# The (Non) Lessons of History—
# And the (Real) Lessons of Return Sources and Costs

**Remarks by John C. Bogle**

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**Before**

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For virtually my entire career in finance—now more than 61 years—two of the greatest economists of the past century have played a major role in my understanding of the financial markets. One is John Maynard Keynes, the legendary British theorist and author. The other is Paul Samuelson, the prolific generator of ideas and the first American to win (in 1970) the Nobel Memorial Prize in the Economic Sciences.

My own academic credentials are modest to a fault: a Bachelor of Arts degree (albeit with high honors) from Princeton University in 1951. No MBA, no Ph.D. Only an AB. But I've stood on the shoulders of these two economic giants for my entire career.  In many respects, their inspiration underlies the creation of Vanguard in 1974 and of the world's first market index mutual fund in 1975. Day after day, scores of our investors assure us that we've given them a new way—and a better way—to put their capital to work.

My first encounter with both economists came at Princeton, where in 1948 I was introduced to the study of Economics. Our textbook was the very first edition of Dr. Samuelson's

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

*Economics: An Introductory Analysis* (now in its 19th edition). My ability to understand what would become my major field of study was no more than, shall we say adequate. But of all the reading that I did in my field of concentration, it was Keynes' *The General Theory of Employment, Interest, and Money*, published in 1936, that has stayed at the forefront of my mind to this very day.

## John Maynard Keynes

While there's a lot of dense doctrine in that timeless book, I was particularly struck by Chapter 12, "The State of Long-Term Expectation." There, Keynes made a critical distinction between the two broad reasons that explain the returns on stocks. The first was what he called *enterprise*—"forecasting the prospective yield of an asset over its entire life." The second was *speculation*—"forecasting the psychology of the market."

Lord Keynes was confident that speculation would dominate enterprise as a market force. In those days, individual investors were the predominant owners of stocks and the major players in the stock market. Since such investors were largely ignorant of business operations or valuations, Keynes explained, their trading would lead to excessive, even absurd, short-term market fluctuations based on events of an ephemeral and insignificant character. Short-term fluctuations in the earnings of existing investments, he argued (correctly), would lead to unreasoning waves of optimistic and pessimistic sentiment.

While competition between expert professionals, possessing judgment and knowledge beyond that of the average private investor, should correct the vagaries caused by ignorant individuals, Keynes added, the energies and skill of the professional investor would also come to be largely concerned not with making superior long-term forecasts of the probable yield of an investment over its whole life (enterprise), but with foreseeing changes in the conventional basis of valuation (speculation) a short time ahead of the general public. Keynes therefore described the market as ". . . a battle of wits to anticipate the basis of conventional valuation a few months hence rather than the prospective yield of an investment over a long term of years."

In my 1951 Princeton senior thesis on the mutual fund industry, I cited Keynes' conclusions. And this callow young kid had the temerity to disagree with the great man. Rather than professional investors succumbing to the speculative psychology of ignorant market participants, I argued, these investment professionals would focus on enterprise. In what I predicted—accurately, as it turned out—would become a far larger mutual fund industry, our portfolio managers would "supply the market with a demand for securities that is *steady, sophisticated, enlightened, and analytic* [italics added], a demand that is based essentially on the [intrinsic] performance of the corporation rather than the public appraisal reflected in the price of its shares."

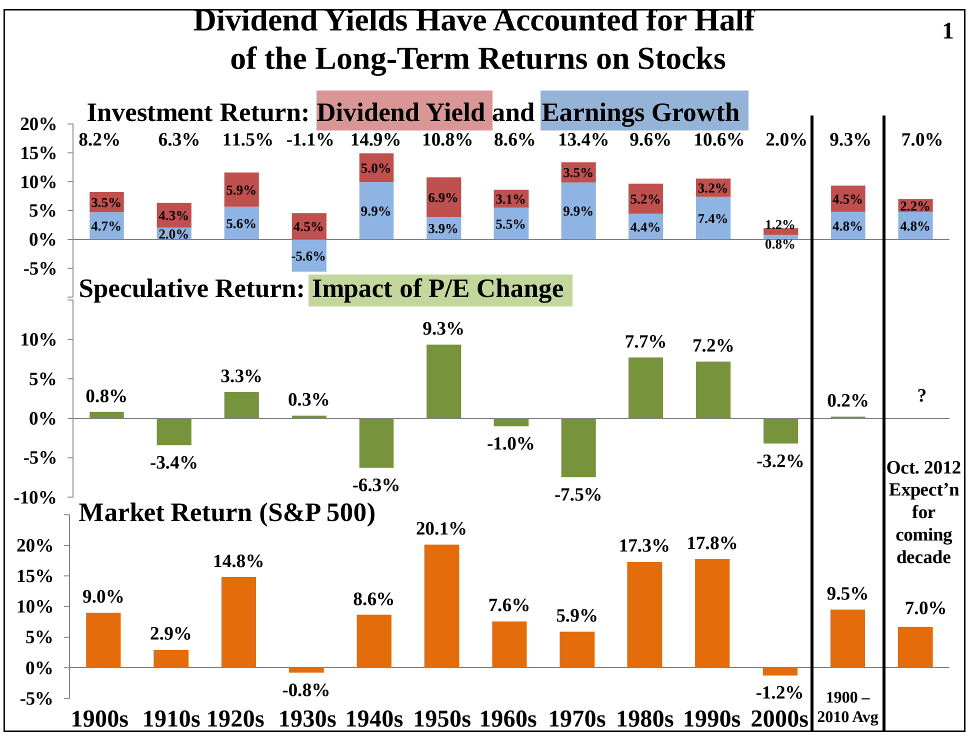
Today, while the $12 trillion mutual fund industry holds almost 35 percent of the shares of just about every public corporation in the land, the industry's focus on speculation has actually increased many times over. Alas, the steady, sophisticated, enlightened, and analytic focus on enterprise that I had predicted from the industry's expert professional investors has failed abjectly to materialize. I was wrong. Call the score, Keynes 1, Bogle 0. What else is new?

## Putting Numbers on Keynes's Distinction

While Keynes made no attempt to quantify the relationship between enterprise and speculation in shaping stock market returns, decades later it occurred to me to do exactly that. By the late 1980s, based my own first-hand experience and my research on the financial markets, I realized that equity returns were a *combination* of these two essential sources: enterprise and speculation. I defined *enterprise* as *investment return*— the initial dividend yield on stocks plus the subsequent annual rate of earnings growth. I defined *speculative return* as the change in the price investors are willing to pay for each dollar of earnings (essentially, the return that is generated by changes in the valuation that investors place on future corporate earnings).

Simply adding speculative return to (or subtracting it from) investment return produces the *total* return generated by the stock market. For example, with the current dividend yield of 2 percent, if stocks experience earnings growth at the long-term average of 5 percent over the coming decade, the *investment* return would total 7 percent. If the price-earnings ratio rises from approximately 16 times today to 20 times, that 25 percent increase, spread over the decade, would translate into an additional *speculative* return of slightly over 2 percent annually, bringing the total return on stocks to 9 percent. During the coming decade I actually expect the P/E ratio to change little on balance. So my expectation for total nominal stock returns over the next decade is about 7 percent per year.

How has this methodology worked in the past? By relying on it, decade after decade, over the past century, we can account, with remarkable precision, for the total returns actually earned by U.S. stocks. **(Chart 1)** The *investment* return on stocks (**top line of figures**) proves to be remarkably susceptible to reasonable expectations. The initial dividend yield (**red bar**)—a crucial, but wholly underrated, factor in shaping stock returns—is a known number. The steady contribution of dividend yields to investment return during each decade has always been a positive, only once outside the range of 3 percent to 5 percent.




The secular rate of earnings growth on the other hand, while hardly certain, is relatively stable, usually paralleling the growth in our gross domestic product (GDP). Note that, with the exception of the depression-ridden 1930s, the contribution of earnings growth (**blue bar**) was positive in every decade, usually running between 4 percent and 7 percent per year. Total *investment* returns have been less than 6 percent annually only twice (in the 1930s and in the 2000s), and only twice much more than 11 percent.

*Speculative* return (**green bar**) is, well, speculative, *and* has alternated from positive to negative from one decade to the next. But over the long-run, speculation has neither added to nor subtracted from investment return. In fact, when P/E ratios were historically low (say, below 12 times) they have been highly likely (84 percent probability) to rise over the subsequent decade. And when they were historically high (say, above 20 times) they have been highly likely to decline (87 percent probability), though in neither case do we know *when* that change is coming. Of course, certainty about the future never exists, nor are probabilities always borne out. But applying *reasonable expectations* to investment return and speculative return and then combining them has been a sensible and effective approach to projecting the total return on stocks over the decades.

The point is this: Over the very long run, it is the *economics* if investing—enterprise—that has been responsible for the total return on stocks. The evanescent *emotions* of investing—speculation—so important over the short run, have ultimately proven to be virtually meaningless. In the past century, for example, the 9.5 percent average annual return on U.S. stocks has been composed of 9.3 percentage points of investment return (an average dividend yield of 4.5 percent plus average annual earnings growth of 4.8 percent), and only 0.2 percent of speculative return.

But when we look to the future, we should largely ignore *historical* returns. Rather, it is the *sources* of past returns that should be our guide: the current dividend yield; prospective ten-year growth in earnings; and the likely role of speculative returns in augmenting or reducing those investment returns.[1]

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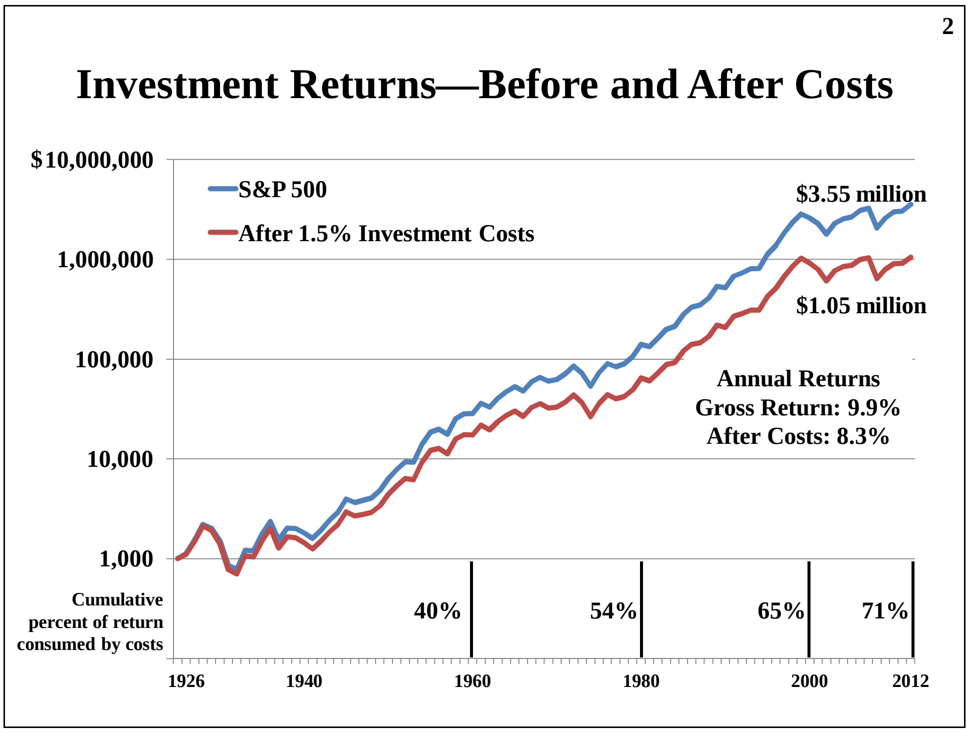
[1] Applying the same method to bonds is even simpler over a decade, the current yield when the investment made largely (90 percent correlation) above accounts for the total delivered by return bonds. Thus, the current yield of about 3 percent on a U.S. Treasury/corporate bond portfolio would represent the return—more or less—we should expect for the coming decade. See Appendix I.

## Investment Costs

How much do costs matter? Enormously. If we conservatively assume investment costs of 1 ½ percent per year, and begin with a $1,000 investment when the S&P 500 Index began in 1926, a cost-free investment would be valued (with reinvested dividends) at $3.5 million today. **(Chart 2)** But *after* deducting those costs, the remaining value would be $1.0 million, some 70 percent less. Note that the burden of costs accelerates over time, 40 percent by 1960, 54 percent by 1980, and 65 percent in 2000. As I've often observed, the *magic* of compounding long-term returns is overwhelmed by the *tyranny* of compounding costs.




Of course, what I've just shown you is the returns in the market itself. While total stock market returns are interesting (indeed, such data are also, the *Lingua Franca* in their naiveté, of market statisticians, economists, journalists, and pension fund advisers). The market return data are tragically flawed. Why? Because they ignore the self-evident fact that we investors, as a group, do not, cannot, and will not capture 100 percent of the stock market's returns. Why? Because market returns ignore the many costs of investing—fees paid to advisors, the costs of trading stocks, all those marketing costs, and the administrative, accounting, and legal costs imbedded in our financial system. No matter the returns on stocks, it is the croupiers of Wall Street who are enriched as investors feverishly swap stocks with one another in an inevitably fruitless game that investors *as a group* are destined to lose.

Think about it this way: the mutual fund industry can be said to be the only industry in the world in which, collectively, we investors are guaranteed *not* to get what we pay for. Indeed, we get only what we *don't* pay for. So the less we pay to earn the market's return, the more of the returns we in fact get. Conclusion: if we pay *nothing*, we get *everything*. This mathematical certainty is what I call the CMH—the *Cost Matters Hypothesis*—and it explains why the returns of low-cost, all-market index funds consistently outpace the returns achieved by costly active managers. That is why the *Hedgehog* beats the *Fox*. As Archilocus wrote: "The fox knows *many* things, but the hedgehog knows one *great* thing."

## The Intellectual Basis for Indexing

Indexing—owning all of the stocks in the U.S. market, or in the S&P 500, or in a wide variety of broad market sectors—works. At the outset, the intellectual basis for indexing was the EMH—the *Efficient Market Hypothesis*—which suggests that by reflecting the informed opinion of the mass of investors, stocks are continuously valued at prices that accurately reflect the totality of investor knowledge, and are thus fairly valued.

But the reality is that sometimes the stock market is efficiently priced, and sometimes it is not. Sometimes it is micro-efficient (stocks priced fairly relative to one another); sometimes macro-efficient (stocks priced fairly relative to alternative investment classes such as bonds). But few—if any—investors can consistently tell which is which. *But whether markets are efficient or inefficient, investors as a group must fall short of the market return by the amount of the costs they incur*.

So we don't need to accept the EMH to be index believers. For there is a second reason for the triumph of indexing, and it is not only more compelling but unarguably universal. I call it, as I mentioned earlier, the *Cost Matters Hypothesis*, and it is all that is needed to explain why indexing must work and does work, and it in fact enables us to quantify with some precision *how well* it works. *Whether or not the markets are efficient, the explanatory power of the CMH holds*.

## Enter Paul Samuelson

More than a century has passed since Louis Bachelier, in his Ph.D. thesis at the Sorbonne in 1900, wrote: "Past, present, and even discounted future events are (all) reflected in market price." Nearly half a century later, when Nobel Laureate Paul Samuelson discovered that long-forgotten thesis, he confessed that he "oscillated . . . between regarding it as trivially obvious (and almost trivially vacuous), and regarding it as remarkably sweeping." But the words of Bachelier and others seem to have lit a spark of interest that would lead to Dr. Samuelson's intense study of the financial markets.

In essence, Bachelier's conclusion was, as far as he went, *right:* "The mathematical expectation of the speculator is zero." But to be tested in practice, his theory has to be taken one step further. The mathematical expectation of the speculator is *not* zero. *It is a loss equal to the amount of transaction costs incurred.* So, too, the mathematical expectation of the long-term investor must fall short of whatever returns our financial markets are generous enough to generate for us—or mean enough to inflict on us.

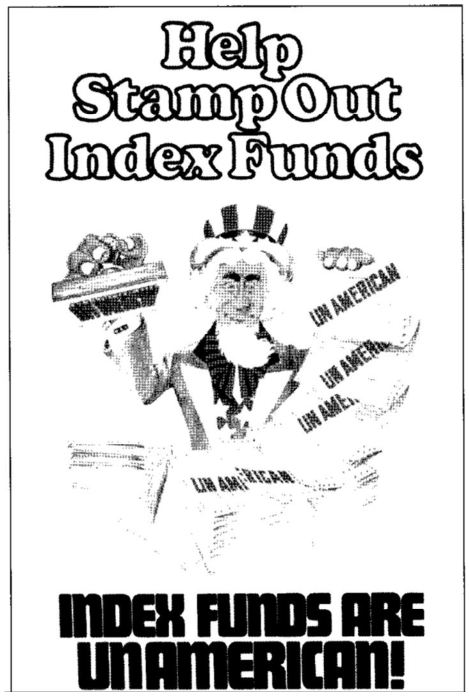
From its lowly beginning in 1948 with my struggle to absorb his *Economics* textbook, my association with Paul Samuelson had a wonderful turnaround. While I had hinted at the merit of an index fund in my Princeton thesis (mutual funds "can make no claim to superiority over the market averages"), I ignored that important finding for years. But in mid-1975, I decided that the time was ripe for the world's first index fund, importantly because of Paul Samuelson's inspiration.

That inspiration came when I read "Challenge to Judgment," his lead essay in the inaugural edition of *The Journal of Portfolio Management* (Fall 1974). In his essay, Dr. Samuelson explicitly called for those who disagreed that a passive index would outperform most active managers to dispose of "that uncomfortable brute fact" that it is virtually impossible to identify any consistently excellent performers—"in the only way that any fact is disposed of—by producing brute evidence to the contrary." He pleaded "that, at the least, some large foundation set up an in-house portfolio that tracks the S&P 500 Index—if only for the purpose of setting up a naïve model against which their in-house gunslingers can measure their prowess . . ."

Confronted with his express challenge for *somebody*, somewhere to start an index fund, I could no longer stand back. It now seemed clear that the newly-formed Vanguard Group (then only a few months old) ought to be "in the vanguard" of this new and logical concept, so strongly supported by data on past fund performance, and so well accepted in academia but so little acknowledged by fund industry leaders. It was the opportunity of a lifetime: to at once prove that the basic principles enunciated in the *JPM* article could be put into practice and work effectively, and to mark this upstart of a firm as a pioneer in a new wave of industry development. With the inspiration of Keynes and Samuelson, and even a touch of foresight, luck, and hard work, the idea that had begun to germinate in my mind in my ancient senior thesis could finally become a reality.

## The *Newsweek* Column . . . and More

The initial press reception to the announcement of Vanguard's filing of the groundbreaking index fund IPO had been reasonably good, but bereft of a single hint that the index fund represented the beginning of a new era for the mutual fund industry. In fact, the reaction was best illustrated by a cartoon of Uncle Sam stamping out index funds, captioned "Index Funds are un-American." The most enthusiastic reaction came from Professor Samuelson himself. Writing in his *Newsweek* column in August 1976, he expressed delight that there had finally been a response to his earlier challenge.

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Now such an index fund lay in prospect. "Sooner than I dared expect," he wrote, "my explicit prayer has been answered. There is coming to market, I see from a crisp new prospectus, something called the First Index Investment Trust" (the original name of what is now Vanguard 500 Index Fund). He conceded that the fund met five of his: (1) availability for investors of modest means; (2) proposing to match the broad-based S&P 500 Index; (3) carrying an extremely small annual expense charge, (4) offering extremely low portfolio turnover; and (5) "best of all, giving the broadest diversification needed to maximize mean return with minimum portfolio variance and volatility." While our IPO almost failed (the goal was $150 million; the capital finally raised came to but $11 million), we began operating our tiny index fund in 1976.

## Mutual Admiration

Paul Samuelson and I met face-to-face only perhaps a half-dozen times during our (arguably) 61-year relationship, but he often sent me notes, and must have made at least a score of telephone calls to me in my office. But as time went on, I appreciated not only his brilliance, but his warmth and his patience with a mind far smaller than his own. When I wrote my first book in 1993 (*Bogle on Mutual Funds*), I asked him if he would be willing to endorse it. He said "no." But to my utter astonishment, he offered to provide the Foreword. A few excerpts:

> “99 out of 100 books written on personal finance are dangerous to your health. The exceptions are rare. Benjamin Graham’s *The Intelligent Investor* is one. Now it is high praise when I endorse *Bogle on Mutual Funds* as another . . . I have no association with Vanguard other than as a charter member investor, along with numerous children and innumerable grandchildren. So, as a disinterested witness in the court of opinion, perhaps my seconding his suggestions will carry some weight. John Bogle has changed a basic industry in the optimal direction. Of very few can this be said.”

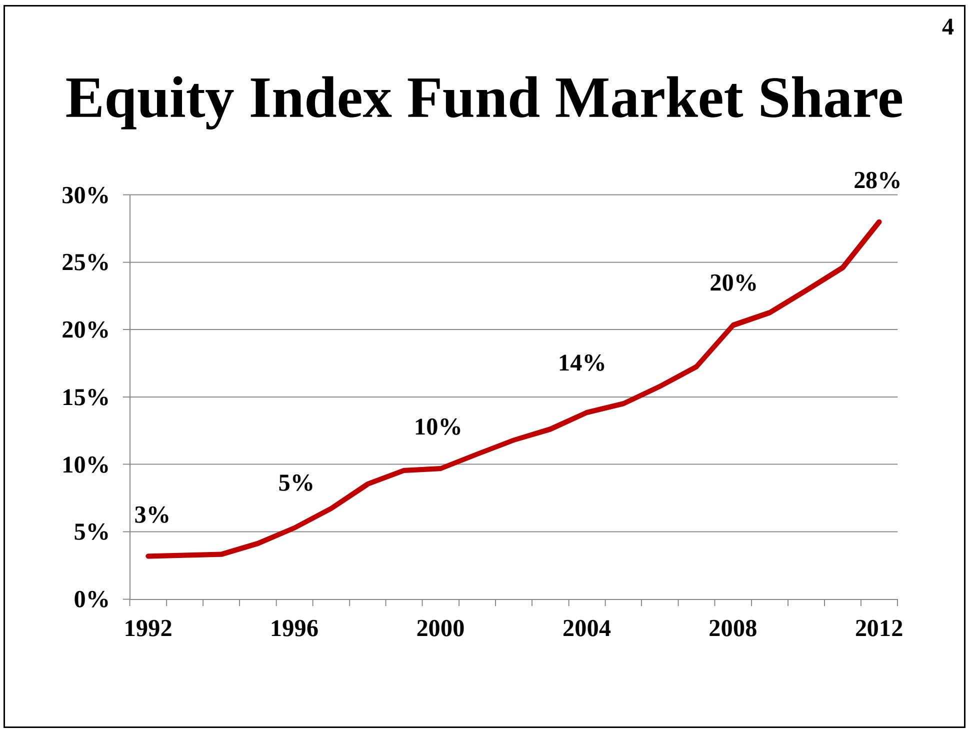
Surely his highest accolade for the index fund came in Dr. Samuelson’s speech at the Boston Security Analysts Society on November 15, 2005, only a few years before his death in 2009: “I rank this Bogle invention along with the invention of the wheel, wine and cheese, the alphabet, and Gutenberg printing: a mutual fund that never made Bogle rich but elevated the long-term returns of the mutual-fund owners. Something new under the sun.” Those words from a giant—according to *The New York Times* “the foremost academic economist of the 20$^{th}$ century”—mean much to me, but it is the intellectual challenge, the friendship, and the unfailing support of this fine human being that I shall miss most profoundly.

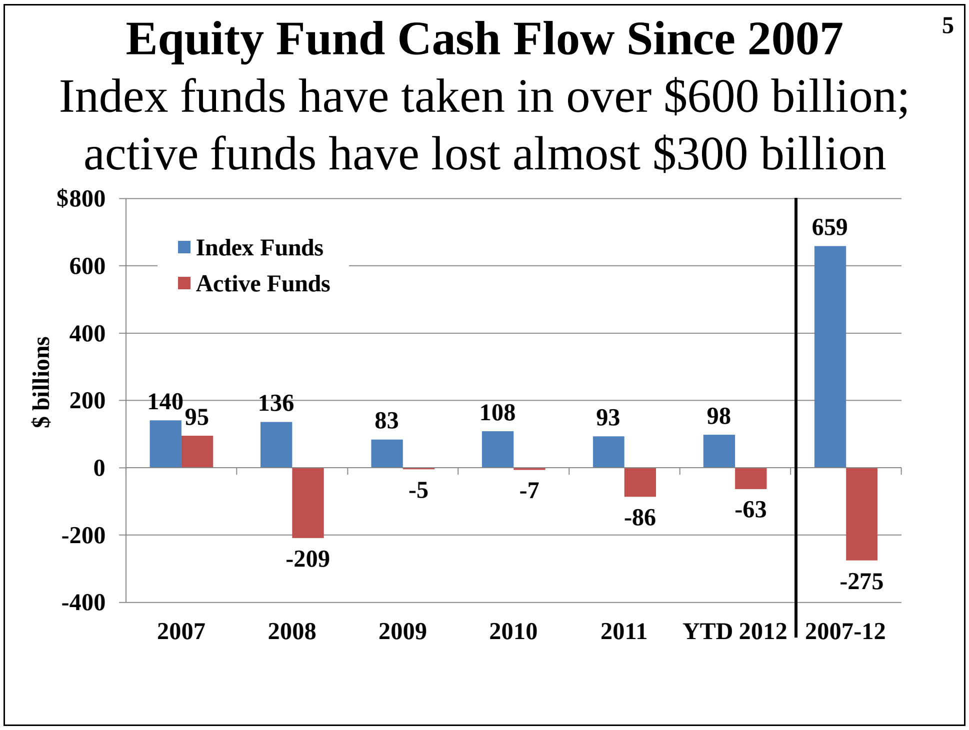
## The Triumph of Indexing

Through the intellectual inspiration of Lord Keynes and the moral support and friendship of Dr. Samuelson—and huge amounts of good luck!—the simple logic and elementary mathematics of indexing are beginning to reshape the way investors think about the financial markets that confront us today. They are a mess! The folly of short-term speculation has crowded out the wisdom of long-term investment, giving us a financial system in which millions of investors have lost their trust.

Indexing is, of course, a counterculture to the speculative focus that has shaped our markets in the recent era. Its triumph is a humble tribute to the maxim of Sir William of Occam, writing 800 years ago, essentially that when there are multiple solutions to a problem, the simplest choice is the best. “Occam’s Razor” has proved itself in many areas of intellectual focus, and it has surely done so in the world of investing.

Indexing is now a major force in investing. Today, it represents about 25 percent of the assets of America’s $5 trillion in pension assets, and almost 30 percent of the $6 trillion assets of our equity mutual funds. Those percentages are bound to grow. In the past six years, for example, some $600 billion has poured *into* equity index funds, and $300 billion cashed *out* of active-managed funds. And the final triumph is yet to come.






So to you fellow members of The American Philosophical Society, you thoughtful and intelligent movers and shakers of American thought, think about the implications of indexing for the financial markets in the years ahead. And while you're about it, consider whether relying largely on indexing in your own investment programs. That's important too!