Topic 3 Part 1

The Theory of Demand

Decomposition of the Price Effect

- When the price of a good changes, its quantity demanded changes.

- Economists believe that this change in demand is due to **the sum of two effects**:
  - Income Effect (IE)
  - Substitution Effect (SE)
- That is, **TE = SE + IE**.

- TE refers to Total Effect of the price change.

Decomposition of the Price Effect

A simple way to think about SE and IE

When the price of a good falls…

- The good becomes relatively cheaper and more attractive than other products, so the consumer substitutes other goods to buy more of it. (Substitution Effect)
- The consumer can buy more of the good, so it is as if the consumer's real income (purchasing power) increased. (Income Effect)

Decomposition of the Price Effect

When the price of a good falls…

- Substitution Effect implies that the consumer will buy more of the good.
- Income Effect implies that the real income increases AND
  - the consumer will buy more of the good if it is a normal good.
  - the consumer will buy less of the good if it is an inferior good.

- We can illustrate this idea as follows.

Decomposition of the Price Effect

CASE 1: **When Px falls, real income rises, and X is a normal good…**

- IE and SE work in the same direction.
- **TE is that Qx rises.**

Decomposition of the Price Effect

CASE 2: **When Px falls, real income rises, and X is an inferior good…**

- IE and SE work in the opposite direction, with SE > IE.
- **TE is that Qx rises.**

Decomposition of the Price Effect

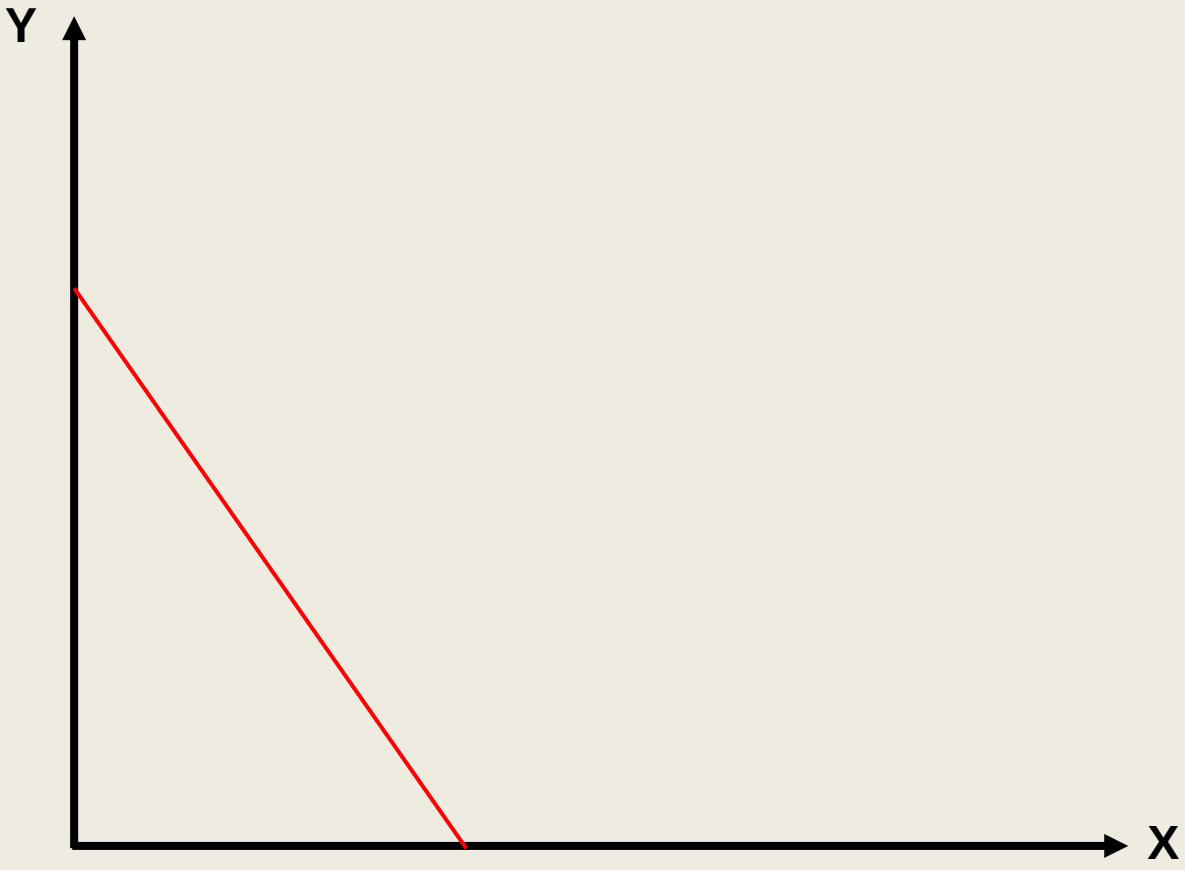
CASE 3: **When Px falls, real income rises, and X is a Giffen good…**

- IE and SE work in the opposite direction, **with SE < IE**.
- **TE is that Qx falls when Px falls.**
- Note that a Giffen good is an inferior good, so higher income means that the consumer will buy less.

Decomposition of the Price Effect

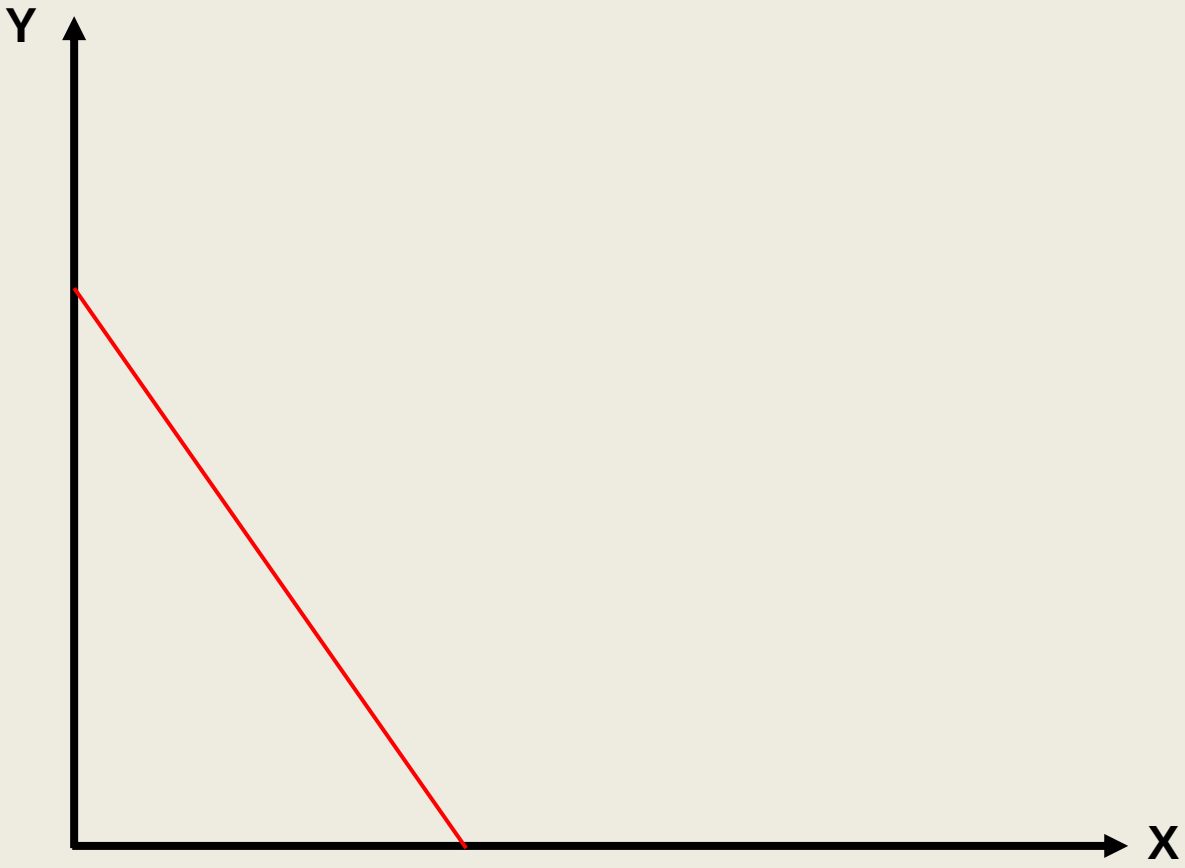
- We can use the consumer choice diagram to plot the previous results.
- We will consider the case when Px falls.
- We will use the following names to denote bundles:
  - Bundle A for the optimal bundle BEFORE Px falls.
  - Bundle B for the optimal bundle AFTER Px falls, without the IE, i.e. B is a result of the SE only.
  - Bundle C for the optimal bundle AFTER Px falls, taking into account both SE and IE.
- **Thus, moving from A to B represents the SE, and moving from B to C represents the IE.**

Hicksian Demand Decomposition



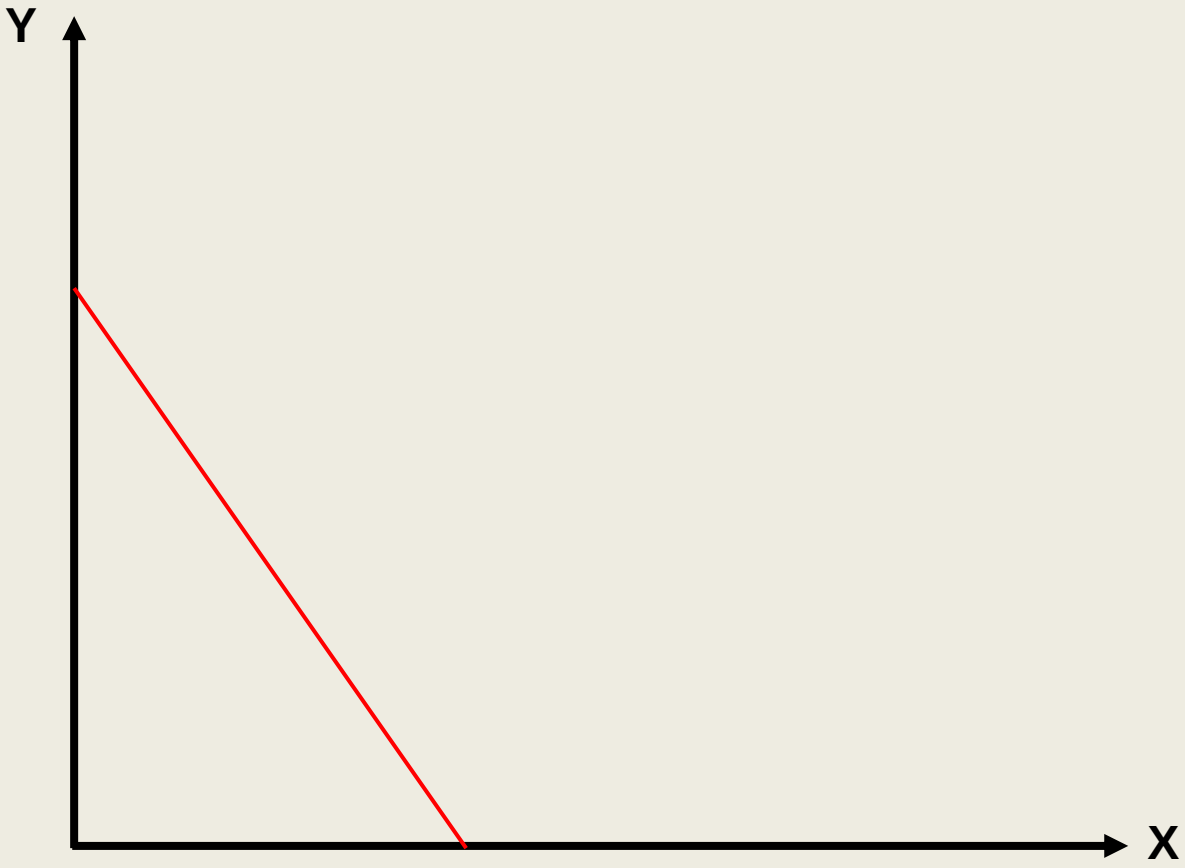
Case 1: Px falls, and X is a normal good.

Hicksian Demand Decomposition



Case 2: Px falls, and X is an inferior good.

Hicksian Demand Decomposition



Case 3: Px falls, and X is a Giffen good.

Decomposition of the Price Effect

- Notice that we find Bundle B from "rolling the budget line along the original indifference curve".
- In doing so, the consumer is kept at the same utility level, even with the price change.

- Using this method, we are defining the SE as **"the change in the demand for a good as its price changes, holding the utility constant"**.
- We call this method "the Hicksian Method".
- This is named after Sir John Hicks, a British economist.