

Study Citation: Elkind, E., Kaminski, K., Lo, A., Siah, K.W. & Wong, C.H., (2022), When Do Investors Freak Out? Machine Learning Predictions of Panic Selling, Journal of Financial Data Science 4(1), 11–39. <https://doi.org/10.3905/jfds.2021.1.085>

The information and materials on this website are for educational and informational purposes only. It is not a recommendation or solicitation of any offer to buy or sell any security or other financial instrument, to participate in any investment strategy, or to open any particular account type. The appropriateness of a particular investment or strategy will depend on an investor's individual circumstances and objectives. The materials may contain forward-looking statements and there can be no guarantee that they will come to pass. Past performance is not a guarantee of future performance. Asset allocation and diversification do not guarantee a profit or protect against loss in a declining financial market.

This is not an offer to sell or a solicitation of an offer to buy securities, products or services by any person or entity in any jurisdiction or country where such distribution or use would be contrary to law or regulation.

Investing in securities involves risk, including the potential loss of principal invested.

Hypothetical scenarios presented do not represent any specific investment or investment strategy and are not intended to predict the returns of any particular investment or investment strategy. Investments carry varying degrees of risk and will fluctuate based upon several factors including, but not limited to, market conditions. Scenarios do not account for other factors that may impact account performance such as advisory fees and brokerage commissions as well as taxes at any level (e.g. Federal, State or Local).

When Morgan Stanley Smith Barney LLC, its affiliates and Morgan Stanley Financial Advisors and Private Wealth Advisors (collectively, “Morgan Stanley”) provide “investment advice” regarding a retirement or welfare benefit plan account, an individual retirement account or a Coverdell education savings account (“Retirement Account”), Morgan Stanley is a “fiduciary” as those terms are defined under the Employee Retirement Income Security Act of 1974, as amended (“ERISA”), and/or the Internal Revenue Code of 1986 (the “Code”), as applicable. When Morgan Stanley provides investment education, takes orders on an unsolicited basis or otherwise does not provide “investment advice”, Morgan Stanley will not be considered a “fiduciary” under ERISA and/or the Code. For more information regarding Morgan Stanley’s role with respect to a Retirement Account, please visit www.morganstanley.com/disclosures/dol. Tax laws are complex and subject to change. Morgan Stanley does not provide tax or legal advice. Individuals are encouraged to consult their tax and legal advisors (a) before establishing a Retirement Account, and (b) regarding any potential tax, ERISA and related consequences of any investments or other transactions made with respect to a Retirement Account.

Illustration results should not be considered a guarantee of future performance or a guarantee of achieving overall financial objectives. Asset allocation and diversification do not assure a profit or protect against loss in declining financial markets.

Illustration results have inherent limitations. The performance shown here is performance based on benchmark indices, not investment results from an actual portfolio or actual trading. There can be large differences between results shown and actual performance results achieved by a particular asset allocation. Actual performance results of accounts vary due to, for example, market factors (such as liquidity) and client-specific factors (such as investment vehicle selection, timing of contributions and withdrawals, restrictions and rebalancing schedules).

Despite the limitations, these illustrative results may allow clients and Financial Advisors to obtain a sense of the risk/return trade-off of different asset allocation constructs.

Past performance of indices does not guarantee future results. Investors cannot invest directly in an index. S&P 500 Index is an unmanaged, market value-weighted index of 500 stocks generally representative of the broad stock market. An investment cannot be made directly in a market index.

This communication contains links to third party websites that are not affiliated with Morgan Stanley. These links are provided only as a convenience. The inclusion of any link is not and does not imply an affiliation, sponsorship, endorsement, approval, investigation, verification or monitoring by Morgan Stanley of any information contained in any third party website. In no event shall Morgan Stanley be responsible for the information contained on that site or your use of or inability to use such site. Furthermore, no information contained in the site constitutes a recommendation by Morgan Stanley to buy, sell, or hold any security, financial product, particular account or instrument discussed therein. You should also be aware that the terms and conditions of such site and the site's privacy policy may be different from those applicable to your use of any Morgan Stanley website.

Investing in fixed income securities involves interest rate risk, credit risk, and inflation risk. Interest rate risk is the possibility that bond prices will decrease because of an interest rate increase. When interest rates rise, bond prices, and the values of fixed income securities generally fall. Credit risk is the risk that a company will not be able to pay its debts, including the interest on its bonds. Inflation risk is the possibility that the interest paid on an investment in bonds will be lower than the inflation rate, decreasing purchasing power.

© 2025 Morgan Stanley Smith Barney LLC. Member SIPC. All rights reserved.

CRC4905127-10/25