INDEXING PLUS

Add active ingredients to spice up passive portfolios

Nelson Wicas looks at the importance of asset allocation, the case for indexing and the role for active funds in core-satellite portfolios

A portfolio's allocation among stocks, bonds, and cash is often claimed to be the most important decision in structuring a broadly diversified portfolio to meet an investment goal. When implemented through an indexing strategy, the asset allocation decision accounts not only for most of a portfolio's short-term variations but most of its long-term performance as well.

However, active management, when thoughtfully executed, can potentially add value relative to a static asset allocation implemented through index funds. Investors and their advisors can maximise a portfolio's potential for alpha by selecting talented managers with low costs and incorporating them into the portfolio in a manner that does not sacrifice control of systematic risk factors.

In short, indexing and active management can be complementary in a portfolio context. A core/satellite structure provides a useful conceptual framework when considering how to combine active and index strategies. In these portfolios, the core holdings, typically a large portion of the assets, are held in index funds. Satellites surround the core holdings and incorporate active strategies. The indexed core holdings provide the portfolio with a high degree of risk control and the active satellites provide the potential for enhanced performance. For the strategy to be effectively implemented, risk control must also be considered when selecting and incorporating the satellites.

Figure one: The role of asset allocation in different market environments

Period	Number of funds	Asset allocation return as % of actual return	Asset allocation volatility as % of actual volatility	Percentage of actual return*
1962-2001	420	113.7%	86.6%	76.6%
1981-2001	404	112.5%	87.3%	77.8%
1962-1980	66	123.9%	85.4%	74.6%
Bear mrkts	66	110.1%	82.4%	69.4%

*explained by asset allocation return variation

**The bear market analysis was conducted over the following periods: 1/66-10/66, 12/68-6/70, 4/71-11/71, 1/73/12/74, 9/76-3/78, 11/80-7/82, 10/83-7/84. 8/87-12/87, 6/90-9/90, 1/00-12/01. Under bear market conditions, the ratio of average asset allocation return to average actual return has a negative sign for some funds. Since this is not meaningful for our purposes, we report one-period accumulated value as the effect on average return for this market. It is calculated as the ratio of (1+ average return on asset allocation with indexing) to (1+ average actual return of the fund).

"A CORE/SATELLITE STRUCTURE PROVIDES A USEFUL CONCEPTUAL FRAMEWORK WHEN CONSIDERING HOW TO COMBINE ACTIVE AND INDEX STRATEGIES"

At Vanguard, we manage some €765bn in index and active funds across all major asset classes. By incorporating research and academic results with extensive practical experience, we have a cogent perspective on how to construct risk-controlled portfolios likely to result in consistent outperformance.

DRIVERS OF LONG-TERM PERFORMANCE

The statement, "a portfolio's asset allocation is the investor's most important decision," makes intuitive sense. A portfolio of money market instruments can obviously be expected to perform differently from a portfolio of equities.

Empirical research studies performed over the last 20 years have documented the importance of the asset allocation decision in determining the portfolio performance of balanced investors. On average, conventional investment management activities such as security selection, sector rotation, and market timing have a modest impact on long-term performance levels.

In 1986, a study titled, 'Determinants of Portfolio Performance,' appeared in the Financial Analysts Journal. The study, by Gary Brinson et al, compared the performance of 91 diversified pension funds to the performances of hypothetical portfolios with the same asset allocation but composed of unmanaged index funds.

The comparisons, using regression analysis, showed that over 90 per cent of the short-term fluctuations in the value of the pension funds could be explained by their static asset allocation decision alone. Efforts by the fund man-

agers to pick superior securities or to anticipate shifts in the relative values of asset classes had negligible effect.

Recent studies by Vanguard's Investment Counseling and Research Department extended Brinson's findings using a much larger dataset of actively managed US balanced mutual funds spanning a 40-year time period. We confirmed that asset allocation accounts for most short-term fluctuations. More importantly, we showed that, on average, over the long term, the index implementation of the static asset allocation decision resulted in higher return than the actual return earned by active management for diversified portfolios.

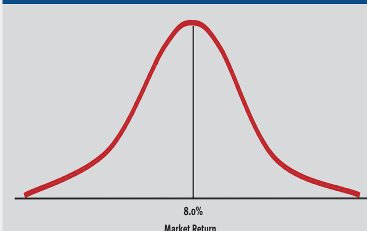
ACTIVE VS PASSIVE RETURNS

A 2003 Vanguard study compared the returns and volatility of 420 actively managed US balanced mutual funds to their benchmarks from 1962 to 2001. Over this long period, we found that asset allocation explained 76.6 per cent of their short-term fluctuations in value. On average, the static asset allocation implemented through index funds also outperformed. In other words, active strategies produced benchmark-lagging performance on average.

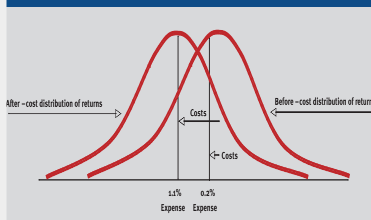
In contrast to conventional wisdom, the asset allocation decision matters in both bull and bear markets. For 66 balanced funds with returns during bear markets in US stocks (such as the autumn of 1987 and from January 2000 to December 2001), static asset allocation implemented through index funds resulted in higher returns on average than the funds' actual returns. During the long secular US bull market from 1981 to 2001 similar results were observed on average for the 420 balanced funds in the study (see figure one). (See Sources of Portfolio Performance: The Enduring Importance of Asset Allocation, Vanguard Investment Counseling & Research, July 2003.)

"INDEXING IS PARTICULARLY EFFECTIVE IN THE MARKET SEGMENTS THAT TEND TO DOMINATE THE HOLDINGS OF BALANCED INVESTORS: LARGE CAPITALISATION EQUITIES AND HIGH QUALITY BONDS"

Figure two: Hypothetical annual return distribution



Hypothetical annual return distribution after costs



An additional study by Vanguard confirmed that only a small percentage of active managers succeeded in producing alpha. Reviewing the performance of 214 balanced funds from 1966 to 2003, we found that, on average, the indices outperformed the active funds by five basis points per month before costs and 22 points after subtracting the active funds' costs. At the same time, the index funds were only 90 per cent as volatile, on average.

THE CASE FOR INDEXING

These studies have two implications. The first suggests that a balanced investor can implement an asset allocation policy with index funds alone. The second is that indexing can provide a floor for acceptable long-term performance. To fully understand these implications, consider why indexing works.

An index fund invests in the same securities, or a sampling of them, that compose its target market index. An index fund's performance will therefore approximate the index returns, trailing it only slightly because the index funds incur some management expenses while the index itself has none. Over time, this straight-forward approach of matching the market's return results in relative outperformance.

The reason is simple mathematics. By definition, markets are a zero-sum game. Before costs, half of all euros invested in stocks or bonds will outperform the market, and half will underperform. Subtract transaction costs and management fees, however, and markets become a negative-sum game. The percentage of euros winning shrinks, the percentage of euros losing grows, and the average return of all investors trails the market return by the amount of their average costs (see figure two).

Index funds typically boast much lower operating and transaction costs than actively managed funds.

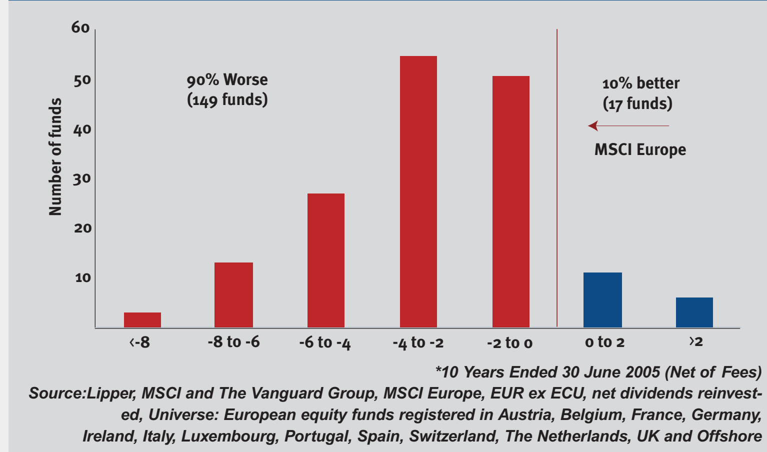
By losing less of the market return to cost, index funds can beat a majority of active managers on an after cost or net return basis. This fact has been confirmed through many studies of historical fund returns in markets around the globe.

Conventional wisdom holds that indexing is considered most effective in markets where systematic risks are predominant factors affecting the cross-section of returns, such as the bond and the large-cap stock markets. In fact, indexing can be successfully applied to virtually any asset class. While indexing may be thought to be less effective in managing small-cap stock funds, survivor bias explains part of the apparent ability of a greater percentage of active small-cap funds to beat their benchmarks. (See The Case for Indexing, Vanguard Investment Counselling & Research, March 2004.)

The fact that many mid- and small-capitalisation managers hold larger capitalisation stocks, which the use of custom benchmarks has revealed, further corrects the misconception that active managers have decidedly greater skill in mid- and small equity universes. But even if the percentage of outperforming managers is at times higher in some market segments than in others, the likelihood of selecting one or even a sample of active managers in that market segment who will consistently outperform is still relatively low.

Indexing is particularly effective in the market segments that tend to dominate the holdings of balanced investors: large capitalisation equities and high quality bonds. After costs, we found that the MSCI Europe Index outperformed 90 per cent (149 of 166) of active European diversified equity funds for the 10 years ending on 30 June 2005 (figure three). The S&P 500 Index outperformed 83 per cent (160 of 193) of active US diversified equity funds over the same period.

Figure three: Indexing versus active investing (European diversified equity versus MSCI Europe)*



***10 Years Ended 30 June 2005 (Net of Fees)*
Source:Lipper, MSCI and The Vanguard Group, MSCI Europe, EUR ex ECU, net dividends reinvested, Universe: European equity funds registered in Austria, Belgium, France, Germany, Ireland, Italy, Luxembourg, Portugal, Spain, Switzerland, The Netherlands, UK and Offshore**

As for bonds, in the U.S., between 82 per cent and 99 per cent of active bond funds underperformed their indexes for the ten years ended 31 December 2003, even after the benchmark return was reduced by 20 basis points for estimated expenses (see figure four). The Lehman Euro-Aggregate Government Index outpaced 95 per cent of comparable actively managed Euro government bond funds (after costs) in the five years ending on 30 June 2005. Generally, the greater the proportion of bonds in a balanced portfolio, the stronger the case for indexing will be.

Overall, when compared to the average active fund, index funds have provided superior long-term performance, greater predictability of returns, greater diversification, and applicability to any asset class or sub-class. Indexing establishes a 'floor' under a fund's performance, making possible highly competitive returns in the long-run and in any given year.

CORE-SATELLITE MANAGEMENT

The core/satellite framework is used to construct portfolios with the potential to add value above the performance floor provided by the indexing implementation of the asset allocation decision. In a typical core/satellite portfolio, a large portion of the assets is held in low-cost, broadly diversified index funds to provide the portfolio with a risk-controlled 'core holding'. Portions of the assets, the satellite holdings, are held in funds that seek to add alpha.

By acknowledging that there are market segments where indexing is extremely effective, the core/satellite strategy tries to add value where it is deemed most likely to succeed. In the hands of the rare gifted manager, a satellite holding can be used to add alpha.

The core/satellite approach may reduce overall portfolio management costs that undermine the performance of traditional actively managed portfolios. The core investment through index funds generates the market's return at the lowest cost. The satellite investment results in higher fees being paid only where higher returns are expected.

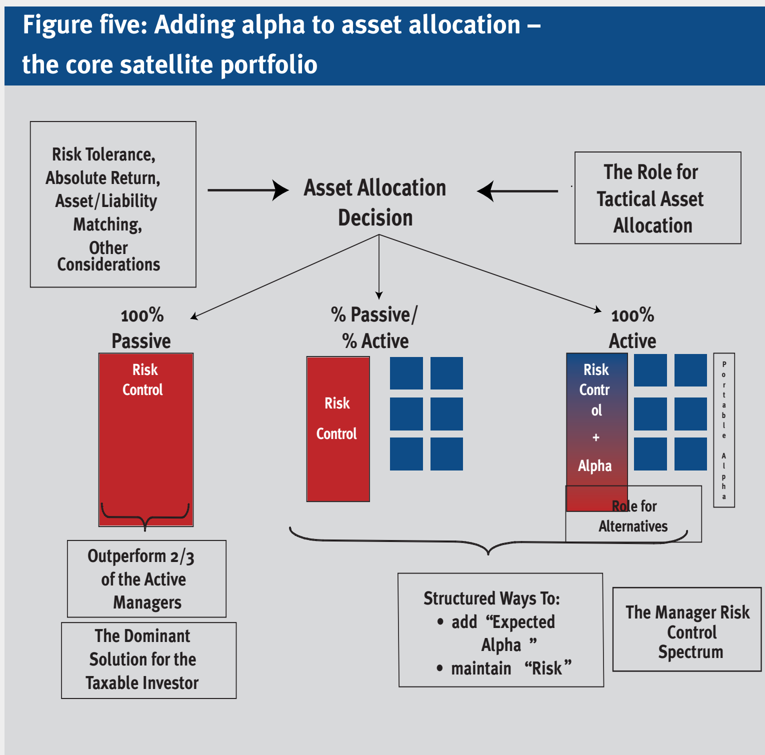
To raise the likelihood that a risk-controlled portfolio with consistent alpha emerges from the core/satellite framework, thoughtful selection of active managers is required. Risk control can be built into the satellite portion of the portfolio by assembling a group of diversified active funds with a low correlation of alpha. The active funds should be diversified across well-known systematic risk factors such as investment styles, market capitalisations, and industry sectors.

Figure four: Percentage of actively managed bond funds outperformed by benchmark*

	Government	Corporate	GNMA	High yield
Short-term	95%	99%	96%	90%
Intermediate term	82%	92%	–	–
Long-term	99%	98%	–	–

*Benchmark return adjusted 20 basis points for estimated expense ratio. Sources: Lipper Inc. and Morningstar, Inc. Ten years ended December 31, 2003.

Figure five: Adding alpha to asset allocation – the core satellite portfolio



To reduce the volatility of the portfolio's alpha, restrictions can be placed on the over- and under-weightings of individual securities and to ensure that each satellite fund is itself broadly diversified. However, these position limits can be relaxed somewhat if the rare truly gifted manager can be identified. While these concepts provide useful guidelines to mitigate individual manager risk, selecting talented managers is critical.

At Vanguard, where independent firms manage many of our active funds, we look for firms that have strength in four areas: people, philosophy, process, and performance. The most effective firms have long-tenured staff with strong continuity of leadership, proven expertise, and deep bench strength. These firms have a long-term orientation, an enduring philosophy, and clearly-defined, disciplined processes. Stability, along with low costs, stand out as essential for competitive performance.

Although most of these traits are qualitative in nature, we find that they are simply another way of building risk control into the manager selection process. In fact, the portfolio volatility of many of our active managers is not statistically different from the volatility of their benchmarks.

BASIC PRINCIPLES

When successful, a core/satellite strategy captures the predictability of indexing with the potential of active management. However, it is important not to lose sight of the basic principles of financial markets. When implemented through an indexing strategy, the asset allocation decision accounts not only for most of a portfolio's short-term variations but most of its long-term performance as well. Investors should focus on adding incremental alpha above the floor of acceptable performance offered by indexing only after making their asset allocation decision and forming risk-controlled, broadly diversified portfolios.

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