

Chapter 6

Theory of Production and Cost

Abstract

The marginal productivity theory of factor pricing is not a complete story, and it has several flaws. It is basically demand focused and do not concentrate on other important side, i.e., supply. In competitive market economies, the equilibrium price is determined by demand and supply. So, this rule can be used in pricing the inputs in factor market. In this chapter, theory of production and cost is explained. Factors of production, production theory, opportunity cost, economic and accounting profits, short and long run, scales of production and other concepts are also explained.

Keywords: Production, cost, market, scale of production, profit

6.1. Introduction

Production is the method of employing the services of labor and capital to manufacture commodities. Proper services of technology are also important in the process of production of goods and services. For example, labor hired in the production of vehicles contains the hourly labour used in the operation of machines and others involvement from lower to highest management. While, in case of physical capital, it includes all physical inputs used in production like fuel, tools, machines etc., to produce final good for company, i.e., automobile. The factors for a rock concert contain the hour's effort for performance, sound technicians, concert ball managers, and other personnel and the land employed for the program. Other things include the buildings, sound system, truck etc., are capital.

6.1.1. Technology

Relationships in the production process are technical and these are like mathematical and engineering relations. Basically, technology is information about the core question, how to produce? It enhances the new scientific and other discoveries, and these are used to increase the production. Better and modern technology generally results in new techniques of production and application of new machines, more skilled labor, or different processes that permits higher production per unit to manufacture from available inputs. Better technological process also allows introduction of new commodities. Use of new technology supports manufactures to overcome the issues of less availability of inputs. In the current era, technology has

most significant role, as most of industry is efficient now, as more is being produced by employing the same inputs. Now workers are more efficient by introduction of new technology. In recent years, new technology has resulted in the development of computers that enable workers in a variety of industries to accomplish their tasks more quickly. New technology can also be embodied in workers in the form of improved education or training that represents greater technical knowledge of production.

6.1.2. The Production Function (PF)

The association between any combination of factors and the maximum attainable output from that arrangement is called PF. These are defined for a given technology. An enhancement in the technology raises the production achieved from different groups of inputs and hence production function evolves. In the other words, it is the minimum amounts of factors employed to manufacture the good and services. Factor of production are generally classified into several types and in the PF these can be written as,

$$Q = f(L, K, M)$$

Here in this equation, Q is the optimal production, which is produced by using the given technology, labor (L), capital (K) and raw material (M).

6.2. Factors of Production

These are basically the inputs used in the process of production and there are general four input that are used in the production process, i.e., land, labor, capital, and entrepreneurship. Anything participating to the production procedure is the factor for production. Experts generally desire to make general types of factors of production, so a standard application to these specific types of inputs is called factor. Initially (upto 20th century) there were generally three factors of production i.e., land, labor and capital, and managerial capability was not considered as factor, entrepreneurship is a recent addition.

Term factor is employed to build models, showing the properties of economic procedure and it does not include unnecessary explanations. Generally, these types of model include, growth, value, production procedure and its type, income distribution, and social classes. Main conceptual application is in the theory of PFs. There are many aspects for which this classification is made one of them. It is the mode of payment for the services rendered by these inputs in the process of production; rent for land, wages for labor, interest for capital, and profit for entrepreneurship. Detailed discussions about it are given in the below,

6.2.1. Land

This factor is different and much more important for the economist than the other people. It contains all natural resources all “gifts of nature” that are employed in the procedure of production, like arable land, forests, mineral and oil deposits, and water resources.

Land is fixed in quantity. It is said that land has no supply price. That is, price of land prevailing in the market cannot affect its supply; the price may be high or low, its supply remains the same. It has original and indestructible properties. It lacks mobility in the geographical sense. Land was the only factor that contributed a significant volume to the producer; laborers and artisans were powerless and in excess supply. It is the only sector where producer produce more than need due to the soil fertility. So, land rent in this regard land rent can be taken as surplus.

Registered taxation is one of the best method to gain optima profits and revenues of the firms. Rent basically reflects scarcity of good, land (Ricardo 1965). The worth of farming is dependent on the amount of labor required to grow it. Worst land yields no rents long because a portion of land remains unused and rent is paid only for good quality. These specific land qualities difference in the fertility, scarcity and other develop the rent and it is determined through these factors.

In marginalism, it takes a different approach. According to this approach rent shows the additional yield of land or it is surplus, as it was explained by Ricardo. Marginal or additional yield is the marginal production attained by extending a fixed quantity of other factors of production over marginal amount of land of uniform quality. According to the marginalists' point of view, factor of production could be scarce (Clark 1924). There is possibility of substituting within the inputs to make different combinations to construct other suitable PFs, however, optimal production method assigns all the inputs units according to their additional yields. In the long run land also depreciate like other produced inputs (Daly and Cobb 1994).

6.2.2. Labor

It is also a wider term and it include all the tangible and non-tangible services of different people to produce goods and services. The services of a logger, retail clerk, machinist, teacher, professional football player, and nuclear physicist all fall under the general heading "labor."

Classical theory explained with expansion of production and trade all the enterprises will make profits over longer period. They have nothing to do with agriculture and its enterprises because it has no relationship with agriculture and agricultural enterprises. This new work answer to old logics that land produces surplus. They gave the justification of arguments and surplus converted to profits. At prevailing prices, labor can yield a surplus over subsistence costs in many industries (Smith 1776).

It is important to think that what is reason behind that laborers do not earn profits and it goes to only proprietors. According to Ricardo, technical innovation enhances per unit production of labor. Manufacturers gain the profit from discounted cost and they use the latest machinery. Wages shows the cost of subsistence and they are not getting what they are manufacturing rather they get a part of difference between the cost and profit (Marx 1867). On the other hand, proprietors are not innovative even than they gain the profits, laborers have not market power and they have scanty of resources.

6.2.3. Capital Goods

It includes all production support employed in manufacturing the commodities i.e., tools, machinery, equipment, storage, transportation, and distribution and other. The process of manufacturing and buying the capital is called investment. These goods are not same as the consumer goods as consumer goods fulfil the customer needs directly. However, the capital goods are first used in the production of final goods and services, and then they are employed to satisfy the consumer needs. This term does not refer to money, in economics real capital is also considered which mean machinery and other productive equipment. Money does not manufacture by itself, rather it is just legal tender and it cannot be considered as an economic resource. So, money or financial capital is just a means for buying capital.

This most contentious factors is a shaped equipment, as investment is employed to attain produced equipment, as all investment used to begin and carry on production. It can include some intangible items like goodwill. Equipment adopted to replace labor after wages rise from a low level, relative to interest on capital, may be abandoned again in favor of labor as wages rise (Sraffa 1960). Capital is treated as finance, associated with the payment of interest. Acquired skills have come to be viewed as analogous to physical equipment, capable of yielding their owners a return. This analogy suggests their current designation as human capital.

6.2.4. Entrepreneurial Ability

Fourth and last is the entrepreneurial ability. Until the 20th century, this function was allocated to the capitalist, and was considered a part of capital. According to the classical economist, profit was attributed to ownership of capital rather than profits. In the marginalist view, capital earns interest, and profit was a mere residual after all the factors of production were compensated. According to Marshall (2009), organization and management, refers to the coordination function of entrepreneurship but to neither risk-assuming nor innovation. Organizer has revolutionary role in the enterprise and it is different than the conservative financier, thus entrepreneur is different from the capitalist (Schumpeter 1934). The role of entrepreneur's is not merely that of manager and risk-taker, but also of visionary one who seeks decision and make structural changes in the enterprise. Some modification in the business venture require complete destruction of the old structure and complete revision it is called "creative destruction." Profit is related to entrepreneurship to innovation. With the rise of "venture capitalists" and other financiers willing to take on more risk and do more for innovation for attaining higher profits the difference between the capitalist and entrepreneur has gone unclear (Schumpeter 1954). The entrepreneur performs several functions:

- 1) The entrepreneur takes the initiative in combining different factors of production like land, capital, and labor to manufacture final commodities. Entrepreneur is like catalyst and the driving forces behind the process of production. He is the agent who integrate the necessary factors of production.
- 2) He is decision maker of business.

- 3) He is an innovator who commercializes new products, techniques, or new forms of business enterprises.
- 4) The entrepreneur is a risk taker. As he is not sure about the profits as a reward for his time, efforts, and abilities.

6.3. The price Determination of Factor of Production by the Forces of Demand and Supply

The marginal productivity theory of factor pricing is incomplete by itself and it has several issues. As it gives more emphasis on the demand side and focused less on the supply of factors of production. Price of inputs in the modern markets is established by market drivers i.e., demand and supply. Thus, the principle of factor pricing of commodity is applicable to the pricing of factors in the factor market. Modern theory of factor pricing analyses various factors impacting both the demand and the supply side (Ricardo 1965). It should be clear that these are the two forces which decide the factor pricing in the market.

6.3.1. Demand Side

Input demand is not identical to the final goods and services demand. Demand for the consumer goods is direct, however the input demand is indirect or derived demand. Inputs are employed to produce final goods and services. If the demand for other commodities increase, obviously, it will increase the demand for inputs to produce them. Use of inputs continue to increase, until their marginal productivity (MP) equal price. As the MP of a factor decreases with every additional use, the producer will be prepared to offer lower price to the marginal inputs.

Thus, the demand curve of a factor takes the shape, as the shape of marginal revenue productivity curve. At higher wages, the employment is less and vice versa. This curve takes the same slope as it was for the traditional demand curve. In finding the input price, the individual demand curve is not oftenly needed.

6.3.2. Supply Side

Similarly, as for the case of demand side, the supply of inputs is also different from the supply of final goods and services. The supply of other commodities increases with the increase in price. The supply of inputs for the manufacturing is not simple. Here, an important point to note is, price is not the only indicator that decides the supply of specific input, rather there are other several factors which decide the price level. The supply of labor for an industry is elastic. Similarly, land supply is not elastic for the whole society, but it can be elastic for the single user. Supply of capital goods relies on the price. To Keynes, supply of capital does not depend on the rate of interest but it relies on income of individual. In general market supply curve for inputs is positively sloping (upward moving).

6.3.3. Determination of Equilibrium Price for a Factor

Input price is determined where the demand and supply curves equate each other. Price of input whose demand and supply are equal is called equilibrium factor price. Equilibrium cost is determined by the interaction of the forces of the demand and supply in the factor market.

6.4. Production Theory

It is basically the procedure how inputs are converted into outputs. In the process of production, inputs are used to produce the commodities that are marketed in the economy. This can include; manufacturing, storing, shipping, and packaging processes. Some of the economist define it as ‘all economic activities other than consumption’. It means all commercial actions other than the final consumption. It is quantified as a rate of output per period of time. There are three aspects to production processes, i.e. amount of commodities manufactured, production procedure, and temporal and spatial distribution of items being manufactured

6.5. Opportunity Cost (OC)

It is the cost of an alternative that must be forgone to pursue a certain action. It is the cost what you must give up when you make that choice. Another way to say, it is the value of the next best opportunity. It is a direct implication of scarcity. People should choose between different alternatives when deciding, how to spend their money and their time. According to Friedman (1975), there is no such thing as a free lunch. It is clear from this statement that in this world of scarcity, every action or item has an OC (Gopal 2007). There is constantly a trade-off in the decision of goods or services selection.

Production is a process, and as such occurs through time and space. Because it is a flow concept, production is measured as a “rate of output per period of time”. There are three aspects to production processes: direct costs like tuition, books, school supplies, etc. These are examples of explicit costs, i.e., costs that require a money payment. Though, these costs are small compared to the value of the time it takes to attend class, do homework, etc. The amount that the student could have earned, if she had worked rather than attended school is the implicit cost of attending college. Implicit costs are costs that do not require a money payment. The OC includes both explicit and implicit costs.

6.5.1. Explicit Costs

These are costs that require a money payment. These are the monetary payments and these are paid to those who supply labor services, materials, fuel, transportation services, and the like. Such money payments are for the employment of inputs which are owned by others.

6.5.2. Implicit Costs

These costs do not need money payment. These costs are OC of using its self-owned, self-employed resources for a firm. For a firm, these are the money payments that self-employed resources could have produced in their best alternative use.

The notion of OC helps explain, why star athletes often do not graduate from college. The cost of going to school includes the millions of dollars, they could earn as a professional athlete.

6.6. Economic Profits and Accounting Profits

Concept of OCs is used for understanding the performance of both firms as well as single. Ultimate objective of every firm is to optimize its earning (Hyman 1989). Profit is equal to revenue minus cost,

$$\text{Profit } (\pi) = \text{Total Revenue (TR)} - \text{Total Cost (TC)} \quad (6.1)$$

In this equation cost is basically OC. The firm's cost of production contains explicit costs, like; cost of raw materials and other direct costs. At the same times, it is comprised of implicit costs, like cost associated with firm's capital.

6.6.1. Normal Profits

Normal profit is cost of doing business. It is costs of production including both explicit and implicit. Firm's economic costs are the OCs of the inputs employed, whether those resources are owned by others or by the firm.

6.6.2. Economic Profit

These is also called pure profit. Economists use the term "profit" in a different way than the accountants. So,

$$\text{Accounting Profit} = \text{Total Revenue} - \text{Explicit or Accounting Costs} \quad (6.2)$$

However, economic profit is total revenue minus explicit and implicit costs (Equation 6.1). If a firm's total revenue are more than its economic costs, any residual goes to the entrepreneur. That residual is called an e pure profit that is given in Equation 6.1.

6.7. Short Run and Long Run

Firm's profitability depend on how quickly it can adjust the amounts of the several inputs it uses. It can easily and quickly modify the quantities employed of several inputs, like labor, raw materials, fuel, and power. It requires a plausible time to adjust its plant capacity, size of the building, the amount of equipment, and other capital inputs. In some heavy industries, such as aircraft manufacturing, a firm may require many years to change the capacity of its plant. Due to different time required for

changing the capacity, two conceptual periods short and long run have been identified.

6.7.1. Short Run

It is a time period short enough for a firm to change its plant capacity, yet long to allow a modification in the degree to which the fixed plant is employed. The firm's plant capacity is unchanged in the short run. Firm can change its production by using larger or smaller quantities of inputs like; labor, materials, and other resources. It can employ its current plant capacity intensively in the short run.

6.7.2. Long Run

Long run is a time enough for firm to adjust the amount of all the inputs that it uses. For the case of industry, it contains the time period for the present firms to enter or exit the firms. While, the short run is a "fixed plant" period and long run is for "variable-plant".

6.8. Some Related Concepts

6.8.1. Total product

It is basically the total quantity, or total output of a particular good produced.

6.8.2. Marginal product

It is additional output associated with adding a unit of a variable input, in this case labor, to the production method.

$$\text{Marginal product} = \frac{\text{Change in TP}}{\text{Change in Labor Input}} \quad (6.3)$$

6.8.3. Average Product

It also called labor productivity, it is production per unit of labor input,

$$\text{Average product} = \frac{\text{Total product}}{\text{Units of labor}} \quad (6.4)$$

6.8.4. Fixed Costs (FC)

These are costs that do not change with variation in production. These costs are related with the presence of firm's plant and therefore must be paid even if its production is zero. Such costs i.e., rental payments, interest on a firm's debts, and insurance premiums are generally fixed costs; they do not rise even if a firm manufactures more.

6.8.5. Variable Costs (VC)

These are the costs that change with the level of production. They contain payments for materials, transportation services, most labor, and analogous variable resources.

6.8.6. Total Cost (TC)

It is the sum of fixed and variable cost at each phase of production. Difference between FC and VC is important for the business manager. VC can be controlled or altered in the short run by changing production levels. FC are beyond the business manager's current control; they are incurred in the short run and must be paid regardless of output level.

6.8.7. Marginal Cost (MC)

It is the extra or additional cost of producing one more unit of output. It can be found as,

$$MC = \frac{\text{Change in TC}}{\text{Change in Quantity}} \quad (6.5)$$

6.8.8. Firm

Consumer theory is employed to describe the market demand for goods and services. The theory of the firm provides description for the market supply of commodities. A firm is defined as any organization of individuals that purchases factors of production (labor, capital, and raw materials) to produce goods and services that are sold to consumers, governments, or other firms. It considers that the firm's primary objective is to optimize profits. In optimizing profits, firms are subject to two constraints; the consumers' demand for their items and the costs of production.

6.8.9. Plant

Plant is a physical establishment that performs one or more functions in a production, fabrication and distribution of goods and services.

6.9. Scales of Production

In this instance, scale means categories or amounts. Imagine that you decide to take part in a bake sale at school. If you make a single slice of muffin, you are making a one-off product; if you set out to make a predefined number you are making a batch; if you just keep on making muffins you are engaged in continuous production. There are three scales of production.

6.9.1. Scales of Production: One-Off

One-off production refers to any products that are uniquely manufactured in quantities of one. These tend to be specialized items and include: a wedding dress,

rings and cakes, houses, product prototypes and most products you have built in design and technology.

6.9.2. Scales of Production: Batch

Batch production refers to products whose exact quantity is decided before production begins. Once that number is reached production stops and the equipment will then be adjusted or modified and used to make another similar item. Examples include, newspapers, books, pre-recorded DVDs, football shirts and food products.

6.9.3. Scales of Production: Continuous

Continuous production refers to products whose exact quantity is not decided before production begins. The equipment will be very specialized and will continually make the same product. Examples include, paper, kitchen roll, blank CDs, nuts and bolts, batteries and tyres etc.

6.9.4. Geometric Relationships between Total, Average, and Marginal Product Curves

The shapes of the average and marginal product curves and way they are linked to each other is mainly dependent of the TP curve. This should come as no surprise, AP and MP are calculated from TP data.

Graphically, the APP of labor equals the slope of a ray from the origin to a given point on the TP curve. In the Figure 6.1, on the X axis there is quantity of labor employed. Here, R_1 has a slope near 4 and passes through the TP curve at point where one unit of labor is allocated. Succeeding the dotted line down from this intersection indicates that the APP_L for one employee is 4. Likewise, for the case of R_2 there is slope of 7, and intersects the TP curve where 2 and just less than 7 employees are hired. Going down to the vertically dashed lines to the average product curve reflects that APP_L equals 7 when 2 and just less than 7 laborers are used. APP of labor reaches at optimum level when a ray from the origin is just tangent to the TP curve which has a slope of 10.

MPP of labor is shown in the 6.2, it shows the slope at particular points on a TP curve. Slope of a line R_3 is drawn tangent to a specific point (3.5 laborers). The slope of R_3 is 10; by drawing the dashed vertical line below from the point of tangency indicates that the MPP_L for selected laborers is 10. It is no coincidence that the MPP and APP_L are equal at this point, when a ray from the origin (AP) is just tangent (MP) to the TP curve, $MPP_L = APP_L$

When less than 3.5 laborers are used, the MPL curve lies above the $APPL$ curve because the slope of the TP curve is greater at any point than a ray drawn to that point. The converse happens when more than 3.5 laborers are employed: the MPP_L curve will be below the APP_L curve as the slope of a ray to any given point is more than the slope of the TP curve at the corresponding point. There is one point where a line of tangency cannot be drawn without piercing the TP curve it is the inflection point (McConnel and Brue 2005). This point occurs, where the TP curve stops

enhancing at an increasing rate, it continuing to increase but at a decreasing rate. MPP of labor achieve its optimal value (16) at inflection point (Figure 6.2). When the TP curve reaches its maxima, MPP_L becomes zero. This happens when 6 laborers are used, after this point TP curve starts declining as $MPPL$ is negative.

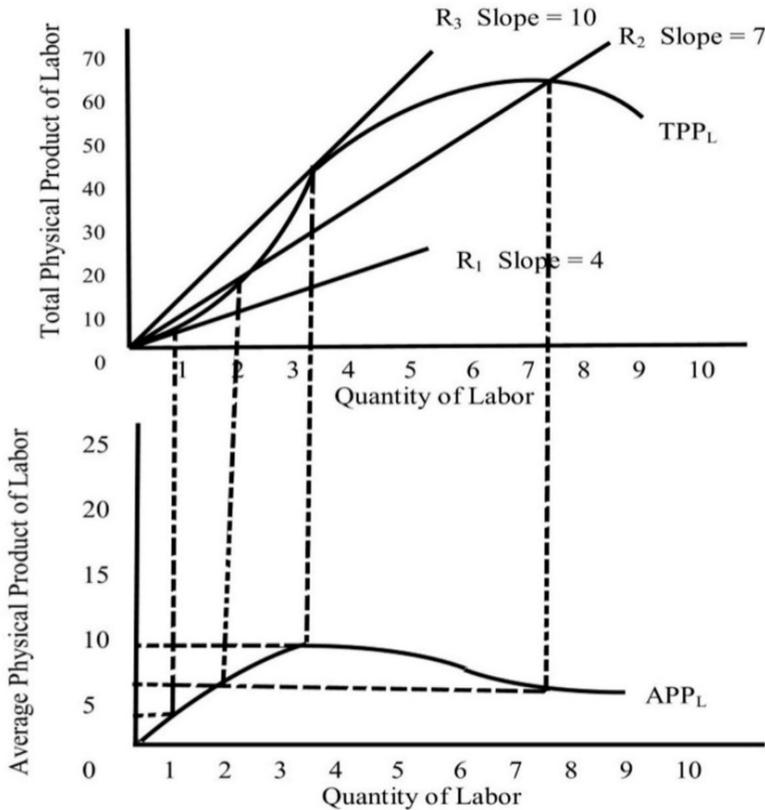


Fig. 6.1 Deriving the Average Physical Product of Labor from the Total Product Curve

APP for labor is derived from the TP curve by drawing rays from the origin to points on TP. The slope of the ray to a point on the TP equals the APP_{LL} at that point, as shown by three lines. APP is optimized at the point on TP where R_3L from the origin is just tangent to the TP curve.

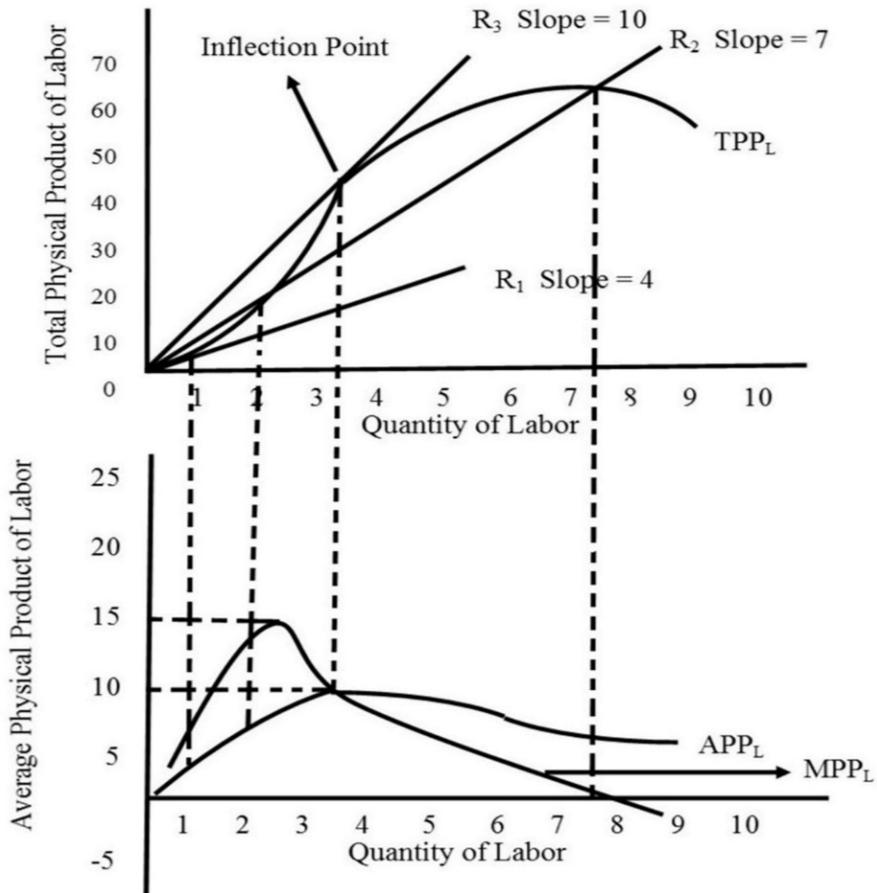


Fig. 6.2 Deriving the Marginal Physical Product of Labor from a Total Product Curve

Box 6.1 TP, MP, and AP of Labor with Fixed Capital

Capital (K)	Labour (L)	TP (Q)	$MP_L = \Delta Q / \Delta L$	$AP_L = Q / L$
8	0	0		
8	1	5	5	5
8	2	18	13	9
8	3	36	18	12
8	4	56	20	14
8	5	75	19	15
8	6	90	15	15
8	7	98	8	14
8	8	104	6	13
8	9	108	4	12
8	10	110	2	11
8	11	110	0	10
8	12	108	-2	9
8	13	104	-4	8

Source: Perloff (2008)

6.10. Stages of Production

Based on association among TP, AP and MP, different stages of production can be defined. In the first stage, APPL is rising. In the second, the APPL is falling but the MPPL is positive. While in the third and last, MPP becomes negative. These three phases of production can be depicted in in graph (Figure 6.3). In the stage III, additional laborers reduce TP and MPP is negative. In Stage I, MPPL is at a maximum, and MP of capital is negative. In Stage II, the MP of both productive resources (capital and labor) are positive. It is the stage where one should produce. Firms will want to operate in stage II because the marginal products of both factors of production (capital and labor) are positive in this stage.

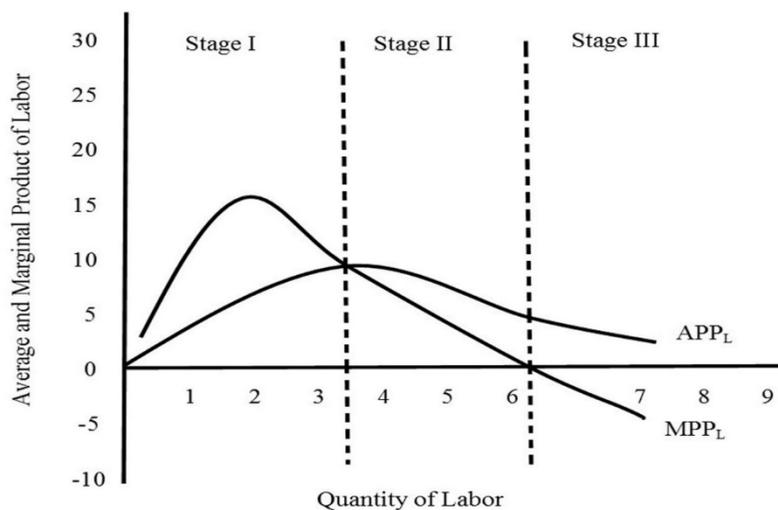


Fig. 6.3 The Stages of Production

6.11. Laws of Cost

If the laws of returns are stated in terms of cost, then they are called laws of costs. These both are two perspectives in the form of an increase or decrease. If the cost of running business is decreased, then the business will see proportionately to earn revenue from that industry with a smaller investment in it. Details are discussed below,

6.11.1. Law of Increasing Costs

This law states that after attaining the optimal production by employing all the available resources, producing further will cause more cost than the average level. As the output rises, opportunity cost for this production will also increase. For example, there is an economy which produce only two product A and B. If all the available inputs are employed to produce product A there will be no input available to produce product B. So, for example X amount of product A will be available and 0 units of product B and vice versa. In between these two there is also a situation where some amount of both products is produced. There are three assumptions that are made in this possibility. The economy is enjoying full employment (everybody who can work and wish to work is working), the best available technology is being used and production efficiency is being maximized. So, question arises, what is the cost of producing more quantities of A and B? If the economy is at its optimal level, then the cost of each unit will be more costly. The economy should experience more variable costs to produce a unit of input. Other laws are, law of constant costs and law of decreasing costs.

6.11.2. Shapes of Cost Curves

All cost curves are associated with each other,

The ATC curve is U-shaped. This is because the ATC is made up of AVC, which are rising, and AFC are decreasing. At low production amount the decrease in AFC dominates, but ultimately the rise in AVC overcomes the AC. AFC curve is decreasing with amount. This is because, the same quantity of FC is being averaged over a growing amount of production causes down ward movement of curves. Because of declining additional yields, MC curve oftenly have upward trend. AVC has downward trend, when it is above the MC curve and upward trend when it is below the MC curve. As, AVC is average of MC of each unit of production. Resultantly, AVC will be U shaped and in upward direction.

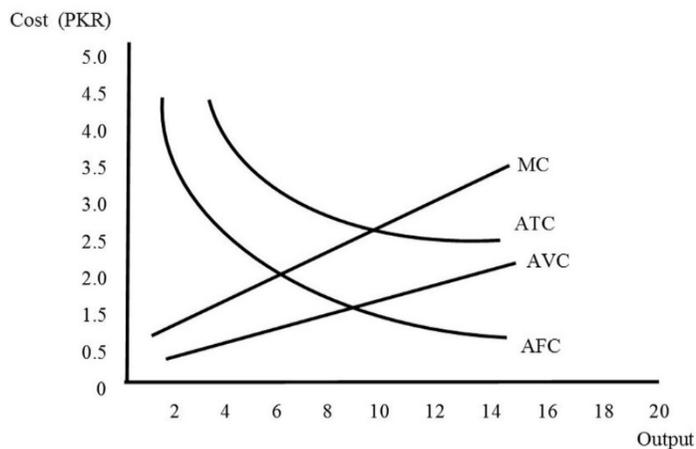


Fig. 6.4 Marginal Cost, Average Total Cost, Average Variable Cost, and Average Fixed Cost

6.12. Economies and Diseconomies of Scale

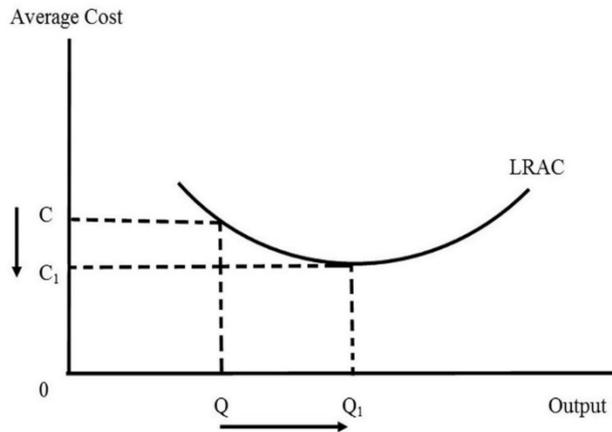
In microeconomics, economies of scale are the cost advantage. Firms achieve this advantage due to size, with cost per unit production decrease with rising scale. Generally, operational efficiency is also greater with rising scale, causing lower variable cost.

This apply to a range of business situations at several levels, such as a business unit, firm or an entire enterprise. For example, a large production would be expected to have a lower cost per unit of production than a smaller facility, all other factors being equal, however a firm with several services should have a cost advantage over a competitor with fewer. This term was first introduced by Adam Smith, he introduced the idea of achieving more production returns by employing division of labor. Diseconomies of scale is the opposite. Economies of scale often have bounds,

such as passing the optimum design point where costs for marginal unit rises. General Common limits include,

- 1) Exceeding the nearby raw material supply.
- 2) Saturating the regional market, thus having to ship product uneconomical distances.
- 3) Using energy less efficiently or having a higher defect rate.

Fig. 6.5 As quantity of production increases from Q to Q_1 , the average cost of each unit decreases from C to C_1



6.13. Breakeven Analysis

This technique help in making decision to the policy and decision makers in business. It is used to determine whether a specific amount of production will be suitable for the enterprise or not. It is a simple technique employed to determine have you priced your product correctly! This technique aid in quantifying the required quantity of sale before making a profit. It can be expressed in the form of equation,

$$P(X) = f + V(X) \quad (6.6)$$

F = fixed costs

V = variable costs per unit

X = volume of output (in units)

P = price per unit

Equation 6.6 shows that the breakeven point is where the number of sales needed to make the cost equal to the revenue.

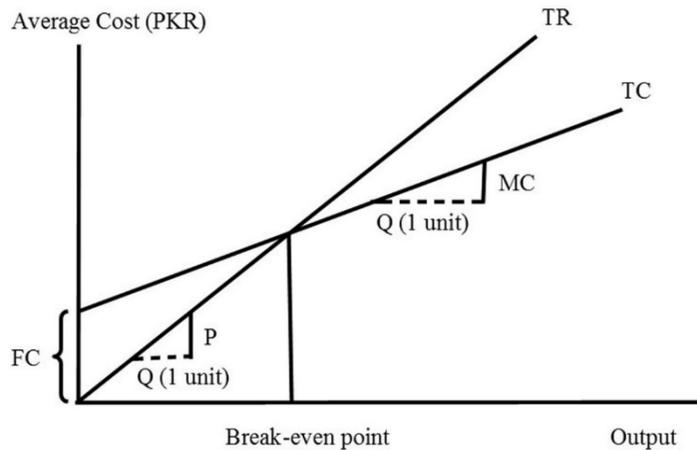


Fig. 6.6 A graphic solution method of breakeven analysis

TR is shown here with a line that starts from origin and has a slope P , then draw a line that intersects vertical axis at level of FC and has a slope of MC . Intersection of TC and TR is break-even point.

References

- Clark, J.B. (1924). *The Distribution of Wealth*. Macmillan Publishers, London, United Kingdom.
- Daly, H.E. and J.B. Cobb. (1994). *For the Common Good: Redirecting the Economy Toward Community, the Environment, and a Sustainable Future*. Beacon Press, Boston, USA.
- Friedman, M. (1975). *There's no such thing as a free lunch*. Open Court Publishing Company, Chicago, Illinois 60601, USA.
- Gopal, M. R., M. Singari, V. Rajasekaran, S. Rajendran, P. Neelavathy and S.R. Kennedy. (2007). *Economic Theory*. Tamilnadu Textbook Corporation College Road, Chennai, India.
- Hyman, D.N. (1989). *Modern Microeconomics; Analysis and Applications*, 2nd Edition. Irwin Professional Publishing, Illinois, USA.
- Marshall, A. (2009). *Principles of Economics: Unabridged*. 8th edition. Cosimo Inc., New York-10011, USA.
- Marx, K. (1867/1977). *Capital, Vol. I*. Vintage Books, New York, USA.
- McConnell, R.C. and S.L. Brue. (2005). *Economics: Principles, problems, and policies*. McGraw-Hill/Irwin, New York-10020, USA.
- Perloff, J.M. (2008). *Microeconomics theory and application with calculus*. Pearson Addison Wesley, Boston, USA.
- Ricardo, D. (1821/1965). *On the Principles of Political Economy and Taxation*. Kessinger Publishing, Montana, USA.

- Schumpeter, J. (1934). *The Theory of Economic Development*. Harvard University Press, Cambridge, USA.
- Schumpeter, J. (1954). *History of Economic Analysis*. New York: Oxford University Press, Melbourne VIC 3205, Australia.
- Smith, A. (1776/1965). *An Inquiry into the Nature and Causes of the Wealth of Nations*. Modern Library, New York, USA.
- Sraffa, P. (1960). *Production of Commodities by Means of Commodities*. Cambridge University Press, London, United Kingdom.