Consumer Behavior:
Advanced topics
EE311

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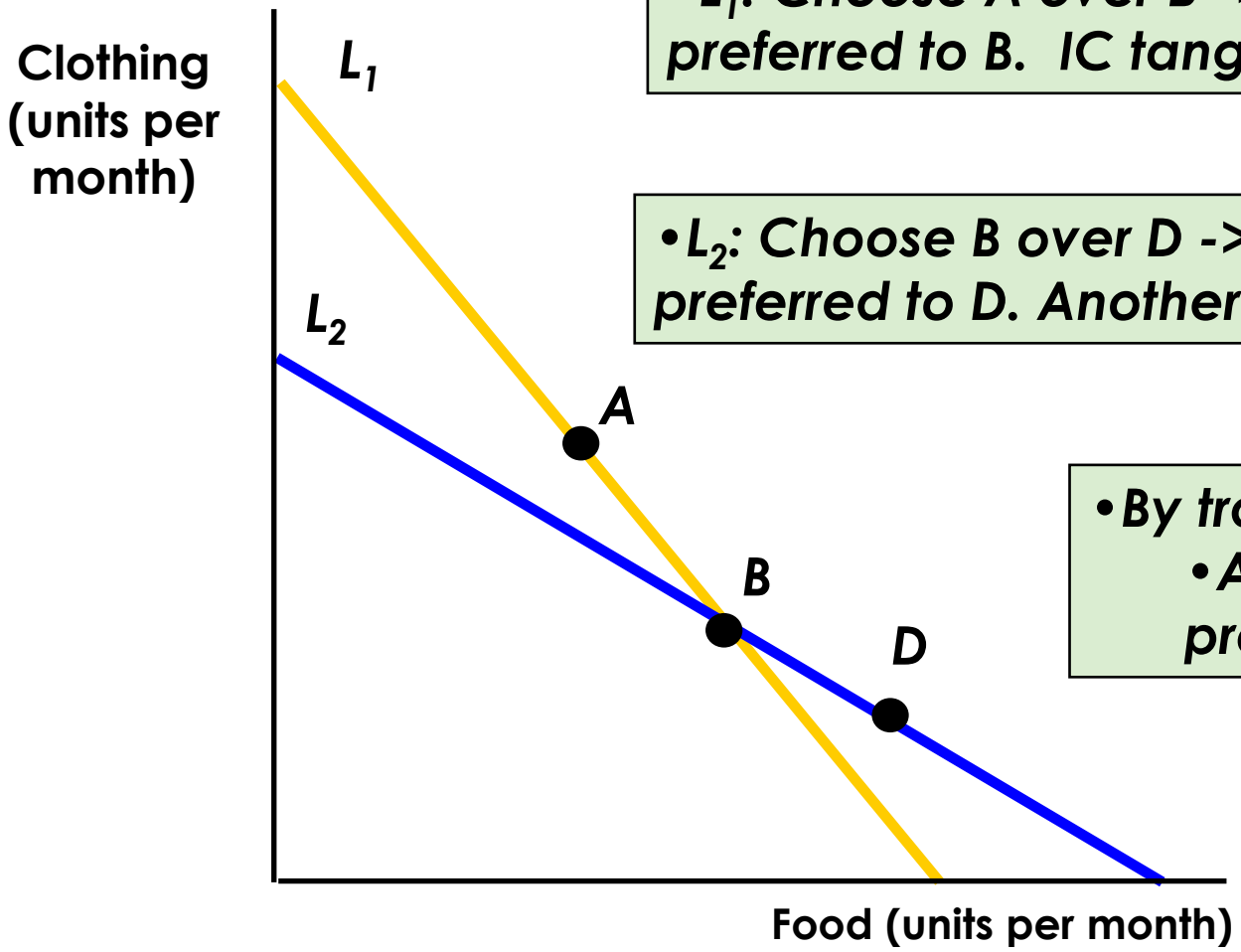
Revealed Preferences

- According to the theory, for given preferences, a consumer will choose bundle of goods subject to the budget constraint.
- In reality, preferences are unknown.
- But if we know the choices a consumer has made, we can determine what their preferences are if we have information about a sufficient number of choices that are made when prices and incomes vary.
- [Read Varian, Ch. 7 - 8]

Revealed Preferences – Two Budget Lines

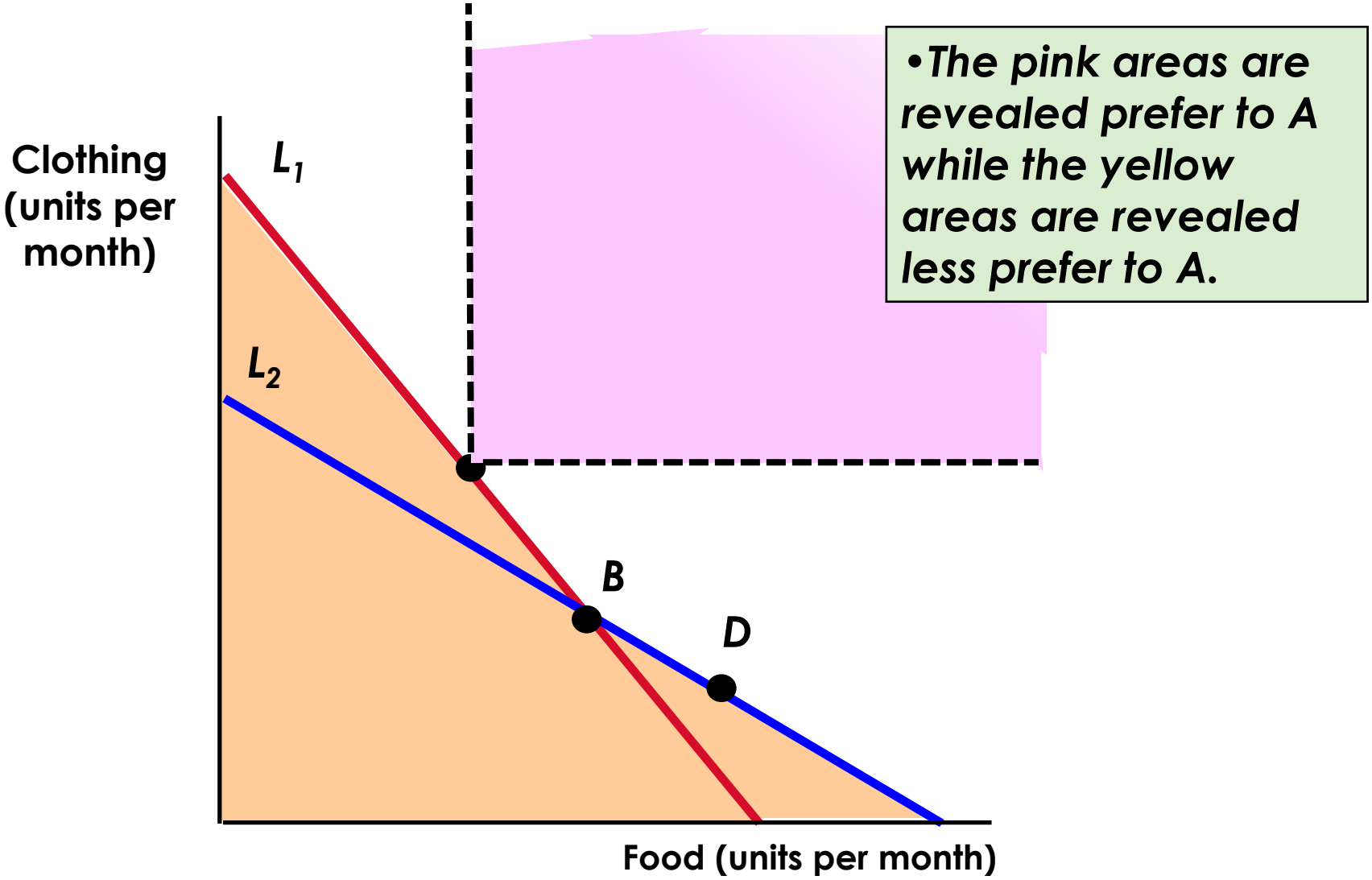


- *L_1: Choose A over B ->A is revealed preferred to B. IC tangents at point A*

- *L_2: Choose B over D ->B is revealed preferred to D. Another IC tangents at B*

- *By transitive:*
  - *A is revealed preferred to D*

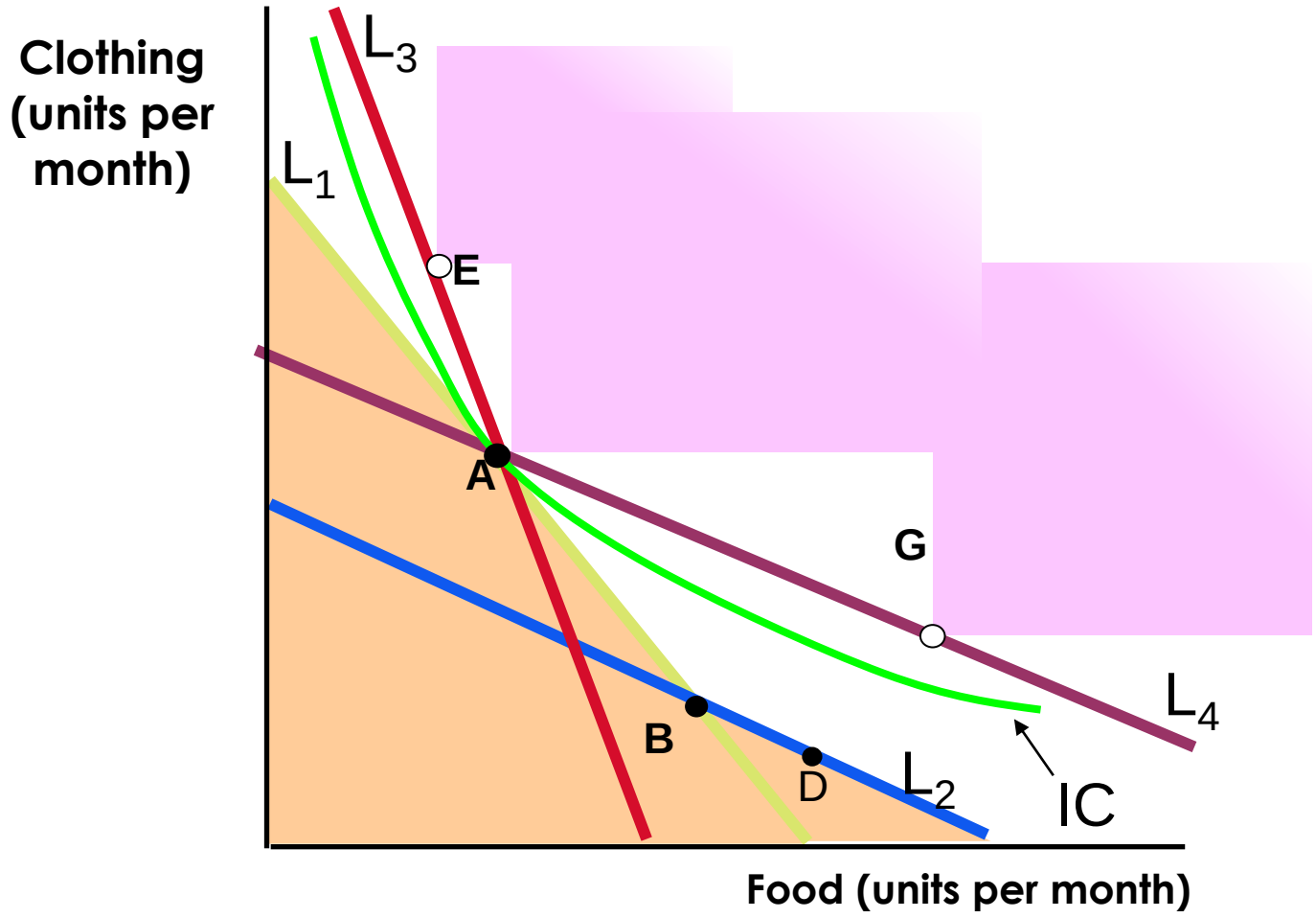
Revealed Preferences – Two Budget Lines



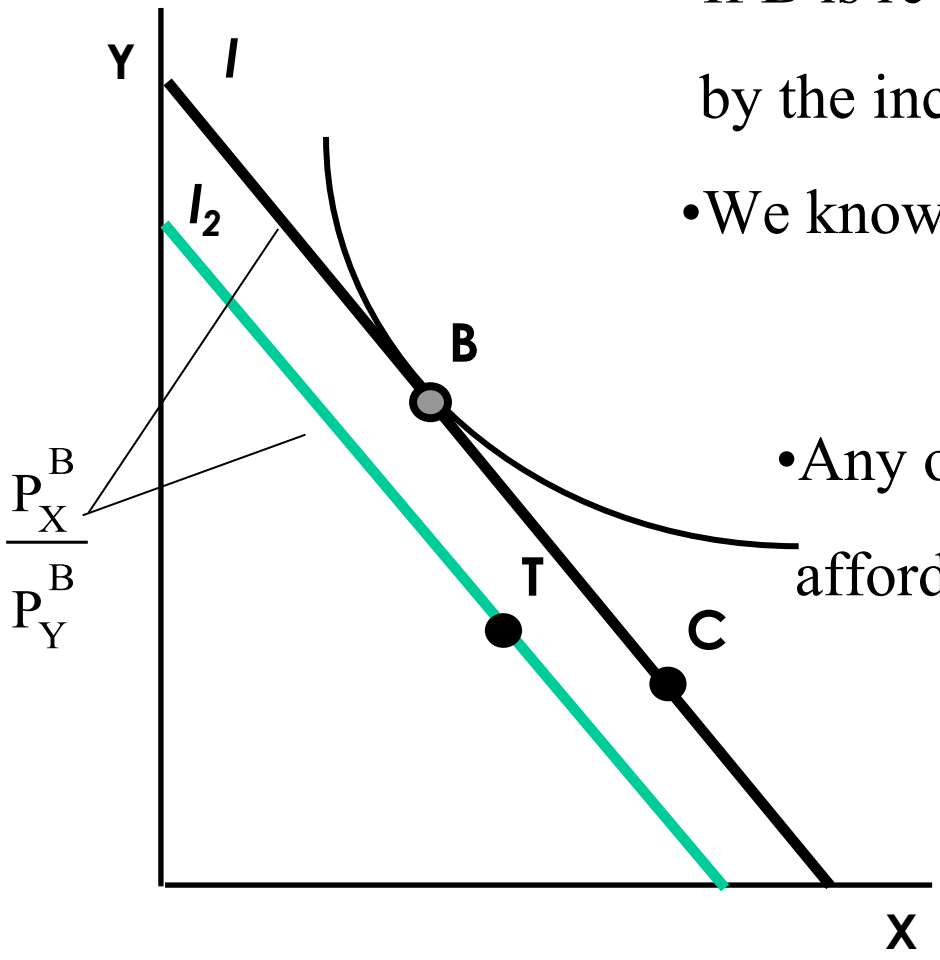
Revealed Preference

- As you continue to change the budget line, individuals can tell you which basket they prefer to others.
- The more the individuals reveal, the more you can discern about their preferences
- Eventually you can map out an indifference curve

Revealed preferences and the construction of an IC



Reveal preference condition



- If B is revealed prefer to any bundle affordable by the income I.
- We know that

$$P_X^B X^B + P_Y^B Y^B = I$$

- Any other bundle, such as T or C, is affordable by income I, hence

$$P_X^B X^T + P_Y^B Y^T \leq I$$

Reveal preference condition

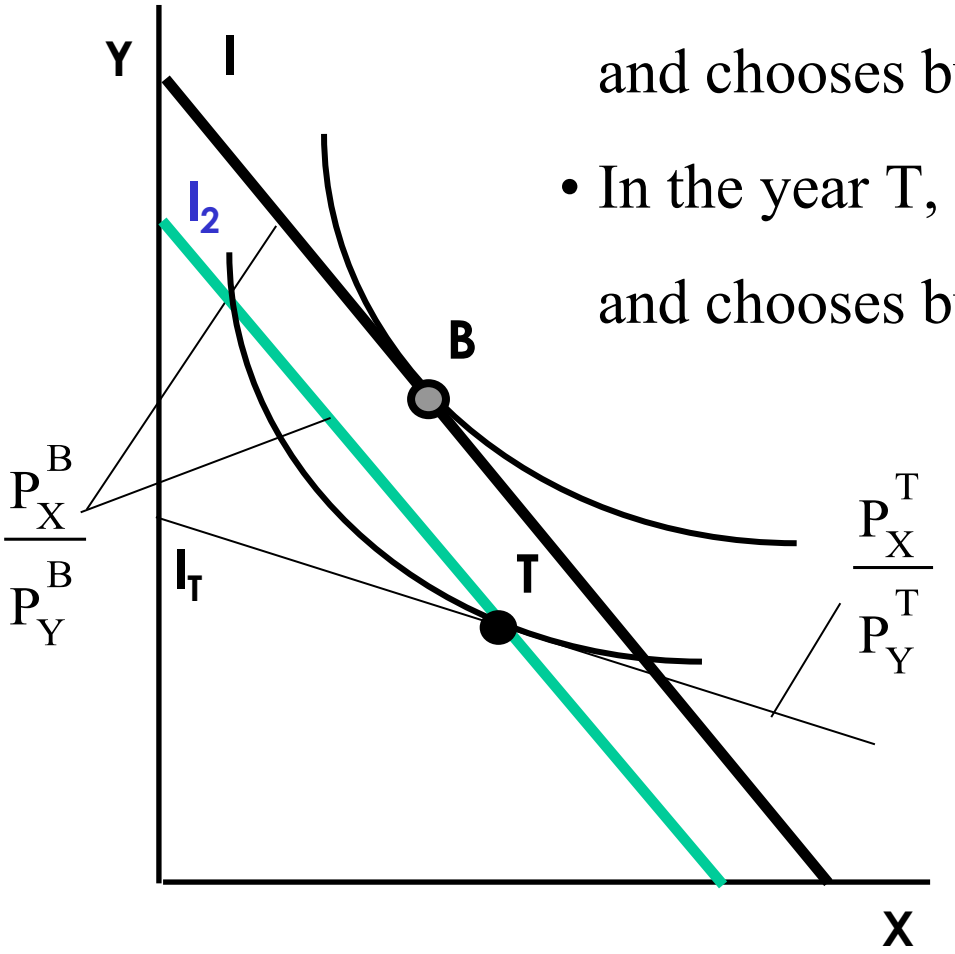
$$P_X^B X^B + P_Y^B Y^B = I$$

$$P_X^B X^T + P_Y^B Y^T \leq I$$

$$P_X^B X^T + P_Y^B Y^T \leq P_X^B X^B + P_Y^B Y^B$$

- For a given income I, if a consumer chooses bundle B, the expenditure for B must be greater than or equal to the expenditure for any other bundle.
- If the expenditure for bundle B is greater than or equal to the expenditure for bundle T and the consumer chooses B, B must be preferred to T.

Reveal preference condition



- In the base year, consumer is facing budget line I and chooses bundle B.
- In the year T, consumer is facing budget line I_T and chooses bundle T.
  - If we know that

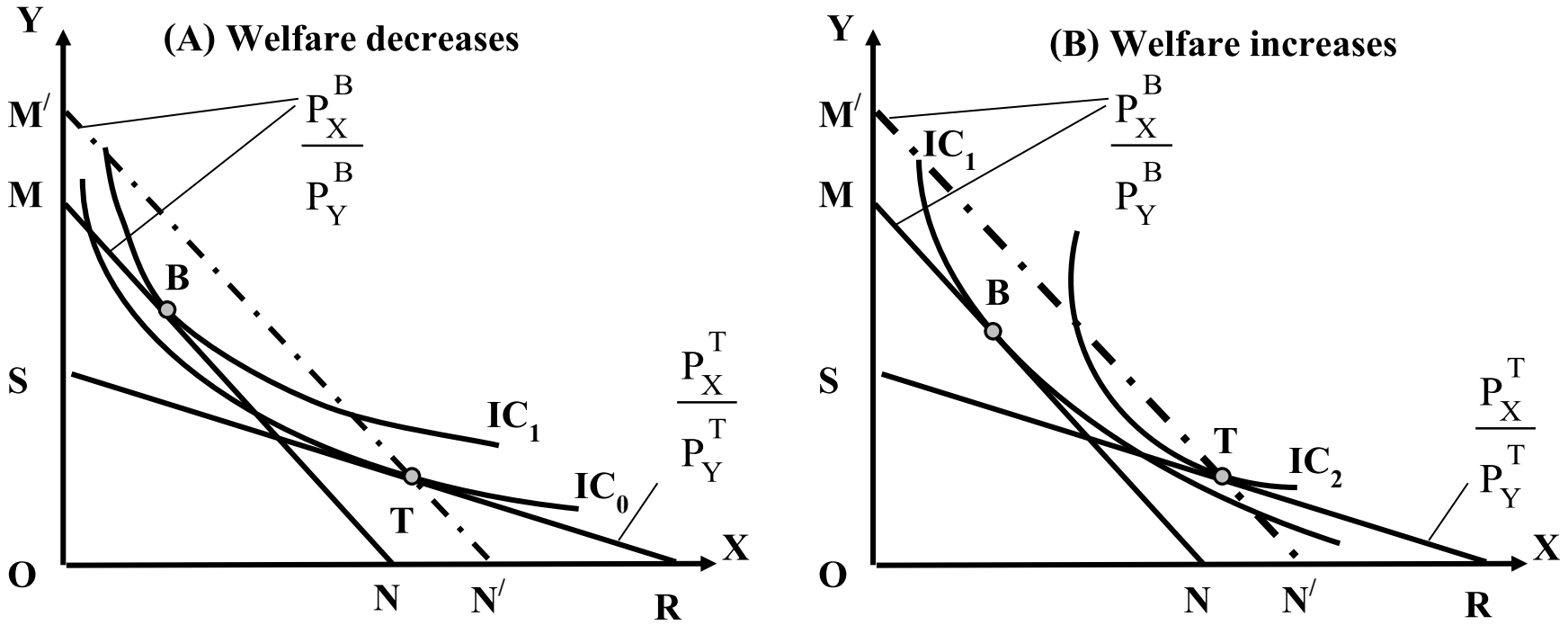
$$P_X^B X^T + P_Y^B Y^T \leq P_X^B X^B + P_Y^B Y^B$$

B must be preferred to T or the consumer is worse off in period T compared to B.

Reveal preference condition

- However, we cannot conclude anything if

$$P_X^B X^B + P_Y^B Y^B < P_X^B X^T + P_Y^B Y^T$$



- This is because bundle T is not affordable in period B