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# The Role of Index Funds in Developing an Optimal Investment Strategy

Geoffrey C. Loynd

*The use of low-cost index funds in an asset allocation portfolio can help clients meet long-term investment goals.*

**S**tudies over the last three decades have documented the high degree of efficiency that exists in modern security markets (see sidebar). These studies have demonstrated the extreme difficulties even knowledgeable investors bear in attempting to outperform the market over the long run. The acceptance of this reality leads to the conclusion that the most rational investment approach for the individual is one that minimizes transaction costs and maximizes diversity. The best way to implement such a strategy is through an asset allocation portfolio consisting largely of no-load or low-load mutual funds.

Financially astute clients willing to devote a good deal of initial investigative work and ongoing review may do well on their own. For less knowledgeable clients, or those who prefer a professional's input, a financial adviser can add significant value to the portfolio selection and review process. Information and trends documented by efficient market studies can assist the financial adviser in the selection and management of a mutual portfolio that will increase the likelihood of meeting or exceeding investment objectives.

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## Efficient Market Theory

Efficient market theory proposes that intense competition among many well-informed investors causes security prices to reflect all relevant information almost instantaneously. Therefore, opportunities to outperform the market are either nonexistent or are so minimal that efforts to take advantage of them will prove counterproductive when accounting for transaction costs. In today's "information age" financial markets are characterized by all the required traits for an efficient market—many intelligent, well-informed investors possessing the ability to rapidly retrieve information, evaluate it, and make investment decisions that can be acted upon with the touch of a keyboard.

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## Don't Tell the Pigeons

The fact that many financial professionals reject efficient market theory is hardly surprising. Many of these individuals have a professional stake in their skepticism. If the public develops the perception that security selection is a futile pursuit, where does that leave many of the individuals working for brokerage firms, pen-

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sion management firms, insurance companies, and mutual funds?

In fact, the weight of the evidence has led some of the more candid investment industry leaders to support efficient market theory, at least to some degree. David Hunter, ex-chairman of the brokerage firm Parker/Hunter Inc., recently said he has become convinced that no one can predict short-term trends in the market. Hunter stated, "The only people I know who have profited handsomely by forecasting the stock market are those who write market-forecast letters and sell them for \$200 a year to pigeons across the nation."

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### What Is the Optimal Approach?

The question remains: Given this evidence, what is the optimal strategy for the individual investor? Efficient market studies demonstrate that minimizing transaction costs must be a part of that strategy. In light of the records of professional money managers, investors may be tempted to reject the industry altogether and select securities individually. Historically, many individuals have done just that, purchasing specific securities based on personal knowledge and intuition or recommendations made by stockbrokers and other tipsters. However, this results in less diversification and increased transaction costs. Few investors have enough money to purchase a well-diversified portfolio in share lots large enough to incur minimal brokerage fees. Historically, stocks have provided an average annual return of approximately 10%–11% while bonds have returned roughly 6%–7%. A stock investor who incurs transaction costs of only a few percent per year will own higher-risk assets while realizing yields characteristic of lower-risk bonds. Additionally, the individual should address this question: If professionals have a very difficult time selecting a portfolio that outperforms the market, what are the

nonprofessional's chances? Selecting specific securities involves competing in a game where the individual is greatly outmatched.

Professional money managers possess many advantages over even the most serious individual investor. A typical portfolio manager has a top-tier formal financial education and has developed skills over a number of years as a security analyst. However, education and professional experience may provide the least of a portfolio manager's advantages. Possibly the most important advantage lies in the area of transaction costs. A portfolio manager pays only a fraction of the commissions that the individual investor is charged. Over time, this cost differential adds up to a very significant advantage.

Money managers often have a team of analysts who review financial statements, interview management, visit facilities, and talk to competitors. While analysts may not provide perfect information, they can do a much more thorough job than the individual investor of rooting out obvious pitfalls and spotting rare pricing mistakes. Another advantage is a money manager's "grapevine." Many managers have a network of financial professionals with whom they regularly share ideas and information. Peter Lynch, in *One Up On Wall Street*, listed 88 individuals outside of his firm that he thanked for helping him achieve success. Finally, the mutual fund manager has the advantage of time. Few individuals can devote all their working hours to managing their investment portfolios.

Considering the fact that even with all these advantages, professionals have compiled less than stellar records, one must conclude that investors who personally manage portfolios of individual securities are following a naive investment strategy. Their approach most certainly, over the long run, will "stack the deck" against themselves. That is not to say that good fortune won't prevail for a lucky few who "flip heads" time after time. The majority, however, will realize better returns by maximizing diversification, minimizing

**"The majority of investors will realize better returns by maximizing diversification and minimizing transaction costs and owning an asset allocation portfolio of low-cost mutual funds."**

transaction costs, and owning an asset allocation portfolio of low-cost mutual funds. The shortcomings of the mutual fund industry as a whole should be viewed as acceptable, given the vital advantages it offers—a high degree of diversity and low purchasing expenses.

### Selecting an Asset Allocation Mutual Fund Portfolio

The client's investment horizon should encompass a lifetime. Certain pivotal needs, such as educational expenses, can shift some attention to the shorter term. However, overall investment philosophy should be made with an emphasis on the client's lifetime and beyond if estate management is of concern. Accordingly, a rational investment approach should not be excessively concerned about short-term results. The emphasis should be on maximizing the probabilities of long-term success.

One approach often touted as a logical response to efficient market studies is the use of index funds. The argument for these funds is strong. They probably represent some of the best long-term investments.

Significant advancements in the nature of index investing over the last few years have facilitated the adoption of an investment approach that was previously unavailable. Until recently, index fund investing was limited to funds based on the S&P 500. Today, funds based on many indexes are available (see Exhibit 1).

In addition, funds based on other indexes compiled in house by the fund manager are available. Owing to the wider variety of index funds, the planner can assist clients to assemble a portfolio exclusively containing index funds that is diversified across security classes, as well as individual issues. This represents an ideal portfolio for the investor seeking to maximize diversification and minimize expenses.

**EXHIBIT 1**  
**Selected List of Index Funds**

Index	Year of Fund Inception
S&P 250 (Growth)	1992
S&P 250 (Value)	1992
Wilshire 2500 (Large Cap Growth)	1992
Wilshire 2500 (Large Cap Value)	1992
Wilshire 2500 (Small Cap Growth)	1992
Wilshire 2500 (Small Cap Value)	1992
S&P MidCap 400	1991
California 250 Growth	1991
Morgan Stanley Capital International, Europe	1990
Morgan Stanley Capital International, Pacific	1990
Russell 2000	1989
Wilshire 4500	1987
NYSE Small Stock	1986
Northwest 50	1986
EAFE (European, Australia, Far East)	1986
Salomon Brothers Broad Investment-Grade Bond	1986
S&P 500	1976

### Index Fund Reservations and Considerations

Index fund investing faces some of the same entrenched bias as efficient market theory. However, some unbiased reservations should be recognized when selecting index funds.

#### **Nothing Is Sacred About an Index.**

The success of an index fund results from its diversification and low expense ratio. These funds are, to a lesser degree than conventional funds, managed portfolios. They differ in that trading is done not in an effort to drop bad securities and pick up better ones, but to mimic a changing index and to deal with inflows and outflows of investor's money.

**When Selecting an Index Fund, Consideration Should Be Given to the Index That the Fund Emulates.** Until recently, "buying the market" through an index fund was limited mainly to funds based on the S&P 500. The S&P 500 does not represent the market. In fact, it

represents a fairly specific portion of the equity market—large, mature, US companies. Index funds based on indexes other than the S&P 500 may better serve specific investment objectives.

**History Has Demonstrated That Investment Strategies Have a Way of Becoming Less Effective With Increased Popularity.** The “Nifty Fifty” investment approach of the 1960s and 1970s produced favorable results until too many investors bid up prices to unjustifiable levels. Portfolio insurance, introduced during the 1980s, was an investment strategy based on sound theory until the magnitude of investments incorporating this approach overwhelmed the underlying theory. During the crash of 1987, the reality of portfolio insurance proved less attractive than the theory.

Similarly, if index funds are the answer to efficient market theory, the answer eventually could undermine the theory. Market efficiency results from many investors competing to uncover and benefit from inappropriately priced securities. The more popular indexing becomes, the less resources will be applied to this task, resulting in less efficient securities markets. Depending on the source of information used, index funds currently hold between 2% and 15% of all stock-fund assets.

**The Verdict Is Not in on Efficient Market Theory.** Many of the same people who have conducted these studies do not support the notion of a 100% efficient market. The down side of selecting only index funds is the forfeiture of all possibility of selecting funds that may outperform the market.

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### Enhanced Index Fund Portfolio

In light of the information provided by efficient market studies, it is probably best to invest a significant portion of a client's

portfolio in index funds. However, the integrity of a low-cost/high diversification strategy can be maintained by placing a portion of the portfolio in conventional mutual funds. Trends revealed by efficient market studies provide criteria that can be employed to select conventional mutual funds that will possibly lead to enhanced overall portfolio performance. These selection criteria are not new, but comfort may be taken in the fact that researchers have conducted scientific studies supporting them. (See sidebar for more detail on the studies cited in the following sections.)

**Past Performance.** While some studies concluded that past performance is not an indicator of future performance, others uncovered weak, yet statistically significant degrees of correlation.

In their 1977 study, “A Performance Analysis of Pension and Profit-Sharing Portfolios: 1966–1975,” Beebower and Bergstrom examined the relative performance of 148 managed pension portfolios over the 1966–1975 period in an effort to evaluate performance consistency. They split this time frame into two five-year periods and found some consistency among the top performers in the first and second time frames. These results suggest that past performance is, to some degree, a predictor of future performance.

In another study Lakonishok, Shleifer, and Vishny found that the top 25% of the pension fund managers measured over consecutive three-year periods outperformed the lower 75% by statistically significant margins in subsequent periods. While superior past performance may not indicate an ability to outperform the market, it may at least indicate an ability to outperform other money managers.

**Fees and Expenses.** Ranking the 34 funds involved in his study by their expense ratios, Sharpe discovered a positive correlation between low expenses and superior performance. In fact, he noted that the use of expense ratios was equally pre-

**“History has demonstrated that investment strategies have a way of becoming less effective with increased popularity.”**

dictive of future performance as was the use of historic return/volatility ratios. Both provided 12:5 odds of selecting a fund whose performance ranked in the top half of the 34 funds from one period to the next. Based on this information, planners and their clients should pay particular attention to sales loads and annual expenses.

**Size and Volatility.** Friend and Vickers found a moderately negative relationship between fund size and both return and variation over the 1958–1963 period. Small funds tended to provide higher returns than large funds, but with greater volatility. This suggests that an investor seeking high returns and willing to ride out volatile periods should own small mutual funds. The Friend and Vickers results are summarized in the following:

Fund Size (in millions)	No. of Funds	Avg. Annual Return	Range of Avg. Annual Returns
>\$100	9	14.8%	1.7%
>\$15, <\$100	16	15.8%	4.0%
<\$15	25	16.1%	7.0%

Williamson's results were similar, finding that volatility was the best indicator of long-run performance. The most volatile funds realized the best ten-year performance records.

Grinblatt and Titman also concluded that aggressive-growth and growth funds and those funds with the smallest net asset values provided the best performance prior to netting out expenses and management fees.

A final note: services offered by mutual fund companies, such as automatic purchase and redemption, check writing, etc., are values that are completely predictable. The realization that performance differentials are highly unpredictable increases the competitive advantage that services represent.

Every efficient market study done to

## Efficient Market Studies

Prior to the emergence of efficient market theory, investors reasonably assumed that knowledge, talent, and hard work could achieve returns in excess of market averages. Many, if not most, professional money managers were thought to outperform nonprofessional investors as well as the overall market. The roots of efficient market theory reach all the way back to 1900. However, beginning during the 1960s, studies have emerged in increasing numbers suggesting that most money managers do not outperform the market. It is even possible that none accomplish this over time. Following is a brief review of some of these studies.

*Friend, Vickers, "Portfolio Selection and Investment Performance," 1965:* Comparing the returns of 50 common stock mutual funds with those of 50 randomly selected stock portfolios over the 1958–1963 period, Friend and Vickers found that their random portfolios experienced a slightly higher average annual return (16.3%) than the mutual funds (15.8%). This study did not take into account management fees or initial sales loads that would further erode mutual fund performance.

*Sharpe, "Mutual Fund Performance," 1966:* In this study, Sharpe compared the performance of 34 mutual funds to the Dow Jones Industrial Average over the 1954–1963 period. Before accounting for management fees, 19 funds did better and 15 did worse than the Dow Jones Industrial Average (DJIA). After deducting management fees (ranging between 0.25% and 1.5%) only 11 funds did better, while 23 underperformed the DJIA. Initial sales loads were not taken into account.

*Jensen, "The Performance of Mutual Funds in the Period 1945–1964," 1969:* Jensen evaluated the performance of 115 mutual funds against that of the Standard & Poors 500 Index (S&P 500) over 20 years. After deducting management expenses, but before deducting sales loads, only 43 funds performed better than the S&P 500. On average, the funds underperformed the S&P 500 by 8.9%. When loads were deducted, average underperformance increased to 15% with only 26 funds outperforming the market. Jensen commented, "One must realize that these analysts are extremely well endowed. Moreover, they operate in the securities markets every day and have wide-ranging contacts and associations in both the business and financial communities. If they can't cut it, who can?"

*Williamson, "Measuring and Forecasting of Mutual Fund Performance: Choosing an Investment Strategy," 1972:* Williamson measured performance consistency and found that none of the 180 mutual funds that published performance data for the 1961–1970 period outperformed the S&P 500 in each of those years. No fund outperformed the S&P 500 in 9 out of the 10 years. In fact, only one fund accomplished this feat in 8 of the 10 years.

*Malkiel, A Random Walk Down Wall Street, 1973:* Malkiel argued that no statistically significant number of managers outperform the market over time. He used the example of a random event such as a coin flip. If a large number of individuals, say 10,000, are assembled at an annual coin flipping contest, it is statistically expected that 50% will flip heads on the first try. Out of these 5,000 "winners," the following year's contest will yield 2,500 heads and so on until after 10 years, 20 "winners" would remain. He states, "No scientific evidence has yet been assembled to indicate that the investment performance of professionally managed portfolios as a group has been any better than that of randomly selected portfolios."

(continued)

### ***Efficient Market Studies*** (cont'd)

*Grinblatt, Titman, "Mutual Fund Performance: An Analysis of Quarterly Portfolio Holdings," 1989:* Grinblatt and Titman examined the returns of 274 mutual funds over the period 1975-1984. These returns were compared to a market index constructed from approximately 750 securities. They found that the sum of management fees and sales loads approximately equaled the amount by which the managers provided superior results. This led them to conclude that superior investment managers do exist, yet, owing to investing expenses, the public cannot take advantage of their superior talents.

*Lakonishok, Shleifer, Vishny, "The Structure and Performance of the Money Management Industry," 1992:* This study reviewed the performance of 250 large pension managers over the seven-year period 1983-1989. The authors found that, on average, these pension managers underperformed the S&P 500 by 1.3% annually. When the funds were weighted by size, the degree by which the funds trailed the market increased to 2.6%. These figures did not take into account management fees that would further erode performance.

*Gruber, Elton, Blake, "The Performance of Bond Mutual Funds," 1992:* The authors examined a number of different types of bond mutual funds over several periods spanning 1978-1991. They compared the funds' performance to applicable bond averages including government, mortgage, corporate, and high-yield bond indexes. The average performance, before taking management fees into account, closely matched the applicable index. Expenses proved to be the key figure. When deducting management fees, the funds underperformed the indexes by a margin very close to their expense ratios (as of this writing the study is still being compiled, resulting in an agreement between this author and Edwin Elton not to quote specific figures).

This is only a small sample of many similar studies. Both equity and fixed-income money managers in the mutual fund and pension management industries have been evaluated. The studies take many different approaches. However, they all ask the same underlying question: How does the performance of professional portfolio managers compare to that of the overall market? What seems to be a straightforward question is actually difficult to answer conclusively. Complicating issues include what expenses should be taken into account, how many managers should be evaluated, and what is a sufficient time period. While no one study confirms efficient market theory, it is hard to deny their cumulative significance. Even the most skeptical observer must conclude that to outperform the market over the long run is a very difficult task that many, most, or all professional money managers fail to accomplish.

date has been criticized in one form or another. Therefore, any one study cannot be construed as proof of efficient market theory. However, taken cumulatively, these studies represent a significant body of evidence that supports the proposition that outperforming the market over a long time period is very difficult and may be impossible.

All in all, to completely ignore efficient market theory at this point in time is to act a bit like an ostrich. And with recently introduced index fund products facilitating an investment approach not previously available to the individual investor, an optimal individual investment approach should take advantage of these products and the most up-to-date capital market research that has prompted mutual fund companies to offer them to the public. ■