Behavioural Science and the Stock Market

Psychology, Bubbles, and Contrasting Cases

Classical vs Behavioural View

Classical finance (r̈ational markets) assumes:

- Investors process information perfectly.
- They care only about final wealth, not the path.
- Markets quickly and correctly embed all information in prices.

Behavioural finance observes instead:

- Investors use mental shortcuts and are influenced by emotions.
- Gains and losses are felt relative to a *reference point*.
- Social forces, stories, and media can push prices away from fundamentals.

Behavioural science treats the stock market as a *giant laboratory* for human decision making under uncertainty.

Core Psychological Ideas

Prospect Theory: How People Actually Feel Gains and Losses

Kahneman and Tversky's *Prospect Theory* [Kai-Ineman et al., 1979] models decisions under risk:

- Outcomes are evaluated relative to a **reference point** ("am I up or down from where I started?").
- The value function is:
  - concave for gains (we are risk-averse when winning),
  - convex for losses (we take risks to avoid sure losses),
  - steeper for losses than for gains (**loss aversion**).
- People overweight small probabilities and underweight moderate ones.

In plain language:

- Losing \$1 hurts more than gaining \$1 feels good.
- A sure small loss feels worse than a gamble with a chance to avoid it.

Market Consequences of Prospect Theory

Prospect-theoretic preferences help explain several stock-market behaviours:

- **Disposition effect**: investors tend to
  - sell winners too early (locking in gains),
  - hold on to losers too long (avoiding the pain of realising a loss).
- **Myopic loss aversion**:
  - investors who check prices too frequently feel many small losses,
  - they may demand a higher return or avoid risky assets altogether.
- Preference for **lottery-like stocks**:
  - small chance of very large gain is overweighted,
  - leads to overpricing of extreme long-shot stocks.

The key point: prices reflect not only cash flows and discount rates, but also how gains and losses are *felt* by humans.

Overconfidence and Trading

Overconfidence: Trading Is Hazardous to Your Wealth

Behavioural evidence shows that many investors are overconfident:

- They overestimate the precision of their information.
- They attribute wins to skill and losses to bad luck.
- They trade more aggressively than is justified by fundamentals.

Barber and Odean [Barber and Odean, 2000] studied 66,000 US brokerage accounts:

- Households that traded the most underperformed the market by several percentage points per year on average.
- Men traded more than women and underperformed more.

Behavioural message: more trading *feels* like using your skill, but for many individuals it simply amplifies costs and errors.

Contrasting Case: Who Benefits from Overconfidence?

The same data can be read in two ways:

- **Negative side:** many retail investors damage their returns through excessive trading and poor timing.
- **Contrasting side:** someone must be on the other side of these trades:
  - more patient, better-informed investors,
  - quantitative funds and market makers.

This leads to a nuanced view:

- Markets are not perfectly rational, but
- competition between different types of traders can *partially* correct mispricing.

Herding, Narratives, and Bubbles

Narratives and Bubbles: Shiller's View

Robert Shiller [Shiller, 2002] argues that:

- Stories spread like viruses: "new economy", "housing never falls", "AI will transform everything".
- These narratives shape investor expectations and justify high prices.
- Social proof and media attention amplify the effect ("everyone seems to be getting rich from this").

Historical cases:

- The late-1990s dot-com bubble: technology and internet narratives pushed valuations far beyond earnings.
- Mid-2000s US housing bubble: widespread belief in ever-rising house prices.

Behaviourally, bubbles are not just about numbers, but about **shared stories** that make extreme valuations feel reasonable.

GameStop 2021: Social Media, Herding, and Identity

The GameStop short squeeze in January 2021 provides a modern case study:

- A heavily shorted, struggling retailer.
- Retail traders on Reddit's `r/wallstreetbets` coordinated buying, turning the stock into a social and political symbol.
- The price briefly rose by more than 1,000% in a few weeks, then crashed afterwards.

Behavioural elements:

- **Herd behaviour**: individuals follow the crowd, partly out of FOMO.
- **Narrative and identity**: owning the stock became a way to express belonging and "fight Wall Street", not just an investment.
- **Selective attention**: investors fixated on price spikes and screenshots of gains, underweighting the probability of a crash.

Contrast:

- Fundamental value changed little in the short run,
- yet price movements were extreme, driven largely by psychology and short-covering dynamics.

When Markets Look Rational

Evidence for (Partial) Efficiency

Despite many behavioural patterns, markets are not pure madness:

- Event studies show that prices often adjust quickly when firms release earnings or major news.
- Over long horizons, stock returns tend to be related to fundamentals such as earnings and cash flows.
- Many anomalies shrink after they are publicised, suggesting competition among traders reduces free lunches.

Contrasting view:

- **Behavioural finance** highlights systematic psychological biases.
- **Market efficiency** reminds us that exploiting these biases at scale is difficult and risky.

The reality is an *interaction*: human biases create mispricings, while other agents work to arbitrage them away.

Putting It Together

Behavioural View of Stock Markets: Summary

1. **Human psychology matters**
   - Loss aversion, overconfidence, mental accounting, and probability weighting shape how people invest.
2. **Social forces are powerful**
   - Herding, narratives, and identity can drive bubbles and crashes (from dot-coms and housing to meme stocks).
3. **Markets are neither fully rational nor completely crazy**
   - Many investors behave in biased ways, but
   - competition, arbitrage, and professional traders limit how far mispricing can persist.

Behavioural science does not replace traditional finance; it adds a layer: markets are places where *cash flows* meet *human psychology*.

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