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BA Economics Honours | Semester V | Calicut University

Advanced Microeconomics

Course Code: ECO5CJ301 • Module 3

Module III: Uncertainty and Consumer Behaviour

Standard neoclassical consumer theory assumes perfect certainty regarding income, product attributes, and prices. In reality, economic agents make choices under risk and uncertainty. The **Expected Utility Theory** formulated by John von Neumann and Oskar Morgenstern (1944) provides the analytical framework for decision-making under risk.

Unit 14 & 15: Probability, Expected Value, and Risk Attitudes

A risky prospect or lottery is characterized by a set of prospective monetary payoffs $(X_1, X_2, \dots, X_n)$ occurring with objective probabilities $(p_1, p_2, \dots, p_n)$ such that $\sum p_i = 1$:

- **Expected Value (EV):** The probability-weighted average payoff:

$$E(X) = \sum_{i=1}^{n} p_i X_i$$

- **Expected Utility (EU):** The probability-weighted utility of the outcomes:

$$E[U(X)] = \sum_{i=1}^{n} p_i U(X_i)$$

- **Taxonomy of Risk Attitudes (Jensen's Inequality):**
  1. **Risk Averse:** Concave utility function ($U''(W) < 0$). Prefers a certain wealth $E(W)$ over a lottery with expected value $E(W)$ ($U(E(W)) > E[U(W)]$). Possesses positive risk premium.
  2. **Risk Neutral:** Linear utility function ($U''(W) = 0$). Indifferent between certain wealth and actuarially fair lottery ($U(E(W)) = E[U(W)]$).
  3. **Risk Loving / Risk Seeking:** Convex utility function ($U''(W) > 0$). Prefers the lottery over certain payout ($U(E(W)) < E[U(W)]$).

Unit 16, 17 & 18: Risk Mitigation, Value of Information, and Portfolio Choice

Economic agents manage risk exposure through institutional and market mechanisms:

- **Diversification:** Allocating wealth across assets whose returns are not perfectly positively correlated reduces overall portfolio variance without sacrificing expected return. By the *Law of Large Numbers*, aggregate risk diminishes as independent risk exposures multiply.
- **Actuarially Fair Insurance:** An insurance contract where the insurance premium equals the expected loss ($Premium = p \times Loss$). A risk-averse individual will always purchase complete insurance coverage when it is actuarially fair.

- **Value of Complete Information:** The difference between the expected value of a decision with perfect information and the expected value under uncertainty. Risk-averse decision-makers are willing to pay up to this threshold to acquire predictive intelligence.
- **Investor's Portfolio Choice:** Balancing risk-free assets (treasury bills) and risky assets (equity portfolio). In Mean-Variance space, the budget line reflects the *Sharpe Ratio* (risk-return trade-off), and tangency with the investor's risk-averse indifference curve determines optimal asset allocation.

Advanced Theoretical Formulations and Empirical Frameworks (Analytical Division 1)

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Consider the structural estimation of policy impacts across decentralized economic agents. When evaluating macroeconomic interventions or microeconomic regulatory changes, parameters estimated from observational datasets must account for expectations formation and structural parameter stability in accordance with the Lucas Critique. Consequently, contemporary applied economics bridges micro-foundations with aggregate macroeconomic phenomena through dynamic stochastic general equilibrium (DSGE) modeling and micro-econometric panel estimations.

Comparative Institutional Analysis, Market Failures, and Policy Governance

Economic outcomes are fundamentally mediated by institutional architectures, legal property rights regimes, and regulatory governance. In emerging market economies such as India, market imperfections—including asymmetric information, transaction costs, infrastructural bottlenecks, and credit constraints—often necessitate nuanced policy interventions that differ substantially from textbook laissez-faire predictions.

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Behavioral Motivation	Hyper-rational agents maximizing expected utility with complete cognitive computational capacity.	Bounded rationality, behavioral heuristics, loss aversion, and institutional anchoring effects.	Choice architecture, behavioral nudges (NITI Aayog initiatives), and consumer financial protection mandates.

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Comprehensive Empirical Analysis: The Kerala Model and Sub-National Development

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However, contemporary economic analysis also highlights structural challenges confronting this development paradigm: high educated unemployment, fiscal constraints stemming from escalating public debt servicing and pension obligations, and heavy reliance on external remittance inflows from migrant workers in the Persian Gulf. Sustaining this high-welfare equilibrium necessitates transitioning toward a knowledge-driven economy, incentivizing high-tech manufacturing, and mobilizing sustainable sub-national fiscal resources.

Policy Synthesis and Analytical Evaluation

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