Gamification and securities regulation

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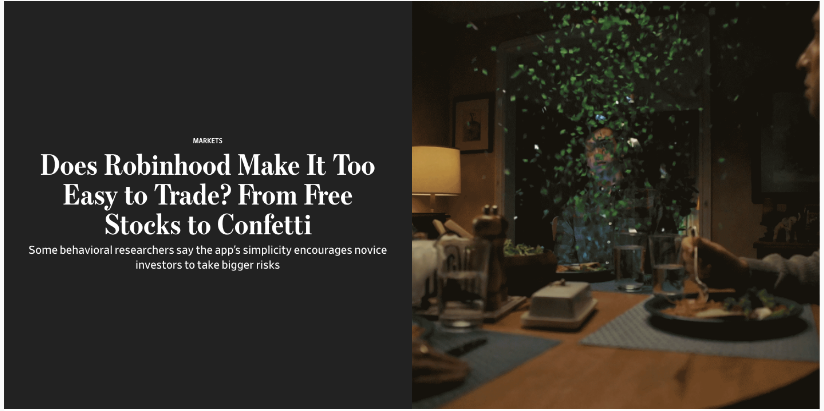
– CHECK SHARING on zoom

- Thank Jeremy for organizing and for opportunity to chat with you

- Want to talk with you today about "gamification": how it fits into scholarly notions of retail investor behavior, and perhaps some normative takeaways for regulators to consider.

Motivation — broad trends



Big theme in last two years, reemergence of retail trading.

Meme stocks, crypto as a substitute asset class for speculation, and the like.

Now easier than ever to trade than before, thanks to disruptive BDs like Robinhood.

Motivation — broad trends

Regulators are now concerned trading is too easy, and that retail investor behavior is being shaped or manipulated through gamification—or through a slightly broader category of "digital engagement practices," about which the SEC requested information back in the fall.

The main concern behind free-and-easy trading is that empirical studies of retail trader performance show that the more you trade, the worse you do.

Retail traders

So it's worth looking at the reasons retail investors trade. This informs our intuitions about what, if anything, is objectionable about "gamification" — and what we should do about it.

Why does maladaptive excessive trading persist?

There is a large empirical literature focusing on the persistence of active trading by retail investors that, on the whole, performs worse than the market.

How do ordinary investors trade?

"Rational" retail trader behavior

- Risk preferences
- Sensation seeking
- Aspiration for riches
- Trading to learn?

One well documented set of explanations focuses on rational reasons for active trading. People like active trading, for the same reason that they like gambling.

People like to take risk, they like to feel the wind in their hair, and — most important for younger users of these apps — they may have a particular preference for high volatility, get-rich-quick gambles if they want to move up in wealth.

So perhaps active trading losses can be understood as risk consumption, and not just pure loss.

Skip in presentation: There's also an idea that people drop out of the market when they find out they are bad traders, and that underperformance reflects new entrants rather than persistence.

Securities law: “I don’t care”

Securities law doesn’t have much to say about these rational models of retail trader behavior. Subject to gatekeeping rules, we generally let people trade, even to their detriment.

One solution that I think my comrade Alex has tilted toward would be to say that retail traders shouldn’t be trading at all, and should be investing in index funds. But there doesn’t seem to be much appetite among legislators and regulators to do that.

How do ordinary investors trade?

“Imperfectly rational” retail trader behavior

- Behavioral factors: overconfidence, etc.
- Salience: “attention induced noise trading”
- Being duped: “dark patterns” and the like

The underlying conflict of interest...

The bigger concern is that retail trader behavior is driven by behavioral factors like overconfidence, the salience of information, or pure deception.

Each of these suggests a different kind of normative intervention, and I suggest regulators should focus carefully on what the evidence actually shows.

And I want to say a few words about these salience reasons, which is what the evidence shows best about retail trader behavior.

Evidence of app design's influence on investor behavior

Most evidence from zero-commission trading apps supports "attention induced noise trading" hypothesis

- Barber et al (2021) model attention-induced noise trading and momentum herding
  - "Top mover" list induces attention-induced trading
  - But herding leads to negative returns
- Eaton et al (2021) model noise trading
  - "Zero commission traders have negative effects on stock market quality, consistent with behavioral noise trader and inventory risk models"
- Stein (2020)
  - Evidence of attention-induced trading in now deprecated "top 100" leaderboard
  - Some momentum strategies may be profitable

Robinhood used to give access to its data online so there's lots of research on gamification's influence on investor behavior

Papers tend to look at days when Robinhood is out as exogenous shock to RH user behavior, find evidence of attention induced trading from the leaderboards

Mixed evidence about how good RH investors are at trading

Big takeaway is that app design plausibly influences behavior and encourages a pool of noisy or uncorrelated or uninformed order flow.

What is to be done?

So if we think app design influences behavior, encouraging people to trade more than they otherwise might in particular stocks that are more salient to them — regardless of the reasons — is that something securities law should be concerned about? If so, what should be done?

Regulatory intervention?

Benefits?

- It really does make it fun!
- Encourages "democratization" of finance
  - The people's stock market and stakeholderism
  - Makes investing more approachable

Figure 1: It doesn't have to be this way

Let's start with plausible benefits. I can personally attest that it really does make investing more fun.

There are some other ideas, like the claim that it it will make access to capital markets more widespread and more approachable.

Stock markets are the canonical way of building wealth in a capitalist economy, so it might make market access easier, increasing people's ability to build wealth.

Other scholars have noted the plausible benefit that making investing fun could solve some of the collective action problems that have traditionally plagued retail trader nonvoting in corporate governance.

Gamification

Harms?

- Active trading is "hazardous to your wealth"
- Market quality
- Allocation of capital (crypto, meme stocks?)
- Pure distributional objection?
- Benefits might be red herrings (see *techno-populists* and *techno-optimists*)

But there are plausible harms from gamification too.

For instance, there's a great deal of evidence — including from Robinhood! — that certain short term retail trader strategies might be profitable but that, on the whole, active trading isn't. So the more people trade, the worse they may do.

There may be secondary effects on traditional financial indicia of "market quality," too. If it turns out that Robinhood users systematically increase the volatility and widen the bid-ask spread for stocks, this will have other effects on the market.

Then we might be concerned that the promised benefits — of educating and building engagement, and of encouraging corporate governance gaming — won't materialize.

Regulatory responses?

Undesirable doctrinal interventions

1. Mandatory disclosure
2. Mandatory downtime
3. Transactional frictions

So I guess I come down on the side of the SEC intervening to correct the conflict of interest that drives this...

SEC's role as fairness regulator means it can act to correct agency costs and conflicts of interest in brokerage markets, JW Verret has a good recent paper on this on PFOF and inducement regulation.

What to do about it? There are some traditional types of regulatory interventions that you see for addictive and other behavioral technologies. I address some bad ones in the paper and will skip them here, though happy to discuss in the questions.

Regulatory responses?

Possibly more desirable doctrinal interventions

4. Bans on dangerous features

Focus on some better ideas. Bans on dangerous features.

“Confetti regulation”

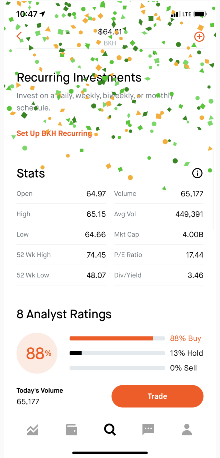


Figure 2: How much confetti is too much? “I know it when I see it”

Ban “confetti”?

Problems

1. Defining objectionable gamification
2. First Amendment problem

See Langvardt & Tierney YALE LAW JOURNAL FORUM (forthcoming 2022)

One option: ban gamification. But as my colleague Kyle Langvardt and I argue in an essay forthcoming in Yale Law Journal Forum, this kind of solution faces some definitinoal problems. What is objectionable confetti?

There are also litigation risks associated with the First Amendment. Tech lawyers often cast legal challenges in 1A cloth. Don’t want to precipitate a challenge that will bring down the rest of the securities laws — which are of course a kind of content based restrictions or compulsions of speech.

Regulatory responses?

Possibly more desirable doctrinal interventions

4. Bans on dangerous features
    - Confetti regulation (no)
    - Fiduciary duty (maybe)
    - Churning and brokers' duties to customers (better)

There are some other ideas.

Lots of doctrinal tools are already calibrated to the broker's incentive to encourage excessive trading. Think the concept of a recommendation under Reg BI, which includes a quantitative suitability component of the broker's standard of care in making recommendations to retail customers.

So one possibility is that the SEC's DEP reforms will try to link some of these engagement practices to recommendations.

But between principles based enforcement and the limit to recommendations, it plausibly doesn't cover some kinds of potentially objectionable practices.

There's been a longstanding debate about whether brokers should have same fiduciary duties as RIAs. State regulators have pushed these theories. Trying to harmonize the BD and RIA standards would be a good start.

Regulatory responses?

Even more desirable doctrinal interventions

5. Structural reforms (ambitious, best)
    - Reg NMS reform
    - Switch to periodic batch auctions

You could also do things like try to get at the underlying conflict, such as by banning PFOF.

My personal favorite is the idea that we should reform the market structure problems that give rise to an incentive to encourage retail investors to trade noisily.

Vast investments in trying to shave fractions of pennies off stock prices just to update prices between dispersed venues in real continuous time. One way that financial economists propose tosolve this problem is with periodic batch auctions, maybe every second or so.

Implications

1. Techno populism
2. Techno skepticism
3. Techno optimism
4. Investor protection vs. market structure

[Prob less than a minute left. Say a quick word: gamification pulls at lots of normative threads in the securities laws. There is a sense that gamification helps democratize the markets, and I am all for democratizing capital acquisition. But ordinary people don't get rich through trading. That is a reason to nudge them toward patience, and maybe not prohibit trading. But it seems wasteful to encourage greater financialization rather than engagement with the real economy.]

1. Techno populism — good to gamify voting. But are we just going to see the same drive for shareholder return, just mediated through Reddit instead?
2. Techno skepticism — bad to make trading like a game, to the point yesterday about different views on asset pricing and what it means to be fundamentals. But if markets are broken, isn't it good that people realize this?
3. Techno optimism — solving financial literacy; but gamifying education is hard.
4. Investor protection vs. market structure — ultimately a problem of trying to encourage wealth building through trading rather than patient investing. Bad enough when people do it, worse when they're encouraged. Get at the underlying market structure problem and the rest takes care of itself.

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Comments? Questions?