Economics D10-1: Lecture 2

Preference-based and Choice-based approaches to individual decision-making (MWG ch 1)

Preference-based approach

- Binary *preference relation* $\succeq$
- Consumption set X
  - E.g., $x \succeq y$ for $x,y \in X$
- Rationality: a preference relation $\succeq$ is *rational* if it is
  - *Complete:* $\forall x,y \in X$, either $x \succeq y$ or $y \succeq x$, or both.
  - Transitive: $x \succeq y$ and $y \succeq z \Rightarrow x \succeq z$
- Representation: The utility function $u:X \rightarrow \Re$ *represents* $\succeq$ if, $\forall x,y \in X$, $u(x) \geq u(y) \Leftrightarrow x \succeq y$

Choice-based approach employs a *choice structure*

- Family of budget sets $B \in \boldsymbol{B}$; $B \subset X$.
- Choice rule C(B): a correspondence that maps a budget set into a set of acceptable choices.
- For any budget set $B \in \boldsymbol{B}$, $C(B) \subset B$ lists the subset of alternatives selected by the decision-maker.
- Consistent Choices: The Weak Axiom of Revealed Preference (WARP).
  - $\boldsymbol{B}$,$C(\cdot)$ satisfies WARP if, given $B \in \boldsymbol{B}$, $x,y \in B$, and $x \in C(B)$, Then for any $B' \in \boldsymbol{B}$ s.t. $x,y \in B'$ and $y \in C(B')$, we must also have $x \in C(B')$.

Duality: the relationship between the two approaches consumer theory

- Preference-based approach
  - *Assumes*
    - The existence of a rational preference ordering
    - Rational choices from budget set
  - *Predicts*
    - Characteristics of choices
    - Effects of changes on choices
- Choice-based approach