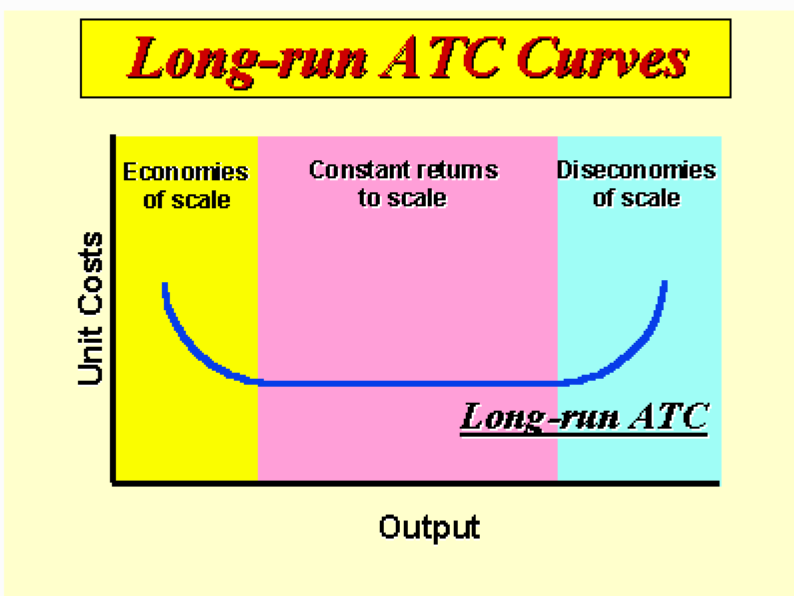
Economies & Diseconomies of Scale

In economics, returns to scale describes what happens when the scale of production increases over the long run when all input levels are variable (chosen by the firm). Returns to scale explains how the rate of increase in production is related to the increase in inputs in the long run. There are three stages in the returns to scale: increasing returns to scale (IRS), constant returns to scale (CRS), and diminishing returns to scale (DRS). Returns to scale vary between industries, but typically a firm will have increasing returns to scale at low levels of production, decreasing returns to scale at high levels of production, and constant returns to scale at some point in the middle .



Long Run ATC Curves

This graph shows that as the output (production) increases, long run average total cost curve decreases in economies of scale, constant in constant returns to scale, and increases in diseconomies of scale.

Increasing Returns to Scale

The first stage, increasing returns to scale (IRS) refers to a production process where an increase in the number of units produced causes a decrease in the average cost of each unit. In other words, a firm is experiencing IRS when the cost of producing an additional unit of output decreases as the volume of its production increases. IRS may take place, for example, if the cost of production of a manufactured good would decrease with the increase in quantity produced due to the production materials being obtained at a cheaper price.

Constant Return to Scale

The second stage, constant returns to scale (CRS) refers to a production process where an increase in the number of units produced causes no change in the average cost of each unit. If output changes proportionally with all the inputs, then there are constant returns to scale.

Diminishing Return to Scale

The final stage, diminishing returns to scale (DRS) refers to production for which the average costs of output increase as the level of production increases. The DRS is the opposite of the IRS. DRS might occur if, for example, a furniture company was forced to import wood from further and further away as its operations increased.

Source: Boundless. "Economies and Diseconomies of Scale." *Boundless Economics*. Boundless, 20 Sep. 2016. Retrieved 10 Oct. 2016 from https://www.boundless.com/economics/textbooks/boundless-economics-textbook/production-9/production-cost-64/economies-and-diseconomies-of-scale-243-12341/