

**ECON 100A FALL 2006**  
**University of California, Berkeley**  
**Review for Midterm 1**

**Summary of Ch. 1 – 4 Concepts and Relationships**

**Basics of Economics**

- **Positive & Normative Theories (Analysis, Statements)**
- **Market and how to define a market, Types of Markets:**
  - **Perfectly Competitive -- individual buyers or sellers impacts do not impact prices**
  - **Noncompetitive – individual sellers or buyers affect prices**
- **Market Price; Extent of Market; Market basket, Arbitrage**
- **Consumer Price Index (CPI), Inflation Rate, Prices:**
  - **Nominal (observed)**
  - **Real (adjusted using some cost of living index)**
- **Supply & Demand Curves**
  - **Supply & Demand Shifters**
  - **Change in Quantity Supplied & Demanded**
  - **Surplus & Shortage**
  - **Market Equilibrium; Market Mechanism & Market Clearing Price**

**Elasticities of Supply and Demand**

- **Price elasticity (of demand)**
  - **if more elastic, then flatter**
  - **if horizontal – infinitely elastic**
  - **if vertical – infinitely inelastic**
  - **for most goods, LR elasticity is higher, but for durables – reversed**
- **Income elasticity (of demand)**
- **Cross-price elasticity (of demand)**

**Price Controls or [Regulations / government intervention to affect prices]**

- **Price ceiling (or ceiling price)**
  - **price  $\leq P_{\max}$   $\rightarrow$  excess demand**
    - **No direct costs for the government**
    - **Effects on Welfare:**
      - **Producers lose**
      - **Consumers – some gain & some lose**
- **Price floor**
  - **price  $\geq P_{\min}$   $\rightarrow$  excess supply**
    - **government incurs costs (otherwise market will not clear)**
    - **Effects on Welfare:**
      - **Producers gain**
      - **Consumers lose**

**Goods & Bads; Complements & Substitutes**

- If one good's  $P \uparrow \rightarrow Q \uparrow$  of another good  $\rightarrow$  substitutes
- If one good's  $P \uparrow \rightarrow Q \downarrow$  of another good  $\rightarrow$  complements

**Consumer Preferences: Basic assumptions (1, 2, 3)**

1. complete
2. transitive
3. more is better

**Indifference curves**

- they cannot cross
- usually are downward sloping
- Indifference maps

**Marginal rate of substitution (MRS)**

- Usually: Diminishing MRS (convex indifference curves)
- Perfect substitutes (MRS = constant)
- Perfect complements (MRS = infinite)
- Flatter indifference curve  $\rightarrow$  consumers put more value on the good depicted on X-axis

**Utility, Utility Function**

- Ordinal (only ranks baskets)
- Cardinal Utility Function

**Budget constraint & Budget Line**

- slope = price ratio
- Changes of budget line:
  - If income changes  $\rightarrow$  parallel shift of budget line [I  $\uparrow$  budget line shifts to the left (outward); I  $\downarrow$ , budget lines shifts to the right (inward)]
- If  $P \uparrow$  or  $\downarrow \rightarrow$  budget line rotates inward or outward

**Consumer Choice, Utility Maximization, Marginal Utility**

- Along indifference curves:  $MRS = MU_x/MU_y$
- At any interior optimum:  $MRS = \text{price ratio} = P_x/P_y = MU_x/MU_y$

**Individual demand**

- the quantity of a good that a single consumer buys for a given price of the good
- Individual demand curve – relate the quantities of the good and its price (for each price)
- At any point of demand curve:  $MRS = \text{price ratio} = P_x/P_y$  (because consumer maximizes his utility)
- Normal good – if  $I \uparrow \rightarrow Q \uparrow$  (demand increases with income)
- Inferior good – if  $I \uparrow \rightarrow Q \downarrow$  (demand decreases with income)

- If one good's  $P \uparrow \rightarrow Q \uparrow$  of another good  $\rightarrow$  substitutes
- If one good's  $P \uparrow \rightarrow Q \downarrow$  of another good  $\rightarrow$  complements

### Engel curve

- relates the quantity of the consumed good to income
- Engel curve is upward sloping for normal goods
- downward sloping for inferior goods

### Price-Consumption Curve

- traces out the utility maximizing market basket when price changes
- is used to derive demand curve
- downward sloping for substitutes
- upward sloping for complements

### Income-Consumption Curve

- traces out the utility maximizing market basket for each income level
- is used to derive Engel curve
- is positively sloped for normal goods
- is negatively sloped for inferior goods

### Income Effect and Substitution Effect

- **Income Effect**
  - Occurs because of the change in the purchasing power if price for one of the goods changes
  - is the change in an item's consumption due to increased /decreased purchasing power [with the relative prices held constant]
- **Substitution Effect**
  - due to a tendency to buy more of a good which is relatively cheaper (decrease of relative price)
  - is the change in an item's consumption associated with a change in the price of the item, [with the level of utility held constant].
- **If normal good**  $\rightarrow$  both effects are in the same direction
- **If inferior good**  $\rightarrow$  income and substitution effects are in the opposite directions
- Usually, substitution effect is bigger than income effect.
  - **The Giffen good:** A special case (very rare), an inferior good, for which income effect is bigger than substitution effect. Then, if  $P \uparrow \rightarrow Q \downarrow$ .

### Market demand (or aggregate demand)

- total (summed) demand of all individual consumers

**Elasticities:**

- **Price elasticity, income elasticity, cross-price elasticity of demand is:**
  - **Elastic, if  $|E| > 1$**
  - **Inelastic, if  $|E| < 1$**
- **Total expenditure (PQ) is maximized when  $|E_p| = 1$** 
  - **When  $P \uparrow$ , then**
    - **$PQ \uparrow$  if  $|E_p| > 1$**
    - **$PQ \downarrow$  if  $|E_p| < 1$**
    - **$PQ$  does not change if  $|E_p| = 1$**

**Isoelastic demand curve**

- **if elasticity is constant along the entire demand curve**
- **Unit-elastic demand curve, if  $|E| = 1$**

**Externalities**

- **the situation of interdependent individual demands**
- **i.e. individual demand is directly affected by demands of other individuals**

**Bandwagon effect (positive externality)**

- **if quantity demanded by a consumer increases with an increase of market demand**
- **makes demand more elastic (flatter)**

**Snob effect (negative externality)**

- **if quantity demanded by a consumer decreases with an increase of market demand**
- **makes demand less elastic (steeper)**