Volatility-Managed Portfolio: *Does It Really Work?*

FANG LIU, XIAOXIAO TANG, AND GUOFU ZHOU

FANG LIU
is an assistant professor of finance in the SC Johnson College of Business at Cornell University in Ithaca, NY.
fang.liu@cornell.edu

XIAOXIAO TANG
is an assistant professor of finance in the Naveen Jindal School of Management at the University of Texas in Dallas, TX.
xiaoxiao.tang@utdallas.edu

GUOFU ZHOU
is the Frederick Bierman and James E. Spears professor of finance in the Olin Business School at Washington University in St. Louis, MO.
zhou@wustl.edu

KEY FINDINGS

- A typical application of volatility-timing strategies to the aggregate stock market, instead of at the stock level, can be more susceptible to look-ahead bias.
- After correcting the bias, the strategy is difficult to implement due to large drawdowns, and it performs poorly over time except during the recent financial crisis period when volatility was extremely high.
- One cannot easily beat the market via volatility-timing the market alone.

ABSTRACT: *In this article, the authors find that a typical application of volatility-timing strategies to the stock market suffers from look-ahead bias, despite existing evidence on the success of the strategies at the stock level. After correcting this bias, the strategy becomes very difficult to implement in practice because its maximum drawdown is 68%–93% in almost all cases. Moreover, the strategy outperforms the market only during the financial crisis period. The authors also consider three alternative volatility-timing strategies and find that they do not outperform the market either. Their results show that one cannot easily beat the market via timing the market alone.*

TOPICS: ***Portfolio construction, statistical methods, risk management****

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Because it is difficult to estimate expected stock returns, the global minimum variance portfolio has been widely used in practice (e.g., Basak, Jagannathan, and Ma 2009). Under some simplifying assumptions, the portfolio essentially puts smaller weights on stocks with greater volatility and larger weights on those with less volatility. Early studies by Fleming, Kirby, and Ostdiek (2001, 2003) considered daily asset allocation across stocks and found supportive evidence for the economic value of volatility timing—that is, using volatility information to improve portfolio performance. Recent studies, such as by Barroso and Santa-Clara (2015) and Han, Huang, and Zhou (2019), confirmed the usefulness of volatility timing at the stock level. Related to these studies, Moreira and Muir (2017) provided a *market* volatility-timing strategy that exploits the well-known property of volatility persistence. The volatility-managed portfolio of Moreira and Muir (2017) is a leverage of the market, with a greater weight assigned to the market when recent volatility is low and a lower weight assigned when recent volatility is high. They showed that their strategy beats the market,