Marginal product

Business

We can see that in this example and in graph 1 that the marginal product from added worker increases in a increasing rate up to worker number 6 and after that it increases in a decreasing rate. The fast increase of marginal product at the beginning can be caused by specialization or better use of recourses (capital). There are also many things that can cause the decrease in marginal product after worker 6, limited workspace being one of them. By looking at graph 1, showing total output of labor, we can see how the total output increases fast at the beginning and then it slows down and starts to decreases.

Graph 2 shows us how the average and marginal product of labor from the same data. The change in marginal product first rises fast and then falls fast after 6 worker. The average product of labor rises until 7. worker and it starts to decrease again. In this example the optimal input of labor is 6. After that the marginal production starts to decrease. Until one or two months ago it was widely accepted that withglobalizationand easy access tomoneythe concept of diminishing returns was less and less important in that sense, that for at least western firms it was easy to source capital inputs.

But after the financial collapse the diminishing return concept will be come more relevant again. If we take a look at the short-run average and marginal cost of production we can see the same effect. In table 2 the output is increased by one unit each time but the marginal variable cost changes, the average total cost decreases until unit 5 and then starts to increase again. It is the same law as for the data in table 1, but there we saw the effect of increase in labor on output. The short run marginal cost will increase because of decrease in productivity.

Average fixed cost will decrease fast in the beginning and slowdown but the decrease will continue because fixed cost will not change with output. The short-run marginal cost curve shout pass through the lowest point of both short-run average total cost and short-run average variable cost. That is also the optimal point of production. That is when the average total cost has the lowest value. But the optimal point of input is in this example 3, that is when short run marginal cost is in its lowest point. After that the value of added labor starts to decrease.

LONG-RUN PRODUCTION FUNCTION In the long-run all input variables can be changed, both capital and labor. So in the long-run company can change both capital and labor in order find optimal quantity of input for production. In the long run, the firm can vary its factory size, switch techniques of production, hire new workers and negotiate new contracts with suppliers. How the output of a business change in factor inputs is called returns of scale. In the long-run firms are looking for increasing return of scale, that is when average cost decreases when output increases.