Outperforming a benchmark is a difficult challenge as evidenced by the steady re-ranking of mutual funds. Nonetheless many investors maintain heavy allocations with actively managed funds to help meet their financial objectives. Uncovering which funds offer the best chance of delivering top performance is a critical job for investors and their advisors.

Active management is more likely to outperform benchmarks when fund managers understand and better harness their information advantage. Information advantage describes the combination of strategy, research, experience, philosophy, and discipline reflected in a portfolio manager’s decisions. Decisions made outside the manager’s advantage can lower portfolio performance.

Extensive analyses of more than $150 billion of institutionally managed equities show that managers regularly engage in buys and sells that are clearly outside of their information advantage. Such nonoptimal decisions can happen repeatedly and may persist over time and across market cycles. Often these decisions are the result of behavioral forces. While the sources of behavioral influence are intriguing and important to examine, the behavioral reasoning for a decision is less important than how it can be adjusted in the future. A careful analysis of a manager’s information advantage can isolate nonoptimal buy/sell patterns and point to clear opportunities for improving performance. By shifting a relatively small number of decisions (typically fewer than 10 percent), managers can move further into their strengths, better harness their advantage—and often capture an additional 100+ basis points annually.

**Actively Managed, Consistently Outperforming**

What enables an equity fund manager to deliver strong returns year after year? The answer is a combination of factors such as strategy, wisdom, research, process, testing, and behaviors. When these elements all work together, the result is superior performance.

Consistently strong fund performance is achievable. A few managers, such as Bill Miller of Legg Mason, even rack up long strings of benchmark outperformance. Although many managers possess a clear advantage that they bring to buying and selling stocks, not all their decisions reflect this advantage. Even great managers often create tremendous value through disciplined investing and then give back some of this performance through a small set of buys and sells that undermine their success.

To get out from under this tyranny of giving back hard-earned performance, managers need to understand exactly where their advantage comes from. Then they can adjust their actions to do more of what they already do well.

This article presents a novel approach to unlocking how managers deliver successful performance. The portfolio analytics described below confirm that managers can and do add value through their buys and sells. These new analytics can help managers to outperform their benchmarks regularly by better harnessing their individual advantages.

**Defining the Information Advantage**

Highly liquid assets such as stocks are priced continuously, adjusting according to market expectations. If general expectations set prices, then when you buy a stock your expectations are more favorable than the market average. Conversely, when you sell a stock it is because your expectations are less than those of the market. How often and to what magnitude your differential expectations are correct is the measure of your information advantage.

The information advantage curve is, in concept, a description of how a manager’s buys perform. Each point on the curve depicts the performance that a portfolio would have achieved had each buy been held for a specific or fixed holding period. In practice this involves first identifying all the buys in a portfolio for a multiyear time period, often three years or more. Then each position is adjusted analytically so that each is sold after a series of identical holding periods. The result is a set of
performance values, where each value reflects the performance of all buys in the portfolio history as if they were held for a fixed number of months.

Consider this simplified example. Some stock ABC was held in a portfolio for 15 months before being sold. The question we want to answer is: How would the portfolio have performed had ABC instead been sold at the end of 12 months?

The analytic challenge we face is to construct a new or adjusted portfolio return history. This adjusted portfolio should include all the other decisions made by the manager over the portfolio history, even the initial purchase of ABC, but with the sale of this one stock advanced three months. Such an adjusted portfolio would account directly for the change to performance had this single position been sold sooner.

The adjusted portfolio, as shown in figure 1, now contains three components. These components are the return history for the original portfolio plus a small offset account comprised of two positions. The actual portfolio returns contain the performance of owning ABC for months 13–15, inclusive. The offset account contains two positions: a) the shorting of ABC for months 13–15 and b) the reinvestment of the short proceeds remaining positions for the same period. The net result is an adjusted portfolio with returns that reflect i) advancing the sale of ABC by three months and ii) 100-percent capital deployment throughout.

This example describes the most basic adjusted portfolio where the sale date for a single position is advanced. It also is possible to delay the sale of a position using similar analytic concepts. Employing both advancing and delaying, it is possible to construct an adjusted portfolio in which the sale dates for all positions have been modified in order to examine the potential performance of an actual portfolio as if all the positions were sold after the same number of months (that is, a fixed-holding period). And, as mentioned above, it is through the use of such fixed-holding period portfolios that the information advantage is examined.

**Information Advantage Curve**

The information advantage curve in figure 2 depicts the average return provided by a portfolio, over a multiyear history based on the length of time each position is held. The information advantage is constructed using portfolio data across a multiyear time frame.

Unlike more-familiar graphs where the X-axis indicates time, the X-axis in the information advantage denotes a varying fixed-holding period. The Y-axis denotes the performance of the adjusted portfolio. Here, each point on the curve indicates the performance of the portfolio over the entire timeframe, given a fixed holding period. Figure 2 shows that the information advantage peaks soon after buys occur, gradually declines as positions are held somewhat longer, then declines more rapidly and ultimately flattens out as positions are held longer and longer.

Several things can be learned from this information advantage curve. First, the manager has a clear advantage in buying stocks. This advantage is shown in part by the height of the information advantage curve. Next, the advantage is greatest in the initial months after a position is purchased, as reflected in the curve sloping downward a few months after the buy. Finally, the advantage is
clear and strong, but it does dissipate over time, and this information helps gauge what might be the desired holding period or turnover rate for fully harnessing the manager’s advantage.

Figure 3 offers additional clarification regarding how adjusted portfolios are used to construct the information advantage curve. This curve is identical to that presented in figure 2 with the addition of a vertical line that corresponds with the historical average holding period (e.g., a fixed-holding period of 12 months). This means that an adjusted portfolio was constructed wherein all the actual positions were analyzed as if held for exactly 12 months in the manner described above.

The intersecting point on the information advantage curve is the product of a single adjusted portfolio that reflects each buy in the actual portfolio (on the same day and in the same amount as they actually occurred), but whose sell date has been either advanced or delayed to the average holding period (12 months). The other points on the curve represent performance values for other adjusted portfolios.

How the Information Advantage is Used
There are three primary uses for the information advantage. The first is to inform fund managers of their own advantage, its significance, and how long it can be harvested. This is the insight provided by representing the information advantage as a curve such as that in figure 2.

The second use is for fund managers to understand how well their selling harnesses the information advantage. This is done by comparing the fund’s actual annualized return to that point on the information advantage curve corresponding with the average holding period. A visualization of this is presented in figure 4. The horizontal line indicates the annualized return realized by the portfolio over the time frame. In this example the fund’s actual return is below that point on the information advantage curve corresponding with the average holding period. This tells us that had the manager held all positions for exactly the average holding period (12 months) the portfolio would have realized a higher overall level of performance. The difference between the actual performance and the performance of the average adjusted portfolio is called the sell advantage. A positive sell advantage (that is, actual performance is above the average holding period) indicates that the manager’s sell discipline is adding to overall performance. A negative sell advantage (actual performance is below the average holding period) means that there are opportunities to improve sell discipline.

The third use of the information advantage concerns harnessing more performance through small shifts in buys and sells. Research indicates that the information advantage often can be strong across most of a portfolio’s investments, with a small number of buys and sells drawing managers outside of their advantage. By analyzing the information advantage across various subportfolios it is possible to pinpoint opportunities to shift buys and sells back into the managers’ areas of proven strength or advantage. Such shifts ideally help managers to go further into their strategy and discipline, improve both return and alpha, and reduce or minimally increase turnover.
Behavioral Finance Applied

Why might managers be drawn to investing outside of their information advantage? Behavioral finance, a relatively new field within finance, offers many answers to this question. Research from this new discipline indicates that many forces affect our financial thinking. Among the more-typical behavioral concepts driving us toward nonoptimal decisions are emotions, biases, heuristics, and framing. What these behavioral responses have in common is referred to as the unconscious mind. Science indicates that 95 percent of our thinking occurs in our unconscious. This is the part of the brain where beliefs, rules-of-thumb, and other forces that enable us to think quickly reside. For many aspects of our busy lives, having our unconscious play a large role in decision making works fine. When it comes to financial decisions, however, it is essential to calibrate these unconscious tendencies or risk unproductive decisions.

Reams of academic studies document specific mental traps that are found among professional investors. In general, these behaviors are shown to hamper rather than help portfolio performance. Among the most-studied traps are the endowment effect, the disposition effect, overconfidence, and anchoring. Each has the ability to subtly influence how a fund manager perceives and/or responds to financial information. And, our susceptibility to these traps can increase substantially as markets swing through wrenching turns or relative performance moves above and below the benchmark.

One frequent observation is the tendency to sell positions experiencing an unrealized gain (winners) more readily than those experiencing an unrealized loss (losers). Known as the disposition effect, this behavior suggests that on some unconscious level even professionals would rather feel good about locking in a gain rather than feel poorly about locking in a loss. The literature generally finds that the existence of the disposition effect leads to lower performance—all things being equal.

Investment decisions outside of a manager’s information advantage are both common and surprisingly persistent. Analyses employing the method described above across mutual funds involving more than $150 billion in assets show that as little as 5 percent to 10 percent of a manager’s buy/sell decisions outside of the information advantage can lower performance by 100 basis points or more annually. Moreover, the financial attributes associated with these decisions typically are not explicit factors used in the fund’s investment strategy. In a series of conversations with portfolio managers, it was quite common for a manager to declare that volatility is not a factor in the portfolio investment strategy; yet, volatility may have a highly persistent relationship with certain buys or sells exhibited in the portfolio history. These and other inconsistencies point to behavioral forces playing an important role in influencing manager buy/sell decisions.

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Endnotes

1 All references to analysis of equity funds and development of the information advantage are proprietary research conducted by Cabot Research Inc. from January 2005 to December 2007.