

Echo Chambers: The Benefits of Diverse Perspectives in Research

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Actively seeking diverse viewpoints may improve returns when investing in stocks.

But new research by Joey Engelberg and Will Mullins (from the UC San Diego Rady School of Management) and J. Anthony Cookson (from the University of Colorado at Boulder), shows investors tend *not* to seek information that challenges their perceptions. Instead, they choose to disproportionately consume information from other investors who share their beliefs.

In short, investors often make decisions acting inside “echo chambers”—and experience poor results.

Dr. Joey Engelberg is a member of The Brandes Center’s Advisory Council. During a presentation to The Brandes Center’s Executive Committee and Advisory Board members, Engelberg said an echo chamber reflects the intersection of two, existing concepts. “The first is ‘selective exposure,’” he said. “Knobloch-Westerwick defined this as ‘any systematic bias in selected messages that diverge from the composition of accessible messages.’ In other words, people *choose* a subset of information to consume.

“The second is ‘confirmation bias’ which, according to Nickerson, is ‘...the seeking or interpreting of evidence in ways that are partial to existing beliefs, expectations, or a hypothesis in hand.’ People draw conclusions from data that confirm what they *already* believe.”

These echo chambers are evident in areas such as politics. In the United States, Republicans, for example, might consume more information which aligns with their views by watching Fox News.

“

Forming correct beliefs about prices is really valuable,” Engelberg said. “It’s going to cost you money if you don’t. Even if I’m bullish about Tesla, for example, I should be open to hearing bad news about the company. If I’m not, I may misprice it and buy it at prices that are too high.

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Democrats might disproportionately consume information that aligns with their views by watching MSNBC.

But why would echo chambers exist in financial markets at all? Wouldn’t investors be incentivized to seek *all* information—both good and bad—before making a trade? “Forming correct beliefs about prices is really valuable,” Engelberg said. “It’s going to cost you money if you don’t. Even if I’m bullish about Tesla, for example, I should be open to hearing bad news about the company. If I’m not, I may misprice it and buy it at prices that are too high.”

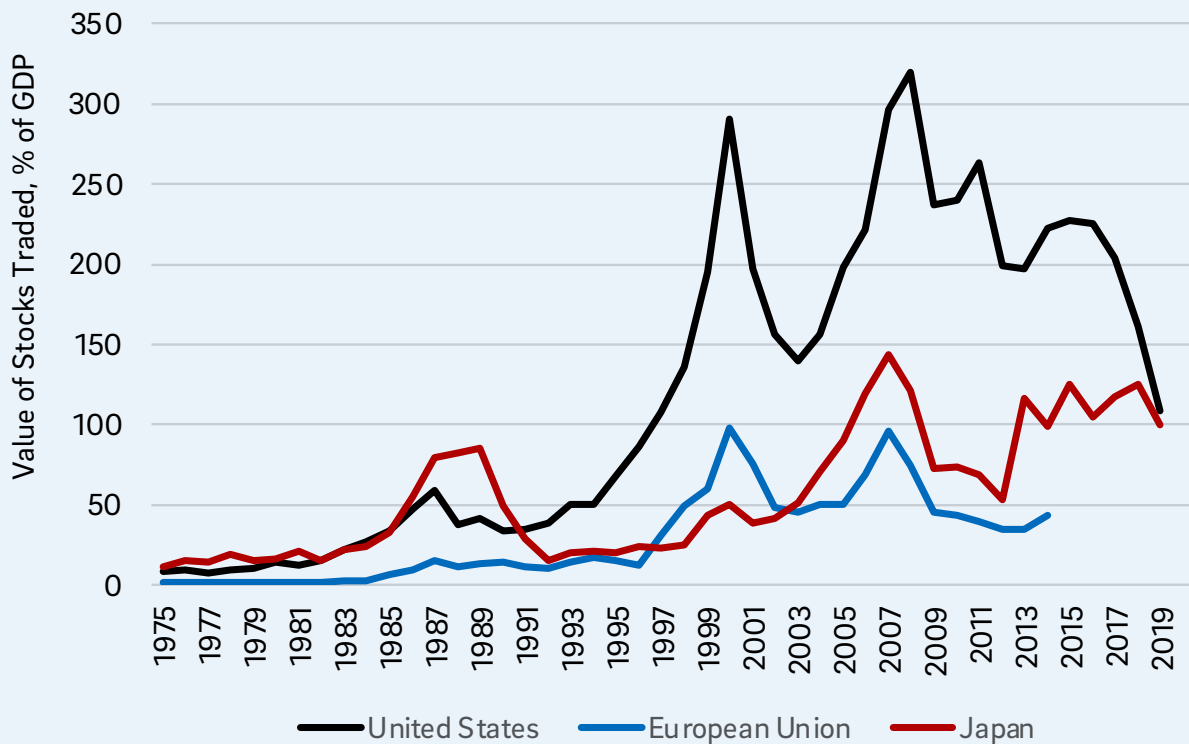
Perhaps if investors were rational all the time, they would seek out diverse viewpoints. But, as noted, the research shows that is not the case.

Engelberg said a blog [post](#) by John Cochrane about, “The Great Unsolved Problem of Financial Economics” prompted this research. And the “problem,” according to Cochrane, is the sheer volume of trading.

Tactics including rebalancing or preference shifts or events such as liquidity shocks are among the possible explanations for high trading volume. “But they do not generate the astronomical magnitude and concentration of volume that we see,” said Engelberg. Exhibit 1 shows the value of stocks traded in the United States and other select countries and regions as a percentage of gross domestic product (GDP).

among traders may cause such high levels of trading value, Engelberg said. “But, of course, when you say, ‘Lots of people disagree about Tesla,’ for example, you don’t explain why they disagree—and why they *persistently* disagree.” Heavy trading volume needs that disagreement to be sustained. “In our paper, we propose a new finance mechanism that causes persistent disagreement—and that’s echo chambers.”

EXHIBIT 1 | Stocks Traded, Total Value as a Percentage of GDP



Source: The World Bank, 1975 to 2019

While the total value of stocks traded relative to GDP largely has been the highest in the United States, the European Union and Japan show similar patterns. (The World Bank has data for the European Union only through 2014.)

DATA AND ANALYSIS

The authors analyzed data from Stocktwits, a US-based social media platform of about 400,000 users who contributed more than 33 million self-labeled “bearish” and “bullish” posts. The key research angle was investigating which users chose to follow other users and the subsequent

“Academic research suggests disagreement

DETAILS ABOUT THE DATA

- Sample period: 2013 to June 2020
- Restricted to unique users with at least 2,000 messages
- Covered 1,208 assets: 1,078 stocks and 130 other assets (such as Bitcoin and SPY)
- Kept only single-symbol and sentiment-stamped messages
- 395,000 users posting 33 million sentiment-stamped messages about a single asset
- Popular echo chamber assets: Beyond Meat; Bitcoin; Tesla; Snap; S&P 500; and small pharmaceutical and biotech stocks
- Total of user-symbol-day posts: 14.4 million observations

newsfeed resulting from these choices. Stocktwits users self-identify as professional or novice investors.

During the discussion of the research, Advisory Board member Rachel Farrell asked whether the data reflects some inherent biases and how that might affect the quality of the results. “The users are self-selecting,” she pointed out. “And we are looking only at people who like to post.”

“That’s a great question,” Engelberg said. “We chose Stocktwits because it’s very unusual as an empiricist to get two things at the same time: someone’s belief and what information they consume. This is, in part, a study of convenience. It would be fantastic if we had Bloomberg data for institutions, so we knew what that institution held and saw what news articles they looked at on their Bloomberg terminal. But that data doesn’t exist. The best we can do is look at people who declare themselves as professionals on this platform.”

So, what does an analysis of the data reveal?

KEY CONCLUSIONS

“Do we see echo chambers in the data?” Engelberg asked. “The answer is strongly yes.”

EXHIBIT 2 | Selective Exposure: Choosing to Follow Bulls

Cumulative Net Follows of Bullish Investors per Event

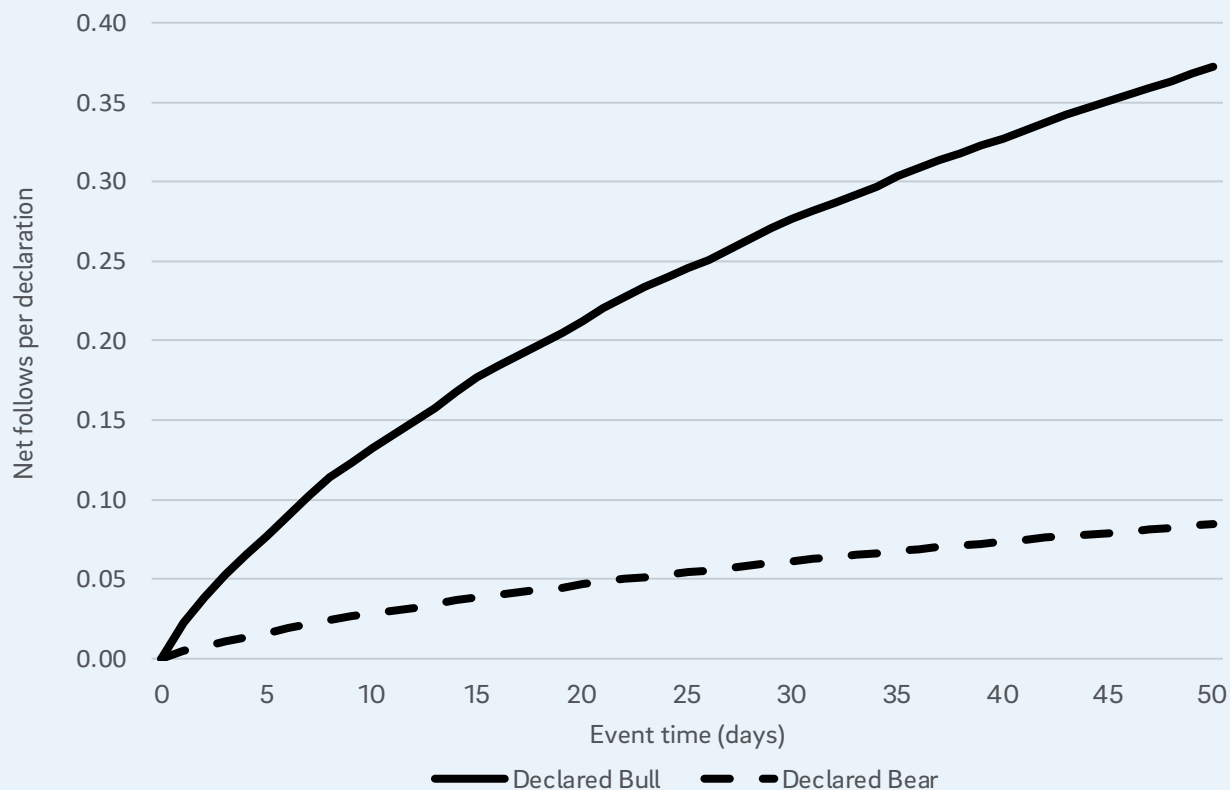


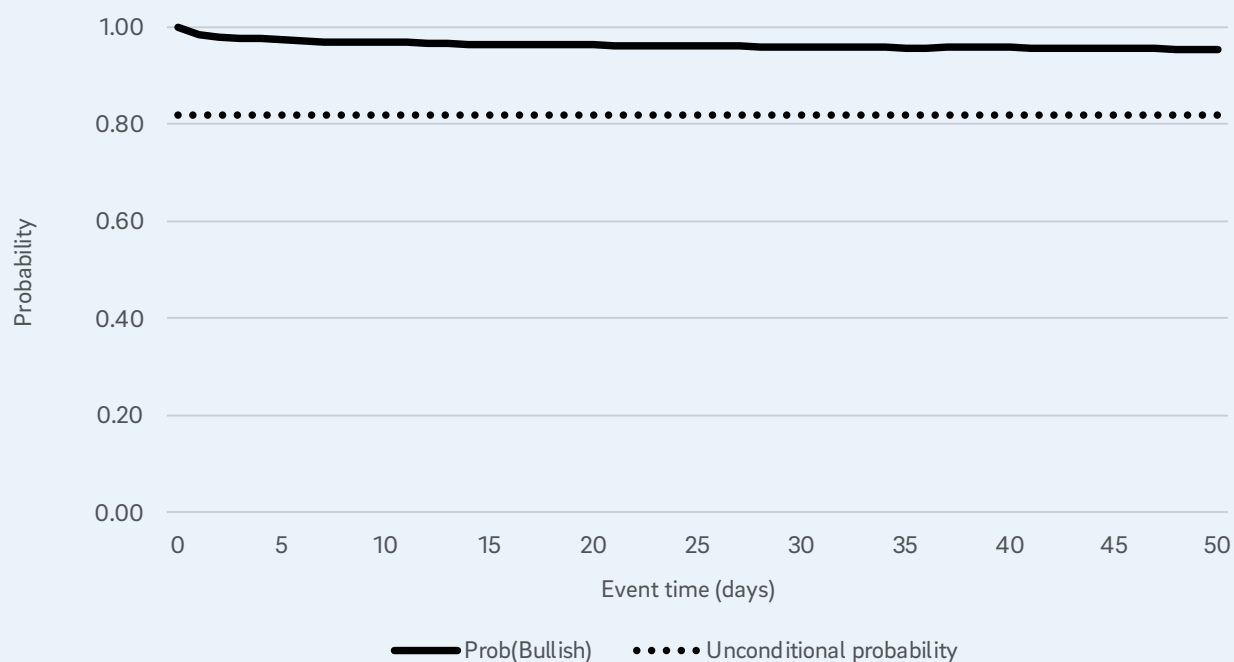
Exhibit 2 shows the cumulative net follows of bullish investors. Here, the researchers compared declared bulls on day zero and declared bears. “If we had 100 bears and bulls for Tesla, the 100 bulls over the next 50 days will follow—or sign up to receive information—from 35 more bulls,” Engelberg said. “The 100 bears will only sign up to sign up to see information from about 7 or 8 bulls. Bulls will follow a lot more bulls compared to bears. And the opposite is true.”

As such, bullish messages populate a bullish user’s newsfeed. He added a few other key points: “We see professionals exhibit less echo chamber behavior than novices. And those who reveal that

they actually bought or sold shares for a company where they comment—those with skin in the game—exhibit *more* echo chamber behavior.”

The research also shows that investors’ bullish or bearish outlook remained persistent. Exhibit 3 shows that if a user declares as bullish on day 0, there is a 90%+ chance that investor will still be bullish on that stock 50 days later. “We see a very similar pattern for bears, too,” Engelberg added.

EXHIBIT 3 | Sentiment Persistence for Declared Bullish Investors



Farrell asked if any of the results could be driven by the algorithms associated with Stocktwits.

"We have reached out to Stocktwits in multiple messages asking about this, but heard nothing back," Engelberg said. "In addition, I and the other two co-authors signed up for Stocktwits and posted to see if we would be solicited to follow other bulls. We did not get any solicitations like that. Of course, evidence of absence is not absence of evidence, but I haven't seen it."

So, what are the downstream effects of this echo chamber behavior?

"On average, people on Stocktwits are poor stock pickers. But the people who do the best are the ones who see a diversity of signals—not the ones who see all one signal type," Engelberg said. "Stock

picks made in echo chambers show worse ex-post returns."

For declarations made by users with no diversity in their newsfeeds over the previous 30 days, they exhibited abnormal returns of -2.3% over the subsequent 5 trading days. Users with a 50-50 mix of bullish and bearish signals during the 30 days *prior* to a declaration showed underperformance, but 100 basis points *better* than those users with no diversity. (The abnormal return is simply the return for the stock about which the user made a declaration minus the market return.)

Investors looking to counter the effects of echo chambers might choose to be very intentional in seeking information that contradicts their perception of an asset.

This approach worked for participants in a different study that focused on political views. According to their research paper, “The Impacts of Selective Partisan Media Exposure: A Field Experiment with Fox News Viewers,” Dr. David E. Broockman and Dr. Joshua L. Kalla “...incentivized a randomized treatment group of regular Fox News viewers to watch CNN instead for four weeks during September 2020, then measured the effects.” (1-2) Their results showed “... that shifting their media diet towards cross-cutting media both moderated their attitudes and led them to learn information contrary to their partisan predispositions.” (29) The researchers’ full report is available for download [here](#).

For the study of Stocktwits users, Engelberg calls this “shifting” of information consumption “signal



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diversity.” He added, “Imagine coding all the bullish signals as positive one and all the bearish signals as minus one and taking the standard deviation of all the signals you’ve seen in your newsfeed over the last 30 days. Users that have more signal diversity—where that standard deviation is large—tend to have less bad stock picks vs. those with no signal diversity.”

The authors’ research report, “Echo Chambers” has been accepted for publication at [The Review of Financial Studies](#). You may read the entire report submitted for publication at this [link](#).

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ⁱ Knobloch-Westerwick, S. (2014). Choice and preference in media use: Advances in selective exposure theory and research. Routledge.

ⁱⁱ Nickerson, R. S. (1998). Confirmation Bias: A Ubiquitous Phenomenon in Many Guises. *Review of General Psychology* 2(2), 175–220.

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