

# Equilibrium-Based Investing

It's not the same as passive, or index investing

BY WESTON WELLINGTON

Some passive strategies are imperfect; but, to paraphrase Mark Twain, rumors of their demise have been greatly exaggerated. More importantly, treating “passive” and “indexing” as synonymous terms has clouded the active vs. passive debate. Critics have raised a number of objections to indexed strategies, but we should not conclude that passive investing is discredited. One approach maintains the favourable attributes of indexing while addressing many of the issues raised by its detractors. For lack of a snappier title, we refer to this approach as equilibrium-based investing, or EBI for short.

## EQUILIBRIUM-BASED INVESTING

In an efficient market, current prices for securities are the best estimates of intrinsic value. But market efficiency is just a model; and like any model, it must be false to some degree. Prices for public securities surely deviate to some extent from fair value, although this value can never be established with precision.

An equilibrium viewpoint argues that to the extent securities become mispriced, there are powerful forces working to push prices back toward their fair value. It makes more sense

to recognize these forces when forming a portfolio, rather than incur the costs and uncertainty associated with efforts to outwit them. In a competitive marketplace, it is unlikely that an investment strategy that delivers consistently superior returns with no additional risk will remain a secret for long.

In this three-part paper, we seek to address a number of questions:

- Why have index funds been successful?
- What are the key risk factors driving returns in global markets?
- What are the objections to indexing and what are the implications for investors?
- How does EBI differ from conventional index funds? What evidence do we have of its success?
- Do investors exhibit behavioural biases? Can some investors profit from these mistakes?
- What is the role of ETFs or conventional mutual funds in capturing rates of return?
- What are the business implications of this debate for the professional advisor?

For many years, the investment community has divided itself into two broad categories with regard to philosophy: Traditional active management seeking to enhance

returns through superior stock selection or market timing, and passive management seeking to capture market rates of return at low cost.

Most passive strategies seek to replicate the returns of widely followed benchmark indexes such as the S&P 500 Index, the Russell 2000 Index of small-company stocks, or the MSCI EAFE Index of large non-U.S. stocks. Among financial practitioners, the words “passive” and “indexed” have often been used interchangeably.

From an unpromising beginning in the early 1970s, indexed strategies have not only met with great commercial success but have redefined the science of investing and the business of providing investment advice. Academic researchers and investment practitioners have engaged in a long-running and spirited debate regarding the merits of each approach.

In the past, detractors of indexing have argued that diligent research can produce greater rewards than a naive buy-and-hold strategy. But the evidence over the past thirty years has not been kind to fans of active management. Study after study has found that the average manager underperforms a simple buy-and-hold strategy

and that successful managers are difficult to identify in advance. In recent years, however, indexed investing has faced fresh attacks. Critics claim that the market-cap weighting methodology used to construct most indexes is fundamentally flawed since it assigns the greatest weight to allegedly over-valued stocks.

Others cite evidence that the costs associated with index reconstruction penalize returns.

Still others claim that efficient-market theory – the intellectual foundation of indexed investing – has been discredited by research in behavioural finance. In this view, some investors exhibit persistent behavioural biases leading them to misprice securities, creating opportunities for more rational investors to earn excess returns at their expense.

We will examine these issues in greater detail; but to put the debate in proper perspective, it may be useful to review how we got here.

## A BRIEF HISTORY OF PASSIVE INVESTING

Mutual funds were first introduced in the U.S. over eighty years ago – Massachusetts Investors Trust, organized in 1924, claims to be the oldest mutual fund in America. The mutual fund structure was an important financial innovation, providing professional portfolio management, diversification, daily liquidity and transparent reporting of operations all at a reasonable cost. By providing an effective way to achieve a diversified exposure to the securities markets, mutual funds have become an enormous industry,

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with over \$10 trillion in assets of U.S.-registered funds.

For many years, individual investors and financial professionals did not question the value of professional management. Today, we take for granted the calculation of time-weighted rates of return and the availability of comparative universes of money managers. Before the mid-1960s, there was neither a generally accepted way to calculate total return nor a way to compare the returns of different funds.

This all changed with the advent of computers and the collection of data for mutual funds as well as individual stocks and bonds. For the first time, investors could compare their returns with the returns achieved elsewhere. And, for the first time, they became aware of the poor performance of professional money managers.

Index funds for institutional investors were first launched in the early 1970s. The motivation for indexing was the poor performance of conventional active management, which seeks to improve returns through stock selection and market timing. Vanguard introduced the first index mutual fund targeting individual investors in August 1976, raising a modest \$11 million from the initial offering.

Few people expected it to succeed. Many investment professionals dismissed the new fund as a shortlived fad, referring to the strategy as "guaranteed mediocrity." But as one prominent fund manager after another failed to keep pace with this low-cost alternative, assets

began to grow, and by year-end 2006 it had become the second-largest mutual fund in the U.S. with over \$119 billion in assets.

### GRADING ACTIVE MANAGER PERFORMANCE

Index funds are a laboratory experiment testing the idea of market efficiency. If securities are often mispriced, as many observers claim, can managers exploit these pricing errors to earn excess profits? For fans of stock-picking, the evidence is not encouraging.

Researchers have studied the performance of professional money managers for over forty years in the U.S. The evidence is compelling: Markets beat managers, not the other way around. A 1967 study by Michael Jensen, for example, found the average fund was "not able to predict security prices well enough to outperform a buy-the-market-and-hold policy," and that there was "very little evidence" that any individual fund was able to do significantly better than the result expected by chance.

Princeton economics professor Burton Malkiel repeated Jensen's study with data through mid-2002 and confirmed the results. More detailed tests reveal that no particular investment style appears to present an opportunity for active managers to exploit: A 2001 paper by James Davis examining managers across multiple styles – large cap, small cap, growth, and value – found "no investment style in the study generated positive abnormal returns over the 1965 – 1998 period."

Investors often claim to be unconcerned by studies showing the poor results of the average fund.

They say they intend to invest only with above-average managers. But evidence of performance persistence is slim: Today's top-quartile manager is no more likely to outperform in the future than a bottom-quartile performer. Persistence only stands out among costly funds: The drag of high expenses makes poor performance much more predictable.

We should not be surprised by these research results. Securities markets throughout the world have a history of rewarding investors for the capital they supply. Companies compete with each other for investment capital, and millions of investors compete with each other to find the most attractive returns. This competition quickly drives prices to fair value, ensuring that no investor can expect greater returns without bearing greater risk.

This is good news for investors. It means that the uninformed investor can expect the same returns from a diversified group of securities as would a highly trained professional. Assuming equivalent expenses, it means that differences in returns between one diversified portfolio and another can be explained by differences in risk.

### WHAT INVESTORS SHOULD CARE ABOUT

Over the last forty years, financial economists have greatly improved our understanding of risk and return in the public securities markets. The accepted thinking among researchers is that markets reward only nondiversifiable risk. *Investing then becomes a matter of identifying the risks that drive portfolio returns and of determining the appropriate degree of exposure.*

Investors can expect to outperform riskless assets by holding a diversified equity portfolio, since stocks are priced to deliver higher expected returns as compensation for risk. The risk of holding any single stock is far greater than that of a diversified portfolio (it could be the next Google or the next Enron) but the expected return is no higher than that of the diversified portfolio, so the additional risk of holding a single stock is not rewarded by additional expected return. Investors should not expect a reward for risks that can be easily diversified away.

Among diversified equity portfolios, differences in returns are largely explained by differences in exposure to (1) company size as measured by market capitalization and (2) value/growth character-

## GREAT EXPECTATIONS

### Annualized returns in \$US

### January 1927 to December 2006

Fama/French U.S. Small Value Index	14.51%
Fama/French U.S. Large Value Index	11.54%
S&P 500 Index	10.41%
Fama/French U.S. Large Growth Index	9.34%
Fama/French U.S. Small Growth Index	9.33%
One-Month U.S. Treasury Bills	3.72%
U.S. Consumer Price Index	3.10%

Source: See Bibliography and Data Sources.

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istics. Compared to other stocks, value stocks sell at low prices relative to book value or other fundamental characteristics.

When the universe of U.S. stocks is sorted annually into distinct groups based on these simple fundamental characteristics, results since 1927 show material differences in returns. Two prominent finance professors, Eugene Fama of the University of Chicago and Kenneth French of Dartmouth College, have collected and analyzed a considerable amount of data on this topic (see "Great Expectations," on page 14). Their findings have been frequently cited by other academic researchers.

Although the data from non-U.S. countries is less extensive, stock returns in both developed and emerging-market countries follows a similar pattern. Although researchers disagree on a precise explanation, it appears there is something about small-company stocks and value stocks that investors shrink away from or that causes investors to demand higher expected returns as compensation for holding them.

Although stocks have outperformed risk-free investments by a large margin over the past 80 years, they did not do so consistently: The S&P 500 Index underperformed one-month Treasury bills in 29 of the past 80 calendar-year periods, more than one-third of the time.

Similarly, small-company stocks

do not consistently outperform large-company stocks, and value stocks do not consistently outperform growth stocks. Periods of underperformance can be uncomfortably long: For the 17-year period ending Dec. 31, 1982, annualized total return was 6.81% for the S&P 500 Index compared to 7.05% for one-month Treasury bills.

Developing an appropriate investment plan becomes a matter of designing a long-run strategic asset allocation policy that matches up an investor's appetite for risk with the expected returns available in the global capital markets.

The greater the risk tolerance, the smaller the allocation to risk-reducing fixed income securities. Within the equity universe, investors willing to tolerate results that may differ substantially from broad-based market results may consider increasing their exposure to the high-expected-return dimensions associated with small company and value stocks. Most investors should diversify across countries and currencies as well.

### EQUILIBRIUM-BASED INVESTING'S ROLE

Like conventional index funds, EBI seeks to capture market rates of return through broad diversification and low cost. But rather than follow conventional index benchmarks, EBI seeks to target with greater precision the risk

factors that determine returns. Indexes are designed to be representative of market behavior, and are not necessarily optimal blueprints for an investable strategy.

As we will discuss in more detail in the next instalment, efforts by index managers to minimize tracking error relative to a popular benchmark often have disadvantageous results for index fund investors. By relaxing the requirement to minimize tracking error, EBI can focus on reducing total trading costs, which are frequently well disguised and can be surprisingly high.

The principal challenge for successful EBI is to identify the risk factors that matter as precisely as possible and engineer quantitative strategies in such a way as to capture them reliably. Strategies pursuing this approach have accumulated as much as 25 years of live performance, and the evidence is compelling: EBI works very well as an alternative to both unpredictable active management and conventional indexed investing.

In our next instalment, we explore the reasons for this success in greater detail. **AER**

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