

It's Academic: The Foundations of Structured Investing

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Despite the frenetic pace of financial markets, innovations in finance tend to occur slowly and often take decades to gain full acceptance. Since World War II, a handful of ideas — which began as academic papers — have revolutionized finance and changed the way money is invested and managed. These revolutionary ideas, several of which won Nobel prizes, are the core principles of *Structured Investing*.

The first principle of *Structured Investing* — **accept market efficiency** — is based on Professor Eugene F. Fama's¹ research on efficient markets and Professor Paul Samuelson's² research on the behavior of securities prices. Fama found that stock prices reflect values and information accurately and quickly and that investors cannot consistently identify superior stocks using fundamental information or price patterns. Paul Samuelson, who was awarded the Nobel Prize for Economics in 1970, found that stock market prices are the best estimates of value and that price changes follow random patterns — they are unpredictable. The practical implication of this research is that investors who try to beat the market are almost certainly doomed to failure. Instead, investors should focus on capturing the rate of return available by simply investing in the broad markets.

The second principle of *Structured Investing* is to **take risks worth taking**. According to academic research by Professors Eugene Fama and Ken French³, there are three "factors" or sources of potentially higher returns with higher corresponding risks:

1. Beta (stock market risk)
2. Small capitalization (small company size)
3. High book-to-market ratio ("value" companies)

Fama and French found that this "three-factor model" explains the majority of stock returns. The practical application of their work is to invest in stocks with an emphasis on small and value companies (which

exhibit higher expected returns and risk than their large and growth counterparts).

The third principle of *Structured Investing* is to **effectively diversify**. It is derived from research done in 1952 by Professor Harry Markowitz⁴, originally as part of his graduate school thesis. Markowitz's research, which won him a Nobel Prize in Economics in 1990, concluded that assets should not be evaluated by their individual characteristics, but by their effect on a portfolio as a whole. He also found that an optimal portfolio could be constructed to maximize return for any given level of risk by combining several asset classes. For investors, Markowitz's theory means that investors should combine multiple assets classes in portfolios in such a way as to reduce the portfolio's volatility while delivering expected returns for the chosen level of risk.

Investing should be a rational process, but as Nobel-prize winning work by Professor Daniel Kahneman⁵ found, the more emotional an event is, such as a strong bear market, the less rational or sensible people tend to be. This leads to the final principle of *Structured Investing* — **exercise patience and discipline**. Kahneman applied scientific research on human and social cognitive and emotional biases to better understand economic decisions and how they affect market prices, investment returns and allocation of resources. He also studied the economic rationality/irrationality of human psychology, concluding that our perceptions of risk and reward are not always logical. For investors, Kahneman's work suggests that, hard as it may be, you should resist emotional reactions to short-term market movements and instead stay focused on your long-term goals.

The extraordinary academic research behind *Structured Investing* makes it a very different approach from the way money is usually managed on Wall Street. Though most money managers are very familiar and

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Active investing, with its tendency for higher fees and to underperform the market, has been an expensive way to invest. Now, thanks to a recent academic paper entitled “The Cost of Active Investing,” Kenneth R. French, a professor of finance at Dartmouth College’s Tuck School of Business, we know just how costly attempting to beat the market can be.

Professor French (also known for his collaboration with Eugene F. Fama on the development of the multi-factor model that is a key component of the *Structured Investing* approach) took into account the fees and expenses of U.S. equity mutual funds, investment management costs paid by institutions, fees paid to hedge funds, and the transaction costs paid by all traders. He then deducted what U.S. equity investors

The \$102 Billion Question

Active investing is costly... So why are there so many active investors?

by Meir Statman, Glenn Klimek Professor of Finance, Santa Clara University

Kenneth French, the current president of the American Finance Association, devoted his recent presidential address to “The cost of active investing.” [see the article “You Don’t Always Get What You Pay For: The Cost of Active Investing” on page 3 for more details] The research behind French’s address consists of an exhaustive analysis of the costs borne by active investors in stocks, and he concluded that these costs averaged 0.67% each year during 1980-2006. The 0.67% figure might seem small, but it is large. Indeed, it consumed one-tenth of the inflation-adjusted annual returns of stocks, amounting to more than a hundred billion dollars (yes, billion) cost to U.S. active traders every year.

Investors match the stock market when they buy diversified portfolios of all the stocks in the market and hold them. We call them passive investors or “buy-and-hold” investors, and index or asset-class mutual funds are their favorite investments. In contrast, the favorite investments of active investors are individual stocks and active mutual funds in less diversified portfolios. And one of the favorite activities of active investors is trading their stocks and mutual funds. Active investors attempt to beat the market rather than match it.

The behavior of active investors is puzzling. Why do they continue in their quest to beat the market when they can become passive investors and boost their portfolios by \$102 billion each year by diversifying and refraining from trading? After all, most rational people bend down to pick up \$1 bills off the floor and all rational people bend down to pick up \$100 bills. Why would active investors not pick up \$102 billion off the floor? The answer to this question begins with the observation that active investors, like all investors, are normal, not rational. The answer continues with the observation that all normal investors, both active and passive, are fooled by cognitive biases. But active investors, unlike passive ones, fail to overcome their cognitive biases. Active investors want more from their investments than the utilitarian benefits of relatively high returns with relatively low risk.

Consider the framing bias. Rational thinking tells us that it is impossible for all active investors to beat the market. This is because the returns of all active investors, on average, cannot exceed the return of the market. And once expenses are included, the returns of active investors, on average, must be lower than the return of the market.

Some active investors overcome the framing bias and understand that active investors, on average, are destined to be the losers in the beat-the-market game. But they often stumble into another bias, the overconfidence bias, manifested in unrealistic optimism. Optimism, even if unrealistic, is mostly a blessing. Optimists

are happier than realists. Optimists recover faster from surgery and they adjust more smoothly to major life transitions, such as leaving home for college, looking for a job or healing after a divorce. Optimists respond to negative feedback with a positive sense that they are good, skillful and effective people, whereas realists perceive the same negative feedback self-critically and integrate it into their sense of themselves. Unrealistic optimism also turns investors into active investors who trade more than buy-and-hold investors and pick a few stocks, rather than the well-diversified portfolios held by buy-and-hold investors.

Unfortunately for unrealistic optimists, the investment arena is one place where it pays to perceive negative feedback accurately. Steven Thorley, Keith Vorkink and I found that high stock market returns increase the optimism of active investors and their overconfidence in their trading skills. And high trading costs make up a big portion of the \$102 billion active investors wasted in their attempts to beat the market.

Passive investors derive from their portfolios the utilitarian benefits of relatively high returns with relatively low risk. These are great benefits that may allow us to retire in comfort, pay for the education of our children and support the causes that are close to our hearts. But active investors want more. Active investors also want expressive, emotional, and play benefits from their investments. The utilitarian benefits of a \$10,000 Rolex watch are identical to those of a \$50 Timex watch. They both display the same time. But a Rolex also expresses wealth and status while the Timex does not. Similarly, hedge funds are likely to earn lower returns than passively managed funds, but hedge funds express wealth and status while passively managed fund do not.

Or compare \$1,000 placed on a poker table in Las Vegas to \$1,000 placed in a diversified portfolio. The \$1,000 poker money, like the money spent on stock trading commissions, has play benefits for those who enjoy playing poker or trading. By comparison, money in a diversified portfolio is quite boring.

They say that we get what we deserve. They also say that we get what we pay for. Both sayings contain some truth. Investors who understand their cognitive biases and take measures to control them get the higher returns they deserve. And investors who want their investments to deliver expressive, emotional and play benefits pay for these benefits with lower returns. But are these benefits worth \$102 billion? 🌀

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