Behavioural Finance

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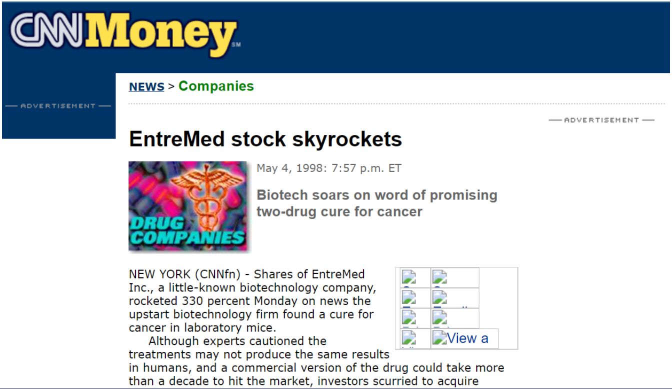
Introduction

Review of Behavioral Finance
- Overconfidence and Self-Esteem Maintenance
- Limited Attention and Cognitive Processing
- Feelings

Conclusion

An example

- The stock price of EntreMed jumped about 600% over a week.
- But the information was available 5 months earlier.


CNNMoney

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NEWS > Companies

— ADVERTISEMENT —

EntreMed stock skyrockets

DRUG COMPANIES

May 4, 1998: 7:57 p.m. ET

Biotech soars on word of promising two-drug cure for cancer

NEW YORK (CNNfn) - Shares of EntreMed Inc., a little-known biotechnology company, rocketed 330 percent Monday on news the upstart biotechnology firm found a cure for cancer in laboratory mice.

Although experts cautioned the treatments may not produce the same results in humans, and a commercial version of the drug could take more than a decade to hit the market, investors scurried to acquire

View a

Behavioral Finance

- Efficient market hypothesis: most investors are rational in processing information. Prices accurately reflect publicly available information.
- Behavioral finance: studies how people fall short of this ideal in their decisions and how markets are inefficient.

Overview

- Mispricing, Arbitrage, and Financial Agents
- Psychological Foundations
- Overconfidence and Self-Esteem Maintenance
- Limited Attention and Cognitive Processing
- Feelings
- Firm Behavior: Exploiting vs. Inciting Misvaluation

Arbitrage

- Arbitrage is a double-edged blade that can make prices either more or less efficient.
  - depending on the dominant investors.
- Empirical evidence seems to confirm that long run wealth tends to flow to smart arbitrageurs.
  - Grinblatt and Bartram(2018,2021)

Financial Agents

- Are agents rational enough?
- Owing to conflict of interest, or to imperfect rationality of investment professionals, employing agents is an imperfect remedy for ignorance and folly.
- Money managers often pander to investor irrationality to attract inflows.

Psychological Foundations

- Heuristics simplification:
  - Because people need to make judgments and decisions quickly using limited cognitive resources, they necessarily use shortcuts
  - Dual-process theory: an automatic, nondeliberative system quickly generates perceptions(intuitive system) and judgments; a slower, more effortful system monitors and revises such judgments as time and circumstances permit(reasoning system).
  - encompasses innate and automatic processes as well as learned or consciously selected rules of thumb.
  - People are overconfident that their intuition is correct.
    - What you see is all there is(WYSIATI)

Psychological Foundations

- Affective short-circuiting:
  - facilitate making fast use of urgent information about the environment
  - sudden panic / hot stock
- Self-deception
  - People overestimate their personal merits as to be more persuasive.

Psychology of overconfidence

- Overprecision: people think that their judgments are more accurate than they really are
- Overplacement: overestimate one's rank in the population
  - Overoptimism about one's prospects, which affects economic and financial decisions.
  - Self-enhancing attribution bias
- Cognitive dissonance: stick too stubbornly to a choice despite opposing information
  - sunk cost effect
  - rationalization of one's past behaviours

Investor overconfidence and self-esteem maintenance

- trading aggressively
  - Individual investors trade individual stocks despite losing money
  - Invest in active funds instead of indexing
  - Underdiversification
    - A greater feeling of competence about investing is associated with weaker home bias in investing (Graham, Harvey & Huang 2009, MS)
  - Dynamics: profits on position increase confidence, resulting in greater aggressiveness.

Investor overconfidence and self-esteem maintenance

- price overreaction
  - high price be a proxy for overvaluation and low price for undervaluation → size effect / BM/ Earnings/ cash flow/ past price(loser/winner effect)
    - **salience theory** and stock prices (JFE,2021,ab)
  - → fundamental-to-price ratios predict returns strongly, because they capture both risk and mispricing effects. → stronger overconfidence effects for hard-to-value stocks.
  - Forward premium puzzle: the forward premium for bonds denominated in different currencies negatively predict exchange rate shifts, because short-term IRs act as a fundamental scaling for long-term IRs.

Investor overconfidence and self-esteem maintenance

- Dynamic under- vs. overreaction
  - Bias in self-attribution means short-run momentum and long-run reversal.
  - → Post-event return continuation, eg. issuing overpriced shares(or IPO, debt) and repurchasing underpriced shares(New issues puzzle)
    - **Danial, 2018, RFS**
    - Equity issues in total new equity and debt issues negatively predict market returns.

Investor overconfidence and self-esteem maintenance

- Short-sale constraints, and overpricing
  - Miller(1997): owing to short-sale constraints, only relatively optimistic beliefs are impounded into price
  - dispersion of analyst forecasts is negatively associated with subsequent abnormal returns
    - → stocks with tighter short-sale constraints have stronger return predictability anomalies
    - Volatility proxies disagreement, implying greater overvaluation. → stocks with high idiosyncratic risk underperform (Ang et al. 2006)
    - Lower liquidity exacerbate bubbles. eg. bubble in Chinese warrants(Xiong and Yu 2011)

Managerial and Advisor Overconfidence

- manager:
  - more acquisition
  - less external finance, especially equity, more short-term debt
  - greater corporate investment, more R&D
- analyst:
  - **Jiang,Kumar & Law 2016,RAS**: political attitudes and forecasting
  - dynamics: attribute good performance excessively to their own abilities.

Failure to Process Signals and the Environment

- Information neglect (Limited-attention theory)
  - positive abnormal returns after neglected good news and vise versa
  - overreact to salient news and less predictive components
    - Hong & Stein, 1999: news watchers tend to underreact and momentum traders tend to overreact.
  - post-earnings announcement drift
  - accrual anomaly (negative predictor)
    - Accruals, the accounting adjustments made to cash flows to obtain earnings, are less positive than cash flow as a predictor of profitability
  - Salience and distraction
    - **Cohen et al, 2020,JF** : lazy prices, changes to the language and construction of financial reports.
    - when an investor's attentional resources are depleted, greater resort to intuition. eg. Friday.

Category Thinking & Reference Dependence

- Category Thinking: comovement in excess of fundamentals: investors think heuristically about security categories.
  - eg, **Du et al. 2022JBF** concept link and return momentum
  - assets that share a style comove more
- Reference dependence: seemingly irrelevant reference points matter to investors and firms
  - Past stock price highs affect firm and investor behavior and predict future stock and market returns (George & Hwang 2004;Baker, Pan & Wurgler 2012).

Conceptual Discretizing, Loss Aversion, and Probability Weighting

- Increasing effective risk aversion offer an explanation for the equity premium and nonparticipantion puzzles.
- → Conceptual discretizing so that even a small loss is perceived to be essentially different from a small gain.
- → overweight unlikely events → lottery stock preference and low return

Mental accounting and realization preference

- Mental accounting: track gains and losses relative to a reference point and to feel rewarded or punished for them.
- Realization preference: investors become more willing to realize realization preference as the net gain increases.

Mental accounting and realization preference

- realization preference
  - the dual risk attitudes of prospect theory (risk loving in the loss domain, risk averse in the gain domain)
  - disposition effect: the probability of an investor selling an asset conditional upon a gain is greater than it is conditional upon a loss
  - reverse disposition effect: when investors can assign blame to others suggests that the urge to maintain self-esteem is a key driver(Chang, Solomon & Westerfield 2014)
  - Prospect theory
    - Value is an S-shaped function of gain/loss (dual risk attitudes), resulting in risk aversion in the gain domain and risk seeking in the loss domain

Heuristic learning

- representativeness heuristic: people assess the probability of a state of the world on the basis of how typical of that state the evidence seems to be.
- hyperactive pattern recognition: overweight the probabilities of opportunities or dangers when the potential cost of neglect is high (people experienced economic crisis invest less)
- overextrapolation: positive-feedback trading
  - causes overreaction and long-run return reversal
  - if sequences of good earnings news occur, then investors fixate on this pattern and overreact.

Others

- Reinforcement learning: individuals extrapolate only from their own direct experience and without properly reflecting on the informativeness of the data.
    - past life experiences also affect both investor and managerial decisions
    - eg. Malmendier, Tate & Yan 2011 JF: CEOs who grew up during the Great Depression are averse to debt and lean excessively on internal finance.
- Inertia and habits

Familiarity and liking

- familiarity reduces feelings of risk
- Good mood increases optimism and risk taking (Kuhnen & Knutson 2011JFQA) and vice versa
- Endowment effect: preference for retaining over exchanging for better alternative. ← loss aversion

Financial theories based on feelings

- mood swings associated with weather or sports events can affect prices (as documented in Saunders 1993, Hirshleifer & Shumway 2003, Edmans, Garcia & Norli 2007).
- Seasonal shifts in length of day can induce seasonal affective disorder and are correlated with market returns (Kamstra, Kramer & Levi 2000).

Financial effects of familiarity and in-group bias

- home bias/ in-group bias: bias in financial investing and economic exchange in favor of one's own culture.
- ← aversion to uncertainty or unfamiliarity, distrust is an important barrier to participation in the stock market (Guiso, Sapienza & Zingales 2008)

Sentiment, shifting optimism, and risk tolerance

- If sentiment induces mispricing, then sentiment measures should predict future abnormal returns.
  - Measures of global sentiment negatively predict country-level returns. (Baker, Pan & Wurgler 2012)

Overview

- Understanding firm behavior in inefficient markets:
  - exploiting: an action taken in response to a preexisting level of mispricing
  - inciting: an action designed to shift the level of mispricing (Hirshleifer 2001). eg. repurchase
  - upward earnings management/ downward earnings management

Exploitive advisors and firms

- Daniel, Hirshleifer & Subrahmanyam (1998), firms select new issues and repurchase amounts as a function of mispricing to exploit investor overconfidence. This implies positive abnormal returns after repurchase and negative returns after new issues.
- Cornelli, Goldreich & Ljungqvist (2006) provide evidence that institutional investors and underwriters exploit misvaluation of IPOs by individual investors.
- In the theory of Gennaioli, Shleifer & Vishny (2012), intermediaries design securities that seem nearly risk free to take advantage of investor neglect of nonsalient risks, resulting in booms and crashes.

Future research

- Laboratory and field experiments
- How feelings affect financial decisions
- Focus more on specific pathways of causality
- Move from behavioral finance to social finance