Why good weather isn't a good thing for stock markets

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Sunshine levels have a significant impact on the bidding behavior of stock market investors, according to new research.

The study examined the relationship between sunny weather and how market participants perform, as well as the subsequent seasoned equity offerings (SEOs). These discounts for shares act as an effective tool for companies to raise finance and are essential for a functioning modern economy.

To see if decisions were influenced by sunshine intensity and duration, an international team including researchers from the University of Portsmouth's Center for Innovative and Sustainable Finance, examined weather station data to determine the periods when the climate exerts the greatest influence on investors.

The data revealed investors made higher bids in sunny periods, which led to lower discounts for shares in the primary market. In fact, just a one standard deviation increase in sunshine intensity caused bid discounts to decline by 2.4%, while a one standard deviation increase in sunshine duration caused bid discounts to drop by 3.33%.

Professor Jia Liu, CISF Center Director and Professor of Accounting and Finance at the University of Portsmouth, said, "With sunny weather, often come good spirits—which in many circumstances is a positive, but that's not the case with financial decision-making. When the sunshine intensifies, bidders become overly optimistic and less risk-averse, which can lead to higher bid prices for seasoned equities."

Existing research has shown meteorological conditions, especially exposure to sunshine, affects a person's emotional state and sentiment. These weather-driven moods have been proved to influence a buyer's car choice, art prices at auction, and the tendency to take risks in a lottery.

It was Edward Saunders who first established a link between investment behavior in Wall Street and the weather 20 years ago.

"Saunders inspired our study," explained Professor Liu.

"His results strongly supported the hypothesis that investor psychology influences asset prices. And despite strong evidence that this has a large economic impact, there has since been little research into the relationship between the weather and stock market performance in the primary stock market. Saunders' study only examined stock prices in the secondary market though, so we decided to go a step further and looked at the investor's individual behavior in the primary market."

Professor Shenghao Gao, at the Southwestern University of Finance and Economics, China, said, "The China Securities Regulatory Commission (CSRC) requires that SEO issuers disclose detailed investor bidding information during the SEO auction process, providing us with a unique opportunity to examine the effect of sunshine-induced mood on investors' decisions in the primary market."

The team sampled 1,625 auction-style SEOs representing 28,321 bids from 2,978 investors between 2006 and 2019. In addition to a connection between sunshine and a bidder's decision-making, they also discovered that this effect increases when a company's SEO offering is more complex, or its corporate background is less familiar to them.

The paper, published in the *Journal of Corporate Finance*, says the findings have important implications for investors in the primary market, who need to be aware of the impact that weather conditions can have on their investment decisions.

Professor Liu added, "We want to make investors aware that during periods of sunny weather, they become more optimistic about their investments. This will make them more inclined to take risks that aren't justified by asset values. Therefore, they should factor this consideration in when bidding for shares or they might suffer losses.

"The study has profound implications for policy and practice. The growing instability of weather systems throughout the world, and the established connections between climatic conditions and investors' behaviors, makes this an issue of increasing relevance in a financially interdependent world.

"Maintaining the stability of markets could depend upon our understanding of this phenomenon, since the onset of climate change might have an increasingly destabilizing impact on the judgment of investors and market-makers, with unpredictable consequences for global trading."

More information: Qian Sun et al, Sunshine-induced mood and SEO pricing: Evidence from detailed investor bids in SEO auctions, *Journal of Corporate Finance* (2023). DOI: 10.1016/j.jcorpfin.2023.102411

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