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Selling Out

How much is a weak sell discipline costing you?

BY NANCY OPIELA

PORTFOLIO MANAGERS SPEND THE BULK OF THEIR TIME DEVELOPING their buy discipline, and as a result, their sell discipline, if it should be called a "discipline," often evolves haphazardly. Few, however, would ever admit it. "Everyone has what sounds like a very well thought out sell discipline, one that leaves emotions out of the equation," says Michael Ervolini, founder and CEO of Boston-based Cabot Research. "Yet, much of what makes up their decisions represents something other than hard, measured fact."

Such neglect comes at a cost. Ultimately, lack of a sell discipline means losing out on potential return, and the only question is how much. Cabot Research's unique analytic model (see sidebar) helps investment management firms answer that question by identifying the gap between sell decisions influenced by, on the one hand, portfolio managers' explicit theories and, on the other hand, their "theories in practice."

For example, Cabot recently examined a successful small-capitalization growth fund that had US$1.5 billion in assets under management and had delivered an impressive 13.09 percent average annual return—beating the fund's benchmark by 500 bps—for the past seven years. Despite such success, Cabot's analysis indicated that selling winners too quickly was depriving the fund of additional return. In effect, the fund was giving back more than 200 bps of hard-earned return and alpha.

According to Ervolini, the fund's management team had honed its ability to pick small-cap companies that were about to take off, and their skill accounted for a large part of the fund's outperformance. But the management team also persistently sold these strong winners more quickly than its other investments. The average position was held for approximately 24 months, but the managers were systematically pushing out winners after only 12 months. And they had no idea that this pattern even existed. Had the fund held its winners for merely an additional three months, it would have earned an incremental 100 bps of return annually.

This tendency to sell winners too early, a bias called "the disposition effect," is motivated by the desire to lock in gains and avoid losses. And it is a common problem. An aggravating factor existed in this case: The managers had an ongoing interest in purchasing new positions, but investment policies limited the fund to holding a total of 50 positions. "It's easy to see how wanting to buy new hot stocks coupled with the desire to lock in current gains might lead to selling winners faster," says Ervolini.

Fortunately for this particular fund, improvement was simply a matter of augmenting its outperformance, not trying to rectify chronic underperformance. Cabot recommended that the fund's management team build on its strong buying prowess. The solution was simply to avoid selling winners that had been held for a time shorter than the average holding period for the overall portfolio. Not only would such a change enhance return, but the slightly longer holding period for the winners would lower the fund's annual turnover.

In each case Cabot has evaluated, Ervolini says, the firm has discovered potential for additional return if the managers would adhere more closely to their stated sell disciplines.

Accidental Performance?

With any form of investment discipline, the key for successful institutional managers is to make sure they are doing what they *think* they are doing and for the reason they say they should be doing it. Terrance Odean, a professor of banking and finance in the Haas School of Business at the University of California, explains, "You want to buy and sell based on what you've identified as your advantage. Any buy or sell decision that is not based on your advantage can be a drag on your performance. That is, if a lot of your trades are not based on your skill, methodology, or information, they probably aren't adding anything and you have missed opportunities. Of course, not all biases lead to poor performance, but they will probably all distract you."

W. Clay Allen, CFA, agrees that relatively little attention is paid to ensuring that sell disciplines, however loosely defined, are practiced in the manner Odean describes. "Today, there's an aggressive indoctrination in business schools to avoid anything that smacks of technical analysis," says Allen, whose Centennial, CO-based firm developed the Market Dynamics investment charting system, which is designed to identify underperforming stocks. "What's more," Allen continues, "because people believe that the day-to-day movement of the market is random and unpredictable, they believe that charting in order to determine when to sell is worthless. While I'm close to agreeing that the market is unpredictable, I've come to the conclusion that performance, especially good performance, is not accidental. Often, it's the lack of a sell discipline that prevents professional investment managers from generating alpha."

That portfolio managers struggle with selling underperforming stocks is not hard to understand, in Allen's view. "If someone has had to advocate for the stock to people who are important to him," he says, "it's easy for him to become overly committed to the stock and have his behavior controlled by that commitment."

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Refusing to sell a losing stock is such a common problem, however, that Allen believes the typical explanation—that investors are stubborn and unwilling to admit their mistakes—is insufficient. "There seems to be something else at work that leads so many investors to such a bad experience in the stock market," he says. Noting that one of the most important findings from the field of behavioral finance is that most investors are willing to gamble with their losses, he observes that this tendency may allow small losses to go unaddressed until they become serious.

Applied Science

Can applying the tenets of behavioral finance result in better sell decisions—and better performance? Yes, says Hersh Shefrin, a professor of finance at Santa Clara University, California, and author of *Beyond Greed and Fear: Understanding Behavioral Finance and the Psychology of Investing*. "Behavioral finance doesn't imply there's easy money to go after," he comments, "but there are key behavioral findings about momentum, reversals, attention, and the reluctance to part with losers that are very applicable to the job of managing money." He adds, "In the 1970s and 1980s, managers hated the message from the efficient market school, which basically said that trying to beat the market was a waste of time and that you could only do it by being lucky. I think most managers like the behavioral message better, which is that markets are not always efficient and positive alpha is possible. Some read the behavioral literature more closely than others, but behavioral finance is definitely on the rise among money managers and traders."

Until recently, however, behavioral finance has been more useful as a theory than as a tool for practitioners. "Investment pros believe in behavioral finance and study it, but applying it is difficult," says Jim Ware, CFA, co-author of *High Performing Investment Teams: How to Achieve Best Practices of Top Firms* and founder of Focus Consulting Group of Long Grove, IL. In his work with investment firms, Ware concentrates on understanding and improving behavioral forces at work within the firm and trying to help its financial leaders understand and leverage the firm's culture to achieve a competitive advantage. "Avoiding many of the behavioral finance mistakes requires a culture that is self-aware," he says. "Managers have to get better at asking themselves, 'What am I doing right now, and why and am I doing it? If I'm selling a stock, what's my real motivation? Are my actions based on a gut feeling

or thorough research?' In my experience, there aren't many investment people who are completely self-aware."

Most often, Ware finds that firms are falling into behavioral traps. For example, many firms he works with still believe that analysts should have a strong *conviction* about a buy or sell recommendation. "To my knowledge, no one has shown that conviction is a reliable indicator of stock-picking skill," he comments.

On the contrary, David Dreman of Dreman Value Management of Jersey City, NJ, in his book *The New Contrarian Investment Strategy*, argues that, although analysts gain conviction as they increase their knowledge through research, this additional knowledge does not add value. It may add conviction, but it fails to improve the analysts' stock-picking ability. Rather than enhancing stock picking, Ware observes, greater conviction "introduces the very emotions that we should be attempting to keep out of the decision-making process."

Avoiding behavioral traps surrounding the sell discipline requires that investment firms carefully think through their investment philosophy and process. "Once they have decided on the beliefs and behaviors they believe can lead to top performance, they then must set about making them part of their culture," says Ware. "The investment philosophy should address the beliefs that underlie the process—answering the questions: Why do we think we can add value? and Where are the opportunities? The investment process should address the strategy for implementing the philosophy—answering the questions: How can we implement the philosophy? and How do we operationalize it?"

To improve performance, firms must know not only what they are doing wrong but why. Often, according to Ware, although traders believe they are following the rules, they are actually violating the sell discipline. Communication is a critical variable in the equation. He believes that a firm must be willing to explore openly how the managers make decisions rather than conceal what goes on and must focus on accountability rather than blame. Ware contends, "Firms that value candor tend to make better decisions."

A common characteristic of top-performing firms, in Ware's experience, is a culture of intellectual curiosity. "In effect," he says, "many behavioral finance mistakes are made because people prefer being right over being curious. Investment pros cling to their positions rather than create a climate in which it's okay to question everything. That's why we love the Warren Buffett quote: 'One of our [meaning Buffett's and his long-time partner Charlie Munger's] favorite pastimes is disproving our best loved theories.'"

"In that quote," Ware notes, "we see the essence of true curiosity. Or as [Nassim Nicholas] Taleb says in *The Black Swan,* 'I like to stay light on my feet.' Again, the emphasis is on intellectual curiosity rather than proving 'I'm right.'"

The Impact Model

At the core of the Cabot Research analysis is Impact, an analytical model that examines investment behavior through the following four steps:

1. Identify actions that constitute a "behavior." Behaviors are groups of persistent investment actions. For long positions, actions are either buys or sells. For short positions, actions are either shorts or covers. The actions that make up a behavior share one or more common attributes. (Michael Ervolini of Cabot Research notes that the analyses typically involve three or more years of information. Because the key determinant to uncovering behaviors is observed decisions, the number of positions held and annual turnover influence the length of history desired.)
2. Construct an "adjusted" portfolio that doesn't reflect the behavior being analyzed. The adjusted portfolio reflects the manager's strategy, style, and actual buys and sells but without the behavior being examined. This approach isolates the impact of the behavior on the manager's overall success.
3. Calculate a time series of the differences between the adjusted and actual returns. The time series of return differences is used to evaluate the behavior. Differences in annualized return, alpha, turnover, information ratio, and many other performance metrics are used to compare the adjusted and actual portfolios.
4. Select critical nonoptimizing behaviors to eliminate. Behaviors to be eliminated possess two threshold characteristics: The annualized four-factor alpha and return of the difference returns is substantially positive (greater than 50 bps), and the four-factor alpha exhibits a high degree of statistical significance as measured by a *p*-value of less than 5 percent.

Some managers express concern that when the Cabot approach is applied to them, varying market cycles could push them toward a different style, but Ervolini notes that the analytical model underpinning Cabot's analysis includes the standard four-factor risk model—the market factor, growth versus value factor, size factor, and momentum factor. He notes, "Results based on this four-factor risk model provide measures of opportunity that are truly persistent, not merely reflecting recent market conditions."

Implementation

How do you describe your sell discipline? How did it develop? How do you know it's working? If your answers to these questions are like the responses of many investment professionals, you may have a problem.

As part of the CFA Institute conference The Efficient Market and Behavioral Finance, held this past June in Boston (and hosted by the Boston Security Analysts Society), Ervolini of Cabot Research put a series of questions to conference attendees. The results may say much about what "sell discipline" means in actual practice.

When asked "Which best describes your approach to selling?" 46 percent chose the response "a careful combination of analytic process and judgment" and 25 percent selected "a balanced use of strategic and opportunistic selling." Only 29 percent said their decisions are "highly disciplined, driven by research and objective criteria."

"The fact that 71 percent of respondents categorize their selling as between fairly and highly judgmental means their discipline may get overshadowed by judgment," says Ervolini. "Of course, while we don't know exactly how judgment comes into play, there clearly is opportunity for heuristics—rules of thumb we develop to facilitate our decision making—to drive decisions and for unintended behavior to affect the portfolio negatively."

Making the distinction between conscious and unconscious decision making is important. Ervolini's consulting work begins with teaching managers that much of their decision making occurs in the unconscious brain, where a variety of investment behaviors are stored. Some of the behaviors Cabot routinely finds in portfolio analyses include the disposition effect (selling winners differently from losers), the endowment effect (holding on to some positions too long), counterfactual investing (allowing past performance with a stock to influence reinvestment decisions), and overconfidence (an excessive belief in one's own abilities).

"Often, these powerful forces trigger a decision or action before the conscious brain is even aware that a decision is needed," Ervolini observes. The Cabot methodology first identifies and quantifies the investment behavior exhibited by a manager when buying and selling positions. Cabot staff then analyze the patterns discovered to pinpoint specific opportunities for improving performance through making changes in behavior. Ervolini says, "We help managers understand whether behavioral factors are influencing their decision making and identify their performance advantage that can be measured and refined."

In regard to the second survey question (How did your selling discipline develop?), the answers matched the emphasis of conference attendees on judgment. Specifically, 39 percent cited "experience plus trial and error over the years," 13 percent chose "key strategies were learned from past mentors," and 20 percent reported that they relied on "observation of what works and what doesn't." Only 28 percent credited "extensive research and backtesting."

"Nearly three-quarters of those responding acknowledge their discipline is developed by experience, what they learned or observed," explains Ervolini. "Whether it's a boss who encouraged a particular approach or a manager's observation of what happened to work with three or four holdings, the brain unconsciously creates hard-and-fast rules. However, when you learn or formulate your discipline in this loose, untested way, heuristics come into play." And, generally, with the rules of thumb comes an increased risk of cognitive errors or biased decision making.

Sometimes, heuristics are intentional and reasonable, such as a stop loss to sell a position when it declines by more than 10 percent of purchase price. "You could backtest and find that, even though you don't have a perfect rule, it's a good rule on average," says Ervolini. "More often, however, heuristics provoke us into behaviors whose impact is uncertain and unintended."

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The responses to Question #2 also reveal that memory plays an important part in the development of a portfolio manager's discipline—sometimes with unfortunate results. A portfolio manager may remember that a particular strategy worked well or recall a rule learned from someone else. Overconfidence in memory could spell trouble for the portfolio.

"Most of us view memory as photographs stored in a file cabinet where, when we want to remember something, we just open the proper file cabinet and there's the memory. But it doesn't work that way," Ervolini explains. "Memories are stored in many pieces throughout the brain. When you want to retrieve a memory, you pull little pieces from various areas of the brain to recreate the memory. Research shows that each time you remember something, you recreate the memory in a slightly different way. Depending on the mood you are in, you can recreate the memories in a significantly different way."

Another problem with memory is that it may be incomplete. For example, a portfolio manager might look back fondly on a particular sell that was up more than 30 percent and feel good about it. But a key question may go unasked: What happened to the stock after it was sold? "Often, we don't do the work to check and compare because our brains want us to feel good about what we did," says Ervolini.

Accordingly, the Cabot Behavioral Analysis requires that managers push beyond their memories of what worked and what didn't to establish whether, on average, their sells did better or worse than their portfolio as a whole. "That is impossible to do by observation alone because what we remember is not always accurate," Ervolini notes. "That's where our discipline moves in to get rid of the falseness associated with recollection. The fact is that unless you conduct this type of analysis, you are basing your decisions on heuristics that may have weaknesses—or some strengths—you should know about."

A Case Study

How does the Cabot approach work in practice? In one consultation, Cabot worked with a successful US$10 billion large-cap fund that had generated annualized returns of 8.63 percent, or approximately 140 bps more than its benchmark, the Russell 1000 Index, over a four-and-a-half-year period. During that time, the fund also earned 55 bps of alpha.

Cabot's analysis uncovered an unintentional sell trigger that resulted in a leak of more than 100 bps of alpha. An initial review found that the fund was realizing –118 bps from its sells of a concentrated group of positions experiencing short-term volatility in excess of 2.7 percent (measured at date of sale). This group represented 12 percent of all sells. The analysis also pointed out that the average holding period of the positions experiencing high short-term volatility was half the average holding period for the remaining positions.

Although the fund's managers believed that the sells in question were the result of their disciplined risk management, which involved selling off a portion of winning positions once their portfolio weight exceeded a threshold level, Cabot's analysis to isolate the impact of trimming winners from the selling of highly volatile positions identified *losers* with high short-term volatility as the primary source of negative sell alpha.

The managers believed that volatility played no role in their selling discipline, yet the fund was selling positions with high short-term volatility at twice the rate it was selling positions with low short-term volatility. To fix the problem, Cabot recommended holding on longer to loser positions experiencing high short-term volatility. Although the new approach would involve only 9 percent of sells, the change could improve fund performance by 126 bps of alpha and 127 bps of return.

A Look Ahead

In highlighting the weight portfolio managers place on judgment and recollection in shaping sell decisions, the responses to the first two questions of Ervolini's survey offer convincing evidence that managers' sell decisions may be behaviorally motivated. Part of understanding the effect of these biases, as Ervolini sees it, is to check back on the results of decisions. "We know that basing decisions on uncalibrated information, such as judgment and recollection, often leads to blind spots in our understanding of what really happened and how well our decisions are playing out," says Ervolini. "What Cabot encourages is rigorous investigation to help managers better understand their decision-making process and its impact on their sells."

Although the examples cited in this story show that careful analysis of decision patterns over time can identify clear opportunities for improved return and alpha, the responses to the survey's Question #3 (What informs you that your sell discipline is working?) reveal a potential roadblock. Specifically, almost 60 percent of the survey respondents said they gauge their success by returns. That's not surprising because return is a highly accessible experience, but according to Ervolini, judging success solely by returns misses the opportunity to build on one's success. "Portfolio managers figure if their returns are good, they are doing something right," says Ervolini. "That's absolutely true, but returns tell only half the story." By focusing on the pockets within a manager's investing discipline where the application of lessons drawn from behavioral finance could improve decision making, Cabot's analysis attempts to guide portfolio managers, in Ervolini's words, to "develop a deeper understanding of success, based on more than the returns and their recollection of what they think they did."

In response to Question #4 (Which discipline most often results in your selling a stock?), 61 percent of survey participants cited their judgment that stocks had run their course and 67 percent chose the polar opposite answer—a by-the-numbers approach that determines sells through extensive research. This 67 percent answered in a way that is inconsistent with answers to the other survey questions, which could hint at reluctance on the part of managers to explore the notion that their decisions are based on anything other than reason.

Terrance Odean believes that managers need to broaden their understanding of how they make sell decisions. "Just as firms look at trading costs to determine whether trading more passively or aggressively could improve performance, evaluating your selling patterns can determine whether traders' behavior is costing the firm something," he says. The analysis is not intended to alter the fund manager's style. Rather, it is to provide information that can ensure that trading reflects the firm's investment philosophy."

"As an industry, we've talked about behavioral finance for a decade, but until now, portfolio managers have not had a way to apply it," says Ervolini. "Now's the time to move behavioral finance from cocktail talk to an integrated part of one's investment discipline."

Nancy Opiela also writes for the Journal of Financial Planning *and* Focus, *Fidelity's magazine.*