Assignment

Subjects | Economics

Economics Assignment

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Derive short run total cost curves.

Answer: Short run is a period of time in which the firm can vary its output by varying only the amount of variable factors such as labor and raw materials. The short run refers to a period during which at least one input in the production process is fixed and cannot be changed. Typically, capital is considered the fixed input, while other inputs like labor and raw materials can be varied. This time frame is sufficient for firms to make some adjustments but not enough to alter all factors of production.

The total cost curve in economics refers to a graphical representation of the total cost of production as a function of the total quantity produced. It shows how the total cost changes as the quantity of output increases or decreases. The total cost curve is typically upward-sloping, meaning that as the quantity of output increases, the total cost also increases.

a. Total Fixed Costs (TFC)
b. Total Variable Costs (TVC)

a. **Total Fixed Costs**

Total Fixed Costs (TFC) refers to the sum of all consistent, non-variable expenses that a company must pay, regardless of the number of goods or services produced. Examples of fixed costs include rent, machinery rental, and utility bills. The total fixed cost is a key component of a company's total cost, which also includes total variable costs. It includes: rent, insurance, utility bills, etc. This is also called unavoidable cost.

b. **Total Variable Costs**

Total Variable Cost (TVC) refers to the sum of all costs that vary with the level of production or output. These costs increase or decrease as the quantity of goods or services produced changes. Examples of variable costs include expenses on raw materials and direct materials, fuel and energy costs, transportation and shipping costs, etc. These costs are variable because they are directly related to the production process and change with the level of output. As production increases, TVC also increases, and as production decreases, TVC decreases.

The short run total cost curves can be derived from the total cost function, which is the sum of the total fixed costs and total variable costs. The total cost function can be represented as:

TC = TFC + TVC

Where:

- TC = Total Cost
- TFC = Total Fixed Cost
- TVC = Total Variable Cost

The total fixed cost is the cost of production that does not vary with output level, while the total variable cost changes with respect to the amount of production.

The short run total cost curves can be derived by plotting the total cost against the output level. The curve will be upward-sloping, indicating that as the output level increases, the total cost also
increases.

There are seven short-run cost measures:

1. Fixed Cost (FC)
2. Variable Cost (VC)
3. Total Cost (TC)
4. Marginal Cost (MC)
5. Average Fixed Cost (AFC)
6. Average Variable Cost (AVC)
7. Average Total Cost (ATC)

The short run total cost curve can be derived by using the following formula:

TC = TFC + TVC

Where:

- TC = Total Cost
- TFC = Total Fixed Cost
- TVC = Total Variable Cost

The marginal cost curve can be derived by taking the derivative of the total cost function with respect to the output level.

The average total cost curve can be derived by dividing the total cost by the output level.

The average fixed cost curve can be derived by dividing the total fixed cost by the output level.

The average variable cost curve can be derived by dividing the total variable cost by the output level.

In conclusion, the short run total cost curves can be derived from the total cost function, which is the sum of the total fixed costs and total variable costs. The curve will be upward-sloping, indicating that as the output level increases, the total cost also increases.

Critically examine Robbins' definition of economics.

Answer:

Lionel Robbins' definition of economics, as stated in his 1932 book "An Essay on the Nature and Significance of Economic Science," is: "Economics is the

science which studies human behavior as a relationship between ends and scarce means which have alternative uses."

This definition emphasizes the concept of scarcity, which refers to the fundamental problem of economics: the limited availability of resources to satisfy unlimited human wants. Robbins' definition highlights the idea that economics is concerned with the allocation of scarce resources among competing ends, and that this allocation is a fundamental aspect of human behavior.

Robbins' definition has been widely accepted and has had a significant influence on the development of economics as a discipline. However, it has also been subject to various criticisms and interpretations. Some have argued that the definition is too broad, as it could encompass a wide range of human activities that are not typically considered economic in nature. Others have argued that the definition is too narrow, as it may not capture the full range of economic phenomena.

Despite these criticisms, Robbins' definition remains a fundamental concept in economics and continues to shape the way economists think about the discipline. It has also been influential in the development of mathematical economics and has laid the foundation for the assumptions that allow mathematical economic models to thrive.

In conclusion, Robbins' definition of economics is a fundamental concept in the field of economics that emphasizes the concept of scarcity and the allocation of scarce resources among competing ends. While it has been subject to various criticisms and interpretations, it remains a widely accepted and influential definition that continues to shape the way economists think about the discipline.

Define substitution effect. Decompose Hicksian substitution effect from price and income effect.

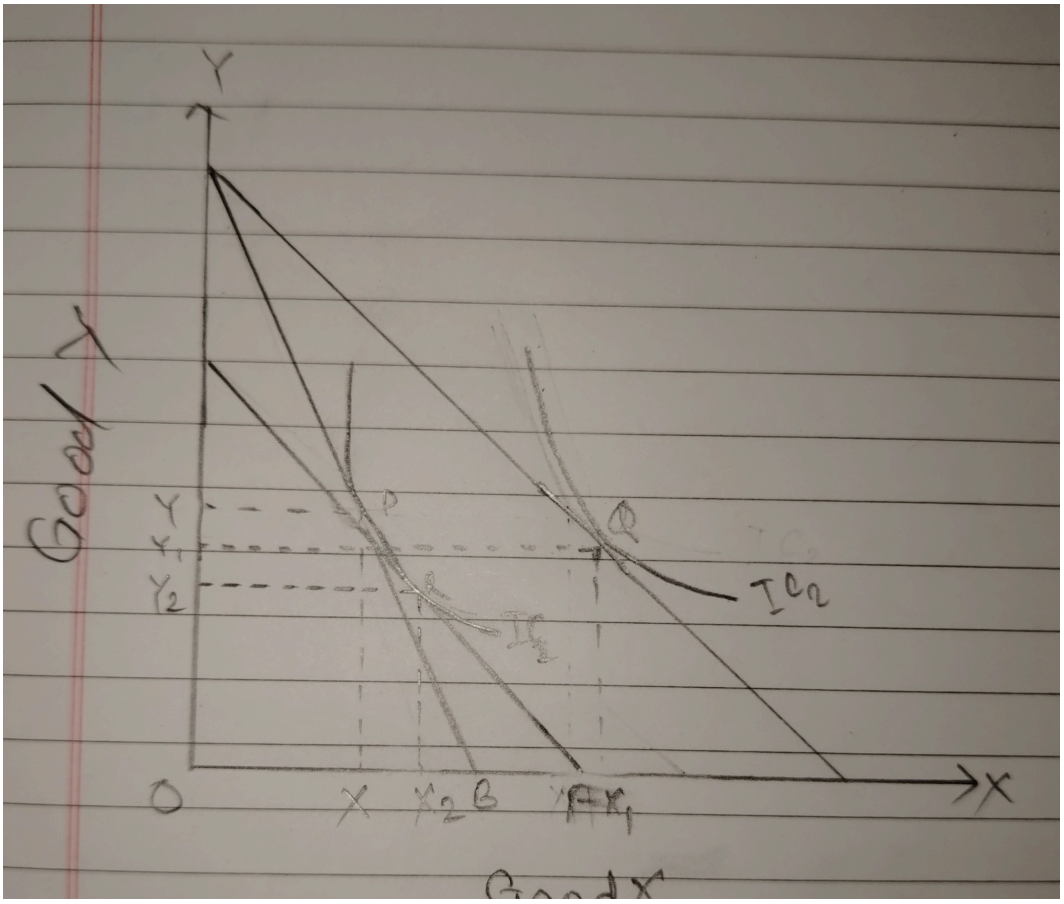
Answer: The substitution effect refers to the change in quantity demanded of a commodity as a result of a change in its price, while holding the consumer's real income constant. It is the change in consumption that occurs due to a change in the price ratio, and it is also known as the Hicksian substitution effect.

The income effect, on the other hand, refers to the change in quantity demanded of a commodity as a result of a change in the consumer's real income, while holding the price of the commodity constant. It is the change in consumption that occurs due to a change in the consumer's purchasing power.

Price Effect: The price effect refers to the change in the quantity demanded of a good or service in response to a change in its price, while holding all other factors constant, including the consumer's income. It measures the total change in quantity demanded due to a change in the price of the good.

Income Effect: The income effect refers to the change in the quantity demanded of a good or service in response to a change in the consumer's income, while holding the price of the good constant. It measures the change in quantity demanded due to a change in the consumer's purchasing power, which affects their ability to buy the good.

Hicksian Approach:



In the figure, the initial budget line is represented by AB and consumer is in equilibrium at point P purchasing OX units of X good and OY units of Y good. Let, price of X falls and price of Y good and consumer' income remain constant as such budget line swings outward to AB1. After the fall in price, consumer's purchasing power increases.

The price effect can be decomposed into two components: the income effect and the substitution effect. This decomposition is illustrated in the following equations:

PE = Movement from Q to S = X1X3 .....(Equation I)
IE = Movement from R to S = X2X3 .....(Equation II)
SE = Movement from Q to R = X1X2 .....(Equation III)

From these equations, we can derive the following relationship:

PE = SE + IE

Taking the left-hand side of the equation, we can rewrite it as:

PE = X1X3 (from Equation I)
= X1X2 + X2X3 (from Figure 1)
= SE + IE

Thus, we conclude that the price effect includes both the substitution effect and the income effect. In this explanation, we have considered that both goods are normal.