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BBA | Semester V | Calicut University

Behavioural Finance

Course Code: BBA5CJ302 • Module 3 Notes

1. Ellsberg's Paradoxes and Ambiguity Aversion

Classical probability theory assumes that individuals evaluate uncertainty using well-defined subjective probabilities. Daniel Ellsberg (1961) challenged this framework by demonstrating that human decision-makers draw a sharp cognitive distinction between **Risk** (known probability distributions) and **Ambiguity** (unknown or unquantifiable probability distributions).

The Ellsberg Paradox Experiment

Consider an urn containing 30 Red balls and 60 Black and Yellow balls in unknown proportion:

Gamble Option	Gamble Details	Observed Human Preference	Theoretical Violation
Choice 1 (Gamble A vs B)	**A:** Win $100 on Red (Known 1/3) **B:** Win $100 on Black (Unknown 0 to 2/3)	Majority choose **Gamble A** (Known Probability).	Implies subjective belief that P(Red) > P(Black).
Choice 2 (Gamble C vs D)	**C:** Win $100 on Red or Yellow **D:** Win $100 on Black or Yellow (Known 2/3)	Majority choose **Gamble D** (Known Probability).	Implies subjective belief that P(Black) > P(Red), directly contradicting Choice 1!

Ambiguity Aversion in Financial Markets

Investors demand a significantly higher risk premium to invest in foreign assets, new technology stocks, or complex derivatives where the probability distributions are ambiguous, explaining home-country bias in international portfolio management.

2. Rationality from Economics and Evolutionary Perspectives

Understanding rationality requires examining how classical economic definitions compare with evolutionary biological adaptations.

Classical Economic Rationality

Defines rationality as mathematical consistency: optimizing a well-defined utility function subject to resource constraints using all available information without error.

Evolutionary Psychology Rationality

Views human cognitive heuristics as adaptive survival mechanisms designed by natural selection for ancestral hunter-gatherer environments, not complex modern stock markets.

3. Defining Rationality, Time Horizons, and Group Rationality

Rationality is not a static concept; it varies significantly based on time horizons, structural contexts, and individual versus group decision settings.

- **Time-Horizon Dependence:** Decisions that appear irrational over short time horizons (e.g., hoarding cash during panic) may represent optimal survival strategies over extended generational horizons.
- **Individual vs. Group Rationality (Herding):** An action that is individually rational (e.g., exiting a bank during a panic run to secure cash) generates catastrophic group irrationality (bank collapse).
- **Groupthink in Investment Committees:** Collective decision-making bodies often suffer from pressure for consensus, suppression of dissenting analysis, and extreme risk-shifting.

4. Herbert Simon and Bounded Rationality

Nobel Laureate Herbert Simon formulated the concept of **Bounded Rationality**, acknowledging that human beings lack the cognitive capacity, perfect information, and computational time required to calculate absolute mathematical optima.

Satisficing vs. Optimizing

Instead of searching endlessly for the single *optimal* solution, human decision-makers engage in **Satisficing**—searching through choices until they find an alternative that meets a pre-determined threshold of adequacy ("good enough").

Decision Axis	Classical Optimization (*Homo Economicus*)	Bounded Rationality / Satisficing (Real Humans)
Information Processing	Infinite computational capacity; evaluates all choices simultaneously.	Limited cognitive capacity; processes information sequentially using mental shortcuts.
Search Termination Rule	Stops search only when absolute global mathematical maximum is reached.	Stops search as soon as an alternative satisfies baseline aspiration levels.
Real-World Application	Unrealistic mathematical ideal.	Accurate descriptive model of real human decision behavior.

5. Heuristics, Belief Biases, Limited Attention, and Categorization

To navigate a complex world under bounded rationality, the human brain relies on **Heuristics**—mental shortcuts or rules-of-thumb that speed up decision-making but introduce systematic cognitive errors.

Core Cognitive Heuristics & Biases

1. Availability Heuristic

Assessing the likelihood of an event based on how easily recent, vivid, or dramatic examples come to mind (e.g., overestimating market crash risks immediately after a crash).

2. Representativeness Heuristic

Judging the probability of an item belonging to a category based on superficial similarity, leading to sample size neglect and over-extrapolating short track records.

3. Anchoring and Adjustment

Fixating heavily on an initial arbitrary piece of information (e.g., historical 52-week high stock price) and making insufficient adjustments when evaluating current worth.

4. Confirmation Bias & Limited Attention

Selectively seeking out data that confirms pre-existing investment theses while actively ignoring or discounting contradictory evidence.

5. Overconfidence & Hubris

Investors overestimating the accuracy of their knowledge and predictive ability, leading to excessive trading volume and reduced net returns.

6. Self-Attribution Bias

Attributing successful investment outcomes to personal skill and intellect while blaming investment losses on bad luck or external manipulation.

6. Non-Traditional Preferences, Bubbles, and Investor Sentiment

Behavioural finance incorporates non-traditional preference structures to explain speculative asset bubbles and market sentiment dynamics.

- **Hyperbolic Discounting:** Human preference for immediate gratification over long-term rewards, leading to time-inconsistent financial savings behavior.
- **Speculative Asset Bubbles:** Multi-stage market phenomena driven by narrative stories, media amplification, herding, and credit expansion (e.g., Tulip Mania 1637, Dot-Com Bubble 2000, 2008 Housing Bubble).
- **Baker-Wurgler Sentiment Index:** Measuring systematic investor sentiment using market indicators including closed-end fund discounts, IPO first-day returns, equity issuance share, and dividend premium.