Consulting Group

The Pitfalls of Investor Psychology

Behavioral Biases Can Lead To Costly Errors

By Bill Montague, Consulting Group Senior Financial Writer

The human brain is an amazing computer—flexible, adaptable, able to process vast amounts of information, recognize complex patterns and learn from its own mistakes.

But, like any computer, the brain has its limitations. Increasingly, researchers are discovering that certain mental quirks often lead investors to make poor financial decisions—errors that can damage long-term investment performance.

The field of study producing these important insights has been dubbed "behavioral finance." It looks at how psychology influences the choices that investors make—such as how frequently they trade, and how they make buy and sell decisions.

Traditional financial market theory assumes that such choices are entirely rational, with investors objectively weighing all available information before making a decision. While individuals can and do make mistakes, those errors are random and thus tend to cancel each other out.

In theory, at least, the result is an efficient market—one in which prices completely and accurately reflect all information, such as earnings forecasts and economic reports, that could possibly influence asset values.

In its extreme form, efficient market theory holds that because all known information is reflected in current prices, future performance is unpredictable. That's the logic behind passive investment strategies, such as simply buying all the stocks in the S&P 500 Index. If prices are impossible to forecast, there's no point in trying to pick stocks. Better to buy the entire index and hope for the best.

Trouble in Mind

The problem is that financial theory can't always be reconciled with market reality. The recent bubble in Internet stocks—in which investors seemed to ignore critical information both in bidding stock prices up and slamming them back down again—is only the latest example of seemingly irrational market behavior.

"In many important ways, real financial markets do not resemble the ones we would imagine if we only read finance textbooks," noted Richard Thaler, a professor at the University of Chicago and a pioneer in behavioral finance, in a 1999 article in the Financial Analysts Journal.

Behavioral finance tries to find explanations for these apparent contradictions. It's not that investors are irrational, behavioral theorists argue, but their thinking is often guided—and in some cases misguided—by subtle biases and mental blind spots.

Researchers call these traits "cognitive illusions." They deceive the brain in much the same way a pair of converging lines can fool the eye into perceiving depth on a sheet of paper. This can lead to decisions that seem to make intuitive sense, but produce inferior results. Some examples:

Overconfidence. Investors habitually assume they know more than they do. They also tend to reinterpret past decisions to exaggerate their own foresight. This can lead to overly aggressive trading.

Mental Accounting. Rational theory holds investors should make decisions based on their total portfolio. Yet, many investors consciously or unconsciously divide their wealth into separate pots. If they have a big gain, for example, they may consider that "house money" and

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take larger risks than they would with their "own" money.

Anchoring. Logically, investors should base their decisions on current prices and expectations. But they often fixate on past prices, such as what they paid for a particular stock. That's why investors often refuse to sell at a loss—even when they could earn more by moving their money elsewhere.

Framing. Investors often react to choices depending on how they are presented. In one test, researchers asked test subjects how much they would pay to avoid a one-in-a-thousand chance of being killed. The average answer was $1,000. Subjects were then asked how much they would charge to accept the same risk. The answers ranged as high as $200,000. From an economic point of view, the two questions were identical, but subjects saw them very differently.

Loss Aversion. In a purely rational world, the risk of loss and the possibility of gain should carry equal weight. But investors tend to put twice as much importance on avoiding losses. In other words, in order to accept a 50% chance of losing $100, most people will demand a 50% chance of winning $200.

This last tendency may explain why investors traditionally have demanded higher returns on stocks than bonds—even higher than the relative risks would suggest. They put an excessively high premium on the stability and predictability of bond returns.

Chains of Thought

Why do investors persist in these mistakes? Some experts blame the speed of human progress. Modern decision makers are confronted with oceans of information. Analytical tools are needed to sort through this data. But humans are not natural statisticians. Instead, we tend to fall back on simple problem-solving methods, known as "heuristics," inherited from our ancestors.

"The current human mind appears most adapted to life in a Pleistocene hunter-gatherer society" argued Robert Olsen, a professor at California State University, in a 1998 article in the Financial Analysts Journal. "Decision attributes that focus on negative events during stress, loss aversion and a preference for concrete over abstract information make sense because they have survival value."

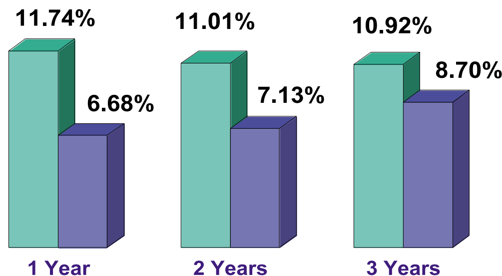
In other words, primitive hunters learned that if animals gather around a particular water hole today, they'll probably do it again tomorrow. Similarly, many investors reason that if a mutual fund has had good past performance, it will also have good future performance—a much more dubious assumption.

Back in the Real World

To document the effect these blind spots can have on performance, researchers have moved beyond test subjects to examine the behavior of real-world

THE COSTS OF DO-IT-YOURSELF INVESTING

Average Annualized Returns: 1990 to 2000



Average Mutual Fund **Average Mutual Fund Investor**

Source: Financial Research Corporation

Academic research has shown that psychological factors can lead investors to make poor financial decisions. But how serious are these behavioral mistakes?

A number of studies have tried to find out. Phoenix Investment Partners, a money management firm, recently asked the Financial Research Corporation (FRC) to analyze the behavior of mutual fund investors over a 10-year period. Among the findings:

- Fund redemptions have risen sharply. By the end of 1999, investors were holding the average fund for just 2.9 years, down from 5.5 years in 1996. Most financial advisors recommend adopting a long-term approach.
- Investors tended to chase recent performance. FRC looked at the four worst and four best quarters for all funds during the period 1990-99. Following their best quarters, funds received an average $91 billion in net inflows. After their worst quarters, inflows averaged only $6.5 billion.
- Investors earned inferior returns. Over the 1990-99 period, the average fund paid a one-year return of 11.74%. But the average fund investor earned just 6.68%. Investors underperformed funds in roughly 80% of the fund categories tracked by Morningstar, a research firm.

Significantly, FRC found that mutual fund investors who worked with financial advisors had consistently lower redemption rates, and thus longer holding periods, than do-it-yourself investors.

investors. Some of the most detailed data has been collected by Brad Barber and Terrance Odean, two professors at the University of California at Davis. They were given access to the account records (but not the identities) of more than 66,000 customers of a major discount broker over a six-year period ending in 1997. In an earlier study, Odean examined records from 10,000 brokerage accounts from January 1988 through December 1993.

In that earlier study, reported in the December 1999 issue of the American Economic Review, Odean compared the returns on the stocks investors bought with the returns on the stocks they sold. He found the sold stocks outperformed the purchased stocks by an average 3.3% over the following year.

Odean also found investors had a strong tendency to chase past performance. On average, the stocks they bought had higher returns over the previous two years than the stocks they sold. Investors also were more likely to sell stocks with positive two-year track records than to sell stocks with negative returns.

Trading Down

In their follow-up study, Odean and Barber compared the performance of the average discount brokerage customer to a composite of stocks listed on the New York Stock Exchange, the American Stock Exchange and the Nasdaq market.

The results, published in the April 2000 issue of the Journal of Finance, showed that:

- The typical investor earned an annualized return of 18.7% before costs, slightly higher than the 17.9% return on the composite.
- Net of trading costs, however, the average investor earned only 16.4%.
- Frequent traders—defined as investors with monthly portfolio turnover of 8.7% or more—earned just 11.4%.
- Investors tended to buy stocks with above-average volatility. Yet returns were below market average. So the average investor underperformed the market by an even larger margin on a risk-adjusted basis.

The root cause, again, was excessive trading. Because investors couldn't beat the market, their trading costs simply dragged down their long-term performance.

Power of Suggestion

Even when investors aren't trying to pick their own stocks, they can still make costly mistakes. This was demonstrated by Thaler, the University of Chicago professor, and Shlomo Benartzi, another noted behavioral researcher. Their findings appeared in the March 2001 issue of the American Economic Review.

Thaler and Benartzi looked at the asset allocations of participants in self-directed pension accounts, such as 401(k) plans. They found the choices investors make are strongly influenced by the choices they are given.

In other words, if a plan includes more stock funds than bond funds, investors tend to put more money in stocks. But if bond funds outnumber stock funds, they invest more in bonds—regardless of their own financial needs and tolerance for risk.

Thaler and Benartzi began by asking a group of college employees to allocate their savings between three hypothetical pairs of funds—a stock fund and a bond fund, a stock fund and a balanced fund (one divided equally between stocks and bonds), and a bond fund and a balanced fund.

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The outcome? When offered a bond fund and a stock fund, employees put an average 54% in stocks. When the choices were a stock fund and a balanced fund, the total allocated to stocks rose to 73%. But, when offered a bond fund and a balanced fund, the equity share fell to 35%. In each case, Thaler and Benartzi noted, a large number of the employees surveyed simply divided their savings equally between whatever two funds were offered.

The two then tested their findings in the real world by examining 170 savings plans covering almost 1.6 million workers. Again, they found a correlation between the number of equity options offered and the percentage invested in stocks.

As Thaler and Benartzi noted, such behavior "does not assure sensible or coherent decision making." Depending on the selection of funds offered by their savings plans, investors may end up taking too much risk—or not enough.

The Value of Advice

The first step toward avoiding dangerous investment errors is recognizing the biases that cause them. But most of us find it hard to be objective about our own strengths and weaknesses. That's why Consulting Group's Fiduciary Services program is based on a process designed to help investors make more informed financial decisions.

Working with a Financial Consultant, clients develop an investment plan that takes into account their financial needs and risk tolerance. This is used to craft an asset allocation plan. Portfolio managers are selected to execute that strategy. Finally, Financial Consultants monitor manager performance.

Of course, even experts are vulnerable to behavioral error. That's why Consulting Group carefully evaluates the investment managers who participate in the Fiduciary Services program. Our analysts look very closely at how managers make investment decisions. The process must be clear, coherent and based on the proper analytical tools.

While a well-designed investment process can't guarantee success, it can at least reduce the risk of being led astray by biased decisions. That's something even the smartest investor might want to keep in mind.

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