"BE NOT THE FIRST . . . NOR YET THE LAST"

Six Things to Remember about Indexing, and One to Forget

Remarks by
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I am pleased to have this opportunity to speak before this group of professional portfolio managers and security analysts on the subject of market indexing. Many of you--indeed, most of you--I imagine, are hardly fans of this seemingly simplistic concept. But it is not as simple as it looks, and I'd like to explore some of its more complex and interesting aspects with you this morning.

Before I do, however, I would like to acknowledge that I am hardly an objective observer of indexing. Vanguard, among all major mutual fund complexes, is the sole apostle of indexing. I use the dictionary definition of "apostle:" "a messenger, specifically one who initiates great moral reform or first advocates any important belief or system." Twenty years ago, we introduced the first index mutual fund, targeted to the Standard & Poor's 500 Stock Index. Today we manage (operate?) portfolios based on 16 different indexes, including U.S. growth, value, and small-cap equities, regional international equities, and U.S. bonds of varying maturities. In addition, we offer eight index-oriented portfolios, including four asset allocation and three tax-managed funds. In all, assets of our index funds total about $45 billion, larger in itself than the assets of all but twelve mutual fund complexes. Exhibit 1 shows the current composition of Vanguard's "book of business" in index funds.

While we have plunged into indexing with increasing zeal over the past two decades, our competitors fall into two distinct groups: (1) brokerage firms and fund complexes relying on broker-dealer distribution, which have simply ignored the issue, since, or so it would seem, the imposition of sales loads would be antithetical to the goal of index matching; and (2) major no-load ("direct marketing") complexes, which have been "dragged, kicking and screaming" into offering a single Standard & Poor's-based index fund to meet Vanguard's competition, especially in the thrift plan marketplace. We are essentially alone, then, in taking index funds to the next level beyond the Standard & Poor's 500. We are also alone in focusing on indexing as a business strategy. As a result, today fully 40% of Vanguard's equity fund assets are represented by passively managed index funds, compared to 0% for those who have so far chosen not to compete, and obviously have no index assets; for those who have entered the fray, index assets amount to about 2% of total equity assets under management.

As a result, our "market share" is a huge 60% of all index mutual fund assets. The quixotic failure of our competitors--in this industry that normally copies original fund concepts as fast as pirates copy CDs--is easy to explain: there's not much money in passive management, which might permit advisory fees of 5 basis points (our own index management costs are 1 basis point), compared to 50 to 100 basis points or more for active management. In any event, for better or worse, we are the apostle--and we fully recognize both the investment and strategic risks of our commitment. But clearly "apostle" is the role in which we have cast Vanguard. We believe.

In his Essay on Criticism, Alexander Pope issued this warning: "Be not the first by whom the new are tried, nor yet the last to cast the old aside." Clearly, Vanguard ignored the first part of Pope's warning and was "the first by whom the new are tried." The question is whether the skeptics in this industry who have ignored indexing will be disadvantaged by being "the last to cast the old aside." To explore both sides of this issue, I'd like to touch on seven aspects of mutual fund index investing--six of which, in my judgment, are worth remembering and one of which is worth forgetting.

Forget the Recent Stellar Performance of the Standard & Poor's 500

I'm going to begin with what you should promptly forget: that the return on the unmanaged Standard & Poor's 500 Index outpaced the returns earned by 85% of all professionally managed diversified equity funds in 1995, and 78% in 1994, and as it turns out, 87% for the two years combined. The press seems to delight in accentuating these numbers, and even as the money from mutual fund investors comes rushing into our coffers, we spend our time minimizing their significance and warning those who will listen about the perils of such vest-pocket "analysis." In fact, as Exhibit 2 clearly illustrates, these were two of the best years for such 500 Index equity mutual fund comparisons in the past quarter century.

The seeming overpowering advantage of Standard & Poor's 500 indexing in 1994-95 arises from the confluence of two factors: (1) the domination of equity returns by large-cap stocks, which drive the Standard & Poor's 500 Index; and (2) the fact that mutual funds have, as a group, become increasingly aggressive over time, with risk and return characteristics that are dissimilar to those of the index. (These factors, in the three prior years, combined to enable the unmanaged Index to outpace only--if that's the right word--about 45% of all equity funds.)

What is important, then, is not the recent stellar performance of index funds, but rather the long-run--more predictable--record. This record shows that the cumulative return of the Standard & Poor's 500 Index over the 1971-1995 period outpaced some 65% of all funds, about what we should expect (for reasons I'll address later in these remarks). Even in the ever-unpredictable world of the financial markets, I feel confident in predicting with confidence that the impressive relative performance of the Standard & Poor's 500 Index over the past two years will not soon--if ever--recur. It is an historical artifact that will soon be viewed as exactly that. But don't relax too much, for I'm equally confident that the long-term record of superiority will repeat itself over and over.

I. Remember that the Standard & Poor's 500 is not "The Market"

In any event, the first thing about indexing to remember is what too many casual observers seem to forget: the Standard & Poor's 500 is *not* the market. In fact, based on total capitalization, it is "only" about 70% of the market. It is a superb measure of how large-cap stocks are performing, but not a very prized measure of the performance of mid-cap and small-cap equities.

Now, markets being markets, while returns on large-cap stocks and smaller stocks vary significantly from year to year, they tend to converge over time. Indeed, at least from 1971 through 1995, the compound annual return of +12.2% on the Standard & Poor's 500 Index was virtually identical to the return of +12.4% on "the rest of the market," as measured by the Wilshire 4500 Index.

Nonetheless, if we use the total stock market Wilshire 5000 Index (the Standard & Poor's 500 plus the rest of the market), we filter out a lot of the noise in the annual data. Exhibit 3 compares the annual record (measured by the percentage of general equity mutual funds outpaced) of the Standard & Poor's 500 Index and the Wilshire 5000 Index. A brief glance at the chart clearly shows the greater consistency of the latter index. To be precise, the Wilshire 5000 has a materially higher correlation of returns (0.90) with the average general equity fund than does the Standard & Poor's 500 (0.79). Statistics and intuition say, and I agree, that the all-market index is--or at least has been in the past--the more accurate comparison, and should, I believe, become the standard of choice.

Neither, I hasten to add, is the average diversified equity fund a particularly good reflection of the total market. This industry, probably in the highly profitable (to fund managers) search to achieve high performance rankings and large numbers of "Morning Stars," has taken on a more speculative cast, and both indexes have lower risk profiles than the average equity fund. The Standard & Poor's 500 risk (as measured by Morningstar) has been about 25% below the average. So, it is a struggle to get a truly fair comparison. Remember, then, not only that the Standard & Poor's 500 is not the market, but that any simplistic comparisons of performance can be quite misleading.

II. Remember to Consider the Differences in Returns of Individual Funds

At this point, I would set out the proposition that how *many* funds have performed better or worse than the Index is less important than how *much* their returns have varied. After all, it makes a material difference whether a fund out performs (or underperforms) the long-term annual return of the Index by 10 basis points or by 200 basis points. Now *that* is an interesting question! So, we have developed a comparison of the returns of each growth mutual fund and each value mutual fund with the returns achieved by an actual Standard & Poor's 500 Index fund over the past decade. (Here, I prefer the use of the Standard & Poor's 500 Index standard simply because large-cap stocks dominate the portfolios of the funds in these two major objective groups. In any event, the annual returns of the 500 (+14.9%) and the 5000 (+14.2%) were virtually identical for the decade, so it doesn't much matter which standard is used.)

Exhibit 4 presents this comparison. It shows the relative returns of all 273 growth and value funds in operation throughout the decade. We have used, not the Index itself, but Vanguard's 500 Portfolio, which closely tracks the Index return, and is a more valid comparison since its return is net of all fund costs (annual operating costs of about 0.20%, of which less than 0.01% represents advisory costs). You can see that only 46 funds outpaced our Index Portfolio, compared with 227 that failed to do so. Thus, the odds of beating the Index Portfolio were only about one in six. But, in many cases, the differences in return were less than 1%. To move, then, from "how many" to "how much," let's assume that only fund relative returns of greater than +/- 2% annually are statistically significant. By this standard, only 15 funds provided a significant advantage over the Index Portfolio, while 129 provided a significant disadvantage. Thus, there was but one chance in ten that a fund that "made a difference" made a *positive* difference. Those are compelling odds.

Put even more extremely, during the past decade, only 15 actively managed mutual funds out of 273 outpaced the passively managed Vanguard 500 Index Portfolio by a significant margin. The message is clear: the odds--18 to 1--against blindly selecting, in advance, a mutual fund that provided a return materially larger than that of the index were, in retrospect, enormous.

III. Remember that Cost Makes the Difference

The mutual fund relative returns shown in Exhibit 4 are after all mutual fund operating expenses, which are explicit and in fact averaged about 1.3% per year, any sales loads, and transaction costs, which are implicit but seem to run in the range of 0.6% per year for these growth and value funds, which generated annual portfolio turnover of about 80%. (The turnover for the Index Portfolio runs about 5%, and transaction costs were negligible.) Taxes are ignored, yet they are an additional and substantial burden for the fund shareholder. Indeed, many estimates suggest that annual after-tax returns on managed funds may be reduced by an additional 100 to 200 basis points. (The Index Portfolio carries no sales load, and, given the low turnover, realized capital gains, and hence taxes incurred by shareholders, have been minimal.) It is costs that make the difference--not, to be sure, fund by fund, but in the aggregate--and give the Index Portfolio substantially all of the clear advantage it enjoyed over the past decade, even ignoring taxes.

The hardly complex case for indexing rests on these assumptions: (1) that all managers as a group must by definition provide average *gross* returns, just as a representative index does; and (2) that the *net* returns earned by managers as a group will therefore provide below-average net returns. This thesis is neither astonishing nor even counter-intuitive. Indeed, over the past decade the +14.6% return on the Index Portfolio exceeded the +12.8% return on the average growth and value fund by +1.8%, just about what we would expect. (Total managed fund costs 1.9%, total index fund costs 0.2%, a difference of 1.7%.)

To drive this point home, let's examine the returns of the mutual funds before expenses, and redraw Exhibit 4. We do so in Exhibit 5. Here, you can see that the use of gross returns rather than net returns simply shifts the distribution to the right. We also compared these gross returns with a normal (or Poisson) distribution of results. When we fit this line against the funds' gross return, the result is almost perfect chance--about the same as flipping the coins. It is fair, then, to conclude that the relative gross returns of mutual funds have followed a random pattern ("A Random Walk Down Morningstar Street," if you will), and that net returns are, over a decade, importantly influenced by cost.

I am often challenged with the question: "how can Vanguard offer *both* actively managed funds *and* passively managed funds?" The answer lies in this Exhibit. Our managed equity funds are operated at very low expense ratios (averaging 0.40%) and generates relatively modest portfolio turnover, giving them but a very mild headwind against the 0.20% expenses of our index portfolios. The typical equity fund, on the other hand, faces a gale force headwind of 1.3%. We also like to think that we have brought to the table above-average skills in our selection of advisers for our actively managed funds. (It is, however, a fallible, tough, and demanding task!)

IV. Remember "Regression to the Mean"

If you are with me so far--and willing to grant the validity of my indexing thesis--let me go one step further and try to answer the obvious question: "Why not just select the winning funds, those that will provide the 2% (or even 1%) advantage in annual returns I seek?" I have already suggested part of the answer: the odds against doing so *ex ante*, are substantial. The other part is that mutual fund returns follow that immutable principle of the financial markets: regression to the mean. Even the funds with the very best past records have a strong--and in the long run, overpowering--tendency to gradually gravitate to average gross returns, and hence below-average net returns. This tendency, it seems to me, is reinforced by the fact that mutual funds with outstanding returns tend to attract large cash inflows from investors, and, as a result, I would argue, are gradually stifled in their search for return superiority.

Let's examine a case in point: "Alpha Equity Fund," the alias I have given to one of America's largest (and in my view, best managed) equity funds, one whose portfolio characteristics closely resemble those of the Standard & Poor's 500 Index, one which gives its shareholders a relatively fair shake on expenses, and one which, in recent years, has enjoyed the largest sales volume of any equity fund distributed by stockbrokers. As Exhibit 6 shows, this mutual fund generally outpaced the Standard & Poor's 500 Index by 1% to nearly 3% annually in the ten-year periods ending in 1969 through 1986. But a careful eye can see its gradual regression *toward* the mean even during that long span of excellent decades. Then, it begins its steady descent *to* the mean, and has provided average to below-average returns (after expenses) in every decade-long rolling span since then.

This select example is hardly atypical in the mutual fund industry, for the business of investment management--just as the business of selecting portfolio managers--is a fallible, tough, demanding business. (I don't think anyone here will disagree with *that* thesis!) Outpacing competitive norms and appropriate market indexes is a difficult task on the face of it, indeed one made even more difficult as assets under management grow to boxcar levels. Just as cost is the dead weight that drops the inevitably average gross returns of equity funds as a group to below-average levels, so it is the inevitable regression to the mean that is the dead weight that drives the above-average gross returns that an individual fund achieves to average levels, and, after costs, to below-average levels.

V. Remember that the Principles of Indexing Apply to all Financial Markets

If some of the four points I have expressed in favor of an indexing strategy for core mutual fund portfolios in U.S. stocks are not very popular with professional money managers and securities analysts, I will hardly add to my popularity with the fifth point that I urge you to remember: the principles of "basic Standard & Poor's 500 indexing," as it were, apply even more strongly to diversified portfolios of U.S. small-cap equities, international equities, and U.S. bonds. I am well aware that the conventional wisdom suggests that such is not the case, but that wisdom, as it were, rests on the fundamentally flawed proposition that in such "less efficient" markets, superior managers have more room to distinguish themselves. However, even leaving aside for the purposes of argument the challenge of identifying such managers in advance, such an argument flies in the face of logic. For every superior international fund manager that outpaces the appropriate international index by, say, 3% per year, there must be--by definition--another manager who underperforms by 3% a year.

To make matters worse for the managers, this syllogism is true only as it applies to gross returns. Net returns present an even more dismal picture. The reality is that the costs of fund ownership--expense ratio plus transaction costs--of small cap and international equity funds run to some 3% per year--about double the costs of U.S. large-cap stock funds. As a result, the gap in net annual returns immediately changes from +3% to 0% for the superior manager and from -3% to -6% for his putative counterparty. At least this is where the theory leads us. (The same principle also applies to bond funds, but the tolerances are substantially narrower.)

Exhibit 7 illustrates this point. For U.S. small cap equity portfolios, the expense ratio spread increases from 110 to 140 basis points, and, with both higher portfolio turnover and higher costs of individual transactions, the total transaction cost spread rises from 58 to 218 basis points--a negative cost spread of 358 basis points for active managers, compared to 168 basis points in U.S. core portfolios. In international equity markets, the same trends are clear, especially since the costs of individual transactions (commissions, spreads, foreign taxes, and custody fees) are huge. In the U.S. bond market, the same factors--lower expense ratios and lower turnover--come into play. Although the total differential shrinks from that in the equity markets, the relative advantage of 124 basis points in a high-grade bond index fund increases the net return achieved by an actively managed bond fund of, say, 7%, by fully 17%. In a market in which success is measured in 32nds, 124 basis points (38/32nds) is simply far too much to give away.

As these cost factors come to be understood, indexing, whose reach extends beyond U.S. core (Standard & Poor's 500-oriented) portfolios, will inevitably change the rules of the game. The U.S. small- and mid-cap stocks have a total market capitalization of $1.5 trillion; the international equity market $10 trillion; and U.S. bonds $5 trillion--an untapped potential aggregating $16.5 trillion, three times the $4.5 trillion U.S. large-cap stocks. So, the prospective competition from index funds, I'm sorry (in a sense) to report, remains substantial.

VI. Remember that Mutual Fund Indexing is only in its Incipient Stage

Finally, remember that indexing in the mutual fund field is just beginning. The future potential is enormous. Today, equity index funds account for a miserly 3.0% of the assets of all equity funds (Exhibit 8) and bond index funds account for 1% of the assets of all taxable bond funds. (Excluding Vanguard, these percentages plummet to 1.5% and 0.1%.) And since about 60% of the equity fund total is represented by thrift plans, there has clearly been little appetite for indexing directly by individual shareholders. What is the potential? We know that indexed assets presently represent about 25% of the assets of the corporate pension plans and about 6% of the assets of the 401(k) plans. So, there is enormous room for growth in index funds. That would increase assets of equity index funds from $60 billion to $280 billion. We shall see.

This growth potential won't be achieved overnight, but only over the next decade or more. It will come: (1) as the principles of indexing become more widely understood; (2) as index fund measurement standards become more precise--*not*, for example, comparing the Standard & Poor's 500 to *all* equity funds, a comparison which will make an index strategy alternately look brilliant (as in 1994-95) and stupid (1996? 1997?); (3) as investors come to consider after-tax as well as pre-tax investment returns; and (4) as indexing extends its reach to all segments of the financial markets.

That said, this growth rests on the assumption that today's cost differentials remain intact. Impossible as it may seem, of course, they may decline. Expense ratios and advisory fees in this most over-priced of all industries may decline, the result of competition in a free marketplace and/or the exercise of some semblance of responsibility by "independent" fund directors, who have a clear fiduciary duty to protect the interests of fund shareholders, not fund advisers. And fund turnover rates may also decline, as managers come to fully recognize the handicap that heavy transaction costs impose on fund returns. One way or another, index funds have the potential to alter this industry in a way that cannot help but serve the interest of the shareholders who have entrusted their hard earned assets to mutual funds. They deserve more competitive returns.

In Summary

Despite Alexander Pope's advice, being "the first by whom the new is tried" has been a valuable asset to Vanguard, its only true apostle in this industry. But I've been around too long to urge you--or Vanguard--to be "the last to cast the old aside." Active management is not going to vanish, no matter how clear the indexing message may be. Even though expecting investment advisers in the aggregate to outperform an all-market index has been, as Samuel Johnson said about marrying for the second time--"a triumph of hope over experience," the idea that "hope springs eternal" is deeply imbedded in the psyche of the investing public.

Nonetheless, the outlook for those who ignore the fundamental message of indexing is not very bright. So this is my simple message to you: cost is critical in shaping investment returns. Indexing is a method certain to reduce costs to the bare bones level, and, by so doing, to enhance net returns. But attention to setting of mutual fund advisory fees at fairer, more rational, more competitive levels can redress part of the balance, and a careful reassessment of the impact of portfolio transactions (turnover times execution costs) may redress another large portion. These changes--which, far more incidentally, will benefit mutual fund shareholders--will improve the odds that active managers outperform the index. But these odds won't reach 50/50 unless the costs of active management drop to the 0.20% cost of an index fund. This, it seems to me, is not a likely prospect.

To qualify for the designation as "apostle," Vanguard has to have been the "first to advocate my important belief or system." If we were hardly the investors of the indexing theory, we have pioneered indexing in the mutual fund field, and made it work. What is more, we remain, among major fund complexes, uniquely committed and enthusiastic about this system of investing. We know that our neck is way out--it always is for the pioneer--and the business risk to us is significant. But we have the courage of our convictions, so let the chips fall where they may. Thanks for your patience and tolerance in listening to my message!

Note: The opinions expressed in this speech do not necessarily represent the views of Vanguard's present management.