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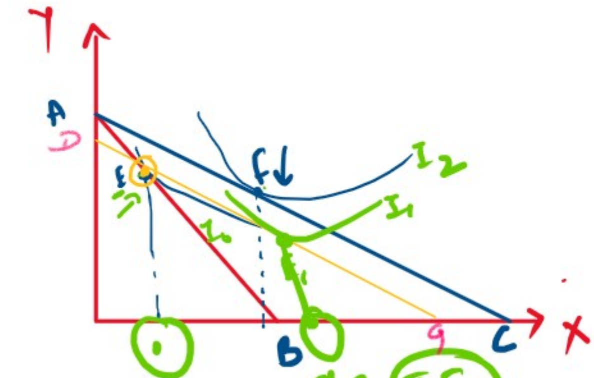


$x_1 \rightarrow x_2$ SE + IE = PE

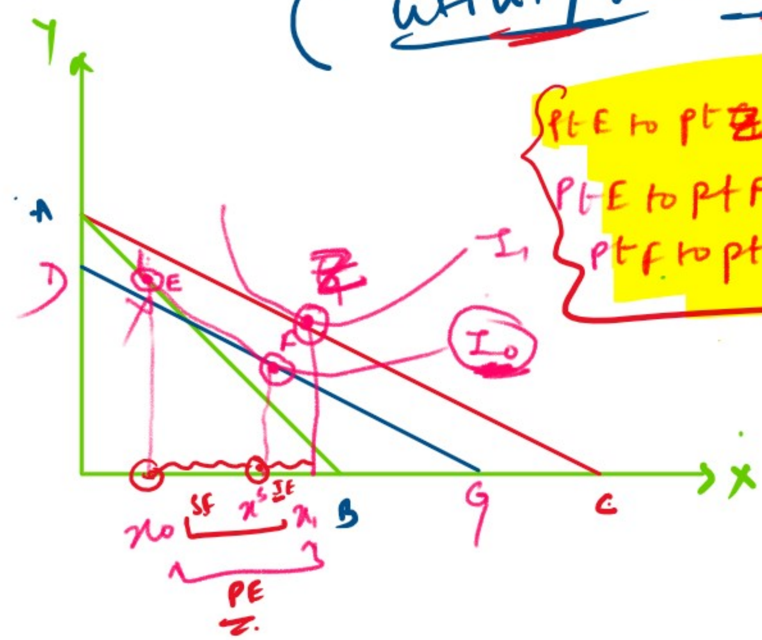
$P_x \downarrow$ ⇒ Price effect.

IE SE

Slutsky's (purchasing power constant)

(2) Hick's Approach of Decomposition of Price effect

(utility remains constant)



pt E to pt Z ⇒ Price Effect

pt E to pt F ⇒ SE (Hicks)

pt F to pt Z ⇒ IE (Hicks)

$P_x \downarrow$

DG ⇒ Hickshian Compensated budget line.

Difference between Slutsky's and Hick's approach of Price effect.

(1) · Acc to Hicks, the income should be taken away from the consumer in such a way that he remains on the old IC (utility remains const. However in case of Slutsky's compensation principle, the income of the consumer is so adjusted such that the consumer can purchase at least the old commodity bundle or can reach a higher IC (utility ↑ses).

(2) Hick's approach → utility is const.
Slutsky's approach → purchasing power is const.

Special cases

(1) **Perfect substitutes**: IE = 0

PE = IE + SE
PE = 0 + SE
$\boxed{PE = SE}$.

(2) **Perfect compliments** → SE = 0

PE = IE + SE (SE = 0)
PE = IE
$\boxed{PE = IE}$

Topic : Theory of Revealed Preference :

1. Rationality: consumer prefers bundle of goods that include more (large quant) of two goods (x_1 and x_2)

2. Unchange taste

3. Consistency: The consumer's tastes are consistent so that if he purchases basket X rather than Y, he will never prefer Y to X.

Symbolically; if $X > Y$

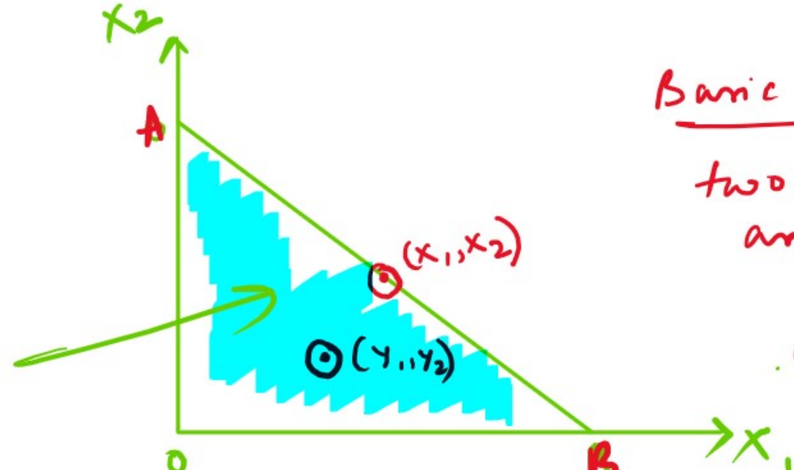
then $Y \not> X$

4. Transitivity: The consumer's taste is transitive

if he prefers X to Y and Y to Z, he will prefer X to Z.

5. The Revealed Preference Axiom :

Rational consumer, by choosing a collection of goods in any one collection of goods in any one budget situation, reveals his preference among all other alternatives available under the budget constraint.



area ΔAOB

(any bundle in the shaded area below AB is revealed worse than the chosen bundle (x_1, x_2).

Basic Idea:?

two bundles (x_1, x_2) and (y_1, y_2) ⇒ both are affordable

Let (x_1, x_2) is the optimum bundle

& with budget line AB, chosen bundle (x_1, x_2) is revealed preffered to (y_1, y_2)

↑

could have been chosen (but not chosen)

Mathematical treatment of Revealed Preference.

Suppose the consumer purchases the bundle (x_1, x_2) at price (P_1, P_2) with his income 'm'.

... at those prices

at price (P_1, P_2) with his income m.

(y_1, y_2) which is affordable at those prices and satisfies budget constraint

$$P_1 y_1 + P_2 y_2 \leq m \quad \text{①}$$

Since (x_1, x_2) is actually demanded at the given budget (P_1, P_2, m)

$$\boxed{P_1 x_1 + P_2 x_2} = m \quad \text{②}$$

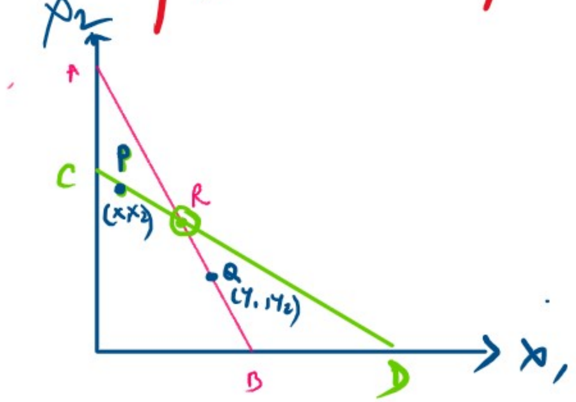
Let us combine ① and ② $\quad P_1 x_1 + P_2 x_2 \geq P_1 y_1 + P_2 y_2$ ③

Suppose inequality ③ is satisfied and (y_1, y_2) is a different bundle from (x_1, x_2). In this case (x_1, x_2) is said to be revealed preferred to (y_1, y_2)

* If a bundle X is chosen over a bundle Y, then X must be preferred to Y.

* Weak Axiom of Revealed Preference (WARP).

If (x_1, x_2) is directly revealed preferred to (y_1, y_2) and the two bundles are not same, If (x_1, x_2) is directly revealed prefer... (y_1, y_2) and the two bundles are not same, then (y_1, y_2) cannot, at the same time, be directly revealed preferred to (x_1, x_2).



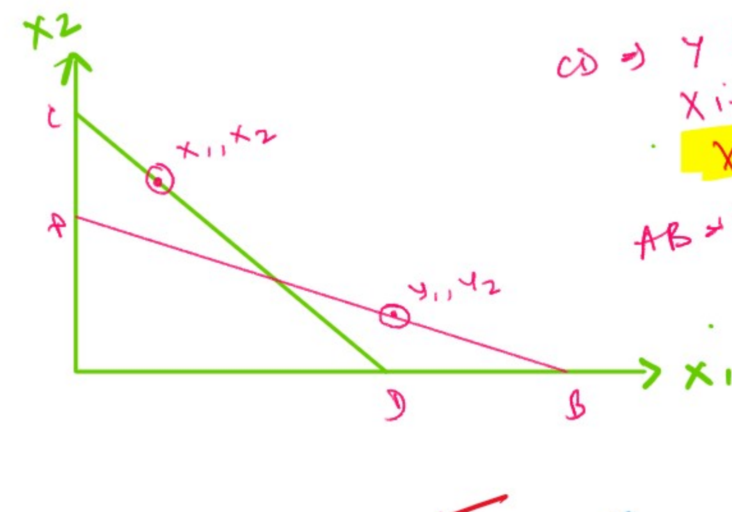
AB → P and Q both are affordable

CD → P and Q both are affordable.

X should always be chosen over Y ✗

→ inconsistent choice

WARP is violated (inconsistent choice).



CD → Y is not affordable
X is affordable
X is chosen over Y.

AB → X is not affordable
Y is affordable
Y is chosen over X

Ex:

initial purchase $x_1 = 20$ $x_2 = 10$ | $p_1 = 2$, $p_2 = 6$

another purchase $x_1' = 18$ $x_2' = 4$ | $p_1' = 3$, $p_2' = 5$

Is this behaviour consistent?

first purchase at original price $= p_1 x_1 = 2\times 20 = 40$

$p_2 x_2 = 6\times 10 = 60$

Tot exp $TE = 40+60 = 100$

second purchase at original price $= p_1 x_1' = 2\times 18 = 36$

$p_2 x_2' = 6\times 4 = 24$

$TE = 36+24 = 60$

First purchase with new price : $p_1' \cdot x_1 = 3\times 20 = 60$

$p_2' \cdot x_2 = 5\times 10 = 50$

$TE = 60 + 50 = 110$

Second purchase with new price : $p_1' x_1' = 3\times 18 = 54$

$p_2' x_2' = 5 \times 4 = 20$

$TE = 54+20 = 74$

Here : $X^0 = (20, 10)$ $p^0 = (2, 6)$

$x^1 = (18, 4)$ $p^1 = (3, 5)$

$x' = (18, 4)$ $p' = (3, 5)$

$p^0 x^0 = 2\times 20 + 6\times 10 = 100$

$p^0 x^1 = 2\times 18 + 6\times 4 = 60$

$p^0x^0 > p^0x^1$

x^0 is pref to x^1

$p'x^0 = 3\times 20 + 5\times 10 = 110$

$p'x' = 3\times 18 + 5\times 4 = 74$

$p'x^0 > p'x'$

x^0 is pref to x'

The behaviour of consumer is consistent with WARP.

(ans)