

Q. 21. What is substitution effect? What are its different types? Explain briefly.

Or

Define substitution effect. Explain the differences between Hicksian substitution effect and Slutsky's substitution effect.

Answer :

Substitution effect is defined as the change in quantity demanded of a commodity as a result of change in price of the substitute commodity when money income remains same. In other words, when the price of one commodity changes and price of another commodity including money income of the consumer remains same then quantity demanded of another commodity will change. The relative change in quantity demanded of the commodities is called substitution effect. The substitution effect can be classified into two categories, which are Hicksian substitution effect and Slutsky's substitution effect. These two effects can briefly be discussed as follows

(i) Hicksian Substitution Effect

Hicksian substitution effect is defined as change in quantity demanded of a commodity due to change in price of the commodity so that level of satisfaction remains same. In other words, when change in price is accompanied by so much change in real income that the consumer is neither better off nor worse off than before is called Hicksian

substitution effect. Therefore, such effect relates to the movement of one equilibrium to another equilibrium at different money incomes on the same indifference curve. Such a concept can diagrammatically be explained in figure 2.21

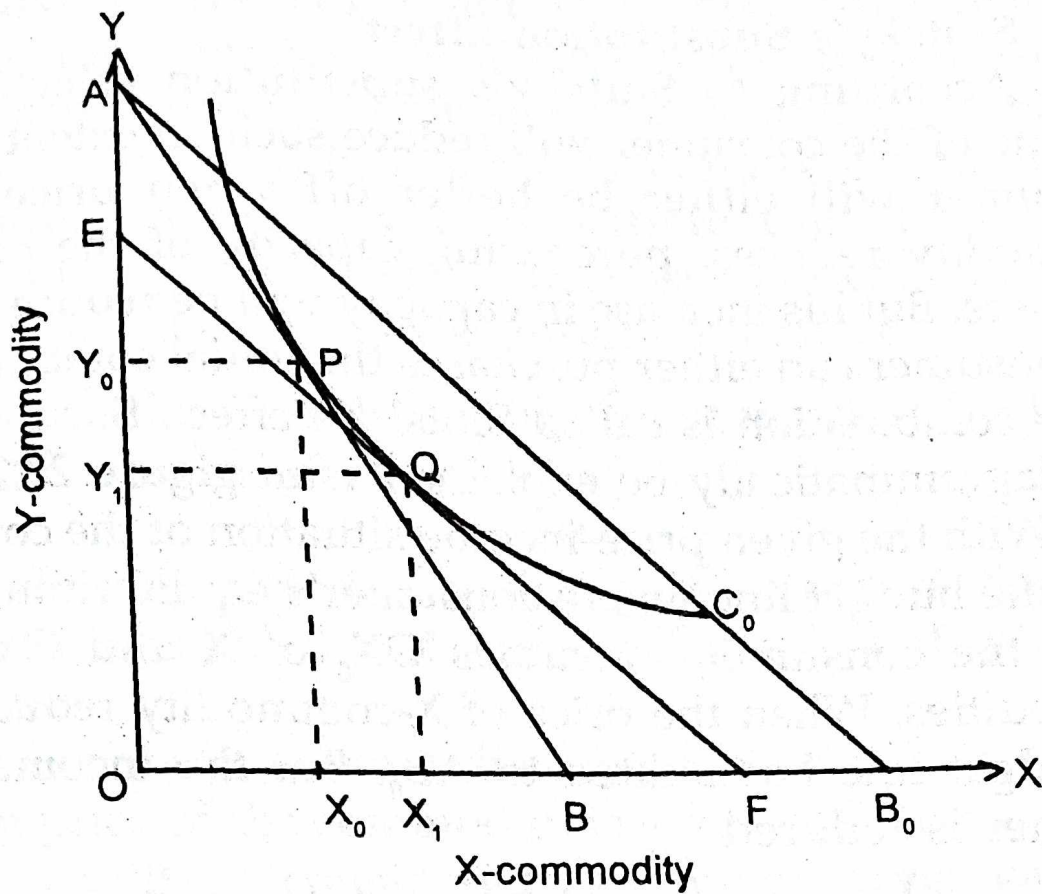


Figure 2.21

In the diagram, with the given price-income situation of the consumer, AB is the budget line. The consumer's equilibrium is achieved at point P where OX_0 of X and OY_0 of y-commodities are consumed. When the price of X-commodity reduces, then purchasing capacity of the consumer increases, because of which the budget line has shifted to AB_0 . According to Hicksian substitution effect, the money income of the consumer is reduced to such an extent that the consumer will come back his original level of satisfaction. Consequently EF is the new money income of the consumer which implies that AE of income in terms of Y and B_0F in terms of X are reduced. Consequently, new point of equilibrium is achieved at point Q, where OX_1 of X and Y_1 of Y-commodities are consumed. Therefore, the

movement from equilibrium point P to Q on the same indifference curve C_0 is called Hicksian substitution effect. This effect shows that the consumer has substituted Y_0Y_1 of Y-commodity for X_0X_1 of X-commodity.

(ii) Slutsky's Substitution Effect

According to Slutsky's substitution effect, money income of the consumer will reduce such an extent that the consumer will either be better off when price of any commodity reduces, purchasing capacity of the consumer increases. But his increase in capacity will be reduced so that the consumer can either purchase the initial combination or a new combination is called Slutsky's effect. Such an effect can diagrammatically be explained with figure 2.22

With the given price-income situation of the consumer, AB is the budget line where consumer's equilibrium is at E_0 . At E_0 , the consumer consumes OX_0 of X and OY_0 of Y-commodities. When the price of X-commodity reduces then the budget line has shifted to AB_0 . But the income of the consumer is reduced

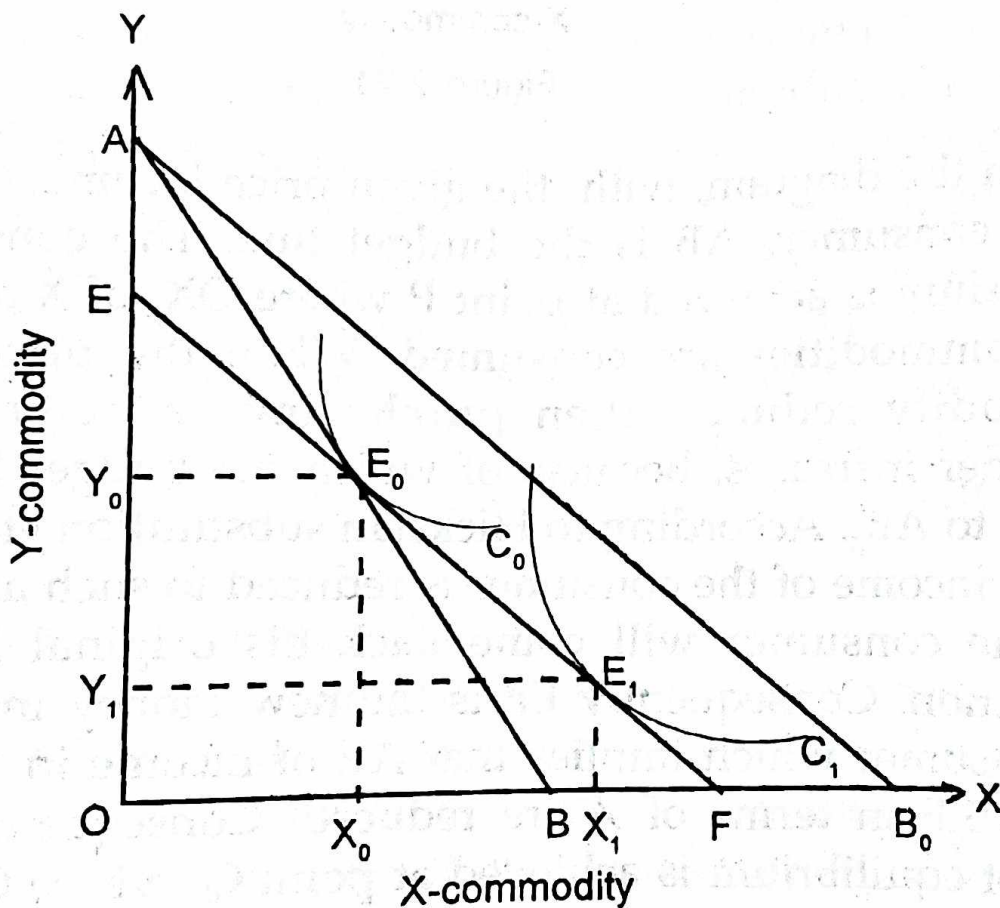


Figure 2.22

to such an extent that the consumer can purchase initial combination E_0 or a new one. Consequently, the new budget line EF is obtained. This line shows that the consumer can purchase either combination E_0 or a new one. But as the objective of the consumer is to maximize respective satisfaction, therefore he always wants to purchase any combination towards right hand portion of E_0 point on EF line. Consequently, E_1 is the new point of equilibrium that provides higher level of satisfaction than before. Consequently, the movement of consumer's equilibrium from E_0 to E_1 is called Slutsky's substitution effect.