

Answer on Question #40279 – Economics - Economics of Enterprise

Assignment

Consider the following production function: $Q = K L$. Explain the special characteristics of this production function. How is it different from a Linear production function? How is it different from a Leontief production function?

Solution

In economics, a production function relates physical output of a production process to physical inputs or factors of production. The production function is one of the key concepts of mainstream neoclassical theories, used to define marginal product and to distinguish allocative efficiency, the defining focus of economics. The primary purpose of the production function is to address allocative efficiency in the use of factor inputs in production and the resulting distribution of income to those factors, while abstracting away from the technological problems of achieving technical efficiency, as an engineer or professional manager might understand it. If $Q = K * L$, both capital and labor show diminishing returns to increasing any single factor of production, but they may show (and do in this example) constant returns to scale. That is, if you double both capital and labor you will double output.

The simplest possible production function is a linear production function with labor alone as an input.

The Leontief production function applies to situations in which inputs must be used in fixed proportions; starting from those proportions, if usage of one input is increased without another being increased, output will not change. This production function is given by

$$Q = \min(aX_1, bX_2, \dots).$$