The Economics of the Mutual Fund Industry: For Fund Investors . . . For Fund Managers

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The mutual fund industry is one of the great success stories of our age. In 1980, fund assets were but $95 billion; today assets total $6 trillion. That is an annual compound growth rate of 23% per year. Simply put, in but 20 years, industry assets have risen 60-fold, doubling every three years. By way of comparison, the gross domestic product of the United States has taken 14 full years merely to double.

Mutual funds are now the investment of choice for huge flows of individual savings. Last year, American families added $406 billion to their financial assets. Almost 99% of this amount was accounted for by flows of $401 billion into stock funds, bond funds, and money market funds. Truly, this is an industry on the move.

Most of the action, as it were, is in the fund industry's stock funds. Assets of common stock funds have grown from $36 billion to $3.7 trillion during the past two decades, representing an astonishing 100-fold increase, an annual compound growth rate of 26%. Clearly, stock funds—essentially all that the industry offered during the first 50 years of its now 75-year history—have reemerged as the principal *raison d'être* for owning mutual funds.

The reason for this trend is neither mysterious nor surprising: It is the Great Bull Market in common stocks. During the past 20 years, returns have been positive in 17 years, with a compound growth rate of nearly 17% per year, the highest for any comparable period in the history of the United States of America. The highest in the history of the world, for that matter. What that growth rate reflects, simply put, is that $10,000 invested in the stock market at the end of 1979 would today be valued at $219,000—a twenty-one-fold increase in the value of the initial investment. Not bad! (I've ignored taxes. As a practical matter, as I'll later point out, *you* can't ignore them.)

Enticed by the dream of easy wealth, investors have made the mutual fund industry the prime beneficiary of the outpouring of enthusiasm for common stocks. This industry is a "market-sensitive" business; it has been so ever since I joined it nearly 50 years ago. And I have no doubt that it always will be. But I've been around long enough to see that market sensitivity inflict its share of devastation on mutual funds. The 50% stock market decline that took place during 1973 and 1974, for example, was sufficient to turn equity fund cash *inflow* from investors into cash *outflow* from shareholders for the better part of a very long decade. But that's all ancient history now. I'd guess that less than 3% of today's shareholders (and only 11 fund portfolio managers) were around to learn from that painful experience. More recently, the capital depreciation resulting from the 30% setback in September-October 1987 and the 20% setback last summer, however frightening to investors when they occurred, were recouped so quickly that few investors have lost their conviction that common stocks are *always* the best investment for the long run. (I'll discuss the probabilities of future fund returns later on.)

Fund Cash Inflows: Huge, but Weakening

This year, mutual fund investors are continuing to add money to their equity funds at an annual rate of $130 billion. Combined with projected flows of $140 billion for money market funds and $30 billion for bond funds, the industry should take in some $300 billion in 1999, a pretty nice finish for the century, which at the midway point found annual industry cash flow at just $300 *million*. (I *know*; I entered this business in mid-1951.) Strong as these cash flows are, however, they are perceptibly weakening, and may fall as much as $100 billion behind 1998 levels. Equity fund cash flow is running about 40% behind last year's pace—and even 30% behind the 1997 level, suggesting that the public's appetite for mutual funds is becoming sated.

The pronounced slowdown in equity fund cash flows is doubtless partly related to the uncertainty in the stock market. Stocks have dropped by 10% since March, and are now up but 5% year-to-date, disappointing many investors and doubtless surprising the rest. (In the ancient days of the early 1990s, an annual return of 10% on stocks was seen as the normal course of events; we've all been spoiled by the past five years, with annual returns averaging an astonishing 24% per year.) Further, it seems rather likely that a relatively small portion of fund investors, excited by the flaming furor of internet-related stocks, has moved to day-trading systems on, of all places, the Internet ("electronic communication networks" is the genteel name) in order to join the speculative fray. I wish them well, but I fear for the worst.

But I suggest to you that the main reason for the drop in cash flows is the amazing increase of about 50% in fund share redemptions. Fund assets this year are being redeemed at a 22% annual rate, meaning essentially that more than one of every five fund shareholders will redeem his shares during the year. This surge, I believe, has been importantly engendered by a growing dissatisfaction with the mutual fund as an investment medium. The principal reason is fairly straightforward: *Equity funds, for all the prowess, knowledge, experience, and dedication of their portfolio managers, have failed to provide fund shareholders with returns that exceed those of the stock market itself.* In a phrase, the industry has failed to add value—failed even to earn its cost of capital. Corporate managers who fail to earn their cost of capital lose either their corporations or their jobs. Where fund management companies are concerned, however, neither event seems to happen. But that's another story.

Fund Performance Shortfall Engendered by High Fund Costs

The failure of mutual fund performance is beyond argument. The failure, in fact, is abject. And it has devastated the potential capital accumulation of fund investors. One example makes the point: During the past 20 years, the stock market itself has provided a compound return of 16.7% per year, while the average U.S. equity fund has provided a compound return of 14.7% per year, an annual shortfall of two percentage points. That may not seem like much. But it means that, instead of providing that grand 20-year wealth accumulation of $219,000 that would have been attained merely by investing blindly in the entire stock market, an initial $10,000 investment would have provided wealth of just $155,000. Now, in the abstract, $155,000 is hardly a bad return on your $10,000. But it isn't $219,000 either. It's $64,000 *less*—a shortfall equal to more than six *times* the entire amount you invested at the outset.

The answer to this $64,000 question is not very complicated: While most mutual fund managers, I am confident, indeed present the aforementioned prowess, knowledge, experience, and dedication, they are largely competing with one another. Consider the similarity, if you will, with two brilliant chess players competing. The world championship chess board is shown in the background for all to see. It's a

tough match, and one player's good move is immediately countered by the other's, leading to narrow, marginal victories, and often to draws. In a stock market dominated by experts, it seems, mutual fund managers have average stock selection skills. Hardly a surprise, for perhaps one-half of all fund portfolio transactions take place with other funds. When one fund is buying, the other is selling, a process that cannot possibly advantage fund investors as a group. Thus, the fact that the returns earned by mutual funds as a group do not outpace the market's return is hardly a statistical aberration; it is virtually preordained.

Since the stock selection skills of the managers are inevitably average, fund returns *before costs* are also inevitably average. When fund costs are deducted, the net returns earned by fund shareholders are inevitably *below* average. Funds fall well behind the returns of the market by an amount remarkably close to the costs the managers incur. Those costs are large. They can be fairly accurately estimated at about 2.1 percentage points per year over the past two decades—almost exactly the same as the two percentage point shortfall of equity fund returns to those of the stock market. The major costs are mutual fund expense ratios, including advisor fees paid to the managers, which averaged about 1.3% of fund assets during the two-decade period; and portfolio transaction costs resulting from the active trading of stocks that characterizes most fund portfolio managers, which averaged an estimated 0.8% per year. The annual portfolio turnover of the average equity fund is now 85%, meaning that the average stock is held for just 429 days. Add the operating costs and the transaction costs together, and—*Viola!*—there, in essence, lies the industry's shortfall of two percentage points.

Now 2% might not seem like much, but, as I've noted, it compounds to a two-decade shortfall of $64,000 less that what might have been earned, plain and simple, by owning the stock market itself. What this means, plain and simple, is that the fund investor put up 100% of the initial capital and assumed 100% of the market risk . . . and received just 70% of the market's return. The fund manager, in substance, put up none of the capital and took none of the risk, yet collected 30% of the return. It just doesn't seem like a fair shake for investors. And it isn't.

Conflicting Returns on Capital

That simple example shows the difference in economics for the fund shareholder and the fund manager. The *higher* the cost for the shareholder, the *lower* the return on his or her capital invested in the fund. But the higher the fee the management company charges the fund, the *higher* the return on *its* capital. It doesn't take a mathematical genius to figure out that, other things equal, each extra one billion dollars of fees extracted from the fund by the manager results in one billion dollars of reduced returns to the fund shareholders. And, as will be obvious from the numbers I'll soon present, fund expenses could easily be reduced by many billions of dollars.

To understand this point, let's consider which return you might have made if a decade ago, you'd invested $10,000, not in the shares of the average fund, but in the shares of the average fund manager. There are a number of managers whose shares are publicly-held, so the answer can be calculated. For the average equity fund, the investment would have grown to $53,000—a four-fold profit. Not bad! But a far cry from the $70,000 value—a six-fold profit—on the same initial investment in the common stocks of the managers. The managers, obviously, did better for themselves than for their investors. For them to do so well in the face of their pervasive failure to add value to fund shareholders' performance—indeed, to subtract substantial value—is (using the kindest word I can think of) anomalous.

“Follow the Money”

Of course, I freely acknowledge that it costs money to operate a mutual fund. Let’s examine how much. This year, on the operating side, the aggregate expenses paid by fund investors to fund managers this year will total about $50 billion—50 *billion* dollars. Where does this money go? We don’t know exactly, but it looks to me that about one-tenth of that amount—up to $5 billion—is spent on portfolio management and investment research. (However vain the search for market-beating returns, that’s presumably what investors *expect* their money to be used for.) About $8 billion of that total is spent on marketing fund shares; that is, on the effort to bring more money into the funds. (Of course, this expenditure adds *nothing whatsoever* to the funds’ returns; it *reduces* them by the amount of the expenditure . . . perhaps by even more, but that’s another story.) About $17 billion, I think, is spent on services to fund shareholders, which is fine as far as it goes, although some of these “services” are thinly-disguised marketing efforts; others are actually counterproductive for investors. That comes to a total of $30 billion.

But the total management fees and operating expenses paid by fund shareholders are actually $50 billion. Where, you may ask, is the other $20 billion? According to my rough estimates, $20 billion represents the aggregate pre-tax profit earned by the fund management companies—a rather handsome reward, considering the failure of fund managers to provide investors with the full returns earned by the market. By now the fundamental economics of the fund business itself are apparent. If we assume that the $5 billion spent on portfolio research and management is reasonable; that $2 billion could be spent, however counterproductively, on marketing; and that shareholder service expenses could be stripped down to say, $13 billion; then a total of $20 billion should be sufficient to operate this industry. Even if we conceded that managers are entitled to, say, $5 billion a year in profits, hardly an insubstantial sum, that would represent an annual savings to investors of $25 billion.

And now, a caution: I want to be clear that these figures should be considered only as informed estimates. The industry does not disclose such data, nor do I expect it to be voluntarily disclosed in the foreseeable future. But, in an environment of enlightened full disclosure, it *ought* to be disclosed. Indeed, I have recommended to the U.S. Securities and Exchange Commission that it undertake an economic study of the industry so that, one day, soon I hope, we shall all have a public awareness of, not good estimates of the profitability of industry managers, but hard facts. The sunlight of full cost disclosure is the best remedy for awakening the awareness of where the shareholders’ $50 billion is being spent. It’s high time, as was said in the Watergate scandal years ago, to “follow the money.”

Making a Bad Situation Worse

The figures on the failure of equity funds to keep up with the stock market don’t adequately describe the industry’s problems. Similarly, the industry’s bond funds as a group have failed abjectly to keep pace with the bond market. And, to state what must be obvious, money market funds, too, fall short of the returns in the money market. Indeed, each and every money market fund falls short by an amount that is almost precisely the sum of its costs. What is more, the stock fund returns I’ve shown are in fact *overstated*. They ignore initial sales charges, even though more than one-half of all fund shares purchased carry such front-end charges. Further, they disregard the fact that, based on an accepted measure known as standard deviation, the average mutual fund has carried a higher *risk* than that of the stock market itself. By that measure, funds have been almost 10% riskier—an added risk that, simply put, should have been, but was not, accompanied by about 10% more in return. Further, the current expense ratio of the average stock fund is now 20% above the level of the past 20 years, an ominous sign that suggests that future fund returns will fall even further behind the market.

Then, too, there is some question about the accuracy of the record of equity funds. The fact is that 20 years ago, there were but 300 equity funds, and there are some 3700 funds today. Something like 4100 new equity funds were formed during the period, with as many as 700 funds given a decent burial by being merged into others—usually with little fanfare. It is, of course, the funds with the poorest returns that are merged into funds with far more robust returns. My earlier figures have been adjusted to partially reduce that "survivorship bias," although I could not totally eliminate it. But there is no practical way to adjust for the pumped-up returns earned by many new funds when they are tiny in size, often before they are even offered to the public.

The SEC recently brought one gross example of this "incubator bias" in fund data into the public eye. (I won't identify the fund, although the SEC did so in its order of censure, fining the fund's investment manager $100,000, and requiring the manager to cease and desist from future violations of the law.) The newly-formed fund, with but $200,000 of assets, purchased and quickly sold 100 to 400 shares of 31 hot IPO's (initial public offerings), thereby helping to generate a remarkable total return of +62% during 1996. Thereafter, the fund proceeded to market its splendid, so to speak, record to the public, all the while failing to disclose the facts behind its dubious and unduplicable record. With what frequency this type of practice, resulting in bogus fund returns, has punctuated the industry database, no one knows. But there is surely a measurable incubator bias in the numbers in the industry's performance record. The SEC said, "it is *wrong* (italics added) to raise shareholder expectations of future gains by advertising spectacular returns when it is highly unlikely those returns can be sustained." Of course it is wrong. While I doubt that fund historical returns can be said to be spectacularly overstated by incubator funds, it seems highly likely some modest overstatement in industry historical performance ought to be recognized.

Taxes Rear Their Ugly Head

Far more important than the differences I've noted that is that fund returns are invariably shown *before taxes,* which overstates the returns earned by fund investors. But a large majority of fund investors pay taxes on the returns earned by some portion, even all, of their fund holdings. Taxes are consistently ignored in comparisons of fund returns, including those I've described to you. Yet equity mutual funds are among the most tax-*inefficient* investments ever designed by the mind of man. Why? Because funds, with their hyperactive turnover, realize capital gains at an inordinate rate and distribute them annually to shareholders. And the shareholder pays taxes prematurely on gains which, if deferred, could compound to the benefit of shareholders for years and years.

To make matters even worse, some 35% of these gains have been realized on a short-term basis, subjecting investors to a maximum income tax rate of 40%, double the 20% rate on long-term capital gains. This totally counter-intuitive investment behavior generated about $23 billion of taxes for Uncle Sam during last year alone. So, the economics of this industry clearly affect not only mutual funds and fund managers, but the Federal Government, too. In fact, these largely unnecessary taxes inflicted on fund shareholders by fund managers were enough to pay the entire cost of the Government's Legislative, Executive, and Judicial branches, plus the cost of the State Department *and* the Commerce Department, with $3 billion left over for a few Stealth bombers.

For years, information on the punitive impact of taxes on fund returns was almost impossible to assess. Today, thanks to Morningstar Mutual Funds, the figures are now readily accessible for the past 15 years. Here, the stark facts appear:

- The average pre-tax return of the total stock market was **16.4%** per year.

- The pre-tax return of the average fund was **13.6%.** (Note that the shortfall has now risen from the 2.0 point shortfall for the past two decades to 2.8 percentage points.)
- The after-tax return of the average fund was just **10.6%**—*an additional shortfall of fully 3.0 percentage points in annual return, bringing the relative shortfall of the fund return relative to the stock market to* a total of 5.8 percentage points. Remarkably, during the past decade—and most investors seem totally ignorant of this fact—the Federal Government has confiscated an even higher portion of the returns of taxable mutual fund investors than have the fund managers themselves.

Owning the Market Through An Index Fund

To be sure, the market's return would also be reduced by taxes, but the tax bite would be only about a single percentage point, a 40% reduction in tax impact as compared to the typical equity mutual fund. Further, of course, an investor cannot simply go out and buy the stock market, cost free. But investors can, and increasingly do, purchase shares in index funds that replicate substantially all of the stocks in the stock market—the Wilshire 5000 Equity Index, which includes large, mid-sized, and small companies—or the Standard & Poor's 500 Index—consisting of the largest 500 companies in the market and representing 75% of its total value. We can closely replicate the past results of an all-market index fund by adjusting the Wilshire 5000 Index for the assumed operating and transaction costs of a low-cost index fund (0.20% per year) and for estimated taxes (1.0%). Now, we have a realistic return of the true economics of fund investing for fund investors, net of the economics of fund managers and even the economics of the Federal budget. Here are the annual returns, after costs and taxes:

* Average Equity Funds: **10.6%**
* All Market Index Fund: **15.2%**

The net result is that the mutual fund industry has provided its shareholders with only two-thirds of the *annual* after-tax return that they could have received by simply investing in the market. Put another way, excessive fund costs and largely unnecessary taxes have confiscated fully one-third of the market's rate of annual return over the past 15 years.

Now, we've all heard of "the magic of compounding," and it's every bit as magic as it's cracked up to be. But there is another side of compounding. I call it "the tyranny of compounding." For just as *higher returns accumulate* in an extraordinary manner as time goes on, so *higher costs decumulate* in an extraordinary way. Specifically, over the past 15 years an initial investment of $10,000, after taking into account both operating costs and taxes, would have grown to:

- Average Equity Fund: **$45,300**
- All Market Index Fund: **$83,300**

Net result: A profit of $35,300 on the $10,000 initial investment in the equity fund; a profit of $73,300 on the same investment in the index fund. The investor would have had literally *more than one-half* of his entire opportunity cost confiscated by excessive fund expenses and unnecessary fund taxes.

Simple Solutions

There are simple solutions to these problems. First, fund managers could simply, by the stroke of a pen, reduce their management fees. Such a step would enhance the returns earned by fund shareholders, although it would at the same time slash the returns earned by fund managers. Given the fact that managers look to the returns on *their own* capital, that seems unlikely to happen . . . unless fund

shareholders demand it by purchasing index funds or other low-cost funds rather than high-cost funds, and even redeeming shares of high-cost funds that have failed to provide adequate participation in the stock market's bounty. Alternatively, mutual fund directors, hitherto an awfully passive lot of so-called watchdogs, may finally become aroused by the knowledge of their funds' relative records, and the toll that fund costs have taken on the returns of the shareholders they are duly bound to serve. Warren Buffett believes that, while fund directors should act as Dobermans, they have acted as cocker spaniels instead. Some change in this attitude will therefore be needed, perhaps engendered by the results of the study of the economics of this industry that I have urged upon the SEC. The findings of such as study would provide a high level of motivation for directors.

Second, the industry needs to look seriously and critically at its general practice of high portfolio turnover. Mutual funds, traditionally known as long-term investors, have, by holding stocks for only a year-plus on average, become short-term speculators. Such short-term policies, if sustained over time, are suicidal in terms of providing relative returns. Worse, high transaction activity results in excessive costs that exceed any advantage that managers can obtain for fund investors as a group. And still worse, it results in grossly excessive capital gains taxes to taxable fund shareholders. (I recognize that perhaps as much as 40% of all equity fund shares are held by investors through tax deferred IRAs and 401k thrift plans. But there is no evidence whatsoever that high turnover enhances the returns of these investors.) Here again, we have to rely on an accumulation of pressure from fund investors, fund directors, and regulators to put pressure on fund managers to mend their ways, reversing the very focus of today's short-term, opportunistic, and counterproductive investment policies. None of this will be accomplished overnight. But the sooner we begin, the better. For time is money for mutual fund investors.

Facing Up to the Future

It is my sad duty to tell you that the inadequate participation of mutual fund investors in the market's returns during the past two decades is almost certain to get worse in the future. For even if the 2.1 percentage point cost incurred by the average mutual fund in the past 20 years (to say nothing of the approximate 2 ½ percent cost of the past 15 years) at last stops rising and stabilizes, cost will take a larger toll if future market returns are lower than the fabulous returns of this 18-year bull market. After all, two percentage points would consume, well, "only" 12 ½% of an annual return of 16%. But that same cost would consume fully 25% of a return of 8%. And, if there is less of the *magic* of compounding ahead, there is, by mathematical definition, far more of the *tyranny* of compounding.

Will market returns, then, be lower in the future? It is my strong suspicion that they will. Indeed, even assuming that the remarkable recent rate of growth in the earnings of corporate America slackens to levels well above historical norms, it seems almost preordained that future market returns will recede. For what creates market returns is not very complicated. Stock returns are inevitably the result of the initial cash dividend yield, the future rate of earnings growth, and the multiple that investors place on the earnings resulting from that growth. For example, 20 years ago, just before the great bull market began, the dividend yield on the Standard & Poor's 500 Index was 4.5%; earnings have grown from $15 to $47 per share during the two-decade period, a rate of earnings growth of 5.9%; and the stock market, during these waning days of the century, is valued at 28 times 1999 earnings. That combination has produced an annual total return of 17.4% since 1980 began—the highest by far for any two-decade period in history.

The fact is that it is the very four-fold increase in the price-earnings ratio from 7 times to 28 times—reflecting a change in investor attitude from dour, down-in-the-mouth pessimism to bright, confident, even exuberant, optimism—that has been the driving force in this great bull market. The

Standard & Poor's 500 Index began the period at 102 and sold at 7.3 times earnings. Were stocks today merely valued at their original ratio of 7 times earnings, the Index would today be valued at 340, rather than its actual level of 1300. That is, nearly 1000 points of the 1200 point increase in the 500 Index simply reflects the change in investors' attitudes from pessimism to optimism. While "anything can happen" is the *only* rule I know with universal application in the stock market, I for one very much doubt that a repeat of this extraordinary revaluation is in the cards.

One thing that I *know* is not in the cards is that dividend yield will not provide a 4.5% increment to the market's annual return in the years ahead. The present dividend yield is but 1.3%, which means, mathematically speaking, that more than three percentage points of the market's annual return during the two-decade bull market will have to be replaced by three percentage points of extra earnings growth, to a 9% rate. At the same time—*if* we are to see a continuation of 17% annual returns—the market's price-earnings ratio would have to rise from today's level of 28 times to a mere *54* times! I for one would not want to plan my financial future on the likelihood of that extraordinarily improbable event.

Realistic Expectations

So what might be a realistic expectation for the coming decade? We begin with a 1.3% yield; let's assume a solid earnings growth of 8% a year (it could be more, or less; in a heavy recession, earnings could even decline). That's an 9.3% return, before we factor in the price/earnings multiple, which is at an all-time peak today. Let's assume it might ease back to 20 times. (It could remain unchanged; it could even rise. But the long term norm is 15.5 times.) That change would knock 3.4 percentage points off the market's return, bringing it to 5.9%—even less than the plus-7% return available on high-grade bonds today. (I know that stocks have rarely provided lower returns than bonds over a decade; but I remind you that the stock market is not an actuarial table.) After all we've been given in these fabulous past two decades, it would be hard to feel crestfallen if such an economic return is all that the stock market gives us. What would make it harder to swallow for mutual fund investors is that, if the economics of the fund managers remain intact, fund industry costs of 2.5% per year would cut the economic return of the market by more than 40%, bringing the economic return of mutual fund investors to a measly 3.4%, and before taxes at that.

This economic analysis of the fund industry I've presented in my lecture this evening has, I fear, been a bit didactic and tedious, to say nothing of disillusioning, given that at the outset I described mutual funds as "one of the great success stories of our age." But I hope that my analysis has clearly revealed some of the important economic realities of investing, reflected both in the chinks in the armor of a potent industry and in the unlikelihood that this bull market is destined to last forever. I've been transfixed by the economics of this industry for nearly 50 years now—I began to write my senior thesis, entitled "The Economic Role of the Investment Company," at Princeton University in December 1949—but I find these economics more interesting today than ever before, and certainly more challenging.

But never forget that the most important economic role of the mutual fund industry is to make it possible for investors—large and small, knowledgeable and naïve alike—to reach their financial goals in the most advantageous way possible, under the best terms, provisions, and, above all, costs. Yes, costs matter. And they'll matter even more when the financial markets at last revert to more normal returns, as seems to me inevitable. Two years ago, in a major mutual fund article, *Newsweek* magazine laid down a good rule for investors as you consider your mutual funds investments: "Your mantra as a low-cost investor: *'Show me the money.'" Your* money is at stake and it is high time you demanded it. Show me the money? Yes! And, since time is money, and compounding entails both magic and tyranny, the sooner the better.

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