Crypto study finds high risk doesn't equal reward

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A study of more than 4,000 cryptocurrencies between 2015 to 2022 has found that high-risk cryptocurrencies generally underperform their low-risk counterparts.

The study reveals that cryptocurrencies with the most idiosyncratic (asset-specific) risks yielded an average annualized return of minus 9.36%, whereas cryptocurrencies with the least idiosyncratic risks yielded an average annualized return of 80.6%.

For example, while Bitcoin yielded 53.5% over the year ending June 2023, Dogecoin underperformed the market leader with a return of minus 4.8%.

The research, by academics in the University of Sydney School of Economics, is among the most comprehensive studies of cryptocurrency pricing.

Published in the *Journal of Empirical Finance*, the paper's key finding defies the conventional wisdom that higher risk should be rewarded with higher returns. Instead, what's known as the low-volatility anomaly occurs, where investors are penalized for taking bets that mimic lottery tickets.

"This phenomenon has been widely observed across different sectors and global equity markets," lead researcher Dr. Simon Kwok said.

"There are several explanations for the low-volatility anomaly," Dr. Kwok said. "These include limits on leverage and shorting constraints, investors' preference for lottery-type payoffs, and investors' behavioral biases—they are often overconfident about their prospects of 'winning."

Tough for traders

While the low-risk anomaly suggests potential opportunities for traders, Dr. Kwok said that exploiting this anomaly is challenging. "We find that traders need to leverage their bets to exploit the opportunity effectively. However, borrowing to invest also amplifies their odds of becoming insolvent."

The authors show that traders looking to exploit the low-risk anomaly opportunity will need to borrow at least 50% of their investment, which is accompanied by a potential loss of minus 84% of their capital.

Dr. Kwok also highlighted the implementation challenges associated with trading cryptocurrencies. "Some potential challenges include the lack of brokers offering the breadth of cryptocurrencies for trading; the inadequate governance associated with holding these unregulated assets; and a large difference between bids and asking prices, known as wide bid-ask spreads," he said.

As to the future of cryptocurrencies, Dr. Kwok remains a keen observer. "Our study was only substantiated by about eight years of trading history, whereas stock markets have evolved into a mature state for decades. We continue to be curious about the evolution of cryptocurrency markets and look forward to observing investors' behaviors across market cycles."

Regarding lay investors, Dr. Kwok has pointed advice. "Do your research; don't buy into the hype."

More information: Minhao Leong et al, The pricing of jump and diffusive risks in the cross-section of cryptocurrency returns, *Journal of Empirical Finance* (2023). DOI: 10.1016/j.jempfin.2023.101420

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