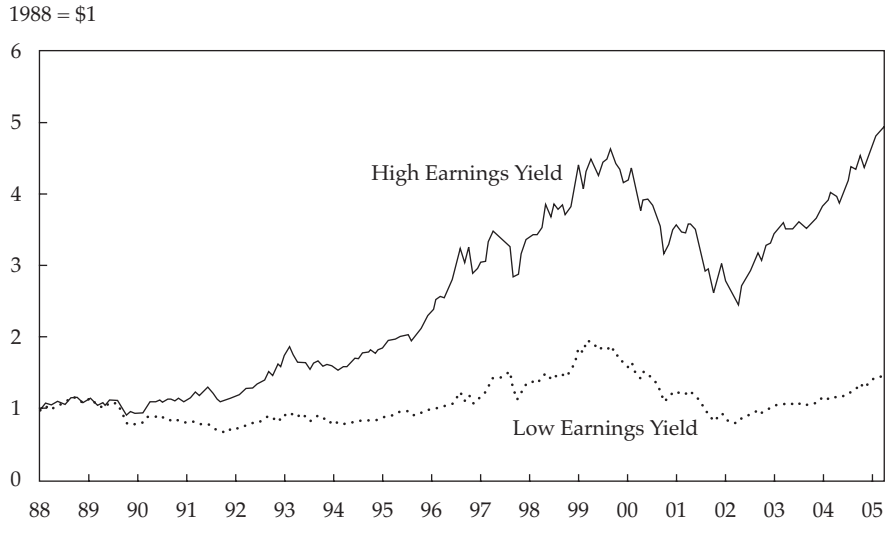
Two possible rationales explain the predictability of factor-based TAA. The first is that expected returns vary over time based on the risk–return opportunities in each market. High-earnings-yield markets may be distressed and low-earnings-yield markets may not be so that a portfolio tilted toward high-earnings-yield markets is cheap on a relative basis and well positioned to realize expected returns. Basically, the strategy involves capturing a distressed risk premium. Just like the equity risk premium, default premium, or term-structure premium, the distressed risk premium should persist over time.

The other possible rationale is that behavioral anomalies may result in systematic tendencies in the markets. If true, predictability associated with this rationale may not persist in the future but, rather, decrease over time as more investors attempt to exploit these tendencies. Thus, before adopting a TAA strategy, investors should choose which of the two camps they belong to because the choice clearly has implications for the eventual outcome.

Common Factors. The most common factors used in a factor-based allocation are associated with the equity, fixed-income, and currency asset classes. Earnings yield and price momentum measures are predictive of the equity market; term structure and real interest rates are predictive of the fixed-income market; and the interest rate differential is predictive of the currency market.

- *Earnings yield*. Earnings yield is the ratio of earnings to price calculated by using earnings numbers, for example, from I/B/E/S.
- *Lagged price momentum*. Typically stated as $t-12$ to $t-1$, lagged price momentum is the market premium over the past 12 months not including the 12th month. The 12th month is dropped because some reversal tends to occur within a one-month horizon.
- *Term structure*. Term structure, in our analysis, is the differential between the 10-year government benchmark yield and the one-month euro rate. Markets with steep term structures tend to do better than markets with flat term structures.
- *Real interest rates*. Markets with high real interest rates tend to do better than markets with low interest rates. For our analysis, we defined this factor as the 10-year government benchmark yield minus annual inflation.
- *Interest rate differential*. Currencies in countries with high interest rates tend, on average, to outperform currencies in countries with low interest rates. Again, for our analysis, we used the differential between short-term interest rates relative to the U.S. dollar.

Figure 2. Value of $1 Invested in 1988 for Low- and High-Earnings-Yield Markets, 1988–March 2005



■ *Summary*. These five factors are just five of the possible factors that can be used in factor-based TAA. Some managers use more, and some, less. The choice of factors is based on the model used and the manager's personal set of beliefs about the markets and the TAA process.

Factor Returns. A factor portfolio is used to measure the predictability of a specific factor. Basically, a long–short portfolio is constructed to go long the markets that are most attractive based on a particular factor and to short the markets that are least attractive based on the same factor. It is very similar to forming a quintile portfolio in which all the stocks in the universe are sorted on a particular variable, such as earnings yield, and then the top five stocks are bought and the bottom five stocks are shorted. The only difference is that in the factor portfolio, each market is weighted based on its relative volatility.[1]

A factor's return is given by the return of the factor portfolio in a given time period. The annualized return, or premium, for each of our five cross-sectional global market factors is given in Panel A of **Table 1** for the period January 1989 to December 2004. The premium represents the annualized return expected on a long–short portfolio that is exposed to each factor in isolation. The standard deviation, information ratio, and *t*-statistic are also given for each factor. As can be seen, the return–risk ratios of the factors are actually quite attractive.

Because the global market factors are basically a cross-section of long and short positions in each market, they can be compared with certain cross-sectional security characteristics that are commonly believed to generate returns in portfolios with exposure to them. Therefore, Panel B of Table 1 presents data from Fama and French on four of their factors: momentum, market cap, earnings to price, and international earnings to price. Panel C provides data for five systematic market risks: the U.S. broad market, the MSCI EAFE Index, short-term risk, U.S. term structure, and default risk.

Our research suggests that all three groupings in Table 1 should be used in a TAA framework because each captures a different predictive quality. But before deciding on a set of factors, it is instructive to understand how they are correlated. The return correlations of the TAA factors—the cross-sectional global market factors and the Fama–French cross-sectional security market characteristics—with the systematic market risk factors are shown in **Table 2**. None of the correlations are above 0.26, leading to the conclusion that, in terms of broad market risks, these factors are relatively independent. The earnings yield factor, for example, has no correlation with any of the interest rate factors and is only slightly correlated with the U.S. market premium factor (0.17).

Table 3 is a correlation matrix of the TAA factor returns with the global market factor returns. Notice that the correlations are a bit higher than those in

[1]For more details on how to build a factor portfolio, see Chapter 3 in Grinold and Kahn (2000).

Table 1. Factor Returns vs. Typical Asset Class Returns, January 1989–December 2004

Item	Annualized Premium	Standard Deviation	Information Ratio	*t*-Statistic
A. Cross-sectional global market factors				
Earnings yield	4.7%	5.4%	0.88	12.13
Price momentum	1.5	6.3	0.24	3.28
Term structure	1.2	1.9	0.61	8.38
Real interest rates	1.1	2.2	0.52	7.21
Interest differential	2.8	3.7	0.76	10.53
B. Cross-sectional security characteristics				
Fama–French U.S. momentum (hi – lo)	10.6%	16.8%	0.63	8.72
Fama–French U.S. market cap (small – large)	3.6	16.2	0.22	3.05
Fama–French U.S. earnings to price (hi – lo)	3.9	10.2	0.39	5.38
Fama–French international earnings to price (hi – lo)	7.0	9.2	0.76	10.56
C. Systematic market risks				
U.S. broad market (S&P 500, three-month T-bill)	7.0%	14.5%	0.49	6.73
MSCI EAFE (EAFE in U.S. dollars, three-month T-bill)	0.5	17.0	0.03	0.45
Short-term risk (Merrill Lynch two-year note return, three-month T-bill)	1.3	1.9	0.71	9.78
U.S. term structure (Merrill Lynch 30-year bond, Merrill Lynch 2-year note return)	2.6	9.0	0.29	4.04
Default risk (Merrill Lynch U.S. corporate bond, Merrill Lynch high-quality bond return)	0.9	1.9	0.47	6.56

Table 2. Correlation of TAA Factor Returns with Market Factors, January 1989–December 2004

TAA Factor	MSCI EAFE Premium	U.S. Market Premium	Short-Term Rate Premium	U.S. Term-Structure Premium	Default-Risk Premium
Earnings yield	–0.04	0.17	0.04	–0.08	0.02
Price momentum	0.04	–0.07	0.14	0.22	–0.05
Term structure	–0.02	–0.01	0.19	0.15	0.03
Real interest rates	0.00	0.17	0.26	0.24	0.13
Interest differential	0.05	0.09	0.01	0.08	0.16
Fama–French U.S. momentum (hi – lo)	0.06	–0.23	0.21	0.14	–0.26
Fama–French U.S. market cap (small – large)	–0.13	–0.22	–0.16	–0.15	0.23
Fama–French U.S. earnings to price (hi – lo)	0.07	–0.25	0.15	0.16	0.04
Fama–French international earnings to price (hi – lo)	–0.05	–0.10	–0.11	–0.06	0.15

Table 3. Correlation of TAA Factor Returns with Security Factor Returns, January 1989–December 2004

TAA Factor	Earnings Yield	Price Momentum	Term Structure	Real Interest Rates	Interest Differential
Earnings yield	1.00				
Price momentum	–0.26	1.00			
Term structure	–0.01	0.05	1.00		
Real interest rates	0.03	0.19	0.23	1.00	
Interest differential	–0.18	0.17	0.21	0.07	1.00
Fama–French U.S. momentum (hi – lo)	–0.19	0.29	–0.02	0.08	–0.03
Fama–French U.S. market cap (small – large)	–0.07	0.04	–0.01	–0.13	–0.02
Fama–French U.S. earnings to price (hi – lo)	0.08	0.03	0.12	0.00	0.07
Fama–French international earnings to price (hi – lo)	0.25	–0.09	0.03	0.01	0.11

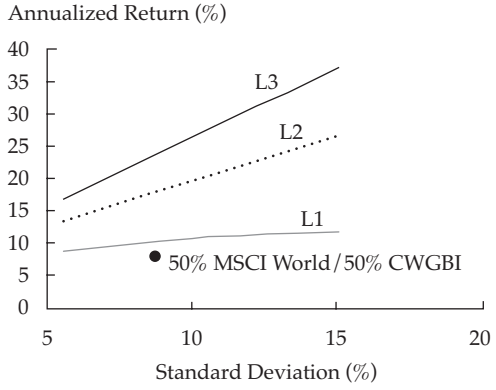
Table 2, but no correlation is above 0.29. The return correlation between price momentum as a TAA factor, basically measuring market sentiment, and as a security factor is 0.29, the highest correlation in the matrix. The second-highest return correlation is between the international (market-specific) earnings-to-price factor and the stock-specific earnings-to-price factor at 0.25. Clearly, although the correlations of these factors are not 1, and not even 0.5, some link exists between them and is much stronger, for example, than between U.S. equities and global equities.

Therefore, diversification, in the context of these characteristics, is much more extensive than simply investing globally or investing in commonly used asset classes, such as real estate. Implementing a strategy with these factors begins with an optimization framework from which an efficient frontier is constructed.

Benefits of Factor-Based Allocation. Factor-based TAA offers two primary benefits: an improved efficient frontier that offers higher, risk-adjusted returns and a portfolio risk composition that offers much broader diversification among risk exposures.

■ *Improved efficient frontier*. **Figure 3** is the graph of three efficient frontiers constructed using data from the 1989–2004 period. Note that the point labeled 50% MSCI World/50% CWGBI indicates the risk–return profile associated with a balanced global portfolio. The first and flattest curve (L1) uses only the five systematic risks, encompassing the most basic asset classes of U.S. stocks, bonds, cash, and global stocks but not, for example, Treasury Inflation-Protected Securities (TIPS) or real estate. The middle curve (L2) is derived using the systematic risk and Fama–French factors and generates a huge expansion

Figure 3. Efficient Frontiers for Three Sets of Factors, 1989–2004



Note: CWGBI is the Citigroup World Government Bond Index.

in the return–risk framework. The third and steepest curve (L3) reflects the addition of the global market factors to the systematic risks and Fama–French factors by basically introducing individual stocks. The result is a big boost in the efficient frontier. Because these curves are constructed using historical data, one should focus more on the concept rather than on pure magnitude. In applying a TAA strategy in the future, the inputs will need to be adjusted, especially for the Europe/Australasia/Far East (EAFE) Index.

■ *Greater diversification in risk composition*. The composition of three portfolios, one from each of the efficient frontiers (L1, L2, and L3), is presented in **Table 4**. Each portfolio is constructed so as to have a 10 percent volatility level. In the first portfolio (on the L1 efficient frontier), all the risk is systematic market risk, which is allocated roughly 70 percent to the U.S. equity market (U.S. broad market premium) and 25 percent to the U.S. fixed-income market, which is, in turn, divided between the U.S. term-structure premium (20 percent) and the default risk premium (5 percent). This result echoes the findings of Brinson, Hood, and Beebower (1986) that asset allocation explains 90 percent of the variation in returns.

If the frontier is expanded to include cross-sectional security characteristics of the Fama–French-type framework, the risk in the portfolio (on the L2 efficient frontier) shifts substantially. In this case, only about 20 percent of the risk is caused by systematic market risk and 78 percent is attributable to cross-sectional security characteristics.

A further expansion in the asset allocation framework to include the global market factors results in a portfolio (on the L3 efficient frontier) whose risk arises from three sources: 12 percent from systematic market risk, almost 29 percent from cross-sectional security characteristics, and nearly 60 percent from cross-sectional global market factors.

Note that this analysis does not address the "right" portfolio allocation. It is intended only to illustrate that if an investor believes that systematic tendencies exist in the market, then by expanding the asset allocation framework, portfolio risk can be diversified away from those systematic tendencies. Many more return drivers are added to the portfolio with the successive introduction of cross-sectional security characteristics and global market factors.

Note that the factor weights do not sum to 100 because the long–short portfolios used in the analysis are basically scalable. For more exposure to a particular characteristic, the leverage dial on the portfolio can be turned up by increasing the notional exposure. It is thus important that the optimization model not constrain the weights to a sum of 100 in a long–short portfolio, only that the long and short positions cancel each other out. Without the ability to add this economic or accounting leverage, much of the return and risk diversification benefits from the expansion into a broader universe of asset classes would not be realized.

Table 4. Risk Decomposition for Three Efficient Portfolios (L1, L2, and L3), 1989–2004

	L1		L2		L3	
Item	Weight	Portion of Total Risk	Weight	Portion of Total Risk	Weight	Portion of Total Risk
A. Systematic market risks		100.0%		21.8%		11.9%
U.S. bond market premium	53.5%	72.2	43.3%	18.5	24.1%	8.0
MSCI EAFE premium	0.0	0.0	0.0	0.0	0.0	0.0
Short-term risk premium	46.5	1.3	56.7	1.0	75.9	3.1
U.S. term-structure premium	46.5	21.2	10.0	1.9	0.0	0.0
Default risk premium	46.5	5.3	5.9	0.4	17.3	0.8
B. Cross-sectional security characteristics				78.2%		28.7%
Fama–French U.S. momentum			36.8%	27.7	24.0%	11.7
Fama–French U.S. market cap			17.0	4.3	10.3	1.8
Fama–French U.S. earnings to price			5.7	2.8	0.0	0.0
Fama–French international earnings to price			86.8	43.4	43.7	15.3
C. Cross-sectional global market factors						59.3%
Earnings yield					109.1%	25.5
Price momentum					48.6	3.4
Term structure					248.2	11.4
Real interest rates					107.1	5.1
Interest differential					99.2	13.9

Notes: L1 = systematic market risks only, L2 = systematic market risks plus security characteristics, L3 = systematic market risks plus both security and global market factors. Portfolio factor allocations at 10 percent volatility.

Strategic or Tactical? An argument can be made that factor-based TAA is both strategic and tactical. It is strategic in the sense that a factor-based TAA portfolio has long-run exposure to the factors that are used in its construction. For example, to maintain long-run exposure to the earnings yield factor means that the portfolio will have long-run exposure to the equity markets, and to maintain long-run exposure to the term-structure factor means that the portfolio will have long-run exposure to the fixed-income markets.

Yet, factor-based TAA is not really strategic because its composition is constantly changing. For instance, a high-earnings-yield portfolio must, on a monthly basis, buy the highest-earnings-yield stocks and short the lowest-earnings-yield stocks, which is a very active strategy. The claim could actually be made that such a portfolio is tactical because it is actively rebalanced as valuation levels change. Managers of a factor-based TAA strategy typically do not maintain a passive allocation to each of the factors but change the allocation based on market opportunities.

Potential Risks. Two potential risks are associated with the factor-based TAA strategy. One is that it requires the use of long–short portfolios. Long-only portfolios do not provide the necessary factor exposure. The second risk is that the notional exposures in the portfolio are substantially larger than the original investment. So, the real issue is whether to leverage. The strategy certainly can be viewed as speculative, although the long–short nature of the portfolio is relatively conservative.

Implementation Issues

TAA strategies can be implemented in two ways. The first, and more commonly used approach in a historical context, is for a TAA manager to overlay an existing asset allocation, with the overlay portfolio having a very tight tracking-error budget (e.g., 1 percent). But over time, the preferred implementation method has shifted to giving a TAA manager a pure stand-alone alpha-generating portfolio (e.g., a 5 percent allocation of the overall portfolio with a volatility mandate of 20 percent). The TAA manager is not generally given a benchmark in the latter implementation.

Overlay Strategy. About 10 years ago, the most popular way to implement TAA was through an overlay strategy. Say, for example, an investor had a $2 billion portfolio. The investor would give the TAA manager the authority to overlay the portfolio. The notional value of the overlay program would be targeted at approximately $200 million (10 percent of the total market value of the portfolio) with a total incremental tracking-error target of 1 percent. The overlay program would require approximately 1 percent in cash funding ($20 million). The cash would be the collateral for futures positions, which would be used to replicate the benchmark allocation and eliminate the impact of cash drag. The balance of the overlay position ($180 million) would be used to establish long positions (overweights) and short positions (underweights). In establishing the overlay portfolio's long and short positions, the TAA manager would be required to take the overall portfolio into account. The guidelines usually stated that the TAA manager could short a market only if it was in the underlying portfolio. The notional value of the long positions in the overlay had to equal the notional value of the short positions; leverage was not used.

Separate Portfolio Strategy. The implementation process that has evolved over the years and the one that is most frequently used now involves a much smaller slice of the portfolio, generally $100 million of a $2 billion portfolio with a 20 percent volatility constraint. The mandate—usually with a total incremental tracking-error goal of about 1 percent (5 percent × 20 percent)—is given to the TAA manager, who may follow any strategy he or she chooses. As with the overlay strategy, cash collateral equal to 1 percent of the value of the underlying portfolio is required. But unlike in the overlay strategy, short positions in the TAA portfolio are not limited to the extent of exposure in the underlying portfolio, and the TAA portfolio includes leverage so that the notional value of its long and short positions often exceeds its portfolio value. The manager does not have to monitor the securities held in the underlying portfolio. The net impact, however, on the overall portfolio is similar under both the separate portfolio and overlay implementation methods.

Overlay vs. Separate Portfolio. Obviously, there is a trade-off between the overlay and separate portfolio structures. The two can be compared on three dimensions: overall risk management, performance measurement, and operational complexity. The main advantage of the overlay structure is in the risk management dimension. The correlations between the TAA positions and the underlying portfolio can be taken into account, and leverage can be managed by instructing the TAA manager not to short currencies or markets not owned in the underlying portfolio.

On the performance measurement dimension, the overlay strategy is very complex because the performance of the manager has to be measured subject to the constraints that were placed on him or her. In other words, the TAA manager cannot short

every market, only the markets the underlying portfolio managers were long. This is a consultant's nightmare. Trying to compare the performance of TAA managers when each one has a different mandate is extremely difficult. Firms that run TAA strategies as an overlay typically have a composite for each client. Overlay also creates an accounting nightmare. The separate portfolio structure has the advantage of a risk target that facilitates performance comparisons among clients and managers, which is one reason the separate portfolio structure has gained in popularity.

The overlay structure has high operational complexity compared with the low operational complexity of the separate portfolio structure. The much greater operational complexity of the overlay structure is caused, of course, by the requirement of the TAA manager to stay abreast of the composition of the underlying portfolio. Normally, this step is accomplished through a DTC (depository trust company) feed from the custodian to the TAA manager that shows the aggregate portfolio.

In the future, the majority of mandates will be in the separate portfolio camp versus the overlay camp because the former has so many benefits, from both the manager's standpoint and the consultant's standpoint. The only drawback for the TAA client is on the risk management issue, but these portfolios typically have a low beta and a long–short structure, both of which significantly mitigate the risk concerns. And after all, the client is allocating only 5–10 percent of the overall portfolio to the TAA strategy.

Conclusion

The difference between strategic and tactical asset allocation is increasingly blurred with the use of factor-based allocation strategies. And although the two differ from each other, whether one is substantially different from the other, given their historical definitions, is difficult to say. Perhaps thinking of these strategies in terms of being active or passive would be more appropriate, and TAA is a very active strategy. Increasingly, theoretical justification is arising for these strategies; they are not simply a form of market timing. Additionally, the returns from TAA strategies are not a "zero-sum" game because not all investors have the same optimal allocation. If an investor allocates to an asset class or to a strategy where the returns are zero sum, he or she must make two decisions well. The first is to pick good managers so that the investor will be part of the positive, not the negative, sum. The second decision is the allocation to the asset class. With a TAA strategy, every investor has a unique choice set, which is what creates the opportunity as well as the time-varying return component produced by these strategies.

This article qualifies for 0.5 PD credits.

References

Brinson, Gary P., L. Randolph Hood, and Gilbert L. Beebower. 1986. "Determinants of Portfolio Performance." *Financial Analysts Journal*, vol. 42, no. 4 (July/August):39–44.

Clarke, Roger, Harindra de Silva, and Robert Murdock. 2005. "A Factor Approach to Asset Allocation." *Journal of Portfolio Management*, vol. 32, no. 1 (Fall):10–21.

Grinold, Richard, and Ronald Kahn. 2000. *Active Portfolio Management*. 2nd ed. New York: McGraw-Hill.

Question and Answer Session

Harindra de Silva, CFA

Question: How persistent are your observed results, particularly the returns of the individual factors today?

De Silva: The persistence of the returns is obvious in the information, or return–risk, ratio. When the ratio is above 0.5, as it is for the TAA factors that were studied, it denotes strong persistence. The information ratios of the TAA factors are higher than those of the equity risk premium factors, and they definitely exhibit greater return persistence than the small-cap premium, which so many U.S. investors are familiar with.

Driving these tremendous returns have been the interest rate differential—the currency factor—and the earnings yield. The earnings yield factor has worked well because we've been in a valuation-oriented environment. The fact that overall returns to global TAA strategies over the past five years have been quite positive is largely irrelevant, however, because these returns are historical; who knows if they will be strong in the future.

Question: With a 20 percent risk portfolio, for example, what kind of return expectation would you have?

De Silva: My experience with this type of strategy over the past five years is that a return–risk ratio of 1 is not uncommon. So, with a 20 percent risk portfolio, returns after fees should be in the 17–20 percent range, at least. In 2005, almost everybody I knew who was running a 20 percent volatility portfolio easily generated returns in the double digits.

Question: What inferences should be drawn from the fact that the information ratio of the international earnings-to-price factor is higher than the information ratio of the U.S. earnings yield factor?

De Silva: Much of the difference in the ratios can be attributed to the greater breadth of the international equity market compared with that of the U.S. equity market. There are simply more securities, as well as a greater ability to go long and short in the international markets, so that the spread is probably wider in terms of earnings to price. That translates into a higher information ratio.

My personal belief based on what I have observed (but for which I have no theoretical justification) is that investors do not get a higher earnings yield payoff in global markets versus the U.S. market.

Question: Does the success of the international earnings-to-price factor suggest that people investing internationally should do so with a value bias?

De Silva: Yes, that is what it tells me. Of course, saying that opens the door to the same debate that's been going on for the past 15 years; just because this factor has demonstrated strong return predictability in the past, no guarantee exists that it will continue to do so over the next 15 years. Regardless, this factor has been shown over and over again to work relatively well. The question you have to ask yourself is, If you have a value bias, is the return coming from alpha or beta?

Question: Do you see any opportunities for TAA strategies to be successfully applied in the fixed-income markets?

De Silva: Yes. We do believe the strategy can be applied in the fixed-income markets. Two of the factors—term structure and real interest rates—apply to fixed-income markets and have information ratios of 0.6 and 0.5, respectively. And the strategy can be applied as well in the currency markets and across the board in global markets where investors are capturing these cross-sectional variations in returns.

Question: What amount of turnover does the factor-based TAA strategy generate?

De Silva: The monthly turnover of our portfolios in the study was fairly high, in the neighborhood of 5–10 percent. If we were actually running a factor-based TAA portfolio, we would not run it as we did in the study. For instance, in the study, we were controlling for the effect of transaction costs. In general, TAA managers generate turnover in the 100–200 percent range on an annual basis, but the exact level will be a function of the manager's biases, the amount of leverage, and the strategy itself.

Question: How frequently were the portfolios in your study rebalanced?

De Silva: The portfolios were rebalanced monthly. I believe that the Fama–French factor portfolios were actually rebalanced annually.

Question: Because you used a diversified approach in your allocations, the implication could be that you are failing to concentrate your bets sufficiently to generate meaningful alpha. Can you comment on this?

De Silva: One criticism of this kind of approach can certainly be that instead of building a factor portfolio in which you go long and short all the markets, you basically buy just the cheapest market and

short the most expensive market, creating a very concentrated portfolio. My belief, based on a substantial amount of empirical work, is that when you do that, you're not buying the factor—you're buying the market. Therefore, the individual performance of each market, rather than the factor return, will dominate the return in a concentrated portfolio.

Try to think of factor-based TAA portfolios as having exposure to specific characteristics, which, in turn, requires diversification to capture that exposure. For a more concentrated portfolio in terms of exposure to a specific characteristic, lever up the portfolio instead of investing more in a particular asset. When you add to a single-asset position, you add market-specific risk, which is not what you want to do in this type of portfolio.

Question: What is the appropriate benchmark for this strategy?

De Silva: The most commonly used benchmark for a TAA strategy implemented through a long–short portfolio is LIBOR, or a similar short-term rate, because that is what the underlying cash collateral is earning. Does that make sense in terms of measuring value added? No. It makes absolutely no sense in terms of capturing a manager's skill. Nevertheless, the benchmark most often used is one of performance rather than of style.

Manager skill, or value added, is typically measured by the excess return over a cash return. I urge anyone who is investigating a TAA strategy to go to the Fama–French website or the Analytic Investors website to see the return payoffs attributable to each factor or characteristic. Other managers also publish the cross-sectional returns from different market factors in a given month or a given quarter. This is a good way to understand the returns available from these types of tilts over various time periods.

Question: Can you comment on the relative outperformance of TAA strategies over the past several years?

De Silva: I would prefer not to focus on the performance of a particular TAA strategy but, rather, on the factor returns themselves. Over the past one-, three-, and five-year periods, and especially in 2004, the returns were substantially above average. I have actually seen some managers with an information ratio greater than 2. Certainly, an argument can be made that such high ratios cannot continue into the future and that they are not really reflective of manager skill but, rather, reflect the unusually outsized returns of the factors.

Another way to measure performance is to tabulate the number of requests for proposal (RFPs) that a TAA manager gets each year. The requests are not driven as much by the manager's performance as by the performance of the whole asset class, the strategy itself. Recently, we've seen a huge amount of RFPs. In general, the market is much more comfortable with this type of strategy now than 10 years ago.

Question: How do you adjust for differences in sector or style characteristics among different equity markets?

De Silva: In our research, we didn't make adjustments for these potential differences. But some firms do use, for example, equity swaps to try to capture those differences. We found that the diversification from going across many markets essentially eliminates sectoral differences. Such differences, however, tend to be relatively small because the long–short portfolio represents a broadly diversified set of large-cap stocks across all markets. Generally, the underlying long–short portfolio does not have a big sector tilt, which would override the return driver of the factor.