QR 26: Choice and Chance
The Mathematics of Decision Making

Unit II Study Guide: Tradeoffs under Certainty

Synopsis: Swapping among attributes helps explore preferences and clarify choices.

References: *Smart Choices* (SC) by Hammond, Keeney, and Raiffa; *Decisions with Multiple Objectives* (DMO) by Keeney and Raiffa; *Decision Making Under Certainty* (DMUC) by Schleifer and Bell.

For Class II.1 on February 17, 2000

Topics: Consequences Tables. Dominated Alternatives. Tradeoffs with Even Swaps.

Reading: In SC, review pp. 65-75 and 237-238. Read Chapter 6.

For Class II.2 on February 22, 2000

Topics: Efficient (Pareto) Frontier in Act Space. Indifference Curves and Value Functions. Conditional Preferences. Preferential Independence and Additive Value Functions. Mid-value and weighting techniques.

Read: DMO pp. 66-72, 100-101, 117-125.

Due: Activity II.

For Sections II.1 on February 22 or 23, 2000

Topics: Value Function and Dynamic Modeling calculations with Excel.

For Class II.3 on February 24, 2000

Topics: Capital Budgeting. Time Value of Money. Borrowing or Lending at Bank Rates. Net Present Value. Internal Interest Rates. Exponential Growth.

Read: DMUC pp. 127-132.

For Class II.4 on February 29, 2000

Topics: Dynamical Systems. Amortizing a Loan. Population Growth. Sustainability. Social Tradeoffs.

Due: Unit II Exercises. Case Preparation on Whale Populations.