Winning the Easy Game

Skill and the Ability to Extract Value

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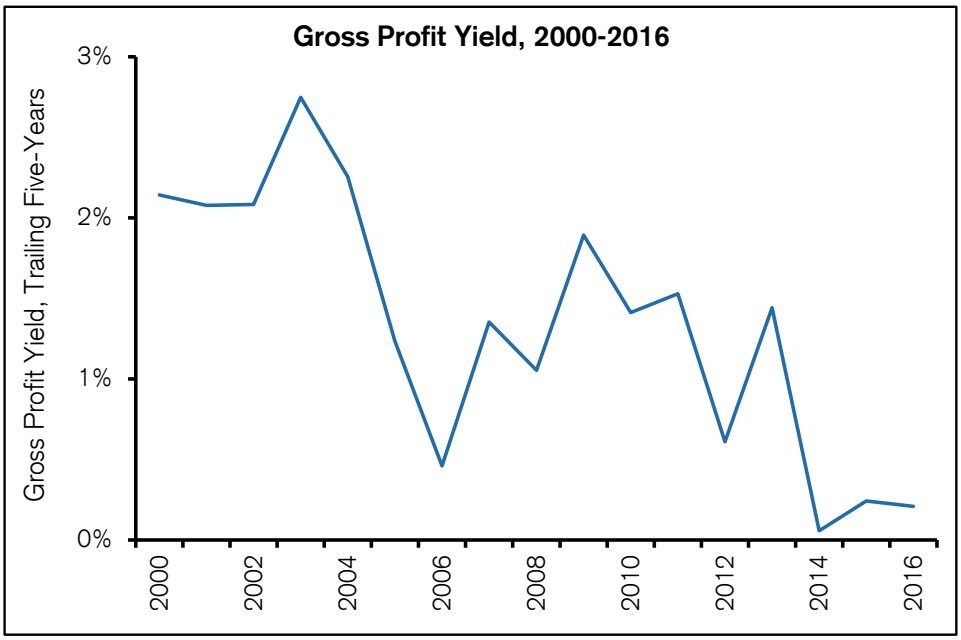


Source: Morningstar Direct.

- Investors are moving from actively-managed funds to index funds and exchange-traded funds at a rapid rate.
- We can measure the cost of being informed and the benefit of excess return to see if they are in rough balance.
- Gross profit, the risk-adjusted return of the fund before fees minus the benchmark return times assets under management, better reflects skill than simple measures of return do.
- Fees and gross profit have been roughly equal over time, suggesting that markets are approximately "efficiently inefficient."
- Gross profit yield, gross profit divided by assets under management, has drifted lower over the past forty years. This reflects a broad increase in market efficiency. As a result, fees have followed suit.
- You want to use active management when you feel you can assess manager skill and there is variability in gross profit.

Introduction: Measuring Efficiently Inefficient Markets

Investors are moving from actively-managed funds to index funds and exchange-traded funds (ETFs) at a rapid rate. From the beginning of 2007 through the first quarter of 2017, investors have taken $1.3 trillion from funds that are managed actively and have given $1.6 trillion to index funds and ETFs. As a result of the shift, investors are paying less in fees. What is not clear is the impact these flows have had on measures of the stock market's health.

Thirty years ago, active mutual fund managers controlled an overwhelming percentage of the equity assets under management (AUM) in the United States. Today, index funds and ETFs represent 39 percent of AUM, a percentage that continues to grow. But all of the assets cannot be in index funds and ETFs because active managers promote price discovery and provide liquidity. These are vital for a market to function effectively.[1] The question is whether there is a point of equilibrium between the allocation to active and passive investments.

A paper by the economists Sanford Grossman and Joseph Stiglitz, "On the Impossibility of Informationally Efficient Markets," provides a good point of departure for thinking about this problem.[2] They argue that markets cannot be perfectly efficient because there is a cost to gathering information and reflecting it in prices. As a result, there must be a requisite benefit in the form of exploitable market inefficiency. Their model suggests an equilibrium amount of disequilibrium. Lasse Pedersen, a professor of finance, pithily describes markets as "efficiently inefficient."[3]

We can measure the cost of being informed and the benefit of excess return to see if they are in rough balance. We can use fees for active management, what investors pay to investment managers to generate excess returns, as a rough proxy for the cost. We can use portfolio returns in excess of the appropriate benchmark, adjusted for risk, as a proxy for the benefit. The simple story of the last decade and a half is that excess returns have come down faster than fees.

Fees for index funds and ETFs are much lower than those for active managers because those products are free riders. They benefit from markets that are mostly efficient and liquid without paying the cost. This free riding becomes a problem only when the size of index funds and ETFs jeopardizes market efficiency and liquidity. This possibility should concern thoughtful investors now. Market efficiency and liquidity are valuable societal goods.[4]

A paper by the economists Jonathan Berk and Richard Green, "Mutual Fund Flows and Performance in Rational Markets," offers a new and useful way to think about excess returns.[5] Their model is based on a few points. First, investors try to allocate their money to generate excess returns. Second, money managers have differential skill but the more money a manager runs, the lower are his or her expected excess returns. Finally, investors tend to give their money to investors who have done well. The more skilled investment managers will tend to gather assets, and their expected excess returns will migrate toward zero as a result of decreasing returns to scale.

We generally gloss over the AUM for the funds when we discuss topics such as the percentage of funds that beat their benchmark or the excess return a fund earns. But this can result in misleading conclusions. Imagine the market is a universe of 5 funds, 4 with AUM of $125 and 1 with $1,000. Assume the market goes up 10 percent, from $1,500 to $1,650. Finally, assume that the first 4 funds are down 20 percent and the final fund is up 25 percent. We would say that 4 of 5 funds underperformed the market and that the average return was a dismal -11 percent. In the aggregate, of course, the wealth of the investors in our funds rose by $150 because the most skillful investor had the largest AUM.

Berk and Green suggest that fund investors should evaluate investment managers much in the same way that equity investors evaluate companies. A security analyst can calculate a firm's economic profit, or return after considering the opportunity cost of capital. Economic profit is equal to the spread between a company's return on invested capital (ROIC) and weighted average cost of capital (WACC), times the invested capital in the business. A

firm with an 18 percent ROIC, an 8 percent WACC, and $1,000 in invested capital generates $100 in economic profit ([0.18 – 0.08] x $1,000).

We can do a similar calculation for mutual funds. We take the gross return of the fund minus the benchmark return, adjusted for risk, times AUM. A fund with average risk that has a gross return of 15 percent, a benchmark return of 12 percent, and $1,000 of AUM would produce a gross economic profit of $30 ([0.15 – 0.12] x $1,000). Think of the $30 as the value the investment manager extracts from the market. Gross profit better reflects skill than simple measures of return do.

In a new paper on this topic called "Measuring Skill in the Mutual Fund Industry," Berk and finance professor Jules van Binsbergen illustrate the analysis with the results of Peter Lynch, the legendary manager of the Magellan Fund at Fidelity Investments.[6] By our calculations, over Lynch's first five years running the fund the average monthly spread between Magellan's risk-adjusted return and the benchmark return, alpha, was 1.67 percent and the average fund AUM was $46 million. His skill allowed him to extract about $770,000 per month from the market (0.0167 x $46,000,000 = $770,000).

In his last five years, ended in May 1990, the average monthly spread was 0.24 percent, and the average fund AUM was $8.7 billion. Lynch's monthly value extraction was roughly $21 million (0.0024 x $8,717,000,000 = $21,140,000). Even though the magnitude of his alpha in the early years was nearly 7 times what it was in the final years, the value extraction was more than 25 times larger in the latter period because of the substantial increase in AUM.

Comparison of those five-year periods at Magellan emphasizes the difference between the points of view of the investor and the investment manager. Investors want high alpha regardless of AUM, while it makes sense for the investment manager to settle for lower alpha, offset by higher AUM, if that maximizes value extraction.[7]

Our recent report, "Looking for Easy Games," uses a poker game as an analogy to understand the investment management industry.[8] We suggest that the amount of money changing hands in the course of an evening is a good way to think about the opportunity for a skilled player. If you are skillful, you want high stakes and weak players so that you can make a lot of money.

In his first five years at Magellan, Lynch was a very strong player competing for small stakes. In his last five years, he extracted vastly higher gross profit than he did in the first five years even though his excess return was substantially lower.

In the aggregate, gross profit has to be zero in a closed system. For every dollar won there is a corresponding dollar lost. The total gross profit in our data does not sum to zero, although it comes close. The reason is that our universe, while very large, is incomplete. Institutional investors interact with other investors, including individuals, as well as with companies. Corporate interactions can lead to wealth transfers where the company is the winner (selling overpriced equity) or the loser (buying overpriced equity).[9] You will do well if you find a skillful active manager in a market with large positive and negative gross profit.[10]

Fees play an important role in this analysis as well. We look for skilled managers and pay them handsomely because we believe they will extract value in excess of the fees they charge. Investment managers can more readily express their skill in markets where there is substantial opportunity, which we can estimate by examining the dispersion in returns. The next issue is how to share the gross profit a money manager earns in a fair way.

In a competitive labor market, employees seek remuneration consistent with their skill. For example, a star athlete demands a big contract. Skillful investment managers also seek high fees. In investing as in sports, the market eventually finds and rewards those who have skill.[11]

But it is fair to ask: Who wins when a sports team signs a superstar, the club or the player? Ideally, investors and the managers they hire find a fee structure that allows the investors to do well and that rewards the manager's skill.

The returns for investment managers reflect a lot of luck in the short term. Because identifying skill ahead of time is tricky, some managers earn fees that exceed their ability to extract value. Further, if the absolute value of gross profit is shrinking, there will be pressure to lower fees.

Our analysis reveals that more skillful managers do indeed tend to run more money, that the overall amount of positive gross profit as a percentage of AUM has declined this century, and that net economic profit comes close to zero for over the 40-year period we measure.

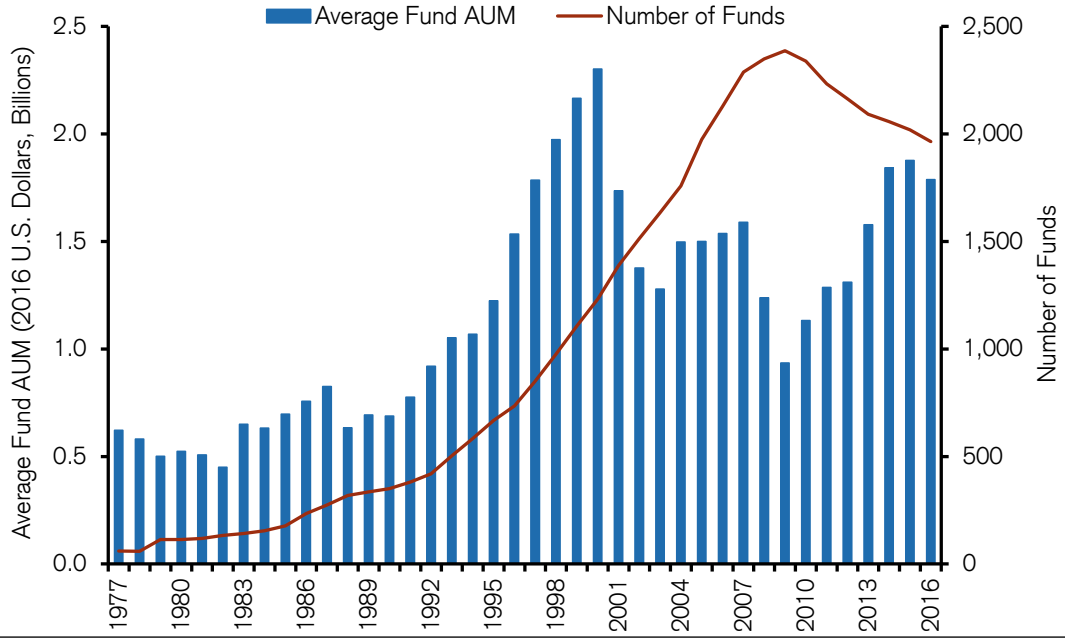
The Universe

We apply this gross profit analysis to active mutual funds in the Morningstar Direct database that invest in U.S. equities from 1977 through 2016. Over the full period the data capture roughly 42,000 fund years and $61 trillion of AUM. The database is free of survivorship bias. To adjust for inflation, we show all figures in 2016 U.S. dollars.

We calculate gross profit using alpha, or the fund return that is adjusted for risk relative to the benchmark specified in the fund's prospectus. This appears appropriate given how investors behave. Berk and van Binsbergen inferred that investors adjust for risk using the capital asset pricing model when they make decisions.[12]

Exhibit 1 shows that the total number of funds in the analysis increased from 60 in 1977 to around 2,400 at the time of the financial crisis, and is today fewer than 2,000. The average fund size was $600 million in the late 1970s, peaked at $2.3 billion in 2000, and is about $1.8 billion today.

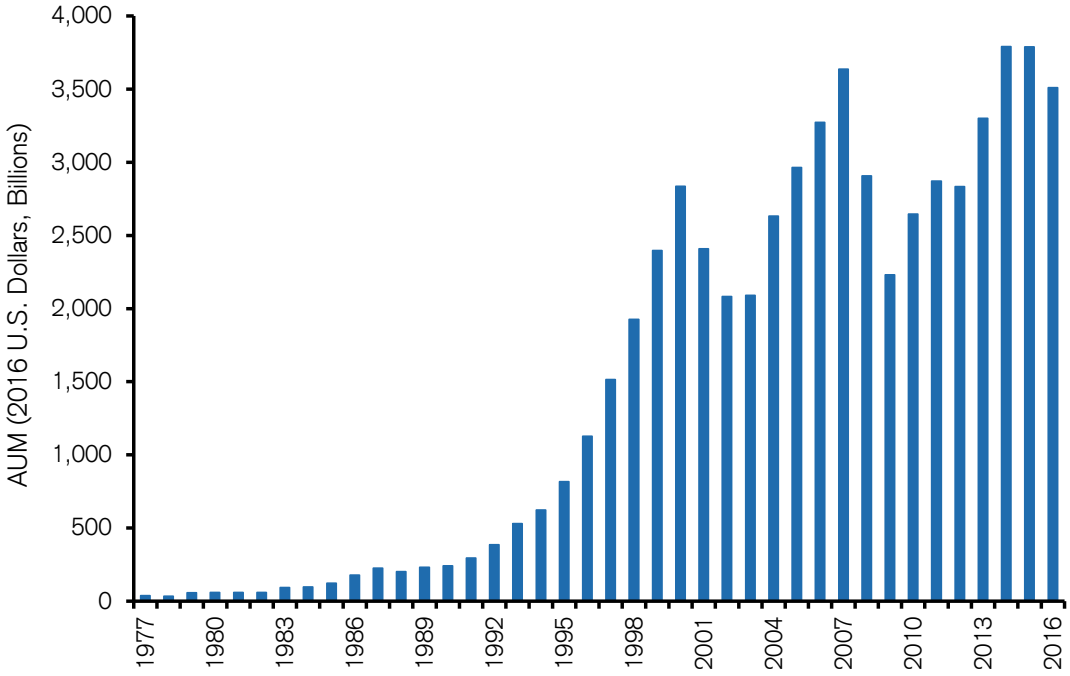
Exhibit 1: Total Number of Funds and Average Fund Assets Under Management



Source: Morningstar Direct.

Exhibit 2 displays the AUM for the universe we measure. Total AUM started at around $37 billion in 1977 and is about $3.5 trillion today. As of the end of the first quarter of 2017, the total equity mutual fund industry domiciled in the U.S had AUM of $9.3 trillion, of which $2.2 trillion were in traditional index funds. These figures exclude ETFs. Our analysis focuses on funds that invest in U.S. equities.

Exhibit 2: Assets Under Management for the Universe



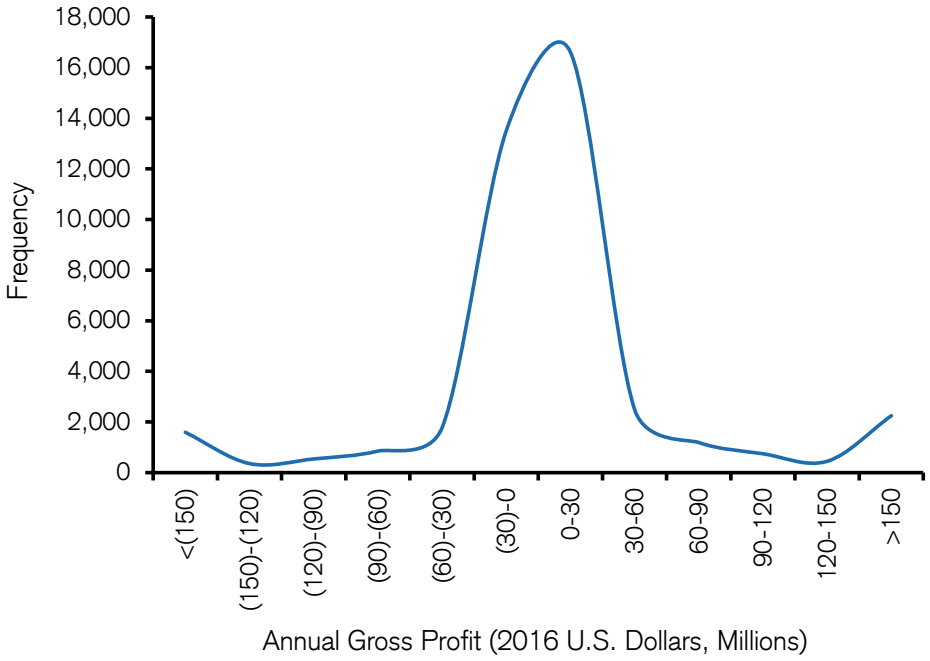
Source: Morningstar Direct.

Gross Profit and Gross Profit Yield

Over the full period, the average gross profit per fund was $1.2 million per month and $14.3 million per year. The average is misleading because the distribution of AUM in the mutual fund industry is heavily skewed. For example, today the top 20 percent of funds control more than 85 percent of the AUM and the top 50 percent of funds manage 98 percent of AUM.

The median gross profit, which represents the middle of the distribution of all funds, was $46,000 per month and $552,000 per year. The median represents the central tendency of a skewed distribution better than the average does. Note that both the average and the median is positive, which shows that mutual fund managers generated risk-adjusted returns in excess of the market before fees. Exhibit 3 plots the frequency distribution of gross profit for more than 42,000 fund years from 1977-2016.

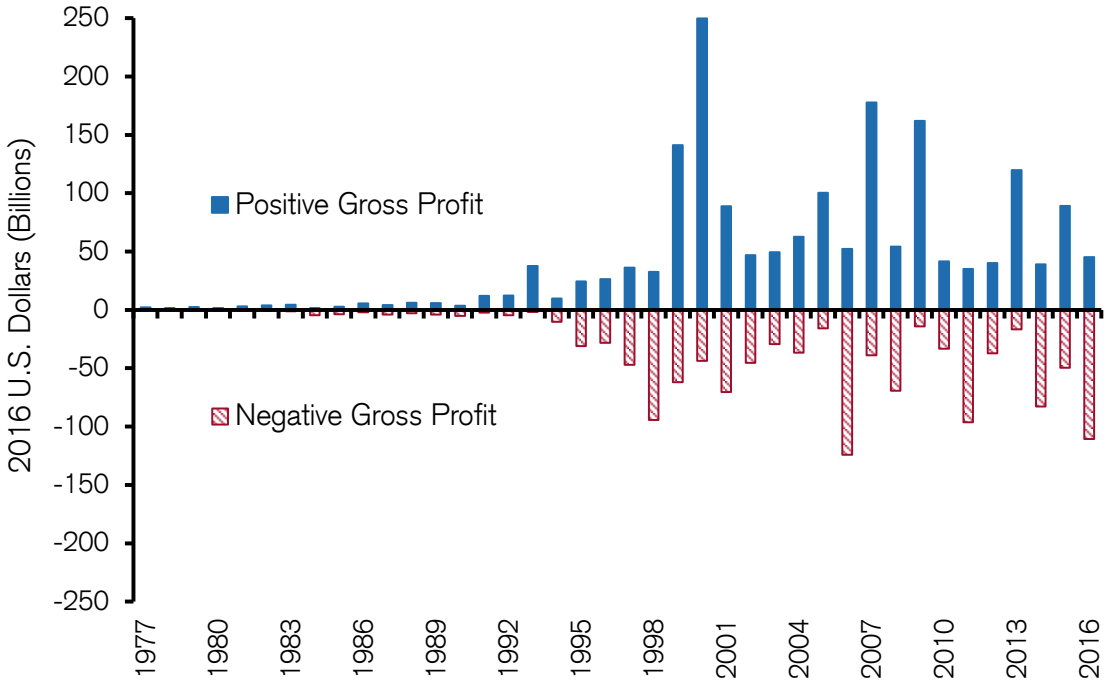
Exhibit 3: Frequency Distribution of Annual Gross Profit, 1977-2016



Source: Morningstar Direct.

Exhibit 4 provides the positive and negative gross profits by year from 1977 through 2016. Over the forty years, the aggregate positive gross profit was $1.8 trillion and aggregate negative gross profit was $1.2 trillion. The total gross profit was $605 billion. Think of this as the amount of value mutual funds extracted from the market before fees.

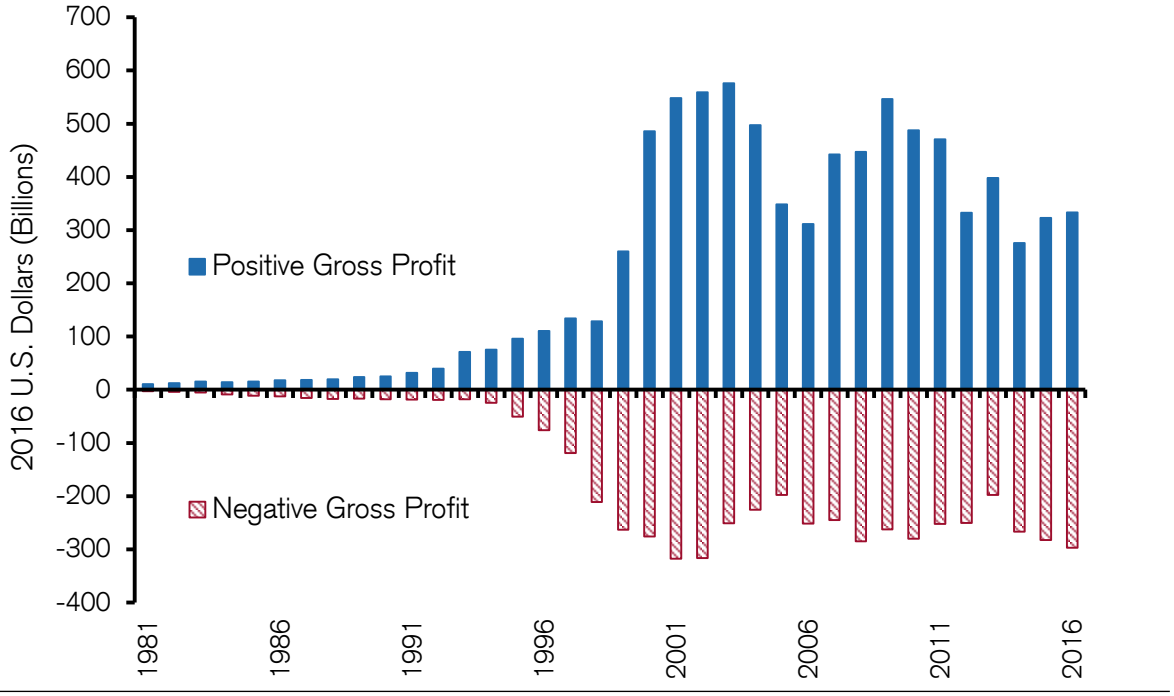
Exhibit 4: Total Gross Profit (Annual), 1977-2016



Source: Morningstar Direct.

Exhibit 5 smooths the data by showing trailing five-year positive and negative gross profit. Skillful investors want periods where there is a large quantity of positive and negative gross profit. This means there are winners and losers and the skillful have the opportunity to thrive at the expense of the less skillful. The exhibit reveals that the early 2000s were such a period, as institutions took advantage of the resurgence of individual participation in market in the late 1990s.

Exhibit 5: Total Gross Profit (Sum of Trailing 5-Years), 1981-2016

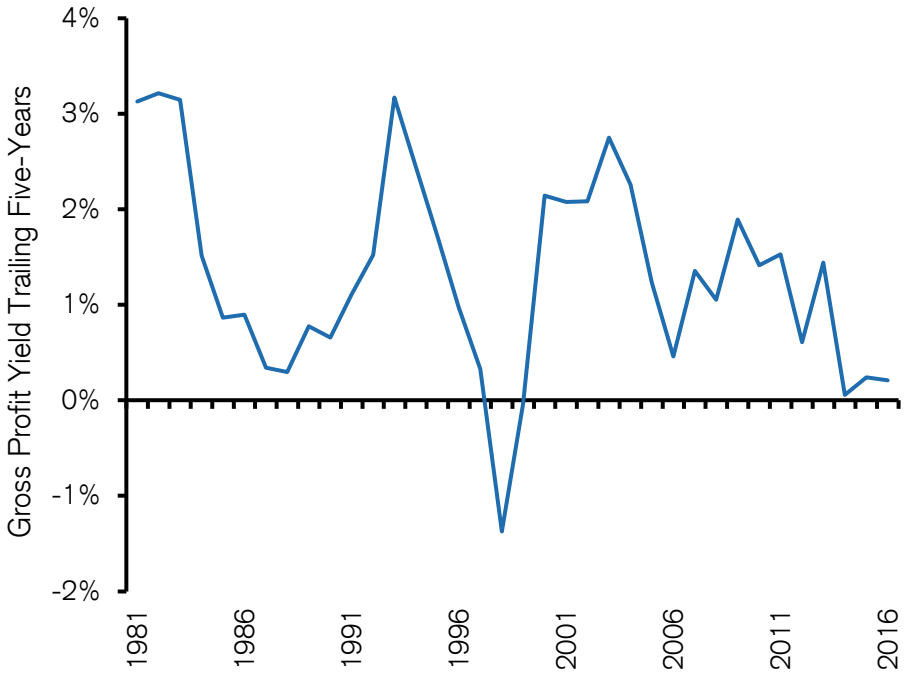


Source: Morningstar Direct.

While the absolute dollars of gross profit are informative, the key is the opportunity relative to the AUM. Over the full 40 years, the $605 billion in gross profit was extracted from $61.1 trillion in AUM. So the average gross profit was 0.99 percent of AUM. This is roughly equal to the fees the funds charged during the period, which suggests markets are approximately efficiently inefficient.

Exhibit 6 shows the trailing five-year gross profit yield, which is gross profit divided by AUM, from 1981-2016. The yield trends down over the full 40 years with episodic spikes in the early 1980s, early 1990s, and early 2000s. We can attribute the downward drift to rising efficiency in the highly competitive U.S. equity market.[13]

Exhibit 6: Gross Profit Yield (Trailing Five Years), 1981-2016

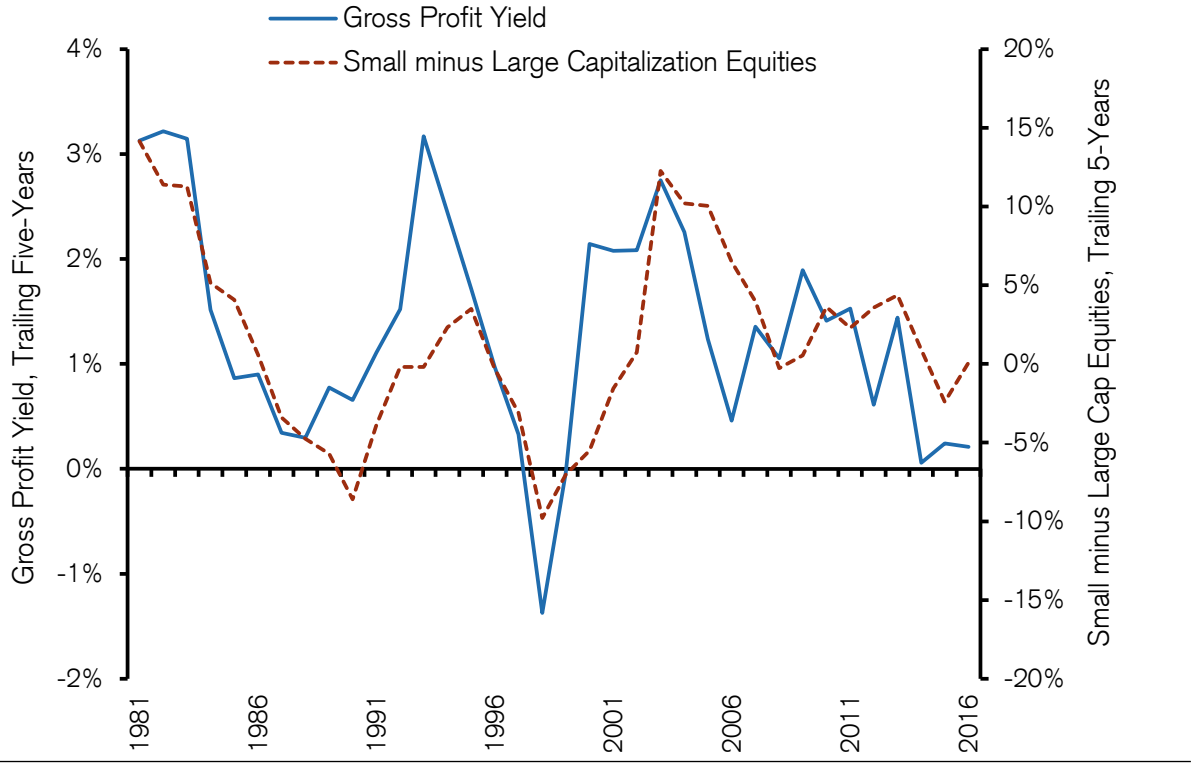


Source: Morningstar Direct.

One straightforward explanation for the periods of high gross profit yield is the relative returns of large capitalization versus small capitalization stocks. In general, the stocks within mutual funds that cite the S&P 500 as their benchmark have an average market capitalization that is less than the benchmark itself.[14] In other words, these funds have exposure to the "small minus big" factor, classically defined as the annual average return of small-capitalization stocks minus the return of large-capitalization stocks.[15] That premium has averaged more than two percent per year since 1927.

Exhibit 7 examines the correlation between the gross profit yield and the returns of small versus large capitalization stocks. The correlation coefficient (*r*) is approximately 0.7, where 0 indicates no correlation at all and 1.0 is a perfect correlation. The excess returns of the small minus big factor and gross profit yield tend to go together. Bear in mind that rigorous research showing the outperformance of small capitalization stocks did not appear until the early 1980s, and a multi-factor model was not popularized until the early 1990s.

Exhibit 7: Correlation between Small minus Large Cap Equities and Gross Profit Yield, 1981-2016



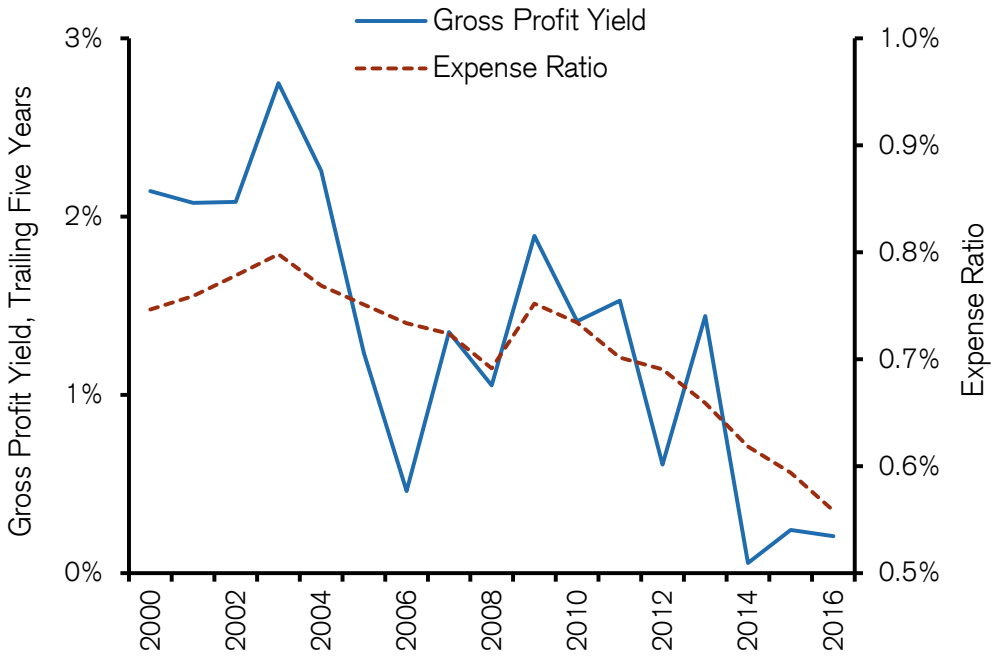
Source: Morningstar Direct; Kenneth R. French.

Consistent with the notion of the U.S. stock market being efficiently inefficient, fees and expenses have drifted lower as the rolling average of gross profit yield has declined. In 1980, for example, the combination of the average annual expense ratio and load exceeded 200 basis points for equity mutual funds.[16] Expenses today are roughly one-quarter those levels, reflecting a shift from active to passive funds and a higher market share for larger funds, which have lower fees than smaller funds.

We zoom in on the trends of gross profit yield and expense ratio since 2000. Exhibit 8 shows the trailing five-year yield, which starts at a high level as large capitalization stocks deflated following the dot-com boom and is today at a level well below the average of the last four decades. Annual expense ratios have followed suit, falling from 75 basis points in 2000 to 56 basis points in 2016. These expense ratios include active mutual funds, traditional index funds, and ETFs. The decline in the expense ratio reflects the substantial shift in allocation from active to passive funds in the last couple of decades.

The gross profit yield and the expense ratio come from two different populations, so we are mixing apples and oranges. But that is the point. Finding alpha is harder than it was in the past and as a result investors are paying less to find it by allocating more money to index funds and ETFs. Consistent with the Grossman and Stiglitz model, costs and benefits have moved in rough lockstep.

Exhibit 8: Gross Profit Yield and Expense Ratio, 2000-2016



Source: Morningstar Direct.

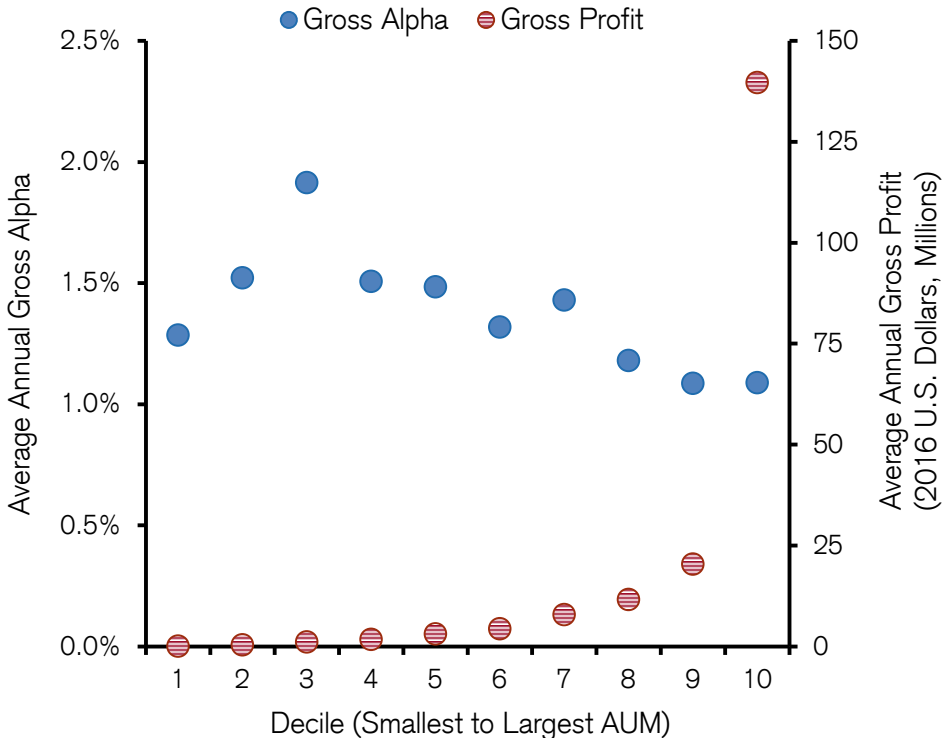
The Relationship between Fund Size, Alpha, and Gross Profit

The Berk and Green model recognizes that money managers have different levels of skill and suggests the skillful managers will get more money to manage than the less skillful ones. As the example of Peter Lynch shows, when a fund grows through investor flows it often trades lower expected alpha for higher gross profit.

The U.S. active equity mutual fund industry has become more concentrated over time. In 1986, the top 10 percent of funds controlled 57 percent of the AUM, the top 20 percent controlled 75 percent of the AUM, and the top half controlled 95 percent of AUM. Today, the top 10 percent of funds have 73 percent of AUM, the top 20 percent have 86 percent, and the top 50 percent have 98 percent of the assets.

Exhibit 9 shows the relationship between fund size, gross alpha, and gross profit. For each year from 2000 through 2016, we break the active U.S. equity mutual fund industry into deciles and calculate the gross alpha and gross profit for each. We then take the average of each of those deciles over the 17 years. Most of the action is on the right side of the exhibit as the vast majority of the AUM are in the largest five deciles.

Exhibit 9: Mutual Fund Size, Gross Alpha, and Gross Profit, 2000-2016



Source: Morningstar Direct.

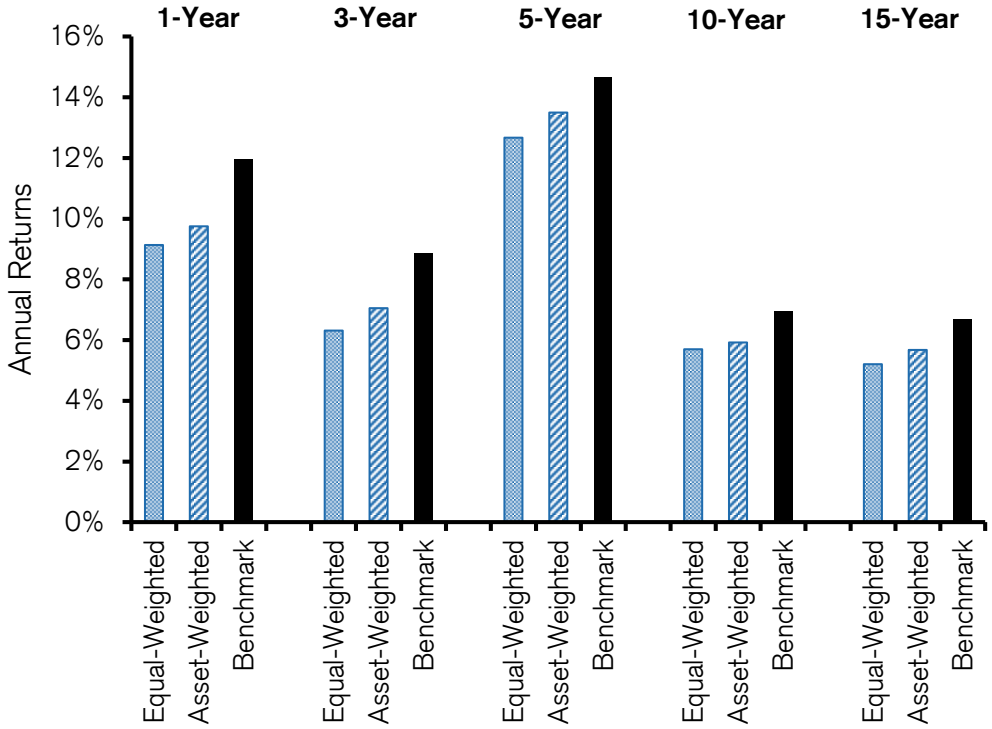
Two patterns are clear. The first is a slight decline in annual gross alpha as size increases. This reflects the change in the opportunity set and costs as funds get larger. Small funds can invest in small capitalization stocks, perhaps taking advantage of the small minus big factor, and do not incur large market impact costs. Larger funds have fewer opportunities as the result of ownership and liquidity constraints. This is classic diseconomies of scale. Large size limits the ability to generate gross alpha.[17]

The second is a rise in annual gross profit as size increases. There is a particularly large jump from the ninth to the tenth decile. The average annual gross profit for the largest 10 percent of funds is roughly $140 million per year. The next largest 10 percent, which today have 13 percent of the assets, is approximately $20 million per year. Small funds win but play for small stakes. The large funds win at a lesser rate but extract much more from the market because they play for high stakes.

The headlines announcing the futility of active mutual fund managers almost always cite results where each fund has an equal weight. But if more skillful investors manage more money than less skillful investors, we need to look at returns weighted by AUM to get a clearer picture of actual results.

Exhibit 10 shows these data and reveals that asset-weighted returns are consistently higher than equal-weighted returns. For example, in 2016 asset-weighted returns for all large capitalization equity funds in the U.S. was 9.75 percent, more than 60 basis points higher than equal-weighted returns. Fees, which are lower for larger funds than smaller ones reflecting economies of scale in money management, are part of the reason that larger funds outperform smaller ones. But it is likely that differential skill also explains the gap between asset-weighted and equal-weighted returns.

Exhibit 10: Equal-Weighted versus Asset-Weighted Returns



Source: Aye M. Soe and Ryan Poirier, "SPIVA® U.S. Scorecard: Year End 2016," S&P Dow Jones Indices Research*, April 12, 2017.*

Gross Profit at the Fund Level

The trends for the aggregate of active equity mutual funds provide valuable lessons. But the analysis of individual funds also offers some important insights, including the importance of fund flows, the vital distinction between time- and dollar-weighted returns, and the persistence of gross profit.

Let's start with a basic observation. While about 40 percent of mutual funds underperform their stated benchmark in an average year, essentially all index funds do. Naturally, index funds don't miss by much because they charge low fees. As a result, index funds make sense for investors who have neither the inclination nor the capability to assess manager skill.

Take as an example The Growth Fund of America, run by Capital Group, and the Vanguard 500 Index Fund. Both have been in existence for the full 40 years that we measure. At the end of 2016, The Growth Fund of America had about $140 billion in AUM and the Vanguard 500 Index Fund had nearly $245 billion.

Over that time, the gross profit for The Growth Fund of America was $37.9 billion and the net profit was $22.7 billion. Of the value the fund was able to extract from the market, 60 percent went to investors ($22.7 billion divided by $37.9 billion) in excess returns and 40 percent went to the money manager in fees.

The cumulative gross profit of the Vanguard 500 Index Fund was $1.6 billion, as the fund did not mirror perfectly the returns of the S&P 500. The net profit was negative $2.7 billion, reflecting modest fees on a substantial asset base. The choice to go active or passive boils down to an ability to assess skill and the size of the investment opportunity. Investors who can assess skill and see opportunity for differential returns should go active.[18] Investors who can't assess skill and don't see opportunity should index.

One important limitation of this analysis is the role of fund flows. Berk and van Binsbergen use a sophisticated method to adjust for the significance of flows, whereas we simply use monthly figures and ignore flows. But flows are important in two ways that are commonly overlooked in the assessment of funds.

First, fund flows play an essential role in performance.[19] The simple version of the story is that the portfolio managers of funds that get inflows buy more of the stocks they already own, boosting the performance of those stocks. Portfolio managers suffering from redemptions obviously have to sell what they own and often focus first on liquid positions. Selling dampens the performance of those stocks. In other words, portfolio managers generally scale up or down their fund rather than diversify. One recent study found that hedge fund alphas dropped by one-third after the researchers took fund flows into account.[20]

Second, fund flows explain the difference between time-weighted and dollar-weighted fund returns. [21] Time-weighted returns are the return an investor would earn if he or she were to buy and hold. Dollar-weighted returns take into consideration fund flows. Because investors tend to put money into funds following periods of outperformance and withdraw it after bouts of underperformance, it is common for dollar-weighted returns to be less than time-weighted returns. Jack Bogle, founder and former chief executive officer of the Vanguard Group, estimates that this "behavior gap" costs investors 120 basis points in annual returns.[22]

Here's a simple example. Let us say an investor buys 100 shares of a fund that starts a year with a net asset value (NAV) of $10, representing a $1,000 outlay. In the next year, the fund's NAV rises to $20, doubling the investor's money. Encouraged by the gains, the investor buys an additional 100 shares for $2,000. In the second year, the NAV drops back to $10, where it started.

How did the fund, and our investor, fare over the two years? The time-weighted return for the fund is zero as it ended at the same price as it started. The buy-and-hold investor would be flat.

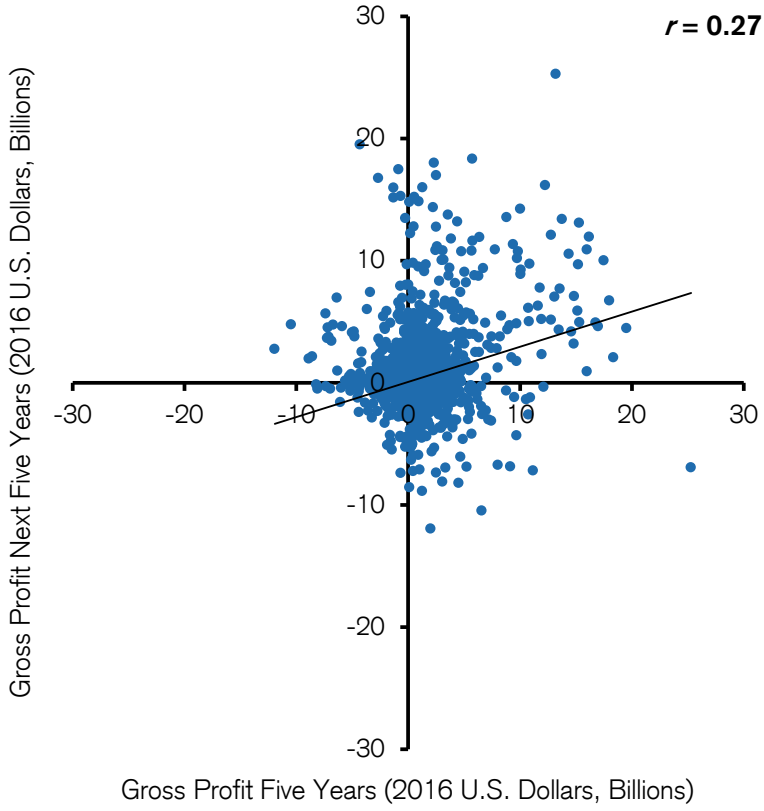
But the dollar-weighted return for the investor is -27 percent, calculated as the internal rate of return based on the timing and magnitude of the investor's cash flows. The cumulative gross profit would also be negative assuming average market returns, as the positive profit from the first year would be more than offset by the negative gross profit in the second year. This example reflects the experience of one investor over two years, but we can apply the same methodology to many investors over multiple years.

This analysis reveals a result that is not always obvious: There are a number of funds that have delivered time-weighted returns in excess of the market but that have lost more dollars for their investors than they have made for them. The general pattern is that the fund builds its time-weighted track record when it's small, attracts substantial capital as a result of that success, and then has a period of poor performance that wipes out all of the dollars gained.

Finally, we can use persistence of gross profits as an indicator of skill.[23] When persistence is high in any activity, we can assume that skill plays a meaningful role in determining results. When persistence is low, luck is dominant. Note that results in a domain can appear to be largely dictated by luck even if competitors are highly skilled. This occurs when the level of skill is uniform. In other words, if all competitors are similarly strong luck will rule the day.

Exhibit 11 shows the five-year correlation for gross profit for all funds that have at least 10 years of data. While the correlation, *r*, is not that high at 0.27, it is higher than the correlation of alpha, which is close to zero. Berk and van Binsbergen, using a more complex methodology, isolate skill even more clearly.

Exhibit 11: Gross Profit Persistence



Source: Morningstar Direct.

Efficiently Inefficient Markets

We can now return to the core question of how to assess the point of equilibrium between the allocation to active and passive investments. The cost of gathering information, which shows up as expenses, should roughly equal the benefit of excess returns. For the funds where we have complete historical expense data, the total cost has been $518 billion and the total benefit has been $586 billion since 1977.

In the last 20 years, as exhibit 8 shows, the trend in gross profit yield has been lower. As a result, investors have lowered their expenses by moving to index funds and ETFs. This raises another question: Are investors indexing because the market is efficient, or is the market efficient because investors are indexing?

Market efficiency is the prime motivation for indexing. This makes sense. But it is important to bear in mind that indexers rely on price discovery, which is a positive externality as a result of active management. The efficient allocation of capital suffers if the very act of indexing creates distortions that cause prices to deviate from fair value.

The second case, that markets are efficient because of indexing, is more subtle. The argument is that less informed investors, be they individuals or institutions, are leaving the active management game which leaves the more informed investors to compete with one another. Said differently, the investors who may have suffered the negative gross profits in years past have departed and the skillful are left to slug it out among themselves.

Consistent with the fundamental law of active management, you want to use an active manager when you feel you can assess manager skill and there is variability in gross profit. Skill without opportunity is futile, and opportunity without skill is wasted.[24]

Here is the core idea: Assuming that you have or can identify skill, you want as much variability in gross profit as possible. Exhibit 12 provides a very rudimentary illustration of the point. Let's say you have to select between two money managers, A and B, one of whom will earn the market return plus the variability and the other the market return minus the variability. The rows are the probability that you find the skillful manager and the columns show different levels of variability.

Exhibit 12: Returns Based on Various Scenarios for Skill and Variability

		Variability		
		2%	5%	10%
Probability of Finding Skill	50%	10%	10%	10%
	75%	11%	13%	15%
	100%	12%	15%	20%
		Assumed market return = 10%		

Source: Credit Suisse.

The top row demonstrates that even if you have lots of variability, you can't generate excess returns if you can't identify skill. The bottom row shows that you can double your returns versus the market if you have a foolproof way to recognize skill and the variability is high. You should be willing to pay much less for a low probability of finding skill and low variability than you would for a high degree of certainty of finding skill in a market with high variability. As exhibit 6 makes clear, the variability in gross profit yield changes over time.

Summary

This report explored a framework for considering an appropriate equilibrium point between active and passive investments. Active managers contribute to price discovery and liquidity, vital societal goods, but charge higher fees than passive vehicles such as traditional index funds and ETFs do. Passive managers charge lower fees but rely on active managers to make markets efficient.

Grossman and Stiglitz showed that there should be a rough balance between the cost of gathering information and reflecting it in prices and the benefit of excess returns through inefficient markets. In recent years the benefit of excess returns seems to have come down faster than the cost, and investors are playing catch up by switching from active to passive investments. This shift has a logical limit because the premise of passive investing is that markets are efficient and some percentage of the investing population has to contribute to that end.

Berk and Green provide a way to gauge the opportunity through the measure of gross profit. This measure allows us to get away from the misleading results of equal-weighted mutual fund returns and provides figures for both the cost and opportunity for active investment management. Gross profit also allows us to get an intuitive grasp of the difference between time-weighted and dollar-weighted returns and is more persistent than alpha by itself.

A multitude of factors, including technology and regulation, have pushed the gross profit yield lower in the U.S. equity market in recent decades. An assessment of potential variability in the gross profit yield, along with some methods to identify skillful investment managers, remains the key to winning the easy game.

Endnotes

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