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Lottery Players/Stock Traders

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Abstract

The behavior of stock traders and lottery buyers can teach us about our common aspirations, thoughts, and emotions and help answer many questions of finance.

“My investors insist on buying Treasury bonds because they find corporate bonds too risky,” says a financial advisor, “but they also insist on trading hot IPOs and buying lottery tickets. So, what are they—risk averse or risk seeking?” In fact, we are both risk averse and risk seeking, and our dual behavior reveals our aspirations, thoughts, and emotions.

More than 50 years ago, Milton Friedman and Leonard Savage noted that risk aversion and risk seeking share roles in our behavior: People who buy insurance policies often also buy lottery tickets. A short time later, Harry Markowitz wrote two papers that reflect two very different views of behavior. In one, he created the mean–variance framework, and in the other, he extended the insurance–lottery framework. People in the mean–variance framework, unlike people in the insurance–lottery framework, never buy lottery tickets; they are always risk averse, never risk seeking.

It is easier to banish risk seeking from our theory than from our behavior. Although mean–variance portfolio theory has become the basis of standard financial theory, investors continue to trade stocks and play the lottery.

Lottery playing and stock trading are puzzles in standard financial theory because they are negative-sum games—games that combine high risk with negative expected returns. Lottery playing is a negative-sum game because the lottery authority keeps some of the money. Stock trading (as opposed to buying and holding) is a negative-sum game because brokers and market makers keep some of the money. So, why do people play? First, perhaps all lottery players and stock traders think they are above average, likely to win even in a negative-sum game. Second, perhaps lottery players simply like to play and stock traders simply like to trade. Third, perhaps lottery players play and stock traders trade because they aspire to move up in life, from the working class to the middle or the upper class. I discuss these three possible reasons for lottery playing and stock trading:

- We think we're above average. According to a 2001 survey of individual investors, the investors expected the stock market to provide a mean 10.3 percent return over the following 12 months, but they expected their own portfolios to provide a mean return of 11.7 percent. In other words, investors expected, on average, to be above average. The unrealistic optimism that people display in the lottery and trading arenas is similar to the unrealistic optimism they display in other arenas. People expect higher-than-average satisfaction in their first jobs, higher-than-average salaries, and a higher-than-average likelihood of having gifted children.

- We like to play. Lottery playing and stock trading allow players or traders to find “flow experiences.” Flow comes when high challenge meets high skill. It is the experience of an athlete “in the zone,” a slot machine player pulling the lever, or a day trader enthralled by the flickering colors of the monitor.

- We have aspirations. Some people who aspire to be millionaires can expect to reach their aspirations through steady contributions to IRAs and 401(k) accounts. For others, stock trading and lottery playing offer the only paths up. For example, “Betting on the Market,” a PBS Frontline program of 1997, showed a young couple who traded frequently and watched CNBC constantly: “This is our dream house . . .,” the wife says while pointing to blueprints of a fancy house. “We look at it when

we are off to work in the morning and when we come home tired. . . . Isn't it beautiful?”

The insurance–lottery framework is a keystone in behavioral portfolio theory. In the simple version of the theory, people have two goals—a “downside protection” goal and an “upside potential” goal. The prototypical purchase for downside protection is an equity participation note, which ensures that investors will at least get their money back. The prototypical purchase for upside potential is a lottery ticket. Lottery buyers are likely to lose their money, but they have a chance to obtain even multimillion dollar levels of upside.

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