# Engineering Economics

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# Lecture 8
# Theory of Consumer Behavior

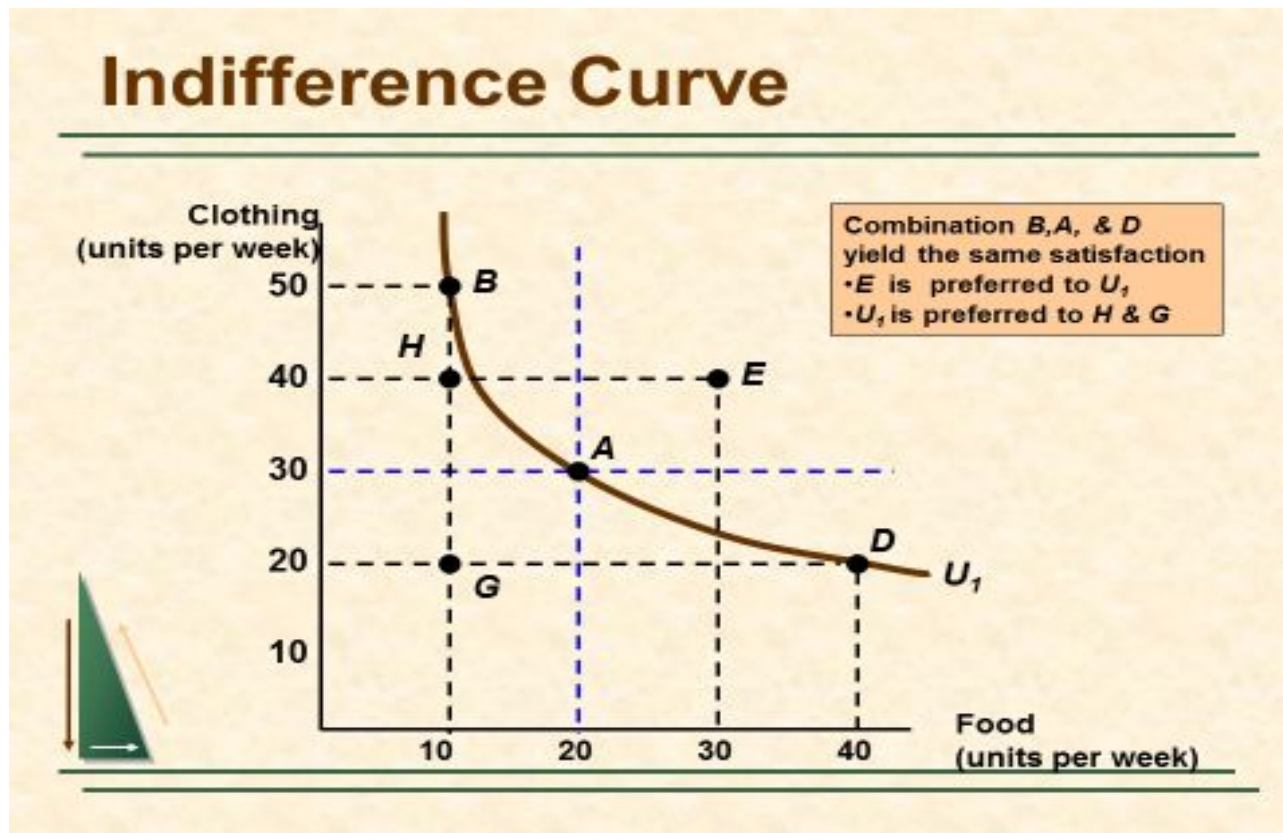# Theory of Consumer Behavior

❑ **Indifference Curve**

● **An Indifference curve represents locus of all combinations of market baskets that provide the same level of satisfaction to a person.**

● **An indifference curve shows the various combinations of commodity X and commodity Y which yield equal utility or satisfaction to the consumer.**

● **A higher indifference curve shows a greater amount of satisfaction and a lower one, less satisfaction.**

# Theory of Consumer Behavior

❑ **Indifference Curve**



## Indifference Curve

Clothing (units per week) on the vertical axis with values 10, 20, 30, 40, 50. Food (units per week) on the horizontal axis with values 10, 20, 30, 40.

Points shown:
- B at (10, 50)
- H at (10, 40)
- E at (30, 40)
- A at (20, 30)
- G at (10, 20)
- D at (40, 20)

Curve labeled $U_1$.

Combination B, A, & D yield the same satisfaction
- E is preferred to $U_1$
- $U_1$ is preferred to H & G

# Theory of Consumer Behavior

❑  **Properties of Indifference Curves**
1.  **They are negatively sloped**
2.  **They are convex to the origin**
3.  **They cannot intersect.**
4.  **Higher Indifference curve gives higher satisfaction.**

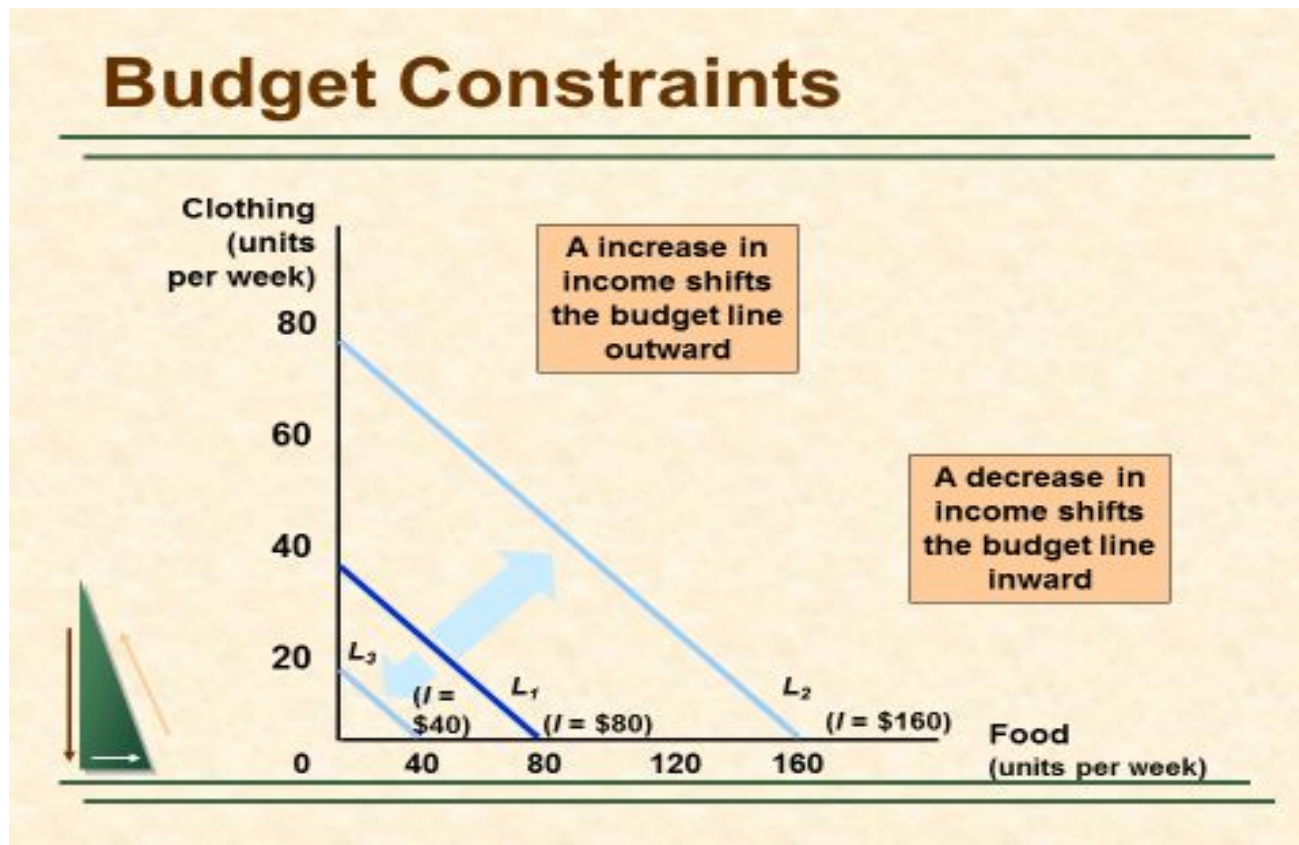# Theory of Consumer Behavior

- **Budget Constraint Line**
- **Budget constraint line shows all the different combinations of the two commodities that a consumer can purchase, given his or her money income and the prices of the two commodities.**

$$M = PxX + PyY$$

- **Here,**

  **M= Income**

  **P = Prices of given commodity.**

  **X, Y = Amount of purchase of two commodity.**

# Theory of Consumer Behavior

❑ **Budget Constraint Line**
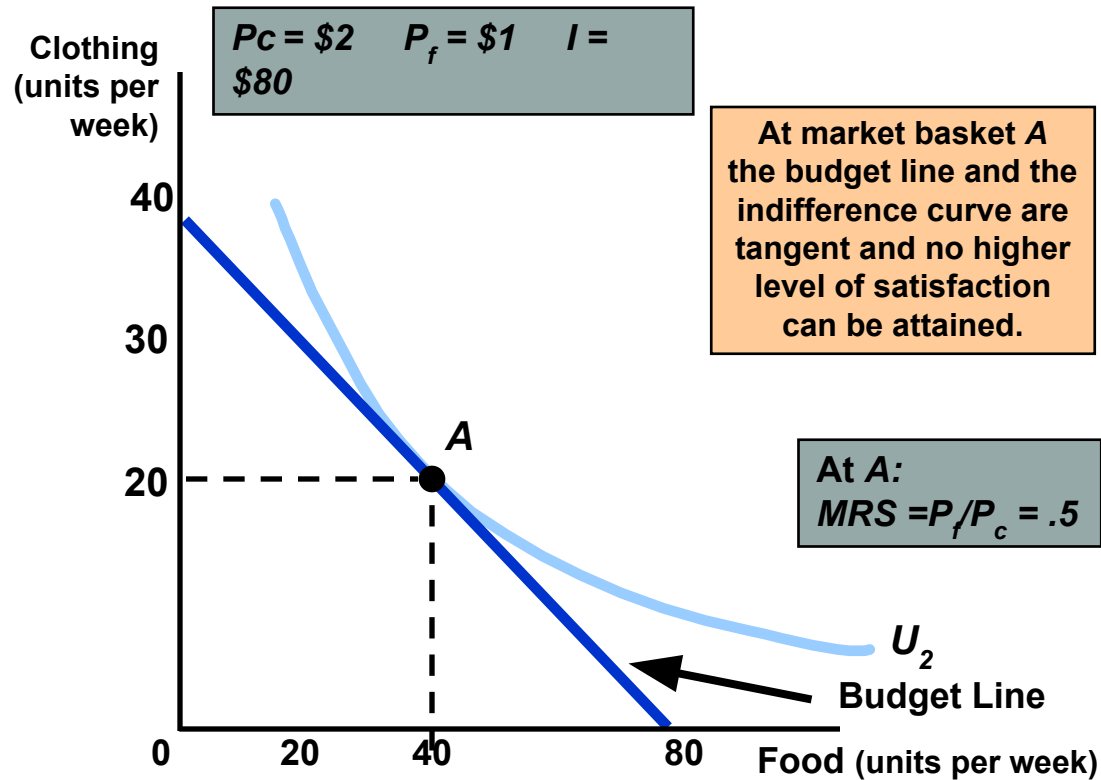
# Theory of Consumer Behavior

❑ **Consumer Equilibrium**

● **A consumer is in equilibrium when, given personal income and price constraints, the consumer maximizes the total utility or satisfaction from his or her expenditures.**

● **A consumer is in equilibrium when, given his or her budget line, the person reaches the highest possible indifference curve.**

● **At equilibrium, indifference curve will tangent with budget constraint line.**

# Theory of Consumer Behavior

Clothing (units per week)

$Pc = \$2 \quad P_f = \$1 \quad I = \$80$

At market basket *A* the budget line and the indifference curve are tangent and no higher level of satisfaction can be attained.

At *A*:
$MRS = P_f/P_c = .5$

40

30

20

*A*

$U_2$

Budget Line

0   20   40   80   Food (units per week)

# Theory of Consumer Behavior

❑ **Possible question from this chapter**
- **Define indifference curve and briefly explain its properties.**
- **How can we construct budget constraint line.**
- **Graphically show consumer equilibrium and explain the condition of consumer equilibrium.**
- **Constrained Optimization Problem**

# Readings

- **Lecture Notes**

**Thank You**