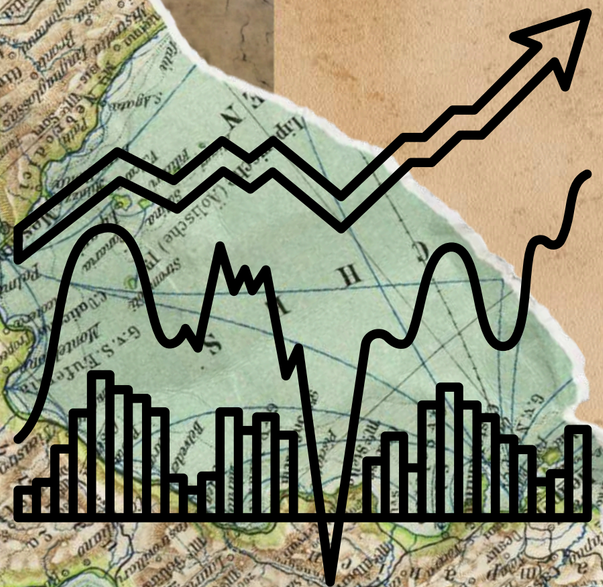
Crowds & Chaos

A lesson from Charles Mackay



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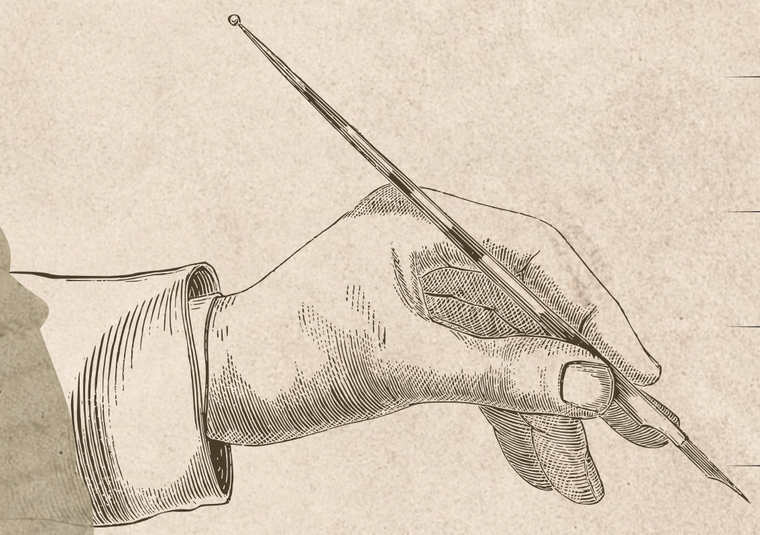
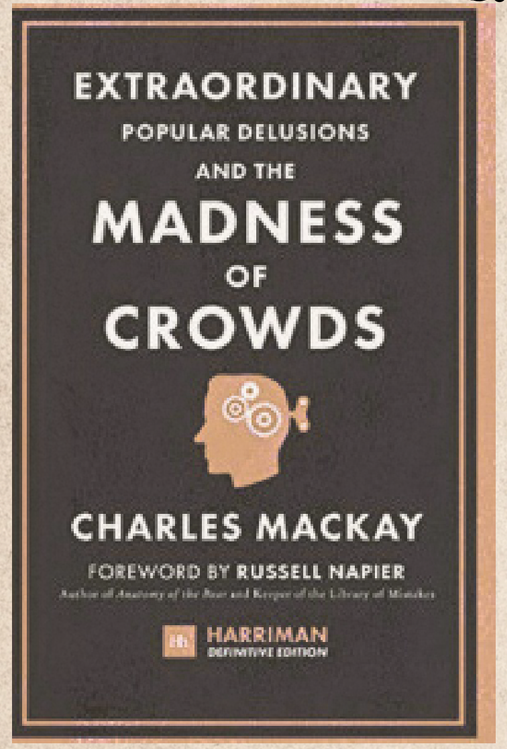


What is crowd madness in finance ?

Simply put – crowd madness is the tendency of people to make irrational decisions based on their behavior and driven by emotions

Charles Mackay's book explores how crowds, when united by shared emotions and excitement, often make irrational decisions that lead to speculative bubbles.

A bubble forms when asset prices rise far beyond their intrinsic value because of mass speculation.
Everyone starts buying in hopes of selling higher — until reality hits, and the bubble bursts.

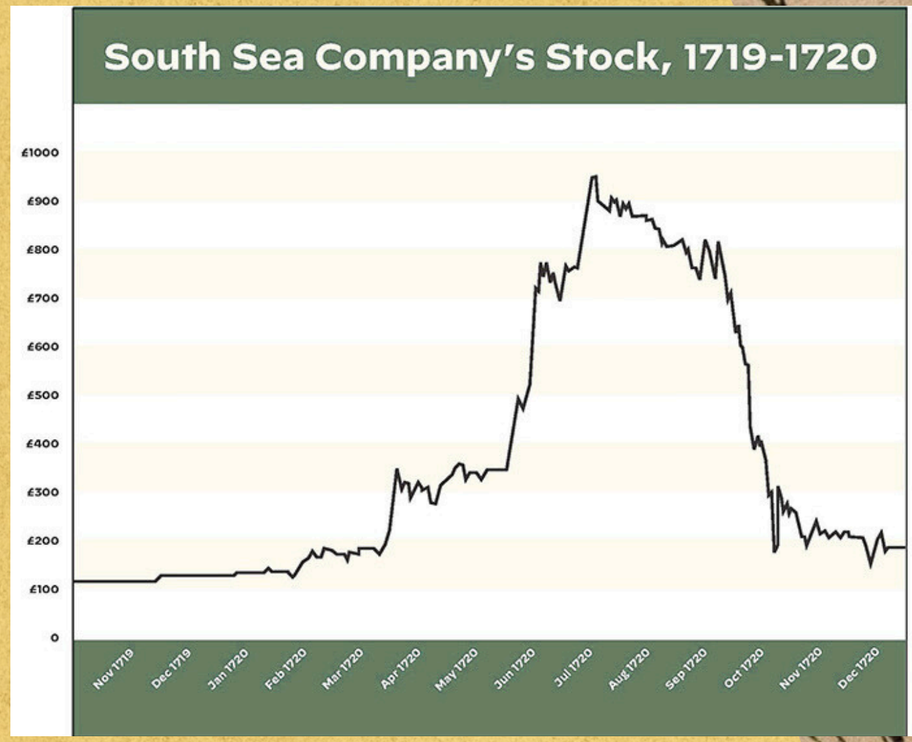


South Sea Bubble

"I can calculate the motion of heavenly bodies, but not the madness of people."

— Isaac Newton

Key Events



Timeline

1711

Formed to manage the national debt of Britain with promise of trade with South America.

1719

Stock prices started rising due to rumors of huge profit.

1720

March

Stock prices rose-plan proposed to convert national debt into shares.

June

Stock peak at £1,000, up over 1,000% in months.

August

Bubble burst- panic selling- price fall

Sept

Stock collapse- lost 90% of its value.

Aftermath

Led to economic hardships, public outrage.

Cryptocurrency Craze 2017-2021

Crypto Mania: Herds, Hypes, and the Fear of Falling Behind

Key Events

Timeline

2017

Bitcoin rises from $1,000 to $20,000 by December.

ICO Boom—Thousands of new cryptocurrencies launched, fueling speculation.

2018

Bitcoin peaks at $20,000, then crashes to $3,000 by December.

Ethereum crossed $1000 mark and then crashed to $100 a piece

2020

March

Bitcoin drops to $4,000 amid COVID-19 crash.

ETH continued to grow slowly

December

Bitcoin rises again to $20,000 as institutional investment grows.

2021

November

Bitcoin reaches an all-time high of $64,000.

December

Crash begins, Bitcoin falls to $30,000.

Aftermath

Stabilization with Bitcoin trading around $40,000 - $60,00

ETH highest price-$ 4815 in Nov

Musk's reversal on Bitcoin Payments

Elon Musk
@elonmusk · Follow

Tesla & Bitcoin

Bitcoin. We are concerned about rapidly increasing use of fossil fuels for Bitcoin mining and transactions, especially coal, which has the worst emissions of any fuel.

Cryptocurrency is a good idea on many levels and we believe it has a promising future, but this cannot come at great cost to the environment.

Tesla will not be selling any Bitcoin and we intend to use it for transactions as soon as mining transitions to more sustainable energy. We are also looking at other cryptocurrencies that use <1% of Bitcoin's energy/transaction.

6:06 PM · May 12, 2021

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Elon Musk
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Bitcoin is my safe word

3:21 AM · Dec 20, 2020

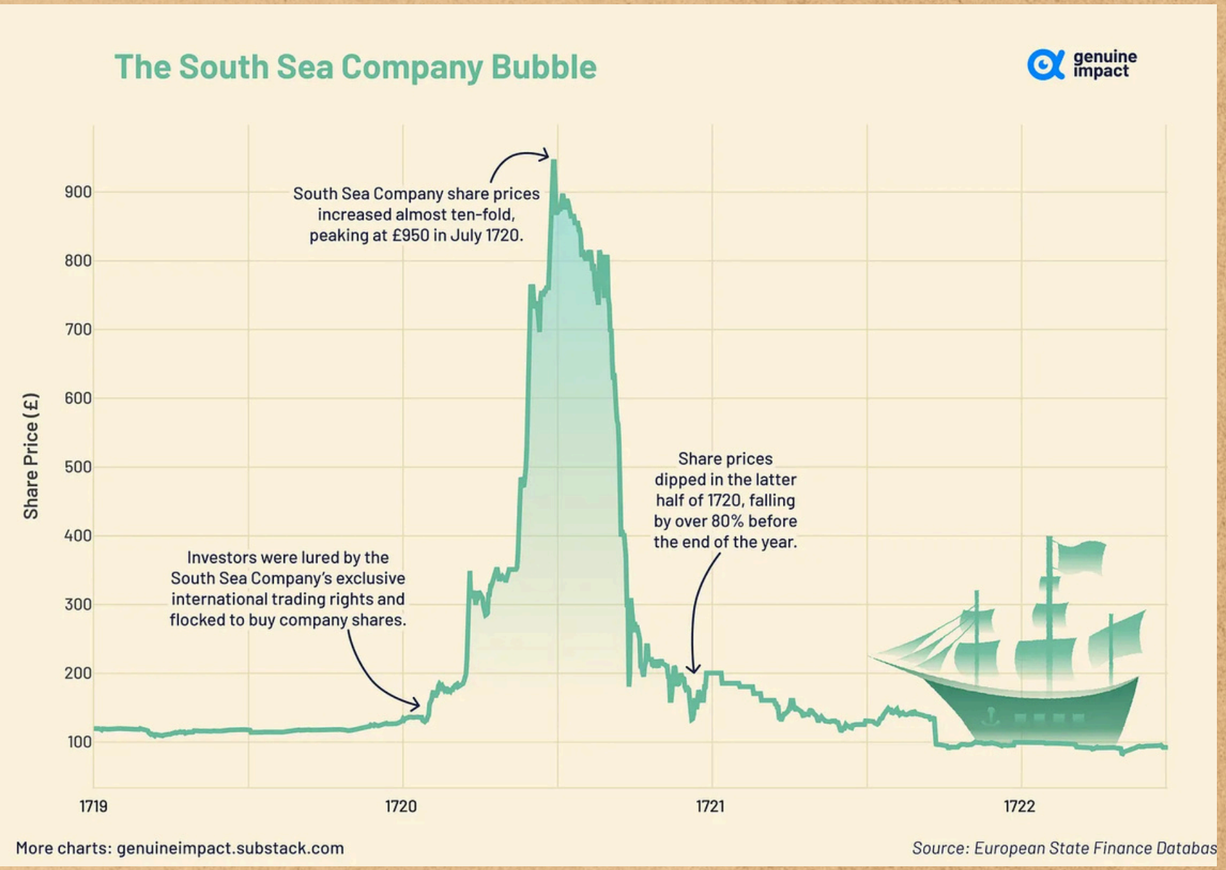
Comparison Overview

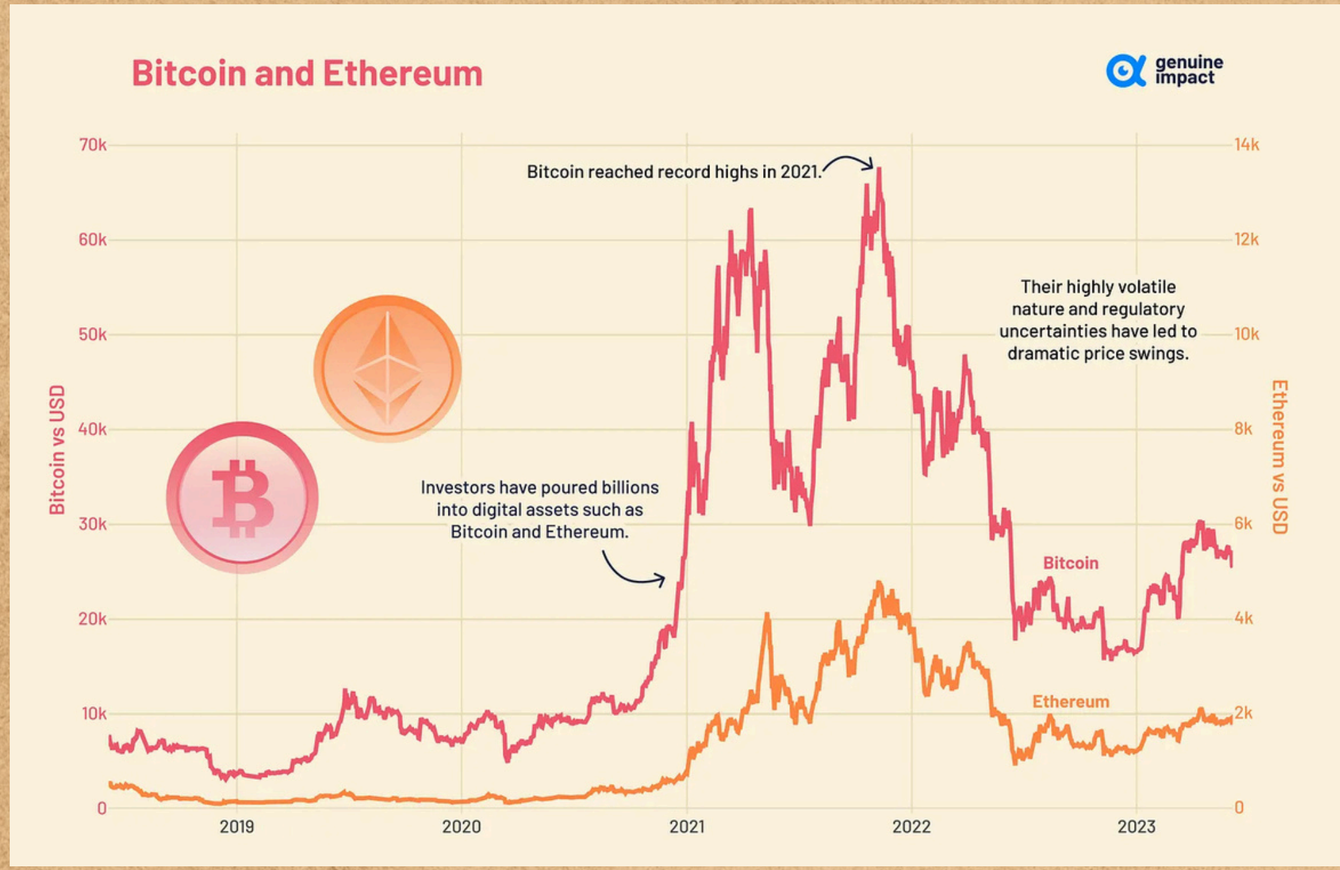
Aspect	South Sea Bubble (1720)	Cryptocurrency Craze (2017-2021)
Who Bought It	Wealthy elites, middle-class investors, government officials, and the general public.	Retail investors, institutional investors, celebrities, and tech enthusiasts.
Why They Bought It	Promises of wealth from South American trade, speculative hype, government backing, and the fear of missing out (FOMO).	Promises of high returns, celebrity endorsements, fear of missing out (FOMO),
Psychological Factors	Herd behavior, FOMO, availability heuristic, optimism bias, and speculative mania.	Herd behavior, FOMO, celebrity influence, availability heuristic, and social proof.

Comparison Overview

Aspect	South Sea Bubble (1720)	Cryptocurrency Craze (2017-2021)
Market Trigger	The promise of exclusive trade rights with South America triggered massive speculation.	Speculation driven by the belief that cryptocurrencies would become a new form of money. Media hype and celebrity endorsements triggered the initial surge.
Price Surge	Stock price surged 1,000% between 1719 and 1720, peaking at £1,000 per share.	Bitcoin surged from $1,000 to $20,000 by December 2017, and hit an all-time high of $64,000 in April 2021.
Market Crash	Bubble burst when the promised riches from South America were revealed to be unsubstantiated. Panic selling ensued.	The market crashed due to regulatory crackdowns, market saturation, environmental concerns, and Elon Musk's reversal on Bitcoin payments.
Price Drop (%)	90% price drop, leading to massive financial losses for investors.	50% drop in Bitcoin's value, falling from $64,000 to $30,000 by mid-2021. Altcoins experienced even steeper declines.

Fear of Missing Out (FOMO) caused both groups to rush in as prices surged.





South Sea Company's share prices increased 10x, and reached £1000 in June - July of 1720.

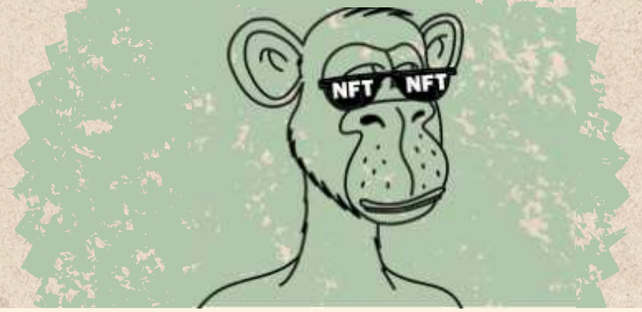
From November 2020 to February 2021, Bitcoin grew at an unprecedented rate of 321% to breach the $1,000 billion market capitalization mark briefly.

On November 9, 2021, Bitcoin briefly reached its highest market capitalization of $1.28 trillion with a price of $67,617.02 per Bitcoin.

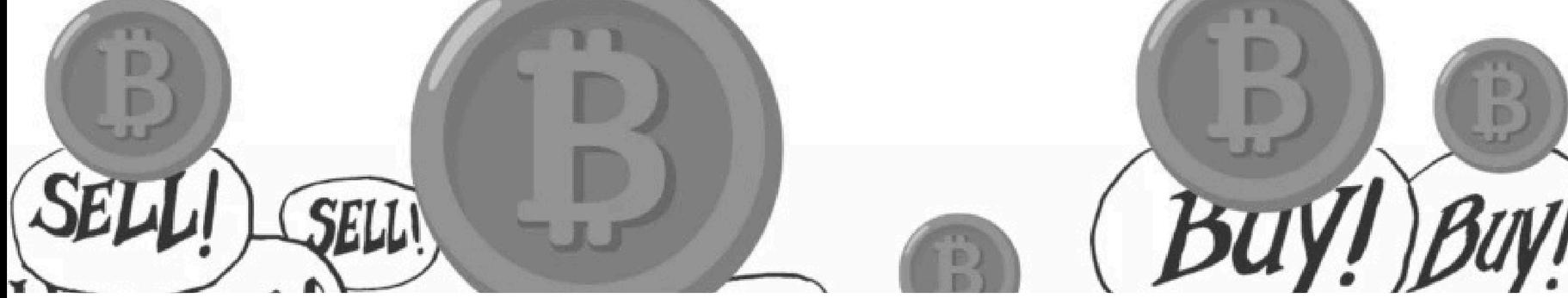
NFT

Tulip Mania Vs NFT Craze

From Petals to Pixels: Speculation Never Changes



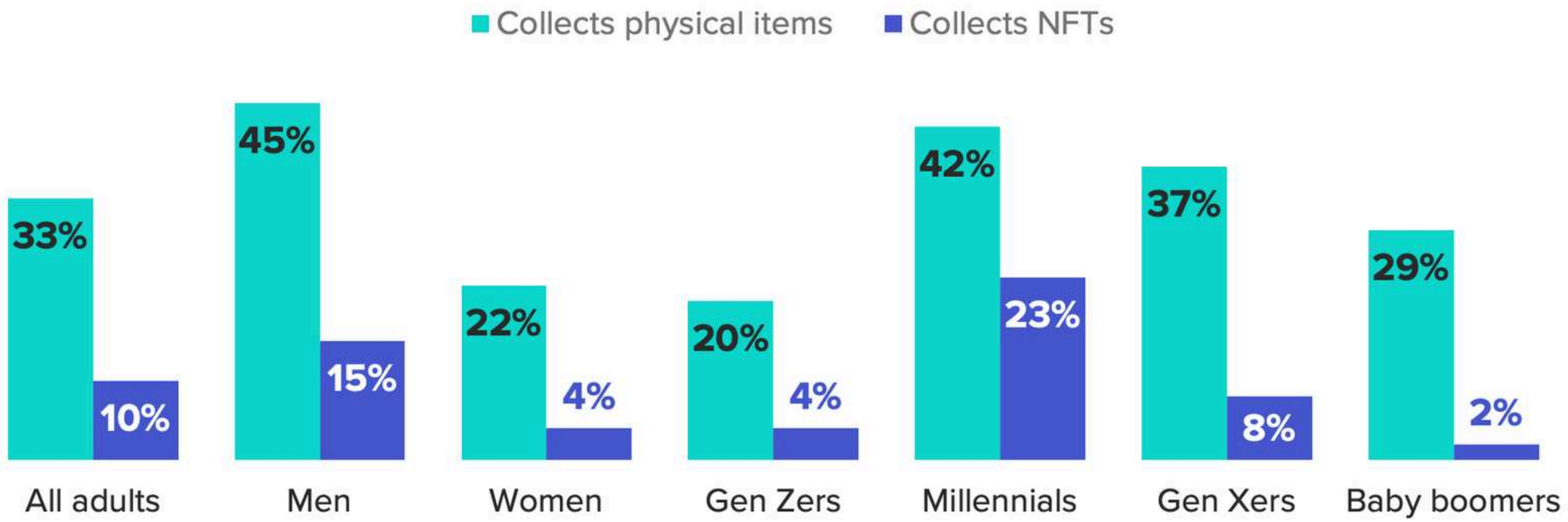
Hype	Tulips imported from the Ottoman Empire; rare varieties like Semper Augustus became status symbols.	Ethereum's ERC-721 launched NFTs; early collections like CryptoPunks and OpenSea fueled adoption.
Narrative Economics	Coffeehouse gossip and printed pamphlets glorified tulip wealth stories.	Viral success stories like "sold JPEG for $200K" circulated on Twitter, Discord, and media.
Newcomer Influence	Middle-class Dutch citizens mimicked elites, entering late and fueling a speculative wave.	In 2021, 88% of NFT wallets were first-time users; inexperienced traders paid higher prices.
Demographic Pull	Mostly wealthy male merchants; exact data not recorded.	Millennials (23%) and men (15%) were most likely to collect NFTs.



Average Dutch person in the 1630's after selling literally everything he owns for one tulip of every colour:

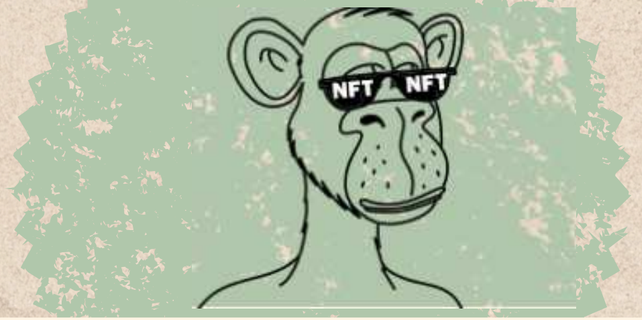
Millennials and Men Are More Likely to Be Collectors — Including NFTs

Share of respondents who said they collect either physical items or non-fungible tokens (NFTs) as a hobby or investment

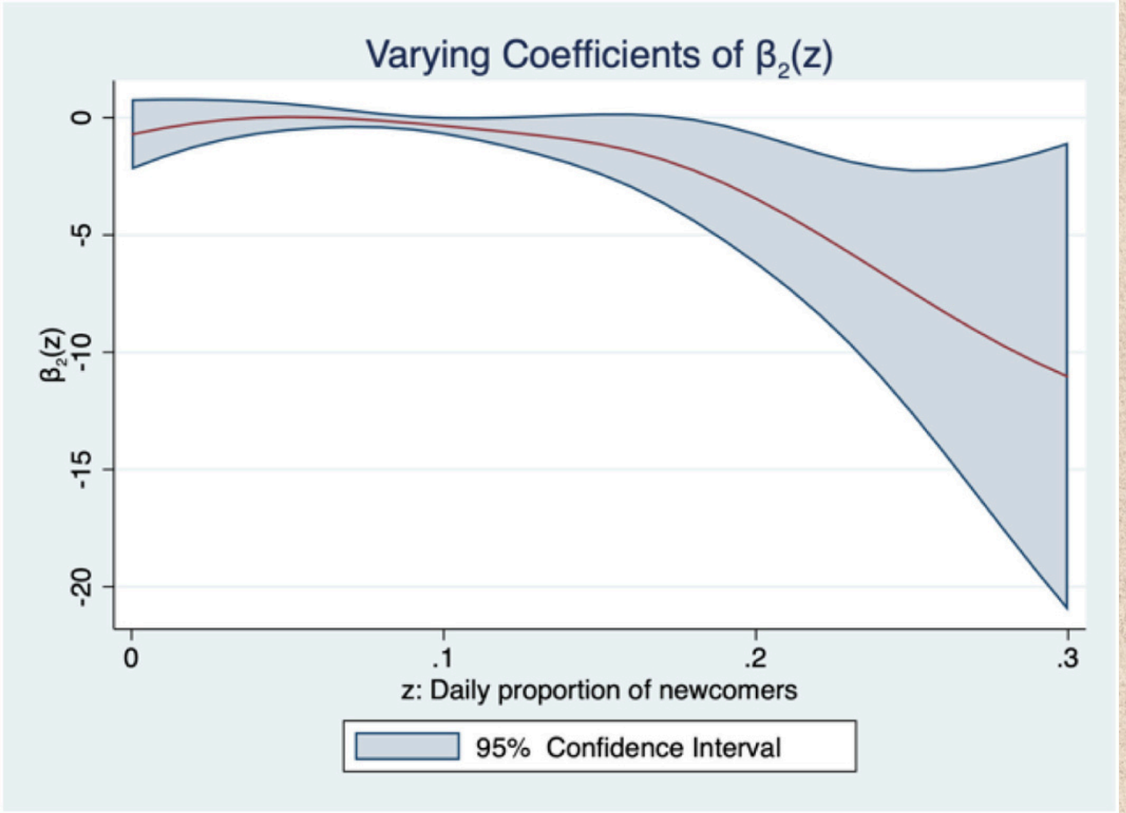


MORNING CONSULT

Poll conducted March 17-22, among 2,200 U.S. adults, with a margin of error of +/-2%.



Market Mechanics	Tulip bulbs were traded as “Aces” — unregulated futures contracts with no margin.	NFTs were traded on OpenSea and other platforms with no barriers or regulation.
Volatility & FOMO	Prices doubled overnight. Some tulips sold for 10x a skilled craftsman’s salary.	A 1% increase in volatility caused a 0.28% rise in herding behavior. NFT prices spiked in hours.
Behavioral Biases	-Herding - Greater Fool Theory - Illusion of safety	- Herding - Greater Fool Theory -FOMO - Social proof bias

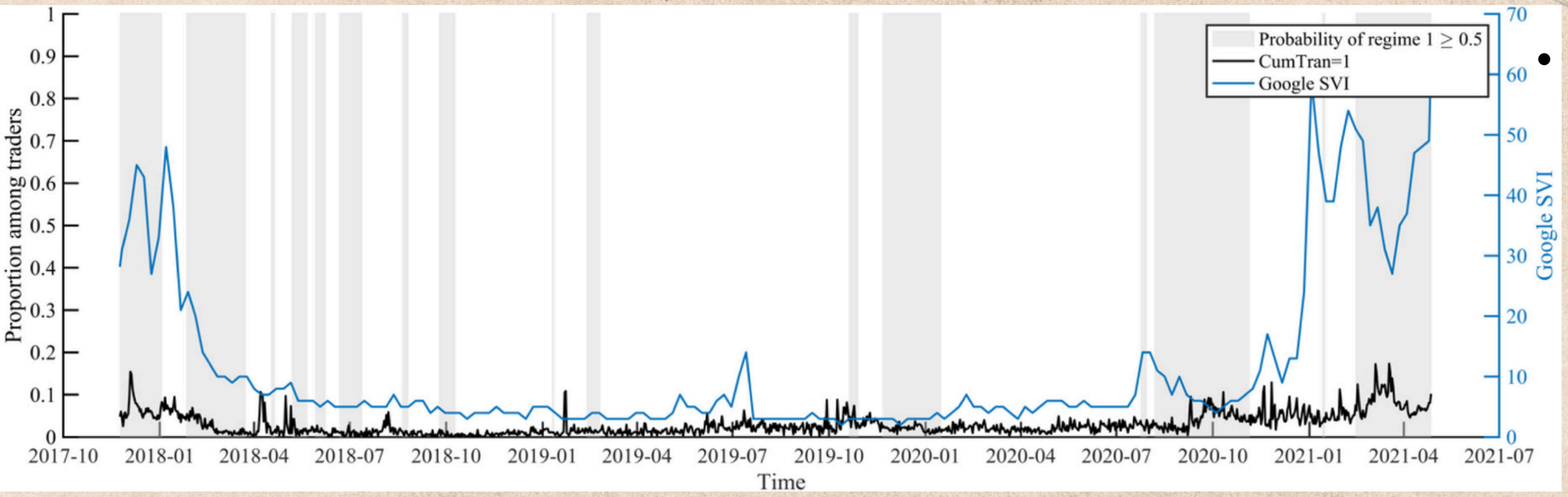


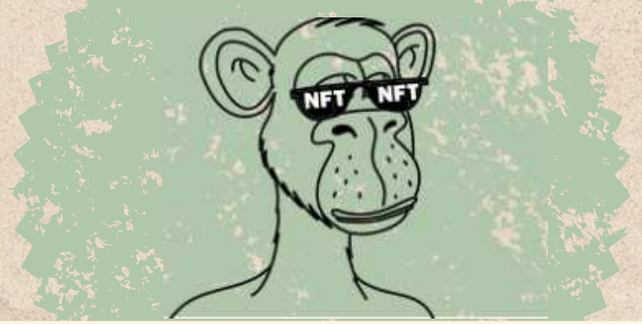
Newcomer Proportion vs Herding Coefficient (β_2)

- X-axis = % of newcomers
- Y-axis = Herding coefficient $\beta_2(z)$
- As newcomer % increases, β_2 becomes more negative

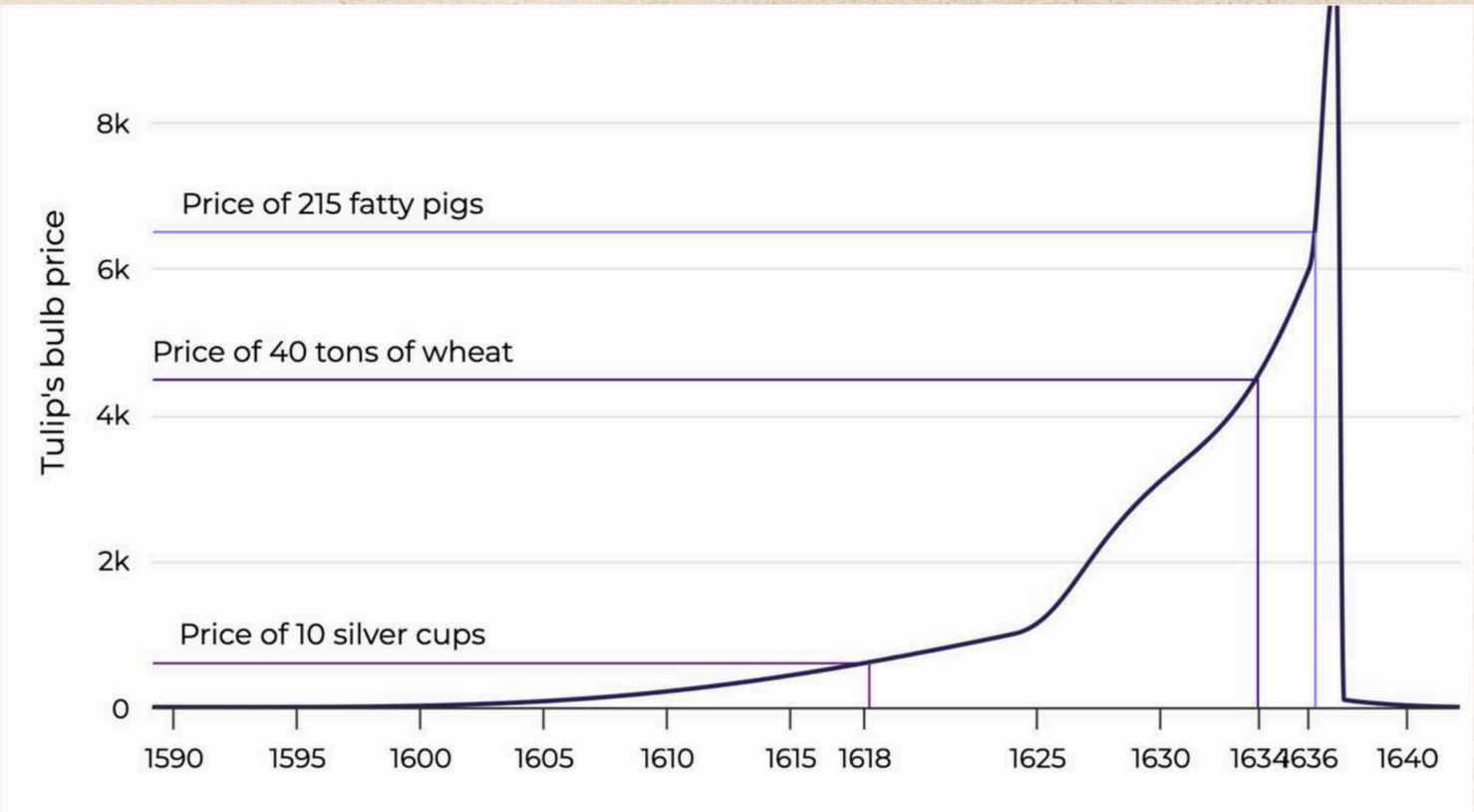
Google Searches & Newcomer Entry Over Time

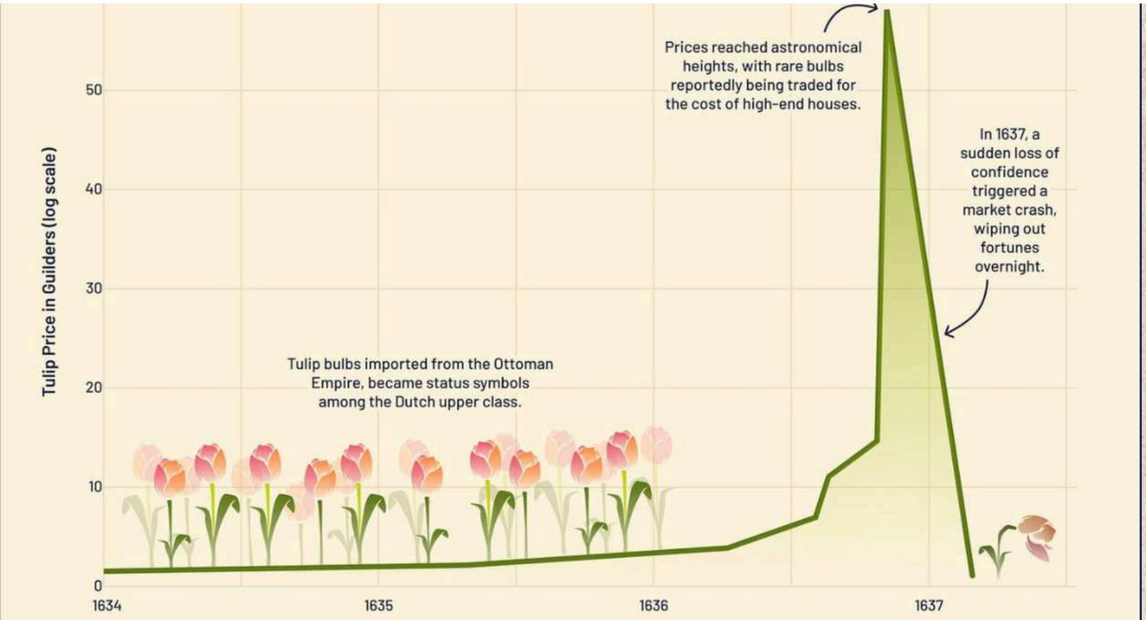
- Blue line = Google SVI for Ethereum
- Black line = Daily proportion of NFT investors who were newcomers
- Gray shaded regions = Time periods with strong herding probability





Trigger Event	Feb 3, 1637: failed auction sparked panic selling; prices crashed by 90% in weeks.	Crypto market collapse, scams, media backlash, and exit of newcomers drained NFT demand.
Domino Effect	By May 1, 1637, tulips were practically worthless.	NFT volume dropped 95% from peak. Projects like Bored Apes lost most of their value.
Investor Psychology	Investors realized intrinsic value was near zero; bubble burst quickly and brutally.	Attention faded, overhyped projects failed, and investors faced disillusionment.
Post-Crash Insight	Tulips went back to being flowers. No policy response.	Most NFTs became illiquid; public trust eroded; Web3 investment dried up.

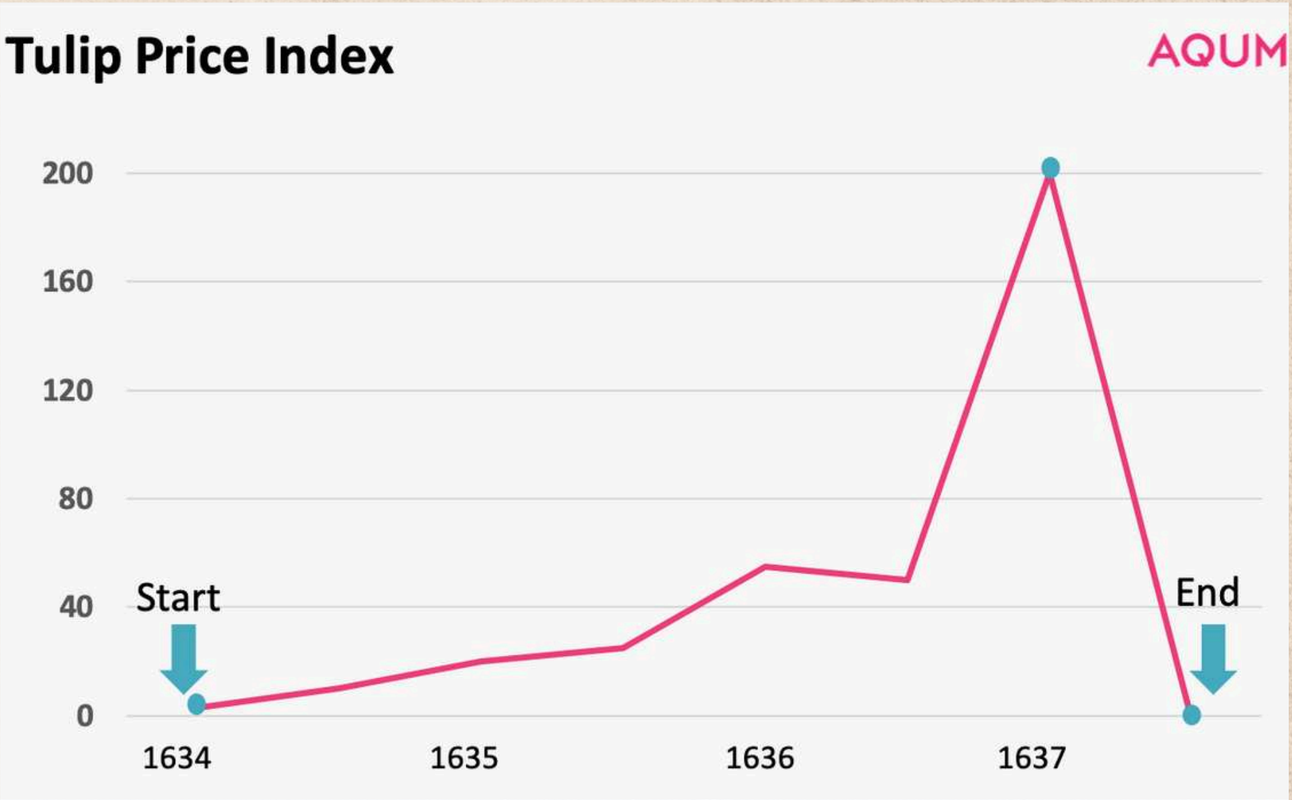


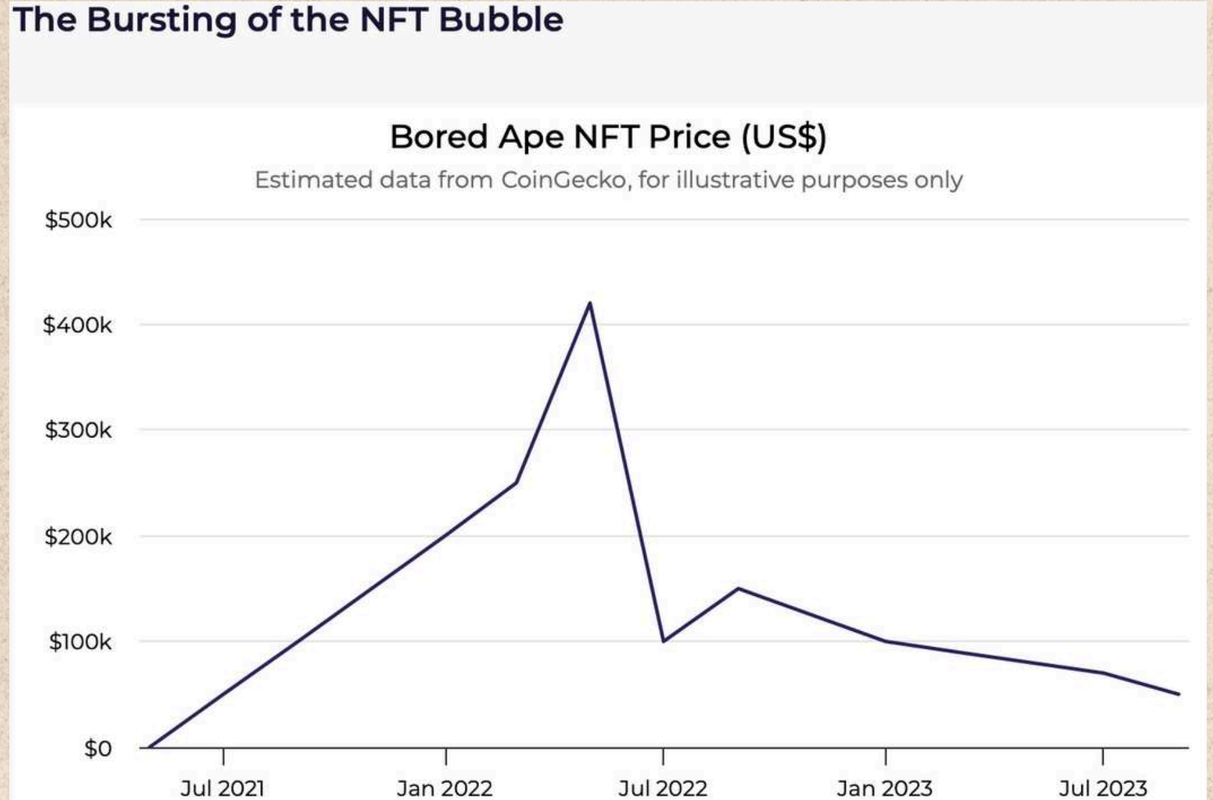


The Worth of One Tulip Bulb!

A Dutch pamphleteer, writing as the market peaked, described what one fashionable tulip bulb of 3,000 guilder was worth. The tulip market mania peaked from December 1636 through February 1637. Then it crashed!

Item	Price
Eight fat pigs	240 guilders
Four fat oxen	480 guilders
Twelve fat sheep	120 guilders
Twenty-four tons of wheat	448 guilders
Twenty-four tons of rye	558 guilders
Two hogsheads of wine	70 guilders
Four barrels of beer	32 guilders
Two tons of butter	192 guilders
A thousand pounds of cheese	120 guilders
A silver drinking cup	60 guilders
A pack of clothes	80 guilders
A bed with mattress and bedding	100 guilders
A ship	500 guilders
TOTAL	**3,000 guilders**



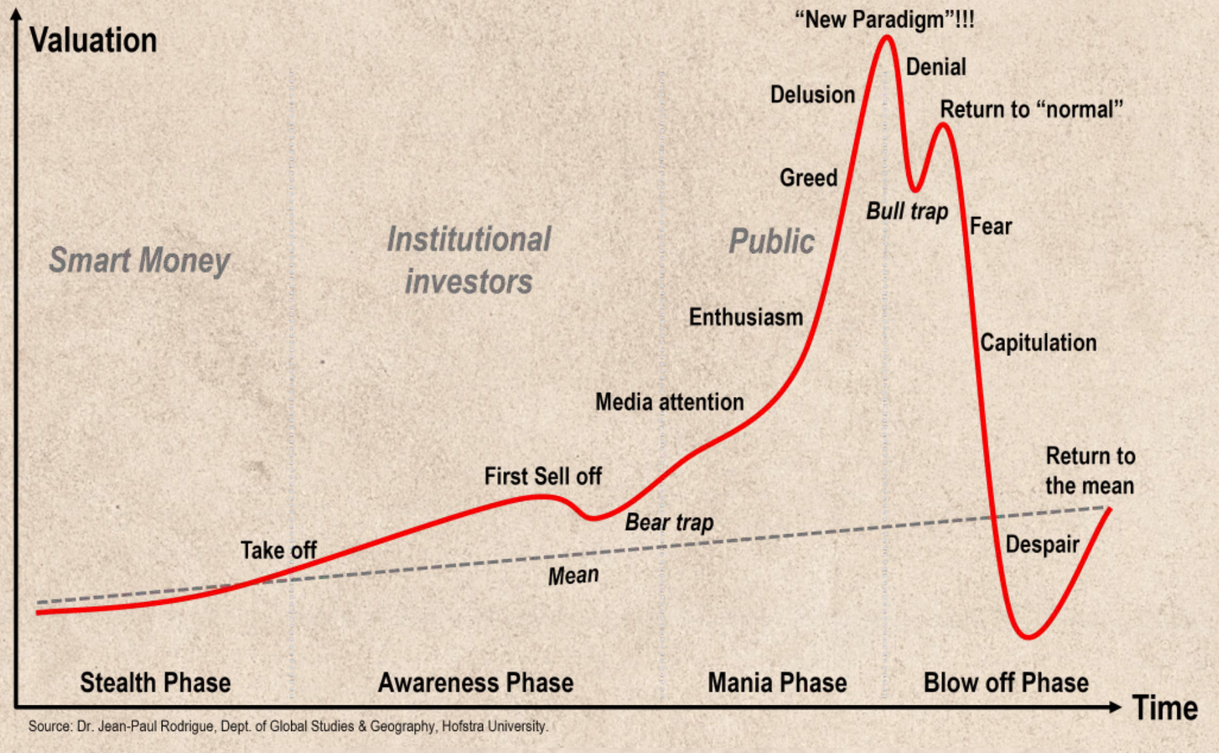


Spark	Tulips imported from Ottoman Empire. Rare varieties coveted.	Ethereum's ERC-721 launches. CryptoKitties & CryptoPunks gain traction.
Hype	1636: Prices of rare bulbs skyrocket. Futures market emerges.	2020-2021: Beeple's $69M sale. Celebrity NFTs and OpenSea fuel FOMO.
Peak	Feb 1637: Semper Augustus bulb sells for 5,200 guilders.	Jan 2022: NFT market volume hits billions monthly.
Collapse	Feb 1637: Auction fails. Prices drop 90% within days.	Late 2022: Crypto market crashes. NFT volume falls by 95%.

Conclusion

Bubble Anatomy (Behavioral Framing)

Displacement	A novel innovation or story captures attention (tulips, colonies, NFTs)
Boom	Prices rise fast; media + community amplify gains
Euphoria	Fundamental value is forgotten — it's all emotion and status
Profit-taking	Early investors cash out; others believe it's just a dip
Bust	Confidence collapses — panic selling and regret set in



Common Thread Across Eras

Historical Bubble

Tulip Mania (1630s)

South Sea Bubble (1720s)

Modern Bubble

NFT Craze (2021)

Crypto Boom (2020s)

Common Behavior

FOMO, status chasing, speculative social signaling

Overconfidence, herd-driven hype, regulatory lag

The bubbles change. The behavior doesn't

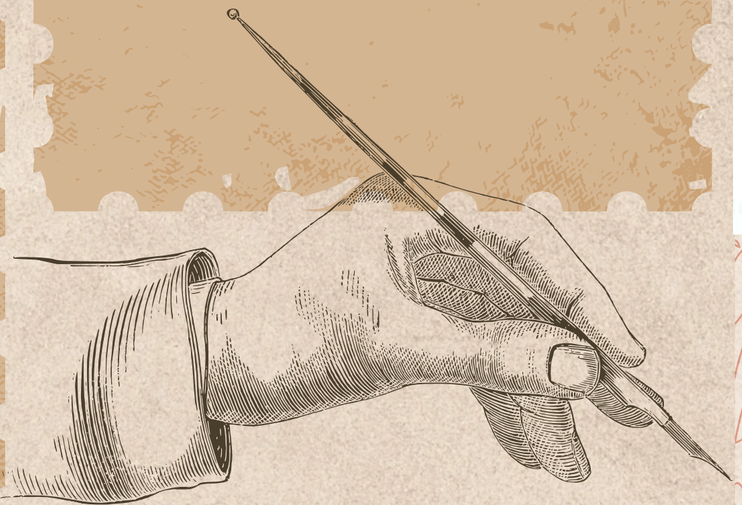
“From bulbs to blockchains, stories to smart contracts — history doesn’t repeat, but it rhymes.”

- Every bubble starts with a disruptive idea → becomes a compelling story → ends in panic
- Mackay's 1841 warning remains a cornerstone in behavioral finance theory

In all cases:

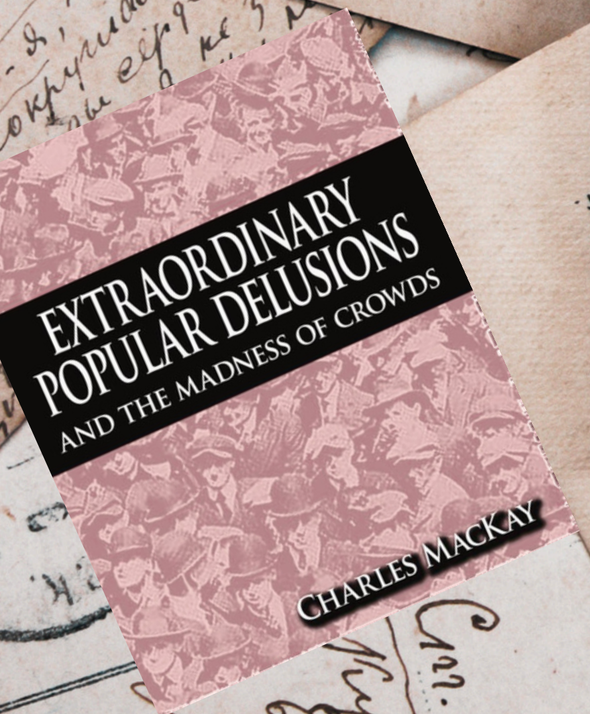
- The asset had no intrinsic value, but crowds convinced themselves otherwise.
- Newcomers rushed in at the peak, amplifying price surges.
- Compelling narratives fueled demand, not sound fundamentals.

- Every bubbles were driven by emotion over logic, a core principle in behavioral finance.



“ Men, it has been said, think in herds; it will be seen that they go mad in herds, while they only recover their senses slowly, and one by one. ”

— Charles Mackay



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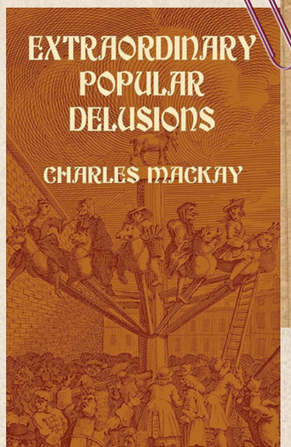

THANK YOU!

Key Takeaway

A repeated history is driven by a repeated human behavior.

Crowd behavior drives irrational decisions.

Every bubble starts with a promise, and ends with a crash.

The riskiest markets aren't the ones we don't understand — they're the ones we think we do, just because everyone else is buying in."