

Five Myths of Active Portfolio Management

Most active managers are skilled.

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Proponents of “efficient markets” argue that it is impossible to consistently beat the market. In support of their view they point to the evidence that, as a group, active managers do not beat the market and conclude that even these investment professionals do not have the skills necessary to pick stocks or time the market. Yet, if that argument is correct, why do active portfolio managers exist at all? Even more puzzling is their level of compensation. One of the first principles any student of microeconomics learns is that in a competitive market (and one would be hard pressed to argue that the capital markets are not competitive) people can only earn economic rents if they have a skill in short supply. If active managers cannot pick stocks or time the market, what rare skill do they possess that places them among the highest paid members of society?

Even people who allow for the possibility that some managers have skill have been hard pressed to find evidence of this skill in the data. Beyond a year there is little evidence of performance persistence — managers who do well in one year are no more likely to do well the following year.² This fact is widely interpreted as evidence that the performance of the best managers is due entirely to luck rather than skill (and thus not repeatable).

The behavior of investors is just as puzzling.³ Why do investors continue to invest with active managers in face of this evidence? Yet investors chase returns; a good year induces an inflow of funds and a bad year induces an outflow of funds. Thus, the flow of funds into and out of actively managed mutual funds is sensitive to past fund performance even though there is no strong evidence of persistence.

My objective in this paper is to explain these facts and show they are consistent with a rational and competitive

²See Carhart (1997)

³See Gruber (1996)

financial market. These regularities are not only evidence of the existence of rational, value maximizing, investors, but they are also evidence that the vast majority of managers have skill and add considerable value.

Consider the following five hypotheses:

1. the return investors earn in an actively managed fund measures the skill level of the manager managing that fund;
2. because the average return of all actively managed funds does not beat the market, the average manager is not skilled and therefore does not add value;
3. if a manager is skilled his returns should persist — he should be able to consistently beat the market;
4. in light of the evidence that there is little or no persistence in actively managed funds' returns, investors who pick funds based on past returns are not behaving rationally; and
5. because most active managers' compensation does not depend on the return they generate, they do not have a performance based compensation contracts.

At first glance, all five hypothesis appear plausible. In fact, I will show that in a model in which rational investors compete with each other for the services of value adding managers, *none* of them will be true — they are in fact five widely held myths.

1 A Thought Experiment

In a recent paper Richard C. Green and I derive a theory of active portfolio management in an economy in which investors and managers are fully rational.⁴ Here, I will summarize that theory and show why it implies that the five hypotheses listed in the introduction are myths.

Let's begin with a thought experiment motivated by the theory in my paper with Green. Imagine an economy with skilled investment managers with differential ability who can generate positive, risk-adjusted, excess returns.

Managers and investors alike know who these managers are.

Assume that managerial ability to generate excess returns cannot be effectively employed at an arbitrarily large scale. Eventually, the amount of money under management reaches a size that each additional dollar contributed reduces the expected return of the portfolio as a whole. Certainly, this assumption is consistent with the observed decentralization of the professional money management industry.

How is the equilibrium determined in this economy? Who gets money to manage? Well, since investors know who the skilled managers are, money will flow to the best manager first. Eventually, this manager will receive so much money that it will impact his ability to generate superior returns and his expected return will be driven down to the second best manager's expected return. At that point investors will be indifferent to investing with either manager and so funds will flow to both managers until their expected returns are driven down to the third best manager. This process will continue until the expected return of investing with any manager is the benchmark expected return — the return investors can expect to receive by investing in a passive strategy of similar riskiness. At that point investors are indifferent between investing with active managers or just indexing and an equilibrium is achieved.

Next consider a more realistic economy in which neither investors nor managers themselves can initially separate good managers from bad. In this case participants will have to use the information available to them to infer managerial ability as best they can. Armed with their inferences, investors will invest to the point where they are indifferent between investing with an active manager or indexing, so the expected return of investing with any active manager must still equal the expected return of indexing. As time passes investors update their inferences — differential skill levels among managers become apparent from the managers investment performance. The lucky investors who happened to pick the skilled managers will earn superior returns. Because of this, other investors will react by increasing their investment with

⁴Berk and Green (2004)

these managers. Funds will continue to flow to these managers so long as investors believe they are capable of producing superior returns. Fund will stop flowing and the equilibrium restored once these managers have so much money under management they are no longer expected to produce superior returns. At that point investors are indifferent between investing with these managers and indexing. Similarly, unlucky investors who invested with the poorly performing managers will withdraw funds until they believe these managers can at least match the benchmark expected return. That is, at each point in time the expected return from investing with all managers, regardless of their skill level, is the same as the expected return from indexing. Of course, the higher skilled managers will manage larger portfolios, which allows these managers to extract more economic rents by collecting fees on assets under management.

In equilibrium, investors who choose to invest with active managers cannot expect to receive positive excess returns (after fees) on a risk-adjusted basis. If they did, there would be an excess supply of capital to those managers. Every investor in the economy who held assets of equivalent risk would want to sell those assets and invest with the active manager instead. Markets can only clear when the expected return to investors in these funds equals the expected return in alternative investment opportunities. That is, the risk-adjusted expected excess return to investing with a skilled active manager must be zero.

Since investors cannot benefit from the manager's skill, who does? The answer is the managers themselves. By managing a large fund and charging a fee that is proportional to the amount of assets under management the manager captures all the economic rents he generates using his skills. Highly skilled managers will manage larger funds, earn more in fees, and extract more rents.

2 Theory⁵

The thought experiment described above communicates the main point in Berk and Green (2004). When capital is supplied competitively by investors but ability is scarce only participants with the skill in short supply can earn economic rents. Investors who choose to invest with active managers cannot expect to receive positive excess returns on a risk-adjusted basis. If they did, there would be an excess supply of capital to those managers. Investors in the economy who held assets of equivalent risk would want to sell and invest with the active manager instead. Markets can only clear when the expected return to investors in actively managed funds equals the expected return in alternative investment opportunities.

In any economy with rational, profit maximizing investors who compete with each other, all expected risk-adjusted excess returns must be zero, and realized excess returns must be unpredictable. Consider each hypothesis from the introduction in light of this theory.

2.1 Myth #1: Return Measures Managerial Skill

In what many people term an "efficient market", investors cannot use public information to beat the market because all investors have access to this information. By using it, investors compete away any benefit and thus the expected return of this strategy is simply the market return (or the whatever return is commensurate with the risk that is undertaken). The identical argument applies to portfolio managers. It is no more plausible for investors to expect to earn excess returns picking portfolio managers than it is for them to believe they can earn excess returns picking individual stocks.

If investors find a manager who can consistently beat the market, they will flock to invest with this manager. Eventually, the manager will have so much money under management he will not be able to deliver superior performance. Competition between investors drives the

⁵The theory in this paper is an intuitive summary of the arguments first published in Berk and Green (2004). A reader interested in a more formal approach should consult that paper.

managers return down to the return investors could earn by themselves. The result is that all managers (who hold portfolios of the same riskiness) are expected to earn the same return regardless of their skill level. So the return the manager earns is not a measure of the manager's skill level.

2.2 Myth #2: The Average Manager Lacks Skill

Because investors must infer the skill level of managers, in some cases they will underestimate it. These managers are likely to have higher realized returns than investors expect. Hence, high realized returns are associated with managers whose skill was most underestimated by investors. Similarly, managers whose skill level is overestimated by investors are likely to have lower excess returns.

Investors do not know which managers' skill levels are overestimated and which ones are underestimated, so on average, managers must make the market return; otherwise investors could beat the market by simply investing across all managers. This statement is true *regardless* of the average skill level of active managers. Hence the empirical finding that, on average, active managers cannot beat passive managers does not imply that the average active manager lacks skill. It just means that the capital markets are competitive.

2.3 Myth #3: Skill Implies Persistence

When a manager does well investors rationally infer that it is likely that they have underestimated the manager's skill level. Hence funds flow to the manager. So long as investors believe the manager is capable of delivering superior performance, funds will continue to flow in. The flow of funds will only cease once the manager has so much money to manage investors believe, given her skill level, that they are no better off investing with the manager than indexing.

A similar argument applies if a manager underperforms. In this case investors infer that they overestimated his ability and so withdraw funds. In some cases this

might mean that the manager will have to shut down the fund, but more likely, as investors withdraw funds, his expected return will increase. If it rises to the expected return of the benchmark, investors will no longer have reason to withdraw funds.

Notice, that in both cases the manager is expected to earn his benchmark return. Regardless of prior performance or skill level, all managers' expected returns going forward are the same — the benchmark expected return. Naturally, realized returns will differ across managers, but these difference must be unpredictable given the information set at that time, otherwise investment would flow to the managers with predictably better returns. Because past returns are in the information set, there can be no persistence in portfolio manager returns. One can think of this argument as a version of weak-form efficiency applied to portfolio managers rather than individual stocks.

2.4 Myth #4: Investors Chase Past Returns

Although there should be no persistence in active manager returns, investors should still use past returns as a guide to investing their money. In fact, as we saw in the last section, it is precisely because of this behavior that there is no persistence in returns. So the evidence that capital flows are driven by past performance is not evidence of investor irrationality. Investors are not chasing *past* performance; they are chasing *future* performance, and in doing so compete away the opportunity of benefiting from the skill that produced the historic superior performance.

2.5 Myth #5: Managers do not have Performance-Based Contracts

In the portfolio management industry managers are almost always compensated by a fraction of the total assets under management rather than as a function of their performance in excess of their benchmark. Given the emphasis in most industries on performance-based contracts, it seems puzzling that the contract in the mutual fund industry is rarely performance based. Indeed, there has

even been some call for contracts that reward managers based on the excess return they deliver to their investors.⁶

As I have already argued, the return is not a measure of the skill level of the manager, so any contract that pays manager as a function of the manager's return would *not* reward the higher skilled managers with higher compensation.

Ceteris paribus, better managers manage larger funds, so the size of the fund is a (noisy) measure of managerial skill. A contract that pays a manager in the size of the fund he manages therefore rewards higher skilled managers with more pay. This means that the standard compensation contract that rewards managers based on the size of the fund is already a performance based contract. When a manager does well (beats his benchmark), funds flow in and his compensation rises because he is paid a fraction of the assets under management. Similarly, when a manager does poorly (underperforms his benchmark) funds flow out and his compensation falls.

3 How Skilled are Managers?

One of the most important research questions in money management is whether most managers have skill and thus add value. Almost all papers that have investigated this question have used returns to measure skill and thus have all reach the same erroneous conclusion — that managerial skill is rare to non-existent. As we have seen, the fact that the average manager fails to beat his benchmark is simply evidence that capital markets are competitive and cannot be used to infer anything about the skill level of managers.

A naive view is that to measure skill, one simply needs to measure the manager's return before fees. The problem with this is that the fee the manager charges for his services is only a small part of the costs of managing money. To achieve high returns management must identify undervalued securities and trade to exploit this knowledge without moving the price adversely. In doing so managers expend resources and pay bid-ask spreads that diminish the return available to pay out to investors.

At some point, these costs increase disproportionately in scale, eventually driving the managers' expected returns down to the benchmark. To measure a manager's skill level, one would need to measure his return absent these costs, clearly something that cannot be done directly.

Berk and Green (2004) used an innovative approach to measure skill indirectly. That paper builds a model of the US mutual fund industry in which skill is assumed to be normally distributed with unknown mean and variance. We then searched for values of these (and the other) unobservable parameters so that the output of the model matched the important features of the data: (1) on average the (after fee) return of active managers matched their benchmark, (2) the five year survival rate of funds matched the actual survival rates and (3) the performance/flow relation matched the observed relation for 2 year old funds.

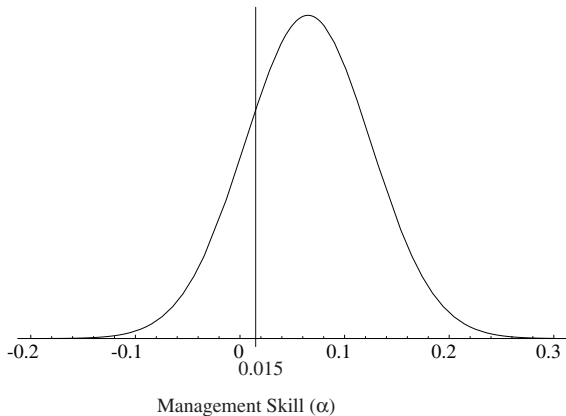
Figure 1: Distribution of Management Skill: The vertical line marks the level of the management fee — 1.5%. Approximately 80% of the area below the curve lies to the right of this line. This figure is reprinted from Berk and Green (2004)

Figure 1 is output of this process — the inferred distribution of the skill in the economy. Skill is defined to

⁶See, for example, Ambachtsheer (1994)

EXHIBIT

Distribution of Management Skill



Distribution of alpha as inferred by Berk and Green [2004]. The vertical line marks the level of the management fee—1.5%. Approximately 80% of the area below the curve lies to the right of this line.

be the alpha a manager adds before incurring the costs associated with running a large portfolio. One can think of this measure as the value added by the manager if he chose not to expand his portfolio but instead restricted the size of the portfolio to maximize the return; this is the highest return a manager *could* generate. The vertical line is the management fee used in the parametrization — 1.5%. If we define a manager who adds value as any manager whose alpha exceeds the fee charged, then the fraction of managers who add value is the area to the right of the vertical line. This amounts to 80% of the distribution — that is, when skill is measured correctly, the data is consistent with the vast majority of active managers adding value.

Even more surprising is the magnitude of what the average manager adds. The mean of the distribution in Figure 1 is 6.5%. Given a management fee of 1.5%, this means that the data is consistent with the average manager adding an alpha of 5%. Of course, investors themselves never see this. Competition between them increases the size of the fund and drives the alpha to zero. Instead the manager himself captures this value through the fee he charges.

4 Conclusion

In this paper I have argued that much of what we observe about the behavior of actively managed mutual funds is consistent with a world with rational, value maximizing, investors that compete with each other. An important insight is that returns cannot be used to measure managerial skill. Because prior studies have generally used return to measure skill, they have come to the erroneous conclusion that active managers add little value. Given their overall levels of compensation, one would expect that in aggregate they should have significant levels of skill and thus add considerable value. I show that when skill is measured correctly, the data is indeed consistent with the existence of relatively many skilled managers who add considerable value but capture this themselves in the fees they charge.

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