

Finding the Right Blend of Alpha and Beta

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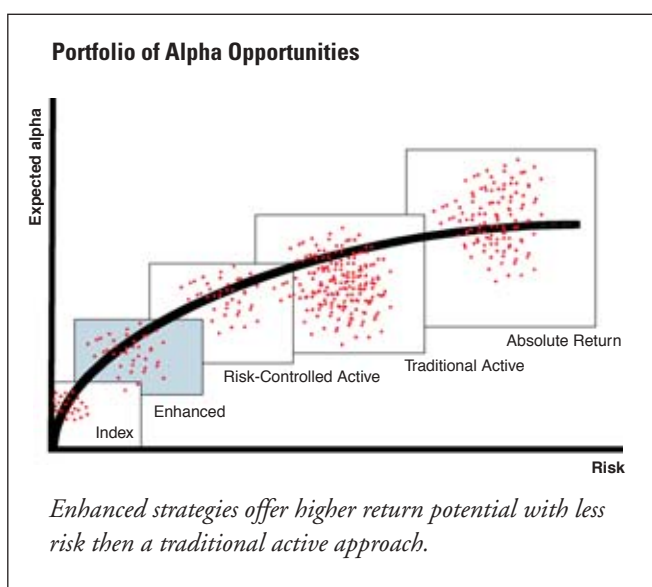
finding the appropriate blend of alpha and beta. Many now apply an optimization approach, which looks at the combination of managers in aggregate — as a single portfolio with the desirable risk and return characteristics — instead of assessing one manager at a time. The goal of

this optimization exercise is to maximize the portfolio's expected return for an acceptable level of risk.

*This paper is an adapted and modified excerpt of Chapter 15 of Steven Schoenfeld's recently published book, **Active Index Investing: Maximizing Portfolio Performance and Minimizing Risk Through Global Index Strategies** published by Wiley Finance in August 2004. The authors wish to thank Joy Yang, Steven's co-author of the longer chapter in the book, for her contribution.*

Finding the right blend of alpha and beta

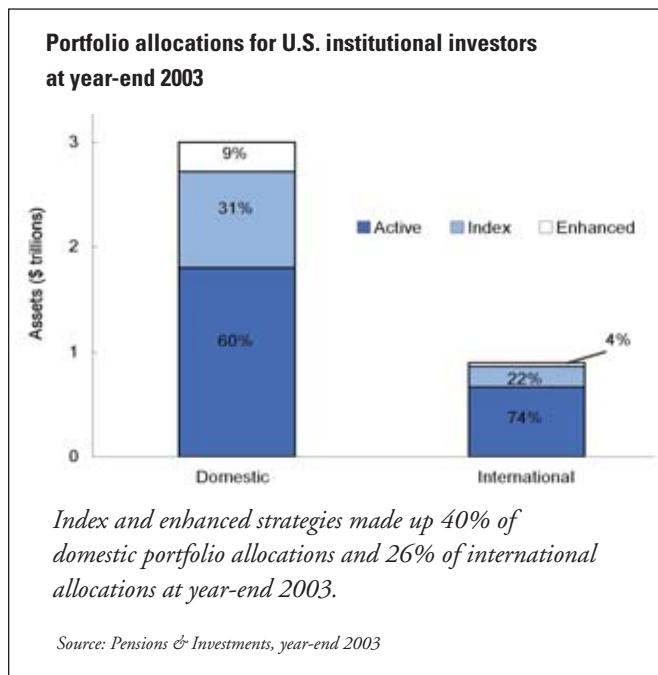
The separation of alpha and beta exposure has become an established trend in the institutional investment world. A growing number of pension plan sponsors and other large institutional investors are seeking alpha exposure through a blend of traditional active management and hedge funds, while obtaining their strategic asset class exposure through passive or quasi-passive vehicles. California Public Employees Retirement System (CalPERS) chief investment officer, Mark Anson, has been outspoken both in the press and at a recent industry-wide conference about the need to reduce the plan's exposure to index-like traditional active managers in favor of targeted low-cost market exposure using index and enhanced-index allocations. As a result, one of the greatest challenges for many investors today is



Enhanced index strategies are one of the few modalities of investing that can suitably provide both the beta — asset class return — exposure, and the alpha for this rapidly evolving framework for institutional investors. The goal of

enhanced indexation is to modestly outperform the benchmark while taking on minimal additional risk, thus achieving a high information ratio.

Enhanced indexing has been growing dramatically around the world. Disappointment with active manager performance (and their associated higher fees) had already encouraged investors to boost allocations to index-based strategies as a core component of overall equity allocations. This trend, combined with the attractiveness of incrementally higher returns given moderate market return expectations, has fueled the growth in enhanced strategies.



Even more impressive has been the steady growth of the approach among the largest and most sophisticated investors. Among the top 200 U.S. defined benefit pension plans, enhanced equity index strategy assets grew by 66% from September 1999 to September 2003 — despite this period's difficult market environment and negative returns posted by most equity benchmarks.

Classifying Enhanced Indexing on the Passive-Active Spectrum

The investment management industry generally defines enhanced index strategies as investment approaches that aim to outperform a benchmark index within predetermined risk and return parameters. This definition leaves significant

room for interpretation, and investors who ask investment managers, plan sponsors and consultants to explain the term are likely to get a wide range of answers.

Enhanced indexing has two basic goals in relation to active management and passive management. Enhanced indexing seeks to outperform the index while maintaining risk characteristics similar to the index. Enhanced indexing is often considered to be a superior form of investing because it can lead to more consistent and efficient performance with low transaction costs. Managed properly, it also provides higher information ratios than most other active strategies.

Successful enhanced indexing requires the skills needed to accurately research and identify relative alphas, as well as the expertise to understand the benchmark index. The resulting benefit of the nexus between active and index techniques in successful enhanced index strategies creates potential for high information ratios.

Information Ratio a Key Indication of Confidence

The information ratio summarizes the risk and return properties of an active portfolio to assess performance relative to a benchmark. It can distinguish between the skilled portfolio manager, who achieves outperformance with relatively little risk, from the “cowboy” portfolio manager, who achieves outperformance through very high-risk strategies. It can also differentiate between strategies that have the opportunity to achieve greater outperformance relative to a benchmark by examining the number of bets it takes relative to the benchmark. Higher information ratios create the confidence in predictable and consistent performance, which is one of the most attractive features of enhanced index investing. Moreover, by its nature, enhanced indexing requires a disciplined team-based approach, which reduces the ‘key-man’ risk so often found with traditional active management.

Mathematically, the information ratio is the ratio of excess return to residual risk. By definition, the benchmark portfolio and the risk-free portfolio have an information ratio of 0. All investors seek the highest information ratio possible, and all portfolio managers seek to maximize their information ratio. Given its low-risk (low tracking error) characteristics, enhanced indexing has a natural potential for high information ratios.

However, the magnitude of the deviation in a portfolio's return away from the underlying benchmark is directly related to the number and size of the bets the manager makes, whether through stock selection, synthetic derivative exposures or fixed income duration bets.

Defining the Types of Enhanced Index Strategies and Their Relative Attributes

Enhanced indexing can employ both technical and structural strategies in the capital markets to deliver systemic outperformance of benchmarks with minimal additional risk/tracking error.

Sources of properly defined enhanced indexing strategies fall under two broad categories: **securities-based strategies** and **derivatives-based strategies**. Each method exploits a different form of capital market imperfection and inefficiency. Some approaches take advantage of index methodology idiosyncrasies and/or capital market inefficiencies.

Securities-Based Enhanced Indexing Strategies

Securities-based strategies rely on a diversified portfolio to replicate the risk characteristics of the index, and exploit alpha through relative value mispricings or event-driven opportunities. Constructing a securities-based enhanced index portfolio involves identifying the appropriate alpha sources, overweighting and underweighting particular holdings to provide desired alpha exposure, and controlling tracking error relative to the benchmark. Optimization methods are often used to provide the most efficient combination of alpha and risk characteristics. Portfolio risk can be constrained through diversifying the sources of alpha and neutralizing the portfolio's broad risk characteristics. (There are no 'free lunches' in the marketplace.)

Sources of alpha reflect the intellectual skills and research efforts of the manager to understand and predict the potential drivers of equity performance. These sources of alpha are often called factors, and aim to capture inefficiencies in the market that can be exploited profitably. This search for alpha is fundamentally no different than the

approach used by traditional active managers. However, enhanced index managers perform an additional layer of quantitative analysis on these factors to ensure they are effective, persistent and significant within risk-controlled framework.

"Index alpha" is often another part of a securities-based enhanced strategy. It can be created by trading index changes aggressively, blending cash and derivative market exposures, tax-arbitrage or tax-loss harvesting. Index alpha exploits capital market inefficiencies, often based on specific events and outperformance is predicated on taking moderate risk around index changes, such as additions, deletions or reconstitutions. Although index providers have

become much more attuned to the potential for market participants to 'game' the index and devise strategies to minimize the market impact of their changes, opportunities still exist for index and enhanced index managers to add value.

Complexities in maintaining a securities-based enhanced portfolio increase with complexity of the index itself, the asset class (e.g., U.S. versus international equities) and the number of multiple alpha sources. At a minimum, it requires the same expertise and infrastructure of index-based management. In addition, the resources and research expertise of active management are necessary to maintain and

exploit the alpha sources. Furthermore, risk analytics are critical to understanding, monitoring and controlling biases relative to the benchmark and thus minimizing the chance for unintended bets to erode performance.

Derivatives-Based Enhanced Index Strategies

A derivatives-based approach to enhanced indexation replicates index performance through synthetic vehicles derived from the underlying index such as futures, options, and swaps. To achieve optimal index outperformance, these strategies must cover the costs of the derivative positions as well as any tracking error between the derivative and underlying index, while exceeding the implied interest rate used in calculating the fair value of the derivative. Derivatives-based strategies introduce a different set of risks than stock

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selection strategies. For instance, the use of futures introduces roll risk, dividend risks and other risks of mispricing relative to the underlying index. Additionally, the enhancement generally comes from managing a fixed income portfolio to exceed the return of the financing rate of the derivative by taking either credit risk or duration risk. As a result, the excess returns of such strategies are often correlated to those of other fixed income strategies. They also add additional operational complexities (e.g., the cash and derivatives markets may have different trading hours). All of these elements must be weighed against the potential index alpha they may deliver. Furthermore, as with securities-based enhanced indexing, derivatives-based indexing requires substantial investment in portfolio management resources (highly skilled people and sophisticated systems).

Conclusion

The beauty of enhanced indexing is that techniques can and will evolve as new market inefficiencies develop. These opportunities will be uncovered by various players in this space — index managers who see opportunity lying just beyond the mandate of their index-tracking portfolios, active managers who will increasingly be expected to adhere to more rigorous risk parameters, hedge funds that will continue to look for any market inefficiency including index changes and broker-dealers who both service all these participants and have proprietary trading desks.

Overall, enhanced index strategies fit well within a risk-budgeting approach. Investors can employ an enhanced index strategy either in combination with, or in place of, a core index approach (to reduce active risk), or risk-controlled active and traditional active approaches (to enhance returns with maximum efficiency.) We believe the future of enhanced indexing is quite bright.

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