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Swedroe: Lotto Stocks A Losing Game

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Among the assumptions in the first formal asset pricing model, the CAPM, are that investors are risk-averse, that they maximize the expected utility of absolute wealth, and that they care only about the mean and variance of returns. However, subsequent research has found that these assumptions don't hold.

In the real world, there are investors who have a "taste," or preference, for lotterylike investments—investments that exhibit positive skewness and excess kurtosis. This leads them to "irrationally" (at least from an economic perspective) invest in high-volatility stocks (which have lotterylike distributions) despite their poor returns.

Such investors essentially pay a premium to gamble. If markets were perfectly efficient, arbitrageurs would enter the picture and drive prices to their "right" level. However, in the real world, limits to arbitrage, and the costs of and fear associated with shorting, can prevent rational investors from correcting mispricing.

Research also shows the preference for lottery stocks is held by retail investors (so-called dumb money), who overweight them, while institutional investors (so-called smart money, such as mutual funds) underweight them.

Newest Research

Vikas Agarwal, Lei Jiang and Quan Wen contribute to the literature on lottery stocks through their April 2018 study, "Why Do Mutual Funds Hold Lottery Stocks?" Given the well-documented evidence on the poor performance of lottery stocks, they sought to understand why mutual funds would invest in such equities.

The authors' data sample covers the period 2000 through 2014. Following is a summary of their findings:

- There is a large variation among actively managed mutual funds in their propensity to hold lottery stocks.
- Funds that hold more lottery stocks are smaller, younger, more expensive (specifically, their expense ratios are 0.26% higher) and poor recent performers—characteristics typically associated with incentives to attract capital.

- Funds with more retail clientele and lower managerial ownership hold more lottery stocks. This is consistent with the hypothesis that sophisticated investors' decision to hold lottery stocks caters to investors' preference for lottery stocks rather than their own preference for such stocks.
- Funds that hold more lottery stocks have higher market betas, greater small-cap exposure, higher growth exposure and more momentum exposure.
- Poorly performing funds tend to increase their lottery holdings toward the end of the year, with the hope of outperforming their peers.
- Funds with higher lottery holdings underperformed their peers on a risk-adjusted basis by 4.8% annually. This finding was robust to various tests.
- After controlling for past performance and other fund characteristics, funds holding more stocks with lottery features received more net flows from their investors. This result held both for funds with institutional clients and for funds with retail clients, although the significant-flow effect was more pronounced for funds with more retail clients.
- A one-standard-deviation increase in lottery holdings during a quarter is associated with a 15-35% increase in fund flows (relative to total net assets) in the next quarter for funds with institutional investors, depending on the measure of lottery holdings. For funds with retail investors, next-quarter fund flows are even higher, at between 20% and 45%.

The authors concluded: "Our findings provide new evidence of funds holding lottery stocks to gather assets by catering to investor preferences and engaging in risk-shifting behavior."

They add: "Our findings suggest that retail investors also indirectly hold lottery stocks through their investments in funds holding such stocks. Such behavior may be driven by these investors' objective to simultaneously achieve better diversification at a lower cost while getting exposure to lottery stocks."

Finally, they also concluded: "Buying lottery stocks can be a way for the managers to increase their chances of winning by the end of the year and beating their peers."

Conclusion

While it has long been known that retail investors have a preference for lottery stocks (which significantly underperform the market while exhibiting greater volatility), Agarwal, Jiang and Wen document that even some institutional investors, such as mutual funds, hold these stocks.

They also provide the economic rationale for why this is so, demonstrating that an agency problem exists, as holding lottery stocks causes funds to underperform by almost 5% per year on a risk-adjusted basis.

Their evidence shows that individual investors obtain exposure to lottery stocks through their investments in mutual funds, and fund managers take advantage of such preferences to engage in risk-shifting behavior and garner more flows into their funds.

For investors, the message is simple: If you want to support your state's tax-gathering needs, buy an actual lottery ticket. But don't take your retirement account to the "lottery store," either directly through the purchase of individual stocks or indirectly through mutual funds that exploit retail investors' preference for lottery stocks.

Fund families whose investments strategies are based on academic research, such as AQR, Bridgeway and Dimensional Fund Advisors, have long excluded stocks with lottery characteristics from their eligible universe. (Full disclosure: My firm, Buckingham Strategic Wealth, recommends AQR, Bridgeway and Dimensional funds in constructing client portfolios.)

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