Cryptocurrency Pump-and-Dump Schemes

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Outline

* The story and analysis are fascinating.
* The discussion is difficult. But let me try:
  * Anecdotal
  * Analogy
  * Mechanisms
  * Banning P&Ds
  * Empirical suggestions
  * Conclusion

Anecdotal

- *"I was a scammer. I had it down to science, and it's exactly what's happening with bitcoin. The whole thing is so stupid; these kids have gotten themselves so brainwashed."*

Jordan Belfort

The "Wolf of Wall Street"

CNBC Documentary

2018, August 27th

WSJ report in 2018

- “Nonetheless, pump and dumps proliferated during the dot-com boom, pushed by “boiler room” brokerages like the notorious Stratton Oakmont, founded by “Wolf of Wall Street” Jordan Belfort.”
- “In 1999, Mr. Belfort pleaded guilty to charges of securities fraud for running pump-and-dumps affecting 34 companies and costing investors more than $200 million in losses.”

An example in the WSJ report

- "The price of cloakcoin skyrocketed on the cryptocurrency exchange Binance shortly after Big Pump Signal sent a message on Telegram to followers telling them to buy."
- "The buying mania was immediate: the price of cloakcoin jumped 50% to $5.77 on the exchange before plummeting almost a dollar after two minutes."
- "In total, 6,700 trades worth $1.7 million were executed—compared with virtually no trading the hour before."

Some quotes of the paper

- "For a planned pump, the operator announces the target date, time, and exchange, usually at least one day in advance."
- "However, they do not disclose the identity of the target token until the scheduled time."
- "P&D lasts for only several minutes, <u>leaving little time for non-members to participate</u>.“

Analogy

- If a pump and dump scheme ends in just few minutes, then the general public might not even know the existence of the scheme.
- So the pump and dump on illiquid and obscure coins is just "**a game of crypto chicken**" among the members themselves?
- Then, it is like a gamble for the **invited members only**. The gains and losses are also within these members.

Analogy

- The very advantages of identifying P&Ds in the cryptocurrency market are the very limitation of its generalization.
  - Short-lived.
  - No information.
  - Only among invited members.
  - Some potential gains for pump organizers by front-running every other member.

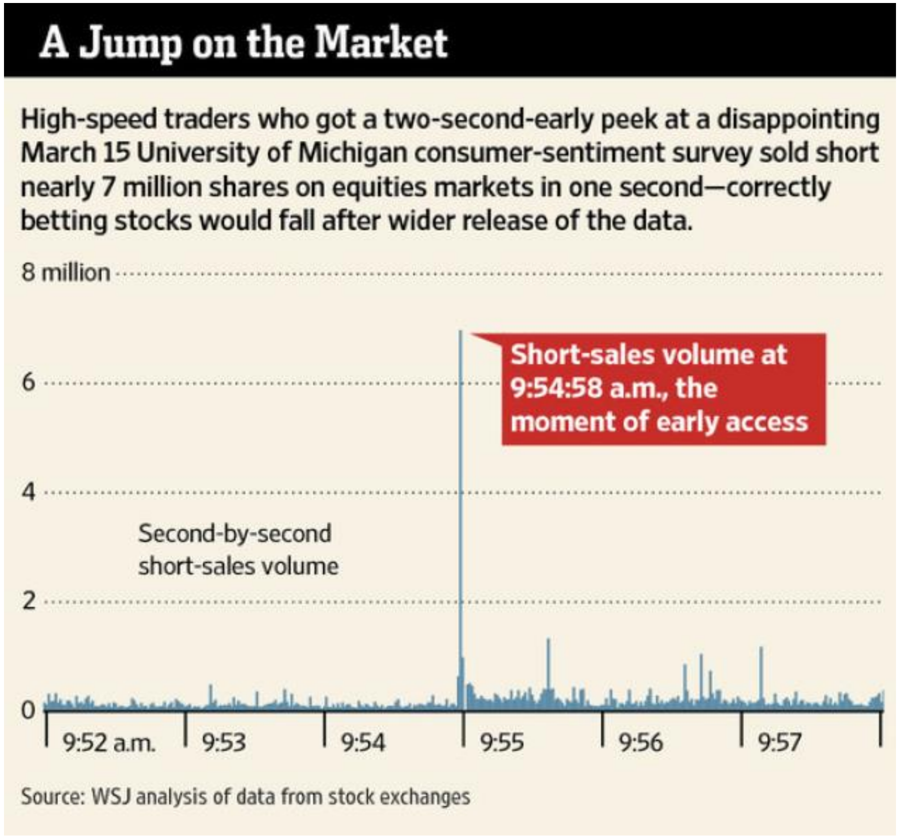
Analogy: Molly's Game?

- Molly Bloom ran underground poker empire runs for Hollywood celebrities, athletes, business tycoons, and the Russian mob for taking tips and then rake.

Analogy: A rigged casino

- Some pump group organizers offer **<u>premium</u>** memberships to allow some investors to receive pump signals before others do.
- "Our analyses show that, on average, only investors who buy in the **<u>first 20 seconds</u>** after a P&D begins can make a profit, and they can do so only if they do not hold their tokens for very long."

Analogy: Traders pay for an early peek at key data



- Thomson Reuters Corp. pays the University of Michigan $1.1 million
- Clients who pay a subscription fee to Thomson Reuters, which for some is $5,000 a month plus a $1,025 monthly connection charge, get the high-speed feed at 9:54:58 a.m.
- Those who pay for Thomson Reuters's regular news services get the report two seconds later.
- Five minutes later, at 10 a.m., the university posts the numbers on its website.

http://online.wsj.com/articles/SB10001424127887324682204578515963191421602

But the takeaway is different

- Hu, Pan, and Wang (2017 JFE): "connect the early peek arrangement to more efficient price discovery — it results in faster price discovery, lower volatility, and faster resolution of uncertainty."
- "tiered information release may help to reduce, rather than enhance, the informational advantage of faster traders and improve the efficiency of the price discovery process in financial markets."
- The key difference is that **early peek of P&D is not about fundamental information**, but about P&D itself.

Mechanisms: Overconfidence

- Overconfidence in market timing?
  - Unlikely, as this is P&D schemes. The so-called market timing is in the hand of the organizers.
  - One can, however, be overconfident in their judgement on selecting the right P&D membership.
  - Or are they overconfident in their trading speed?
    - The speed of their hand using keyboard and mouse?
    - Is it really feasible to make a trade manually in the first 10 seconds after a P&D is announced?
    - Reminds me of AFA hotel booking…

Mechanisms: Gambling

- I naturally buy this explanation given my research in this topic (Gao and Lin, 2015 RFS).
- Ignorant new comers believe the stories shared by early/premium members who gained profits in the previous P&Ds.
  - Similar to Ponzi-type multilevel direct selling: "Some operators offer monetary incentives to Members who invite new members to participate."
- Just like there is always a jackpot winner, and that could be me as well.

Mechanisms: Gambling

- Some tests might help this interpretation:
  - Media coverage intensity regarding self-made millionaires by participating cryptocurrency market.
  - Or just Google search volume on cryptocurrencies to capture the new comers/viewership.
- Do members learn? Do they realize that they have to be fast enough to gain any profit? Do we observe a shorter duration to reach the maximum return in the later half period?

Why banning P&D helps improve token price and liquidity

- P&D ends in few minutes.
- Basically, only P&D members are involved.
- If a “true” outsider does not pay attention at hourly interval, she might not even notice the existence of P&D.
- She only notices the high intra-day volatility, perhaps not even the daily volatility.

Why banning P&D helps improve token price and liquidity

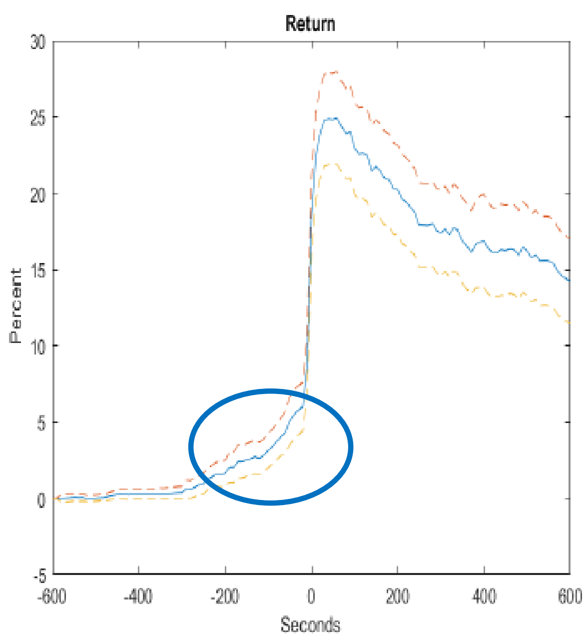
- So it is about intra-day volatility avoidance?
- Or avoiding a possibility my selling or buying timing overlaps with the few minutes of P&D such that I choose not to participate in this exchange?
- Or a huge misperceived "manipulation risk premium," even most true outsiders are not affected by P&Ds?

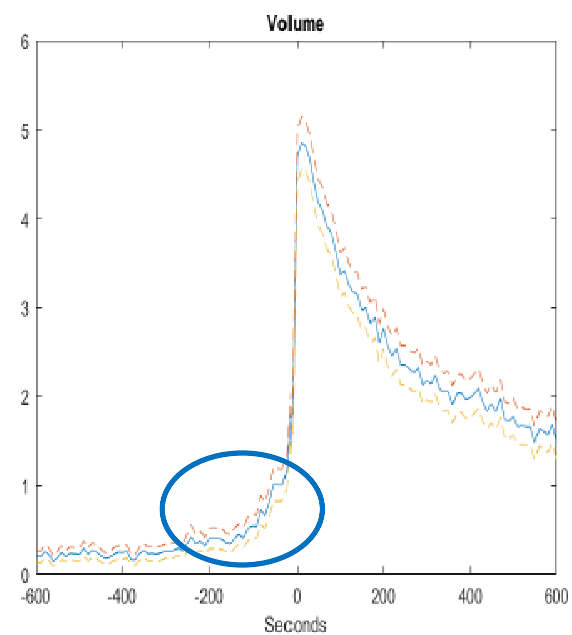
Understanding failed P&Ds

- "There are only seven P&Ds in which the maximum return is negative, suggesting that these P&Ds are unable to pump the token prices. The token price reductions in these cases are much smaller relative to price."
- These might be the most interesting cases, as it represents the potential risk to the organizers and VIPs.

Target the target token?

- Given the announced time of P&Ds, can a member monitor all the cryptocurrencies return and volume to identify the target token, perhaps based on pattern recognition machine learning?





Controls

- Add viewership, average recent pump return, and average recent pump volume in Table 4, where maximum/target return is the dependent variable.
- Can you control number of members in Table 5? If there are lots of new comers, then no sensitivity of viewership to recent pump return may not indicate limit of learning.

Conclusion

* A Ponzi scheme that targets those having a dream to make a fortune from cryptocurrencies.
  * Wealth transfer from late comers to organizers and VIPs who pay a fee or invite the new comers.
  * A rigged game.
  * The "outsiders" need to be informed clearly for the rake taken by the organizers.
  * True outsiders are unlikely to notice the occurrence of P&Ds and thus suffer directly from schemes.
* A great paper!