Trading Frenzies and Real Effects

Itay Goldstein

Wharton School, University of Pennsylvania
Structure

1. **Trading Frenzies**: Definition, recent events

2. **Analyzing Recent Events through the Lens of a Model**: Goldstein, Ozdenoren, and Yuan (2013)

3. **Big Picture**: Corporate finance and financial markets
1. Trading Frenzies
Trading Frenzies

- Trading Frenzies arise when speculators rush to trade in the same direction causing large pressure on price.

- Such frenzies rattled financial markets recently, generating calls for big changes in market regulation.
  - GameStop is the most talked-about example, but other stocks experienced similar patterns.

- Concerns are mostly raised about price volatility, causing many to suffer big losses, but is this a major concern?
Implications for Capital Allocation

- Maybe more interesting are the effects such frenzies might have on capital allocation in the real economy

- Capital allocation is, after all, the main function of financial markets

- We can broadly talk about two channels:
  - “Primary market” channel: firms raise capital directly in the market
  - “Secondary market” channel: market prices provide signals that guide decisions by stakeholders – managers, lenders, customers, suppliers, employees, regulators, etc. – in the real economy
For both channels, prices play a critical role in assuring that the right investments are being made.

- Recent events demonstrated the fast feedback effects frenzies might have on the real economy:
  - AMC Entertainment actively raised new capital based on attractive prices which seemed to have no relation to fundamentals.
  - This was critical for AMC’s survival enabling it to avoid bankruptcy.
  - American Airlines, had a similar, perhaps less dramatic, experience.

- These cases were mostly celebrated as uplifting side effects, but are they?
2. Analyzing Recent Events through the Lens of a Model
A Model of Trading Frenzies and Its Real Effects: Goldstein, Ozdenoren, and Yuan (JFE, 2013)

- Market prices both affect and reflect firms’ investments and cash flows
- Feedback loop alters financial-market speculators trading incentives
- Timeline
  - $t = 0$: Speculators trade and the firm’s stock is priced
  - $t = 1$: Capital providers make real investment decisions in the firm
  - $t = 2$: Cash flow is realized; all agents receive their payoffs
Information Structure

• Dispersed information about firms’ fundamentals (standing for productivity, profitability)

• Each speculator observes two signals:
  
  o Private signal with precision $\tau_s$ (originating from research, experience)
  
  o Common signal with precision $\tau_c$ (originating from posts on internet forums)

• Capital providers observe private signals with precision $\tau_l$ and also observe the endogenous price $P$
Equilibrium

- Speculators choose trading based on two different signals

- Prices set based on market clearing, considering speculators’ trading and noise trading

- Capital providers make real investment decisions based on signals and price

- Key object of equilibrium characterization: $k$
  - Relative weight speculators put on common signal vs. private signal
  - High $k$ reflects a trading frenzy; they all want to trade like each other
Results

• Trading patterns (characterized by $k$) are determined by signal precisions and strategic interactions

• Strategic substitutes: usual price mechanism
  
  o When speculators put weight on common signal, it is strongly reflected in the price, and the incentive to put weight on it decreases

• Strategic complementarities: due to feedback effect
  
  o When speculators put weight on common signal, it is strongly reflected in firm’s cash flow, and the incentive to put weight on it increases
• The equilibrium \( k^* \) reflects both forces on top of the precisions of both signals:

- Without strategic interactions, \( k = \tau_c / \tau_s \); ratio of precisions
- In a benchmark model without feedback, \( k = k_{BM} < \tau_c / \tau_s \)
- In our model with feedback, and when the market is sufficiently liquid, \( k = k^* > \tau_c / \tau_s \)

• Feedback effect from prices to cash flows provides fuel to a frenzy:

- If an increase in stock price improves the firm’s financial standing, everyone wants to buy when others are buying, and vice versa
Comparative Statics

- Frenzies, $k^*$, increase when
  - Capital providers’ or speculators' private signals are less precise
  - Speculators' common signal is more precise: “A large volume of activity in such [internet] forums could suggest that speculators have more common information than private information and so trading frenzies become more likely to occur”

- $k^*$ decreases when there is more noise trading
  - Capital providers rely less on the price, and so feedback effect weakens and there is less coordination among speculators
Efficiency

- In general, trading frenzies could be efficient, as the coordination on common information can overcome other sources of inefficiency.

- But, frenzies can also be inefficient because they bring the noise in the common signal to prices and capital allocation.

- Overall, speculators’ incentives in equilibrium are not aligned with efficiency:
  - Equilibrium forces push them to trade like each other when it is undesirable that they do so.
Back to Recent Events

- Warning bells from AMC episode:
  - Feedback effects provide fuel to trading frenzies, pushing prices further away from fundamentals
  - In general, the forces behind frenzies do not align with efficiency of capital allocation
  - While a firm escaping bankruptcy is uplifting to many; consider frenzies in the opposite direction – bear raids depriving firms of capital— they can be ignited by similar forces
3. Big Picture
Corporate Finance and Financial Markets

"In certain circumstances, financial markets can affect the so-called fundamentals which they are supposed to reflect." — George Soros

- Corporate Finance:
  - Firms raise capital, invest, employ, produce, and provide services.
    This is the real economy

- Financial Markets:
  - Traders trade securities, prices are formed

- New Paradigm: Financial market prices reflect and affect the fundamentals in the real economy
Many Implications

• With a feedback loop between market prices and firms’ cash flows and fundamentals, many new implications arise for markets and corporate finance
• The trading-frenzies model is one example
• Other insights:
  o Disconnect between market efficiency and real efficiency: Bond, Edmans, and Goldstein (2012)
  o Impediments for the arrival of bad news to the market: Edmans, Goldstein, and Jiang (2015)
  o Good disclosure vs. bad disclosure: Goldstein and Yang (2019)
Empirical Evidence

- Some Evidence:
  - Luo (*JF*, 2005) – Mergers are more likely to be canceled when prices react more negatively and managers are trying to learn
  - Chen, Goldstein, and Jiang (*RFS*, 2007) – Price informativeness affects investment sensitivity to price
  - Foucault and Fresard (*RFS*, 2012) – Cross listed firms exhibit stronger sensitivity of investment to price

→ Financial markets are not a side show
There is a lot more to explore!

Thank you!