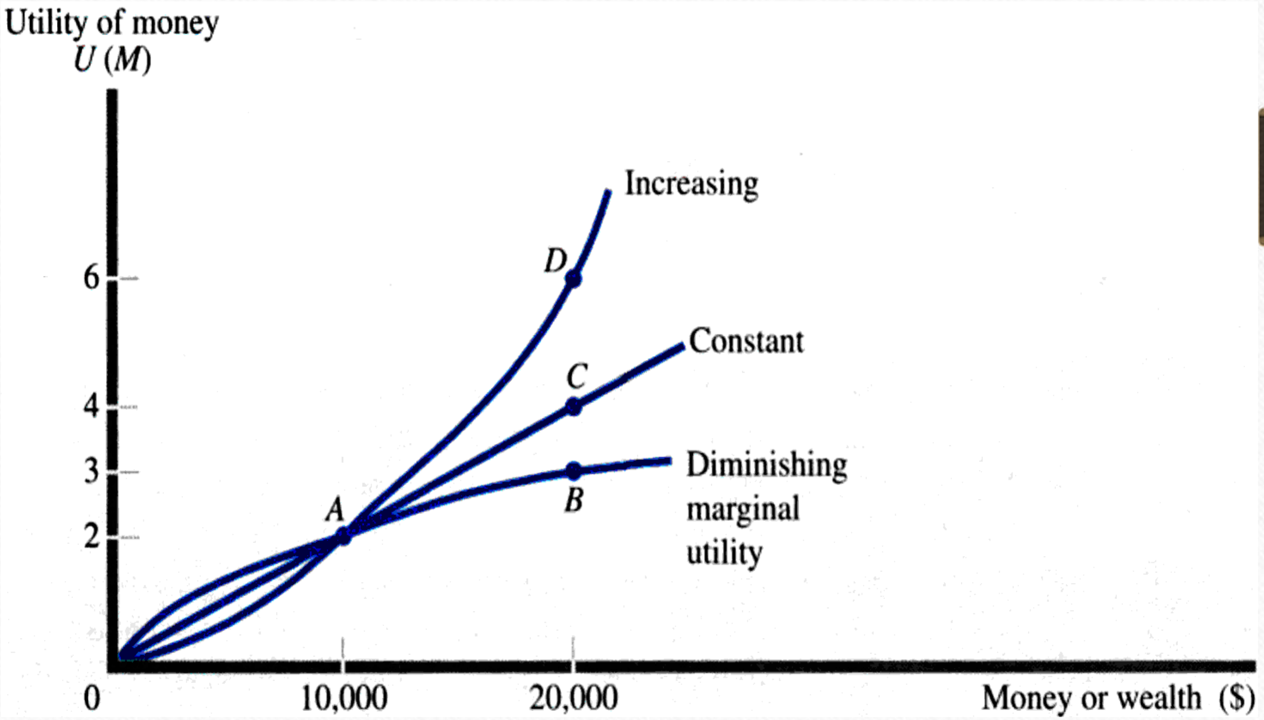
Risk Analysis

Probability Distributions

- Discrete Probability Distribution
- Continuous Probability Distribution
  - The Absolute Measure of Risk – The standard deviations
- The relative measure of risk- the coefficient of variation – under normal distribution

Utility Theory and Risk Aversion

- Risk Seekers
  – Must be compensated for taking on risk
  – Diminishing marginal utility of money
- Risk Neutral
  – Are indifferent to risk
  – Constant marginal utility of money
- Risk Averters
  – Prefer to take on risk
  – Increasing marginal utility of money



Adjusting Value for Risk

Value of the Firm = Net Present Value

$$NPV = \sum_{t=1}^{n} \frac{\pi_t}{(1+r)^t}$$

- Risk Adjusted Discount Rates
- Certainty Equivalent Approach

Other Techniques for Incorporating Risk

- Decision Trees
- Simulation

Decision Making under Uncertainty

- The Maximin Criteria
  - Worst possible outcomes and then select the best
- The Minimax Criteria
  - Minimizes the maximum regret of opportunity cost of wrong deison

	State of Nature		Regret Matrix		Maximum
Strategy	Success	Failure	Success	Failure	Regret
Invest	20,000	-10,000	0	10,000	10,000
Do Not Invest	0	0	20,000	0	20,000

Other Concepts in Risk

- Foreign Exchange Risks and Hedging
- Information and Risk
  - Asymmetric information and market for lemons

Thank You