Behavioral Finance Vs Traditional Finance

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Some of the authors of this publication are also working on these related projects:

- Investor Sentiment and Stock Returns

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Classical Finance vs Behavioral Finance: A New Paradigm

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Behavioral finance is the study of psychology and sociology on the behavior of the financial practitioners and their effect on the security market.

It helps to understand why people buy or sell stock without doing fundamental analysis and behave irrationally in investment decisions.
**Classical Finance vs Behavioral Finance: A New Paradigm**

- **Traditional finance theories** dismissed the idea that people’s own psychology can work against them in making good investment decisions.

- **Behavioral finance argues** that some financial phenomena can plausibly be understood using models in which some agents are not fully rational.
Classical Finance vs Behavioral Finance: A New Paradigm

• In traditional theories of finance investment decisions are based on the assumption that investors act in a rational manner.
• This means that they behave rationally so they earn returns for the money they put in stock markets. To become successful in the stock market it is essential for investors to have rational behavior patterns. Rational behavior is also required to overcome tendencies.

• Modern theory of investors’ decision-making suggests that investors do not act rationally at every time while making an investment decision.
• They deal with several cognitive and psychological errors. These errors are called behavioral biases and are exists in many ways.
Traditional vs. Behavioral

**Conventional Finance**
- Prices are correct; equal to intrinsic value.
- Resources are allocated efficiently.
- Consistent with EMH

**Behavioral Finance**
- What if investors don’t behave rationally?
Rational Expectations Paradigm

- All investors are identical.
- All investors are utility maximizers.
- All investors use “Bayes rule” to form new beliefs as new information becomes available.
- All investor predictions are accurate.

**Expected Utility + Rational Expectations**

=> Market Efficiency
Market Efficiency

• Fama: “The market price at any time instant reflects all available information in the market”.

• Three forms
  – **Weak form**: past prices and returns.
  – **Semi-strong form**: all public information.
  – **Strong form**: all public AND private information.

• Michael Jensen: “there is no other proposition in economics which has more empirical support than the EMH”.
Challenges to EMH

- Investors are not “fully rational”. They exhibit “biases” and use simple “heuristics” (rules of thumb) in making decisions.

- Empirical Evidence on investor behavior:
  - investors fail to diversify.
  - investors trade actively.
  - Investors may sell winning stocks and hold onto losing stocks.
  - extrapolative and contrarian forecasts.
Are Financial Markets Efficient?

- Weak form of market efficiency supported to a certain extent.
- Challenges:
  - Excess market volatility
  - Stock price over-reaction: long time trends (1-3 years) reverse themselves.
  - Momentum in stock prices: short-term trends (6-12 months) continue.
  - Size and B/M ratio (stale information) may help predict returns.
Role of Investor Behavior

- Bounded Rationality: “satisficing” behavior. Information processing limitations. **Example:** memory limitations.
- Investor Sentiment: beliefs based on heuristics rather than Bayesian rationality.
- Investors may react to “irrelevant information” and hence may trade on “noise” rather than information.
Behavioral Finance

- Bridge the gap between classical economics and psychology
- Individual behavior systematically show psychological patterns
  - Overconfidence
  - Anchor too low/high and too slow to adjust
  - Frame losses as worse than relative gains; Valued more highly if owned
  - Chase Trends; Overwhelmed by choice
  - Lack of self-control; Trade at wrong time; Emotional investing

- Markets can still be rational when investors are individually irrational.
  - But that does not mean individuals don’t make major mistakes!
“Irrational” Behavior of Professional Money Managers

- May choose a portfolio very close to the benchmark against which they are evaluated (for example: S&P500 index).
- Herding: may select stocks that other managers select to avoid “falling behind” and “looking bad”.
- Window-dressing: add to the portfolio stocks that have done well in the recent past and sell stocks that have recently done poorly.
Two categories of irrationalities:

1. Investors do not always process information correctly.
   - Result: Incorrect probability distributions of future returns.

2. Even when given a probability distribution of returns, investors may make inconsistent or suboptimal decisions.
   - Result: They have behavioral biases.
Errors in Information Processing: Misestimating True Probabilities

1. **Forecasting Errors:** Too much weight is placed on recent experiences.

2. **Overconfidence:** Investors overestimate their abilities and the precision of their forecasts.

3. **Conservatism:** Investors are slow to update their beliefs and underreact to new information.

4. **Sample Size Neglect and Representativeness:** Investors are too quick to infer a pattern or trend from a small sample.
Behavioral Heuristics and Decision-Making Biases

• What strategies do decision makers use when faced with difficult decisions, especially ones that involve uncertainty?

• Commonly Used Heuristics
  – **Availability:** “familiarity breeds investment”.
  – **Representativeness:** judgement based on similarity. “Patterns in random sequences”.
  – Reliance on the judgement of other people (Keynes beauty contest analogy).
Heuristics (Cognitive Shortcuts)

Strategies decision makers use when faced with decisions, that involve uncertainty:

1. Representativeness
   - People tend to infer that a single observation is representative of the entire population
     • Sample Size Neglect in Learning Distribution (6 Tosses vs. 1000 Tosses)
     • Gambler’s Fallacy - Base Rates are Under-Emphasized Relative to Evidence
     • Judgment based on similarity. “Patterns in random sequences”.

2. Saliency or Availability: “familiarity breeds investment”.
   - People tend to over-estimate probabilities of a low frequency event if they have recently heard such an event has occurred

3. Prospect Theory
   - Investors more risk-adverse in domain of losses than gains
Some more Heuristics

- **Overconfidence**: people overestimate the reliability of their knowledge.
  - Excessive trading
- **Framing Effect**
- **Regret Aversion**: anticipation of a future regret can influence current decision.
- **Disposition Effect**: sell winners, hold on to the losers.
- **Anchoring and adjustment**: can create under-reaction.
Prospect Theory

• Proposed by two psychologists: Daniel Kahneman and Amos Tversky.
• Gambles are evaluated relative to a reference point.
• Decision maker analyzes “gains” and “losses” differently.
• Incremental value of a loss is larger than that of a loss.
  “the hurt of a $1000 loss is more painful than the benefit of a $1000 gain”.

Different psychological biases

Behavioral factors which affects the decision of investors in stock market:

1. Overconfidence:
   - People tend to overstate their knowledge, understate risks, and exaggerate their ability to control events.

   - Psychologists are of the opinion that overconfidence causes people to overestimate their knowledge, underestimate risks and exaggerate their ability to control eventstakes too much risk. They do not diversify their investment.
How does it affect investors’ decision?

- Overconfidence causes investors to misinterpret the accuracy of our information and overestimate our skill in analyzing them.

- This can lead to poor investment decisions, excessive trading (Odean 1999), risk taking, and ultimately losses.
Different psychological biases

2. Representativeness

• Psychological research has shown that the brain uses short cuts to reduce the complexity of analyzing information.
• These short cuts allow the brain to generate an estimate of the answer before fully digesting all the available information.
Representativeness

- is judgment based on stereotypes, where the brain makes the assumption that things that share similar qualities are quite alike.

- Examples of representativeness error in financial markets include; confusing a good company with a good investment, classifying good stocks as firms with a consistent good history of earning growth, thus leading to overvaluation (Over reaction)
Different psychological biases

Familiarity

• people prefer things that are familiar to them. When people are faced with two risky choices, they know more about one than the other, they will pick the more familiar option.

• This bias has a direct effect on the financial decisions, where investors tend to trade in the securities with which they are familiar with.

• There is a comfort in having your money invested in a business that is visible to you.
Different psychological biases

Market Mania

- When investors are influenced by their psychological bias in a common way, the overall market can be affected. This can best be described by the internet stock crash.
3. Herding:

This is the common mistake where investors tend to follow the investment decisions that taken by the majority. As a result of this investor will not buy or sell a stock even if that decision is supported by technical or fundamental analysis. Investor is pressurized by the influence by the peers. They are more concerned about what others think of their investment decision. As a result of herding behavior, investors lose their own individuality in the decision making process.

4. Anchoring:

Anchoring is a psychological situation exists when investors give unnecessary importance to statistically random and psychologically determined ‘anchors’ which leads them to investment decisions that are not essentially ‘rational’. After considering the estimation of good price for buying the share the investor will begin such process by using initial value called ‘Anchor’ and may be by considering the 52 weeks low of the stock then investor adjust such ‘Anchor’ up and down to reflect their analysis or new information but studies have shown that this adjustment is insufficient and ends producing results that are biased.
5. Cognitive Dissonance:

Cognitive Dissonance can be defined as the mental conflict that people experience when they are presented with evidence that their beliefs or assumptions are wrong. As a result of this conflict, the investor ignores new information that contradicts known beliefs and decision. This behavior of investors leads to reduction in their ability to make rational and fair investments.

6. Regret Aversion:

Regret Aversion is a psychological error that arises out of excessive focus on feelings of regret at the time of decision making, which turned out to be poor, mainly because the outcomes of the alternative are visibly better for the investor to see. The root cause of this type of error is the tendency that individuals hate to admit their mistakes. Because of such tendency investors may avoid taking decisive actions for the fear that whatever decisions they take will be sub-optimal in Hindsight.
Fear of Regret and seeking pride (Disposition effect):

- People avoid actions that create regret, and seek actions that cause pride. Shefrin and Statman (1984) showed that fearing regret and seeking pride causes investors to be inclined to selling winners too early and riding losers too long.
Different psychological biases

7. Mental Accounting:

Mental Accounting is the set of cognitive operations used by individuals and households to organize, evaluate and keep record of financial activities resulting in a tendency for people to separate their money into separate accounts based on a variety of subjective reasons. Individuals tend to assign different functions to each asset group, which has often irrational and negative effect on their consumption decisions and other behaviors. Mental Accounting refers to the codes of people use when evaluating an investment decision resulting in low or no diversification of investment.

8. Hindsight:

Hindsight bias can be defined as the tendency to think that one would have known actual events that were coming before they happened. As a result of hindsight bias investors usually take wrong decision or pretend that the outcome of their decisions was known by them very earlier. If investor have loss on particular stock then too they will pretend as if they knew it earlier that they will loss, as a result of this they don’t learn lessons from their wrong decisions and such decisions may be taken again in future also.
Mental accounting

• It is a tendency of the brain to create short cuts with how it perceived the information and ending up with outcomes that is difficult to be viewed in any other way. The results of these mental accounting are that it influence decisions in unexpected ways.
9. Availability Bias:

The availability bias suggests that the recent memory i.e., the available example influences more on investor’s decision of investment i.e., if investors have recently seen huge loss in one investment avenue then he will not invest in that avenue. Investors are more likely to be fearful of stock market if they have recently seen any stock market crisis.

10. Conservatism:

Conservatism represents that the investor takes decision on the basis of his past information although faced with the new information or investor only partially adjust their view in the light of new information i.e., investors who buy shares in a high profile company may be slow to adjust their view of the company’s prospects even after the company’s profitability deteriorates.
Sentiment Indicators: Trin Statistic

- Trin Statistic:

\[ trin = \frac{\frac{\text{volume.declining}}{\text{number.declining}}}{\frac{\text{volume.advancing}}{\text{number.advancing}}} \]

Ratios above 1.0 are bearish
Sentiment Indicators: Confidence Index

• Confidence index: The ratio of the average yield on 10 top-rated corporate bonds divided by the average yield on 10 intermediate-grade corporate bonds.

• Higher values are bullish.
Sentiment Indicators: Put/Call Ratio

• Calls are the right to buy.
  – A way to bet on rising prices

• Puts are the right to sell.
  – A way to bet on falling prices

• A rising ratio may signal investor pessimism and a coming market decline.

• Contrarian investors see a rising ratio as a buying opportunity!
Summary

- Investor behavior does have an impact on the behavior of financial markets. How much? Not clear!
- Both “social” and “psychological” must be taken into account in explaining the behavior of financial markets.
- Market “anomalies” may be widespread.
- Behavioral Finance: does not replace but complements traditional models in Finance.
References
