The Professor, the Student, and the Index Fund

By John C. Bogle

Thirty-five years ago, at the completion of its initial public offering on August 31, 1976, the first index mutual fund came into formal existence. Named First Index Investment Trust, it was sponsored by The Vanguard Group of Investment Companies, a new mutual fund complex which itself began operations only 16 months earlier. In Morningstar's words, "it was a seminal event in investing . . . a steady revolution that continues today."

The idea that passive equity management could outpace the active management that was until then the mutual fund industry's universal strategy was derogated and ridiculed. (The fund, now Vanguard 500 Index Fund, was referred to as "Bogle's Folly.") Yet today indexing has earned broad, if begrudging acceptance. Assets of index mutul funds now total about $2 trillion, one-fourth of all equity fund assets. Indeed, over the past five years, index funds have accounted for more than 100 percent of all equity fund cash flows. Indexing is clearly an idea whose time has come.

Back in 1976, my associates at Vanguard shared my confidence that indexing would ultimately come to reshape the mutual fund industry. After all, equity mutual funds as a group were destined to roughly track the returns of the entire stock market—but only *after* the high costs of mutual fund investing. Not only management fees and operating expenses averaging about 1 ½ percent of assets per year; not only the hefty sales loads paid to brokers on the sale of fund shares of most funds; but also the embedded (and undisclosed) costs and tax impact of portfolio turnover. All-in, fund investment costs could easily reach 3 percent per year, virtually guaranteeing that fund investors as a group would experience a substantial shortfall to the market.

By contrast, that first index fund, based on the Standard & Poor's 500 Index, paid no management fees (after all, it required no active management); was expected to maintain an expense ratio of 3/10 of 1 percent per year; would, following the IPO, eliminate all sales loads; and would have minimal portfolio turnover and provide high tax efficiency. By holding investment costs to the bare minimum, the index fund would virtually guarantee that its investors would earn their fair share of stock market returns.

We were confident that the offering would be a roaring success. Not only was the math behind the index fund's superiority unarguable, but the principal underwriters included the biggest retail brokers on Wall Street—Dean Witter; Bache Halsey Stuart; Paine, Webber, Jackson & Curtis; and Reynolds Securities. (Ironically, none of these firms remains today.) A successful offering—their target was $150,000,000—would be a slam dunk. Or so we thought.

It was not to be. The official underwriting of First Index Trust came in at just $11.3 million, a 93 percent shortfall from our goal. When the underwriters brought me the news of the failure, they suggested we just call the whole thing off and cancel the deal, for the tiny proceeds were insufficient to own all 500 stocks in the S&P 500 Index. I remember saying: "Oh no we won't. Don't you realize that we now have the world's first index fund?"

Challenge to Judgment

Nobel Laureate economist Paul Samuelson played a major role in precipitating the index fund's creation.[1] While I'd hinted at the idea of an index fund in my senior thesis at Princeton University in 1951 (mutual funds "may make no claim to superiority over the market averages"), Dr. Samuelson was much more forceful, strengthening my backbone for the hard task ahead: taking on the industry establishment.

His lead article, "Challenge to Judgment," caught me at the perfect moment. Published in the inaugural edition of the *Journal of Portfolio Management* in the autumn of 1974, 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 . . . The American Economic Association might contemplate setting up for its members a no-load, no-management-fee, virtually no-transaction-turnover fund," noting, however, the perhaps insurmountable difficulty that "there may be less supernumerary wealth to be found among 20,000 economists than among 20,000 chiropractors." He laid down an express challenge for *somebody, somewhere* to start an index fund.

Presented with that challenge, I couldn't stand back any longer. While all of our peers had the opportunity to create the first index fund, Vanguard alone had the motivation. The newly-formed

[1] A year later another article, "The Loser's Game," by investment professional Charles D. Ellis, published in the *Financial Analysts Journal,* also gave me encouragement. Princeton professor Burton G. Malkiel had also issued a challenge for someone to start an index fund even earlier, in the first edition of his remarkable book *A Random Walk Down Wall Street* (1973). Alas, I didn't read his book until the early 1980s.

Vanguard Group (uniquely formed as a truly *mutual* mutual fund group, owned not by outsiders but by its own shareholders, and then only a few months old), I reasoned, ought to be "in the vanguard" of this new logical concept. For our goal was to offer well-diversified funds at minimal costs, focused on the long term. It was a marriage, as it were, made in heaven, strongly supported by the unequivocal data I assembled on fund performance and fund costs over the previous three decades.

It was the opportunity of a lifetime: to at once prove that indexing could work in practice as well as in theory, and work effectively, and to mark this upstart of a firm as a pioneer in a new wave of industry development. With Dr. Samuelson's inspiration, and with luck and hard work, the idea that had begun to germinate in my mind in my Princeton thesis would finally become a reality.

The *Newsweek* Column

The initial press reception to the underwriting 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. The most enthusiastic comments 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: to create an index fund "that apes the whole market, requires no load, and keeps commissions, turnover and management fees to the feasible minimum."

Now such a 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." He conceded that the fund met only five of his six requirements: (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."

His sixth requirement—that it be a no-load fund—had not been met but, he graciously conceded, "a professor's prayers are rarely answered in full." As it happened, his final prayer would be answered only six months later, when in February 1977 the Vanguard funds eliminated all sales charges and made an unprecedented conversion to a "no-load" distribution system.

A Long Relationship

In a curious way, the relationship of this reasonably intelligent but hardly brilliant college student with "the foremost economist of the twentieth century" (as *The New York Times* called Dr. Samuelson) had begun much earlier. At the beginning of my sophomore year at Princeton University, I took my first course in economics; our textbook was the first edition of Dr. Samuelson's *Economics: An Introductory Analysis.* (My marked up copy still graces the shelves of my library.) Truth told, I found the book tough going, and fared poorly in my first stab at this new (to me) subject. I received a grade of 4+ (D+ in today's lexicon) at mid-term. Since I was required to maintain an average of at least 3- (C-) to maintain the full scholarship that Princeton had provided me, if I did not improve by the end of the semester, my college career would be over.

I struggled, but I made the grade that I needed by semester's end, gaining the coveted (if marginal to a fault) 3. My grades continued to improve, and—thanks largely to the high grade that I was awarded on my senior thesis on the mutual fund industry—"The Economic Role of the Investment Company" (a long way from the macroeconomics of Dr. Samuelson's book!)—I graduated *magna cum laude* in Economics and entered the mutual fund industry, joining Walter Morgan's Wellington Fund organization.

A Priceless Endorsement

From that lowly beginning in 1948, and then through his support for that first index mutual fund, my association with Paul Samuelson got ever closer and warmer. In 1993, I asked him to endorse my first book—*Bogle on Mutual Funds.* He demurred. But to my utter astonishment he told me that he would prefer to write the foreword. Some excerpts:

> The same surgeon general who required cigarette packages to say: "Warning, this product may be dangerous to your health" ought to require that 99 out of 100 books written on personal finance carry that same label. 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 The Vanguard Group of funds 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.

Mutual Admiration

Paul Samuelson and I met face-to-face perhaps only 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. When he called, I'd quickly grab a yellow legal pad and pen, for I knew he'd be giving me a range of rapid-fire ideas to improve that first index mutual fund, in ways large and small. At first I was intimidated (of course!), but as time went on I appreciated not only his brilliance, but his warmth, his friendly sense of humor, and his patience with a mind far smaller than his own.

One brief handwritten note comes to mind: Late in June 2005 (dated "mid-summer day") he wrote: "Any small influence on you has been more than offset by what Vanguard has done for my 6 children and 15 grandchildren. May Darwin bless you!" Our mutual admiration society culminated in the dedication of my 2007 book—*The Little Book of Common Sense Investing: The Only Way to Guarantee Your Fair Share of Stock Market Returns*—to Paul A. Samuelson. The final words: "Now in his 92nd year, he remains my mentor, my inspiration, my shining light."

Today, the assets of the Vanguard funds modeled on the S&P 500 Index total $200 billion, together constituting the largest equity fund in the world. (The second largest, at $180 billion, are the Vanguard Total Stock Market Index funds.) Obviously, investors have given their stamp of approval to both our index fund concept and its implementation. Investors have voted with their wallets, and they continue to do so.

Surely Paul Samuelson's highest accolade for the index fund came in his speech at the Boston Security Analysts Society on November 15, 2005: "I rank this Bogle invention along with the invention of the wheel, the alphabet, Gutenberg printing, and wine and cheese: 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 an intellectual giant to a mere mortal who has scraped by without a great intellect, but with great intellectual curiosity and relentless determination are among the greatest rewards of my long career.

Together, the professor and the student who joined forces gave the world its first index mutual fund. Economics, one might say, makes strange bedfellows.

Mr. Bogle is founder of Vanguard and of Vanguard 500 Index Fund.