

The final investor behavior I'd like to talk about is the insensitivity to fees. In a study of mutual fund investors, Brad Barber, Lu Zhang, and I found that these investors paid attention to mutual fund load fees, but tended to ignore the annual expenses that mutual funds charge. You know, fees really matter. And they matter a lot.

To illustrate this point, let's take a simple example, suppose you invested \$1 in the market index for 40 years. And let's keep this real simple and say that the market returned 8% a year for all 40 years. Now obviously, the market's going to be up and down more than that. But if you did invest \$1, and let's say, we'll ignore taxes, and you've got 8% for 40 years. At the end of 40 years you'd have \$21.72. If you paid 1% a year in fees, at the end of 40 years you'd have \$14.97. And if you paid 2% a year in fees, at the end of the 40 years you'd only have \$10.29. Less than half as much. Why should we care about investor behavior? Because today almost everyone is an investor. We all need to save for our retirements, and investing mistakes can be costly. And even cost that seems small can add up.

I did a study with Brad Barber, Neil Lee, and Yu-Jane Liu in which we looked at the performance of all individual investors in Taiwan. And for this group of about four million investors over five years, we calculated what trading was costing them. And one thing we found is that, on average, when an individual investor in Taiwan bought a stock from an institutional investor, that stock didn't do quite as well as the market. And when the individual investor sold the stock to an institutional investor, that stock tended to do a little better. Furthermore, when the individual investors as a group pulled out of the market, over the next six months the market tended to do a little better. And when the individual investors as a group put more money in the market, it tended to do a little worse.

Now we took a look at the market timing losses, the stock picking losses, we added in the commissions, and in the case of Taiwan, there's a transactions tax. And we added up all the cost of trading for these investors. And for the entire group of individual investors in Taiwan the cost of trading was over 2% of the country's GDP. That's a lot of money. Another way of looking at it is that all this trading activity reduced the return on the portfolio of all these investors, a sort of aggregate portfolio, by 3.8 percentage points a year.

So how much does 3.8 percentage points matter? Well, let's go back to our example of investing \$1 in the market for 40 years and getting an 8% annual return. That gave you \$21.72 at the end of 40 years. If you reduce the return by 3.8 percentage points, at the end of 40 years, you've only got \$5.18, less than a quarter of what you might have had. And what about the differences between the Taiwanese investors and the US investors? Well, there are a couple of important differences. One. The Taiwanese individual investors trade very actively, much more actively than most US investors. And this active trading definitely runs up their costs. On the other side, though, when an individual investor in Taiwan places a trade, probably the person he or she's trading with is another individual investor. And when individual investors in the US place a trade they're probably trading with an institutional investor who very likely knows more than they do.

What should investors do? If the stock you buy goes on to do worse than the stocks you sell, here's one idea. If every instinct you have is wrong, then the opposite would have to be right. [LAUGHTER] Yes. I will do the opposite. So as an investor, you could follow George Costanza's example, and do the opposite. Buy when you feel like selling, sell when you feel like buying. My recommendation is less entertaining, but more reliable. Invest for the long run, buy and hold, hold a diversified portfolio, pay attention to fees and other investment costs, and pay attention to taxes. Most people can do all of this by buying and holding well diversified low fee index funds. I was in Norway a couple of months ago, and I was told there's a saying in Norway that when a taxicab driver gives you investment advice, watch out. So, it's time to watch out. Back in the summer of 1970, I was a New York City cab driver.