

ISO-Product Curve

The term ISO-quant or ISO-product is composed of two words, Iso = equal, quant = quantity or product = output.

Thus it means equal quantity or equal product. Different factors are needed to produce a good. These factors may be substituted for one another.

A given quantity of output may be produced with different combinations of factors. Iso-quant curves are also known as Equal-product or Iso-product or Production Indifference curves. Since it is an extension of Indifference curve analysis from the theory of consumption to the theory of production.

Thus, an Iso-product or Iso-quant curve is that curve which shows the different combinations of two factors yielding the same total product. Like, indifference curves, Iso-quant curves also slope downward from left to right. The slope of an Iso-quant curve expresses the marginal rate of technical substitution (MRTS).

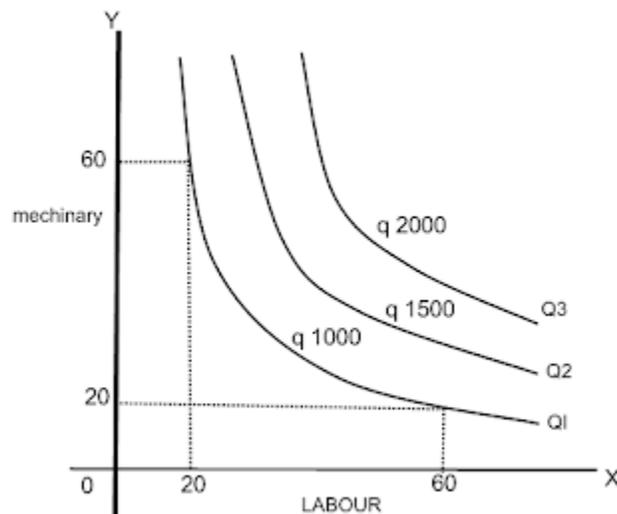
Assumptions:

The main assumptions of Iso-quant curves are as follows:

1. Two Factors of Production: Only two factors are used to produce a commodity.
2. Divisible Factor: Factors of production can be divided into small parts.
3. Constant Technique: Technique of production is constant or is known before hand.
4. Possibility of Technical Substitution: The substitution between the two factors is technically possible. That is, production function is of 'variable proportion' type rather than fixed proportion.
5. Efficient Combinations: Under the given technique, factors of production can be used with maximum efficiency.

Isoquant curve is called production indifference curve since it is an extension of indifference curve analysis from the theory of consumption to the theory of production. An isoquant shows that if the firm have ability to substitute between the two different inputs (labour and machines) in order to produce the same level of output

If the distance between isoquants increases (curve shifting upward) output increases. Example q 1000 to q 1500 shift in the curve shows increase in the quantity produced where q = quantity produced.



By the isoquant curve we came to know that if we want to produce certain quantity of good (q=1000) ie 1000 goods, we can employ more labour and we can use less machinery. In the same way for the same output that is (q=1000) we can use more number of machinery and we can employ less number of labour in the firm for production of same quantity. Here according to the budget and the financial position of the firm the producer can switch between the alternative production systems.