

YOLO trading: Riding with the herd during the GameStop episode

2. Data and Methodology

2.1. Data Sources

The study focuses on the price variation of GameStop (GME), AMC Entertainment Holdings, Blackberry (BB), and Nokia (NOK) during the short squeeze episode from October 1, 2020, to May 28, 2021 (175 trading days). The data sources include:

- Prices: Retrieved from Datastream.
- WSB Subreddit Activity: Obtained from Reddit and pushshift.io.
- Google Search Intensity: Provided by Massicotte and Eddelbuettel (2018).

The selected stocks were part of a short squeeze, and their choice was influenced by high discussion levels on the WSB subreddit.

2.2. Price Variation

Daily price variation, V_t , is estimated using a range of volatility estimators: PK_t (Parkinson, 1980), GK_t (Garman and Klass, 1980), and RS_t (Rogers and Satchell, 1991), adjusted for overnight variation. The logarithm of the variance is modeled due to changing volatility levels over the sample period.

2.3. WSB Subreddit Activity

WSB subreddit activity is measured by the total number of ticker occurrences in comments for each stock. A daily average is used, and data are synchronized with trading days.

2.4. Google Search Volume Intensity

Google search intensity is obtained for two groups of terms: short squeeze-related terms and general market-related terms. The daily average for each group is denoted as Et and Mt , respectively.

2.5. Relative Reddit and Event Intensity: The YOLO Variables

Two ratios are introduced:

- Relative Reddit Intensity ($YOLO1,t$): Represents excessive activity on the WSB subreddit related to a specific stock relative to Google searches for short squeeze events.
- Relative Event Intensity ($YOLO2,t$): Represents excessive interest in short squeeze events relative to general market-related Google searches.

2.6. Model Specification

Four model specifications are proposed:

Baseline Model (M1): Autoregressive model with market attention and volatility index.

Model 2 (M2): Baseline model plus relative Reddit intensity.

Model 3 (M3): Baseline model plus relative event intensity.

Model 4 (M4): Baseline model with both relative Reddit and event intensity.

3. Results

3.1. Data Characteristics:

- Price and return series are plotted for GameStop, AMC, Blackberry, Nokia, and SPY ETF.
- Key observations: Sudden price increases in January for all stocks, detached from the market-wide index.
- Average return correlation:
 - Whole sample period: 0.570 among the four stocks, -0.047 with SPY ETF.
 - Excluding 2021 data: 0.166 among the four stocks, 0.256 with the market index.
- Daily returns for the four stocks are of varying magnitudes, not exceptional outside $\pm 25\%$ range.
- Volatility and Reddit intensity ($YOLO$) show spikes, with Reddit intensity preceding volatility spikes.

3.2. Model Estimates:

- Model specifications exhibit well-behaved residuals, mild serial dependence, and no heteroskedasticity or unit root.

- The coefficient of relative Reddit intensity (*YOLO1*) is positive and significant in all models (2 and 4) for all four stocks.
- *YOLO2* is also positive and mostly significant, with a larger effect than *YOLO1*.
- Comparison between Models 2 and 3 indicates different attention captures by YOLO variables.
- The inclusion of *YOLO2* in Model 4 marginally improves model fit.
- The autoregressive coefficient declines with the inclusion of attention variables, suggesting attention-driven volatility.
- Control variables (general market attention, implied volatility) have mixed effects on short-squeezed volatility.

3.3. Robustness Checks:

- Alternative lin–lin model specifications show expected results for *YOLO1* but introduce heteroskedasticity issues.
- Models extended to other assets not subject to short squeeze (BBY, AMZN, IMAX, NFLX, MSI, DIS, SPY).
- *YOLO1* is significant for some assets, indicating variable significance varies across stocks.

4. Concluding Remarks and Agenda for Future Research

Decentralized Short Squeeze Strategies (YOLO Trading):

- The study explores decentralized short-squeeze strategies executed by retail investors on GameStop, AMC, Blackberry, and Nokia in 2020 and 2021.
- YOLO trading, if successful, leads to inflated prices (bubbles) and is considered very risky.

Link Between WSB Subreddit and Stock Prices:

- Analysis shows discussion on the WSB subreddit correlates with increased price variation in the four stocks.
- Price variation attributed to WSB discussion; likely activates other retail investors for a short squeeze.

Regulatory Challenges and Future Research Agenda:

- Regulatory consequences challenging due to the legality of the WSB episode, potentially protected by the 1st Amendment.
- Short squeezing is considered a form of illegal trading; new studies on justifications for or restrictions on short sales are needed.
- Exploration of side effects of YOLO trading suggested for future research.

Potential Research Avenues:

Shock Propagation and Spillovers:

- Investigate shock propagation through return or volatility spillovers among other stocks or asset classes.
- Examine the sudden decoupling of the four stocks from the market.

Short Selling-Related Costs:

- Analyze short selling-related costs, including the impact on the prices of out-of-the-money put options.
- Identify usual suspects for short squeezing and implications for asset pricing theories.

Efficient Trade Settlements:

- Explore more efficient ways of settling trades, considering the limited ability to fulfill collateral requirements.
- Examine the role of blockchain in providing faster and more flexible post-trade processing.

Sentiment and Social Media Analysis:

- Investigate sentiment and social media analysis for measuring investors' attention and sentiment.
- Utilize word-emotion lexicons to understand coordinated small-scale investors' behavior.

Impact on Societal Polarization:

- Assess the impact of people-powered initiatives like WSB on societal polarization.
- Examine the potential contribution to polarization and discomposure in societies.

Financial Stability and Societal Impact:

- Explore the direct impact of WSB-like initiatives on financial stability.
- Investigate how such initiatives might contribute to societal polarization and influence political movements.