Opportunity Cost and Production Possibility Frontier

Name of the Student:

Name of the University:

Date:

Abstract

The purpose of this paper is to examine the relationship between opportunity cost and production possibility frontier. The study will offer an opportunity to understand the concept of ‘production possibility frontier’ and carry out a market analysis.

Introduction

The main problem that the firms face is that of the scarcity of the resources that would in turn affect the production of goods and services. The production on the other hand affects the consumption decisions and rise in consumption of a particular product reduces the consumption of another product (Farole, Rodriguez-Pose & Storper, 2011). However, there is an opportunity cost associated with the financial decisions within the organizations. The firms choose the best alternative which would offer them with a high profit in the international market (Afonso, Schuknecht & Tanzi, 2005). The production decisions are to be made by the firms and the production possibility frontier is considered as a boundary between the combinations of the goods and services to be produced and the other combination that cannot be produced (Chavas, Petrie & Roth, 2005).

The production possibility frontier demonstrates the existence of an opportunity cost in the business that the producers can avail in order to earn a high profit. However, if the firms produce on the frontier it implies that the resources of the firms are fully utilized and if the combination of goods lies below the frontier, the resources are said to be underutilized (Farole, Rodriguez-Pose & Storper, 2011). Therefore, the aim of this research is to determine the relationship between opportunity cost and production possibility frontier. The study would provide a scope to understand the concept of ‘production possibility frontier’ and carry out a market analysis.

Definition of Opportunity Cost

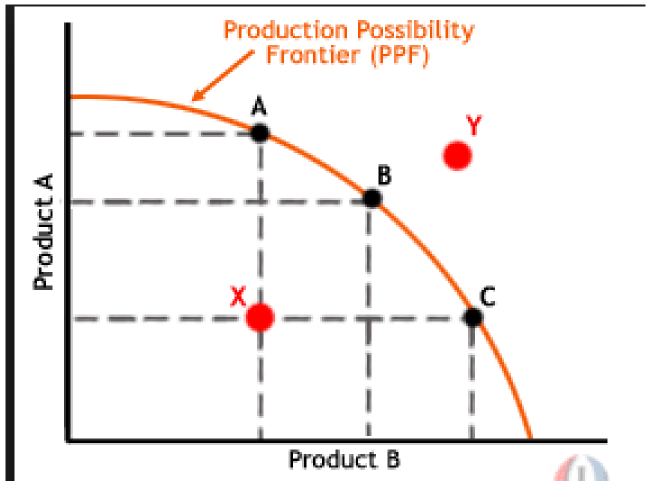
The concept of opportunity cost according to the economists considers the next highest valued alternative that the individual can choose in order to earn a higher profit (Farole, Rodriguez-Pose & Storper, 2011). The concept is valid for the firms as well. It implies that the individuals and firms are free to choose the next alternative that would provide them with greater satisfaction. The opportunity cost is considered by the firms when there is scarcity of resources in the economy that hampers the production process. The firms prefer to choose the production of a different commodity in order to avoid slowdown in their growth rate (Farole, Rodriguez-Pose & Storper, 2011). Hence, the study shows that opportunity cost affects the firm's decision making process and the managers can undertake strategies to earn a higher level of satisfaction.

The producers undertake the allocation of resources based on the opportunity cost which indicates that the producers change their production process as well as the goods that they manufacture. The concept of opportunity cost refers to the the producers can choose to manufacture goods that are on high demand in the international market. According to the researchers, in case the producers manufacture goods that meet the rising demands from the customers, the company would earn a higher profit and set up its business successfully in the international market (Farole, Rodriguez-Pose & Storper, 2011). For example, a firm is in financial distress and is facing a situation of loss in the international market; it would be able to save itself by identifying the next best alternative of running the business that is, the firm's opportunity cost is expected to save the firm from going bankrupt.

Relationship between Opportunity Cost and the PPF

In case if the firm faces a loss or there is scarcity of resources within the economy, the firm is free to choose the production of some other goods for which there are abundant quantity of raw materials found within the economy (Acemoglu, Aghion & Zilibotti, 2006). The fact of choosing the next best alternative by the firms would provide them with greater level of satisfaction is known as the opportunity cost. On the contrary, the PPF is a path in the economy that shows the maximum possibility of producing goods and services with available resources and technology. This path is called as the production possibility frontier (PPF). The PPF has different properties that the study indicates. One of the properties says that all PPFs are downward sloping that implies that the country needs to sacrifice one commodity in order to produce more of the other commodity (Companys & McMullen, 2007). The frontier is usually concave to the origin and also linear, but it can never be convex. The third property implies that the slope of PPF indicates the opportunity cost between two goods. The linear frontier shows that the country faces a constant opportunity cost between the two products (Nicholson & Snyder, 2011). However, in this case, the country can manufacture much of a product by sacrificing only a little amount of the other product. On the other hand, if the frontier is concave to the origin then it indicates that the economy has an increasing opportunity cost. It reflects that as the production of particular goods increases within the international market, its opportunity cost of producing another unit increases (Krugman, 2008).

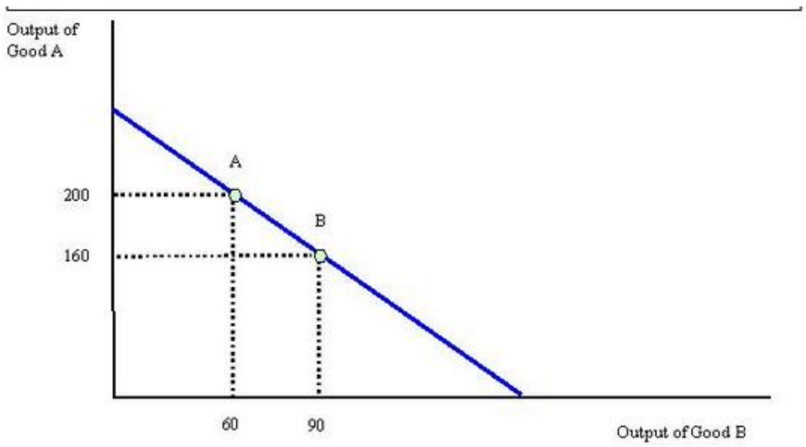
Figure 1: Concave PPF



(Source: Krugman, 2008)

Nonetheless, with the help of PPF it can be shown that trade is helpful for both the countries so that they can consume more goods as compared to the situation when there is no trade agreement between the countries. For example, the society has the choice to make an investment on two things that is education and housing (Companys & McMullen, 2007). The PPF in this situation is concave to the origin indicating an increasing opportunity cost (Nicholson & Snyder, 2014). This indicates that the opportunity cost of education varies with respect to the housing and the main reason behind this is that some of the resources are better suitable for education as compared to housing and the situation can be other way round.

Figure 2: Linear PPF



(Source: Krugman, 2008)

Possibility of the increasing Opportunity Cost

The principle of an increasing opportunity cost implies that opportunity cost of producing an extra unit of good increases with the production of goods and also with the availability of the resources and the techniques to produce these goods (Farole, Rodriguez-Pose & Storper, 2011). The principle of increasing opportunity cost is followed due to the specialization of the resources within the economy. The availability of the resources increases in the international market, the production level of the company also increases and the companies will have a higher opportunity cost (Farole, Rodriguez-Pose & Storper, 2011). The company can choose from the next best alternative that would help them to earn a higher profit and it will be able to sell the goods and services in the market in order to fulfill the growing demands (Companys & McMullen, 2007). The concept of the opportunity cost mainly arises due to the scarcity in the factors of production such as the land, labor and capital and increasing opportunity cost implies that the possibility of production at a greater level increases (Companys & McMullen, 2007).

Market Analysis of Economic Decision based on Opportunity Cost

The concept of opportunity cost refers to the situation when the resources are used for producing a particular product, it reduces the possibility of using them for producing some other product. In case of the firms, when the workers are hired for a particular project the situation is that the workers need to sacrifice some other set of the market and non-market activities in order to carry out the given project (Companys & McMullen, 2007; Krugman, 2008). The fact is known as the 'Economic Opportunity Cost of Labour' that is determined considering labour as a homogeneous input that is used in the production process.

The 'economic opportunity cost of labour' can be evaluated using various approaches. For example, one of the approaches is that of 'value of marginal product of labour forgone'. The labour forgone is determined by calculating the wage that the labour would have earned as an alternative to working in the firm (Companys & McMullen, 2007). According to the approach, the decrease in labor allocated for other activities must be compensated by an increase in level of employment provided by the managers to the newly employed labourers. However, calculating the 'Economic Opportunity Cost of Labour' involves factors that are the primary determinants in the cost of labour. The factors includes whether the labour force is skilled or unskilled, regional variations and migration of the labour force from rural to the urban areas and the type of labour market from where the labourers are hired by the firms (Companys & McMullen, 2007).

Further, the labour force is considered to be an important source in the production process and there arises problem in allocating resources when there is scarcity within the economy. Therefore, the economic decisions are made by the firms and the labourers based on the calculated opportunity cost of engaging in the project and carrying out the business successfully (Coelli, et al., 2005). The concept of production possibility frontier can be used to indicate the maximum amount of goods that the economy produces with the available resources (Companys & McMullen, 2007). The study says that in order to produce the goods that lie outside the production possibility frontier, there are two factors that are to be considered that are the technological change and capital accumulation. The capital accumulation in the economy refers to the increase in human capital; mostly, the human capital in the labor market and the technological change accelerates the production process within the economy (Companys & McMullen, 2007).

Conclusion

The study has been carried out on the importance of opportunity cost and the production possibility frontier in the international market. When the firm appoints labourers for a particular production process, it implies that the labourers are expected to engage themselves to the project by sacrificing the opportunity cost of earning revenue from other activity. However, the concept of opportunity cost is prevalent in cases when the resources are scarce. In case of scarcity of resources within the economy, the firms can change their production process in order to earn higher profit. There is a strong linkage between the opportunity cost and the production possibility frontier where opportunity cost indicates the next best alternative and PPF is the capability of the firms to produce the maximum amount with available quantity of raw materials in the market. The study has also discussed the possibility of an increasing opportunity cost and has analyzed the market situation and the impact on the decision making of the firms. The approach involved in calculating the ‘Economic Opportunity Cost of Labour’ has been stated in the research which the firms use to estimate their growth prospect.

References

Acemoglu, D., Aghion, P. & Zilibotti, F. (2006). Distance to frontier, selection, and economic growth. *Journal of the European Economic association*, 4(1), 37-74.

Afonso, A., Schuknecht, L. & Tanzi, V. (2005). Public sector efficiency: an international comparison. *Public choice*, 123(3-4), 321-347.

Chavas, J. P., Petrie, R. & Roth, M. (2005). Farm household production efficiency: evidence from the Gambia. *American Journal of Agricultural Economics*, 87(1), 160-179.

Coelli, T. J., Rao, D. S. P., O'Donnell, C. J. & Battese, G. E. (2005). *An introduction to efficiency and productivity analysis*. Springer Science & Business Media: Germany

Companys, Y. E. & McMullen, J. S. (2007). Strategic entrepreneurs at work: the nature, discovery, and exploitation of entrepreneurial opportunities. *Small Business Economics*, 28(4), 301-322.

Farole, T., Rodriguez-Pose, A. & Storper, M. (2011). Cohesion policy in the European Union: growth, geography, institutions. *JCMS: Journal of Common Market Studies*, 49(5), 1089-1111.

Krugman, P. R. (2008). *International economics: Theory and policy, 8/E*. Pearson Education: India.

Nicholson, W. & Snyder, C. (2011). *Microeconomic theory: basic principles and extensions*. Cengage Learning: United States

Nicholson, W. & Snyder, C. (2014). *Intermediate microeconomics and its application*. Cengage Learning: United States

Tresch, R. W. (2014). *Public finance: A normative theory*. Academic Press: United States