Investor Behavior Part 2: Overconfidence

Professor Terrance Odean

As part of my dissertation I wrote a paper called, "When All Traders Are Above Average." I asked the question, what would happen in markets if traders were overconfident? If they thought they knew more than they did? I found that overconfident traders traded more, they earn less, they tended to under-diversify because if you're sure you're right there's no need to hedge, and volatility went up in the market when there were more over-confident traders.

So what do I mean by over-confidence? I basically mean that you think more than you do. You think you have more ability in some area then you actually do. Now I teach MBA students. And when I teach my course on behavioral finance one of the first things I do is pass out a questionnaire. And the questionnaire reads something like this. Look around the room at the other students in the room with you, and rate how good of a driver you think you are compared to these other students. Of course you don't know many of these students so just use your best judgment. As it turns out my students are unusually good drivers. Typically, a quarter of the students rate themselves in the top 10 percentile. Half the students rate themselves in the top quarter of drivers. And all but one or two rate themselves above average. Occasionally I'll ask a student who rated himself or herself below average, why? Several years ago one young woman said to me, well, I was going to put myself above average. And then I thought about it and I realized in the last year I've gotten three speeding tickets, I've caused two traffic accidents, and next month I have to go to court or else my license is going to be suspended. I guess I'm just average. And actually, two years ago for the first time ever a student rated himself in the bottom 10 percentile. And when I asked him why he replied, oh, I don't drive. But most of us think that we're better than average drivers. And most investors-- especially investors who going trade on their own-- probably think that they are better than average investors.

So I wanted to test this theory. And the idea I thought I would test is that overconfidence leads people to trade more. And as a result, earn less. Well we don't have any clear models as to how much people should trade. But I settled on this metric. I figure on average, when you sell one stock and buy another, you want the stock that you buy to outperform the stock that you sold by enough to cover your trading costs. Not each and every time, but certainly on average you'd like that. So I took a look at the trading records for 10,000 individual investors over a seven year period. And I asked a very simple question. I said, on average, do the stocks that they sell go on to do better or worse than the stocks they buy? And I found, to my surprise, that the stocks that they bought went on to do worse than the stocks they sold. About 3 percentage points worse over the next 12 months. And that was before considering the trading costs, such as commissions. Now of course there are reasons to trade besides speculation. For example, if your kids go to college you might find yourself selling some stocks to pay for tuition. Or your tax accountant might call you up and say you should sell some of your losing investments and get a tax loss.

I went through the data and, as best I could, excluded trades that seems more likely to have been made for non-speculative reasons. For example, I only considered cases where somebody sold for a gain so it wasn't a tax loss, and then bought another stock within three weeks. So probably the sale and purchase weren't driven by liquidity needs. When I excluded speculative trades these investors actually did worse, not better. Now the underperformance over a one year horizon was about 5%. My friend and colleague Brad Barber and I revisited this question as to whether trading actively leads to lower returns in a study of over 60,000 individual investors. We sorted these investors into five groups based on how actively they traded. And then we calculated for each group the average annual net return.

So look at this chart. The green bars here are how actively each group traded. And the blue bars are the average annual net return. That's net of transaction cost. And you see that the buy-and-hold investors, the ones who are trading the least, are outperforming the most active investors by more than six percentage points a year. And that's why we titled our paper, "Trading Is Hazardous To Your Wealth." An ideal study of the overconfidence hypothesis would be something like this. You'd get yourself a sample of a lot of investors and you would sort them into the more overconfident and the less overconfident investors. And then you have a couple of simple predictions. The more overconfident investors are going to trade more actively and that trading is going to hurt their returns. Well Brad and I didn't have any way to administer psychological tests of overconfidence to these tens of thousands of investors whose trading records we we're studying. But we were able to sort them into investors who are more likely to be overconfident and less likely.

Based on our reading of the psychology literature, and also some anecdotal observation, we realized that, on average, men and women differ in their overconfident. And when it comes to finance-- this is going to surprise some of you-- men tend to be more overconfident than women. So this gave us a pretty simple prediction. Our prediction was that men would trade more actively than women. And that the active trading of men would hurt their returns. So for somewhat over 30,000 of our investors we were able to separate them into men and women. And further separate them into married men and single men, and married women and single women. And our first prediction was men would trade more actively than women. Sure enough, men traded 45% more actively than women. Single man traded 67% more actively than single women. Maybe single men just don't have enough to do with their time.

So what about returns? All right. We wanted to measure the effect of trading on people's returns. So what we did is we looked each year at what was in a portfolio-- in each portfolio. And we calculated what that portfolio would have earned over the next year if the investor had not traded at all. That's your buy-and-hold return. And then we calculated what each portfolio earned considering the transactions cost and given the trades that were made.

So what was the actual return? We subtracted the buy-and-hold return from the actual return. And not too surprisingly, at least given what I've already told you, both men and women on average underperformed a buy-and-hold approach to investing. But what was relevant to our hypothesis is that men underperformed by one percentage point more a year than women. Single men by 1.4 percentage points.

There are several reasons why investors may be overconfident. First of all, people who are overconfident about their trading abilities are simply more likely to become investors and trade on their own. Then there is what psychologists call self-attribution bias. When we are successful at something we tend to take credit for the success. When we fail we blame bad luck and other people. My friend Simon Gervais and I wrote a paper called Learning To Be Overconfident. And we took a look at a theoretical setting at what would happen in markets if investors had this self-attribution bias. And what we found was that successful investors become more overconfident. And this is particularly true for young or inexperienced investors. Confirmation bias may also lead investors to become overconfident. Confirmation bias is the tendency-- once we think something is true-- to look for reasons why we're right and ignore reasons why we might be wrong. Or as Paul Simon once wrote, a man hears what he wants to hear and disregards the rest. You know, a good question to ask yourself before you decide to make a trade is, who's on the other side of that trade? Why does this other person want to trade with you? Take the other side of this trade. Do you imagine this person sitting in a tall building in lower Manhattan surrounded by lots of other traders and lots of screens? I do. What is it that you think you know that this trader doesn't know? People may also trade too much, simply because they misunderstand trading costs.

You know, it's true. Commissions are pretty low these days. But if you lose money on your trades that's not going to get you ahead. I saw a cartoon some years ago with a street person sitting down on the ground with a sign that said, lost everything. Doing online trading. And there are a couple passers-by who say, yeah, but I bet he saved a bundle in commissions. And finally, some people may trade too much just because it's simply too easy to trade. Watch this ad. It was 2:00 am. It had to be done quickly, efficiently. You were out to make a killing. So you've placed an order for that fast moving stock you were watching without waking your baby or your broker, thank to E-Trade. So E-Trade says, wouldn't it be great if you could trade at two in the morning? I'm not so sure. I think if you wake up at two in the morning with a great idea of some stock you want to buy, or in a panic and wanting to sell everything, you should go back to sleep. Wait till the morning, have a cup of coffee, a cup of tea, say a few kind words to your spouse, think it over.