WORKING PAPER

Game On: Social Networks and Markets

March 1, 2021

Participants in financial markets are increasingly using social media as a source of information. This paper studies how echo-chamber effects and fake news can lead to disagreement and misinformation with effects on investors' portfolios and market prices. The paper suggests how an investment idea can propagate through a social network and generate a trading frenzy with high turnover, a bubble in the price, and high price volatility. Specifically, it presents closed-form solutions for prices, portfolios, and beliefs in a model where four types of investors trade securities over time: naive investors who learn via a social network, "fanatics" possibly spreading fake news, rational short-term investors, and long-term investors. The model implies echo-chamber effects, long-term disagreement, and that all investor beliefs converge to a combination of rational and fanatic views. Securities markets exhibit bubbles, excess volatility, bursts of high volume, price momentum, and reversal. As an application of the model, the paper presents empirical evidence on the dramatic events related to the GameStop stock in January 2021 and discusses broader economic implications.

Quick Clips

In January 2021, retail investors, who were spurred on by conversations on social platforms like Reddit, fueled a mania in GameStop's stock. The retail-driven rally sent GameStop's stock to unprecedented highs, resulting in a "short squeeze," which drove the stock further into the stratosphere before it ultimately fell back to Earth.

What happened?

Predatory trading, which induces or exploits the need for other investors to reduce their positions, can lead to price overshooting. This market dislocation can spill over across traders and to other markets.

In the instance of GameStop, the price for shorting was also affected, especially for new short sellers. Securities lending markets were impacted by the high turnover, but largely remained "open." Eventually, some short sellers could not sustain the losses and their own short covering exacerbated the problem.

Lasse Pedersen on the effects of shorting (1:55)

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We believe that prices will revert to fundamentals, which partly explains why GameStop's price fell from these inflated highs. Recent buyers may not want to keep stock in their portfolio at an elevated price, as they fear that level may not sustainable. And previous owners, who believed in the company at $20, might be inclined to sell as the price crested $400.

Lasse Pedersen on prices returning to fundamentals (1:17)

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What did we learn?

The GameStop event reinforced some old lessons: demand moves prices and can be irrational, shorting stocks can be risky, and predatory trading can be a price-destabilizing event.

It also taught us some new lessons regarding the power of social media and innovations in information technology. We hoped that more information sharing might lead to better decision-making and improved outcomes. However, the influx of information could also cause more confusion, which could cloud decisions and more negatively impact outcomes.

Lasse Pedersen on lessons learned (1:36)

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Putting it in perspective

While GameStop's share price jumped 2315%, its peak market cap still only accounted for 0.07% of equities.[1] While the GameStop event was unusual in how extreme prices and volume evolved, we believe smaller price dislocations are common, often occurring as an over-reaction to fundamentals or past price trends.

Lasse Pedersen on size of the effect (1:44)

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[1] Source: Bloomberg.