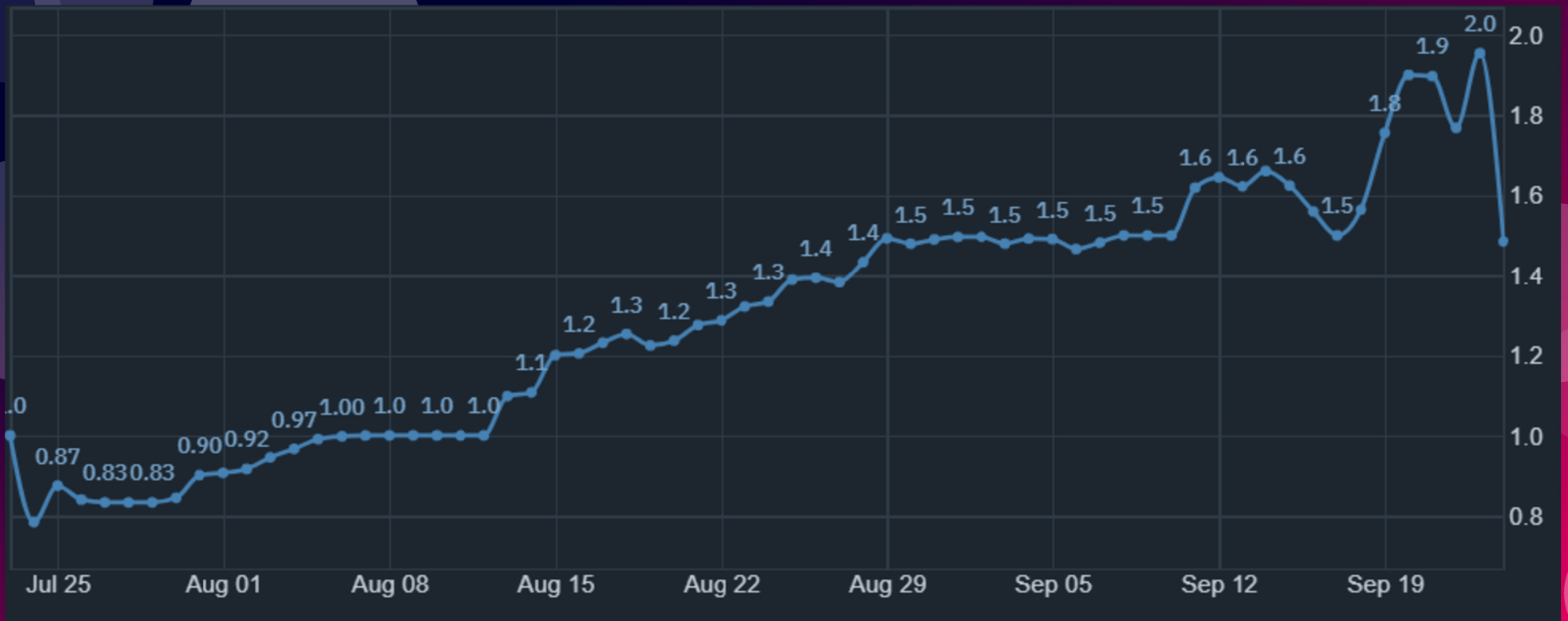


# Explaining the Stacked Decks price spike



# Expected Value of Stacked Decks – An Unsolved Problem

- Lots of players think they know how much a stacked deck 'should' be worth and can point to mass turnins to back their opinion up.
- Some facts:
  - ~0.1% of cards are >500c
  - ~1.1% of cards are 17c-500c
  - ~2.3% are 5-17c
- The last ~96.5% are under 5c. Of these, only high variance cards like Arrogance of the Vaal and direct currency cards usually sell.
- However, there's so much variance at the top end that you can't really deduce much about averages. House of Mirrors (7000c) and Unrequited Love (3500c) are mostly responsible.
- Getting 1 more of those than the average, or one fewer, transforms an entire dataset.

# Reverse Engineering Drop Rates Empirically

- **Common Sense' implies that a couple of tens of thousands of stacked decks is enough to open to meaningfully estimate the value**
- **'Common Sense' is wrong. Probability is counterintuitive. This is how lotteries and casinos can make so much money.**
- **What you actually need is a couple dozen of the rarest event (House of Mirrors).**
- **Even with enough Stacked Decks to hit 50 House of Mirrors you will still have a good deal of variance (~30% error).**

# So what caused the spike?

- Simple. Supply and demand.
- There's an "I'm finished with the league" effect. As people quit the league, they often pick a silly project – double corrupting their best gear, or liquidating everything into an experiment.
- But more significant is the content creator effect.
- And there's a lot of biases in it.



# Content Creator Effect

- I personally caused this when buying Costly Curio divination cards for a video and I only bought a hundred or so. And again for Lachrymal Necrosis.
- This causes an initial demand spike which raises prices.
- Content creators have a reason to post their results. Win or lose, it's entertaining.
- If they lose, there's no further effect. This happened with my Costly Curio video – I hit utter rubbish, so noone was inspired to mimic me.
- If they win, many people try to replicate their success, causing a second demand spike.
- Also, your videos do better if you win. This seldom causes a bias in publication (recording 10000 stacked decks twice but only publishing the remarkable results is possible but not common). But it does cause a bias in what is seen. If Alice and Bob each turn in 10000 decks on video, and Alice does poorly but Bob makes a mint, Bob's video will be more widely seen. More YT impressions, more Reddit upvotes.

# First Spike: 19-Sep

- Reddit post made by Zeek614, who streams as Bikespokes on Twitch
- Opened 80k over several days and made a mint.
- Just House of Mirrors, Doctor, Nurse and Patient drops totalled 45000 chaos
- Add in ten Brother's Stash, 1 Demon, 3 Fiend, 8 Succor of the Sinless, 22 Alluring Bounty and much more and you see massive profit – especially as they paid ~1.5c per card
- Link: [https://www.reddit.com/r/pathofexile/comments/pr7nma/after\\_opening\\_80000\\_stacked\\_decks\\_in\\_5\\_days\\_i/](https://www.reddit.com/r/pathofexile/comments/pr7nma/after_opening_80000_stacked_decks_in_5_days_i/)

# At the same time...

- Redditor GatonM hit a lucky House of Mirrors, this inspired them to turn in 32853 cards logging every drop.
- Again, they made a lot despite paying 1.9c per card
- More content creator effect! As far as I know GatonM doesn't seem to stream, but that doesn't matter.
- And they posted a full list of everything on their Reddit post
- [https://www.reddit.com/r/pathofexile/comments/prjp3s/here\\_we\\_go\\_again\\_another\\_stacked\\_deck\\_post\\_32k/](https://www.reddit.com/r/pathofexile/comments/prjp3s/here_we_go_again_another_stacked_deck_post_32k/)

# To The Moon?

- We don't know what fair price on stacked decks is.
- In my mind it's reasonable to estimate 2-2.2 chaos. But this is an estimate and could be wildly wrong, because I don't have enough data to say.
- However, 'fairness' doesn't matter in an unregulated market. Especially one where many types of price fixing are possible, and where many different actors have different interests.
- As long as it is possible for the 10-20% of bulk openers that get the most lucky to make a lot of currency, however, all the biases outlined will keep pushing prices higher.