JKAU: Islamic Econ., **Vol. 2**, pp. 25-46 (1410 A.H./1990 A.D.)

Factors of Production and Factor Markets in Islamic Framework

M. FAHIM KHAN[(*)]
Professor of Economics
International Institute of Islamic Economics
Islamabad, Pakistan

ABSTRACT. Making a critical review of the conventional classification of factors of production, this paper presents a new classification based on the modes of payments for them approved by *shariah*. Entrepreneurial and hired factors of production are then described and their demand and supply conditions discussed in the context of equilibrium in the factor market.

I. Introduction

Conventional economic theory uses a particular classification of factors of production. The classification is arbitrary and has no scientific sanctity attached to it as such. Now that attempts are being made to review and reformulate the theories of production and distribution in Islamic framework, it is high time to review the nature of factors of production. This is required in order to have our own directions to develop the theories of production and distribution.

This paper discusses a new classification of factors of production which is not only derived from the Islamic concepts but may be considered more rational even for the conventional theoretical framework. A brief analysis of the factor markets in Islamic framework, along with the supporting Islamic institutional arrangements has also been included. A detailed analysis of the supply, demand and equilibrium conditions in factor markets has been left for a later exercise.

* The views expressed in the paper are his personal views and do not necessarily reflect the views of the institution to which he Belongs.

The new approach towards factors of production, discussed in this paper, has implications not only for the theories of production and distribution but also for the theories of economic development as they are based on the supply and demand for the factors of production.

2. Factors of Production in Islamic Economic Framework

2.1 Factors of Production in Conventional Economic Theory

Inputs that provide a productive service in a production process are called Factors of Production,

Conventional economic theory distinguishes four factors of production. Simplified definitions of these four factors are reproduced below from standard but elementary textbooks. The objective is to discuss the core of the classification rather than to discuss the technical details of the respective definitions.

i) Land (which includes mineral water and other natural resources.).
ii) Labour.

iii) Capital: This does not mean capital in the sense of money. It refers to man made units like buildings, factories, machine tools that produced goods and services. Capital without labour cannot possibly provide any output.

iv) Entrepreneurship: This is a special kind of labour which coordinates the use of the capital, land and labour to produce output. They perhaps have the hardest job of all, decision making.

This division plays a role in explaining the theory of production and theory of distribution of output. All current theories of economic development try to explain the process of development within the framework of these four factors of production.

2.2 Some Observations on the Conventional Classification of Factors of Production

Some of the problems with this classification are as follows:

i) No economic rationale is given to justify or adopt this classification, The economist themselves consider the division as arbitrary (Samuelson, p. 557). The arbitrariness of the division may not have implications for the theory of production but it must have serious implications for the theory of distribution.

ii) The conventional theory does not recognise money capital as an explicit factor of production but recognises interest as a reward of capital. Interest rate is the price of money capital but it is treated as representing the price of physical capital too.

iii) While determining the distribution of output, economists have explicit theories how the share of land, labour and capital is determined in the market, but there is no theory on how the entrepreneurial profit is determined, The fact that conventional theory is practically devoid of a coherent theory of the supply and demand of entrepreneurship is recognised in the works of Leibenstein (1968), Baumol (I 968) and Leff (1978). This may be tolerable in static analysis with the assumption of perfect certainty and knowledge of input and output prices and a determinate and predictable production function, but this does not help much in understanding the development process of an economy.

iv) The reward of factors of production goes to those who own them. Thus rent goes to the landlord, interest goes to the capitalist, wage goes to labour and the profit goes to the entrepreneur.

It is superficial and rather confusing to define say, land and entrepreneurship as two different factors of production when the landlord himself is the entrepreneur using his own land for production. It is immaterial to say that landlord will get the rent and entrepreneur will get the profit. Because in any case the landlord is getting:

$$\text{Rent} \pm \text{Profit/loss}$$

The distinction between profit and rent, in this case will serve no meaningful purpose. It is simple and easy to comprehend if we treat the landlord simply as entrepreneur in this case.

Rent can be separately identified only when the land is rented and the owner does not assume the role of the entrepreneur to employ his own land.

A direct implication of this approach is that it excludes an important choice. Should owners of land, labour and capital decide to work for others on rent, wages and interest respectively or should they take entrepreneurial risk to earn profit? This is a choice often made in reality but has never been explicitly explained in economic theory. The theory discusses the choice between different non-entreprenurial resources. Why these resources choose to be so and not to become entrepreneurial re source is rather untouched in economic theory.

v) The basis of distribution of the share of output is same for the first three factors of production land, labour and capital. The basis is the marginal productivity. Such a classification that requires the same basis for determining the rewards of all factors of production cannot be considered very meaningful if distributive justice is to be studied.

vi) Economic literature generates a lot of confusion between rent of physical capital and interest rate. It is often said that interest rate is the rent of capital equipment (Scott and Nigro, p.314; Samuelson, p.557). Why it is to be mentioned as a rate perrupee or "per dollar value of capital goods"? Why it is not referred to as per machine, per building, per tool etc., as it is done in case of wage of labour and rent of land. A conventional economist would argue that since it is not possible to account for all types of capital goods and their separate rentals, it is analytically convenient to consider all capital goods in money value and consider their rental as a rate per dollar value of capital goods. But in this way a real issue is camouflaged.

Land generates a service. The same is done by capital goods. Capital equipment is like land which is used without its being fully consumed during its use. The same is true for labour. There is no substantial difference between the rent of services of capital equipment and the wages of the services by human being. Both result from a contract for delivering a service in reward for a compensation (rent or wage).

An analytical confusion is generated when interest rate is called a rent of capital goods. Interest rate should enter into the rewards of factors of production only if money or finance is treated as an explicit separate factor of production capable of providing a service. No economist likes to do so.

2.3 The General Concept of Factors of Production in Islamic Framework

All productive inputs can be grouped into two categories. The first category comprises those inputs that do not get 'consumed' while used in the production process. `hey retain their original nature and shape (except normal wear and tear). Let us call this category "factor inputs".

The other category includes those inputs which get "consumed" during the production process and lose their original nature and shape. For example, raw cotton is n input in textile production. After textile is produced raw cotton will no more be there as raw cotton. This category can broadly be called "consumed-inputs".

It may be mentioned that money can easily be recognised as "consumed inputs". According to the above classification money is useless unless it is "consumed" to convert it either into factor inputs or into consumed inputs. Money has to be "consumed" to be usefully utilized in a production process.

In an Islamic framework, factors of production can be identified according to either of the following functions:

i) They provide a definite productive service for which they are entitled to receive definite reward (i.e., wage or rent). We will call these factors as Hired Factors of Production or simply HFP.

OR

ii) They choose to bear the entrepreneurial risks of a project rather than having a fixed wage or rent. We will refer these factors of production as Entrepreneurial Factors of Production or simply EFP.

Although the conventional economic theory recognises both the functions described above, most of its analytical framework centres around the first type of factors of production i.e, the inputs that generate productive service for a fixed reward rid do not get consumed. The second type of factors of production are generally kept out of the analysis by assuming perfect information which eliminates risk.

Factor inputs are allowed to serve as HFP as well as EFP. (As EFP they will not claim fixed rent or interest and instead will claim profit by bearing entrepreneurial risk). Money is not allowed to serve as HFP, but can serve as EFP if it decides to bear the risk. Besides assigning the EFP role to the factor inputs, it is also the peculiarity of the Islamic economic system that it implicitly recognises money as a separate independent factor of production to the extent that it is capable of bearing risk (and hence comes entitled to the same reward that all EFP get i.e. profits).

In an Islamic framework, it is convenient to define and classify factors of production according to the method of determining their reward or price. Islamic framework recognises two categories of factor prices. One category is called Ujrat. This is a broad name for rents which includes the rent of human services that is normally recognised as wages in conventional economic theory. Thus, all factor inputs are paid Ujrat for their use. Islam allows Ujrat only for those inputs which are not directly "consumed" in the production process. Thus money in Islamic framework can not be rented and it can not claim any Ujrat or rent (interest). On the same grounds, raw materials cannot be rented or placed on Ujrat. All Ujrats are fixed and known in advance with certainty. Ujrat is always positive because the services or benefits for which they are hired have to be, by Islamic law, positive.

The other category of factor prices is called profit (which can be positive or negative). Profit is a reward for visualizing a profitable productive venture and bearing the risks (if any) associated with the establishment of these activities. This may be treated as a reward for bearing risk as is sometimes recognised in conventional economic theory too. Islam categorically entitles factor inputs as well as money to earn this reward. Money which is disallowed Ujrat is allowed profits provided it performs the function that justifies profit. Raw materials are generally priced in the commodity market and therefore are not allowed to share profits or to be placed on rent. The only way for the raw materials to earn profit is to treat their money equivalent as a financial capital invested in a productive project. In some special cases (mostly in agriculture), some inputs are sometimes allowed to share profits. These instances are, however, exceptional. All profits, by definition, are uncertain and are not known in advance or fixed in advance. Any so-called profits that are claimed to be fixed and known in advance come into the category of Ujrats by definition.

According to these two distinct factor prices, the Islamic framework identifies only two categories of factors of production namely:

i) Entrepreneurial Factors of Production (EFP) which claim only profits by bearing risk.

ii) Hired Factors of Production (HFP) which claim Ujrats (rents or wages) only and do not bear risk.

Before discussing the nature and function of these two factors in the following section, it may be instructive to summarize the main points of difference between our classification of factors of production and the classification used in the conventional economic theory. First, our classification clearly distinguishes financial capital from physical capital and makes financial capital entirely different from physical capital, both having different types of factor prices. The confused merger and overlapping of these two types of capitals in conventional economic theory, as already discussed, is completely absent in our framework. Secondly, financial capital is disallowed to earn a fixed, known-in-advance, rent which is a cornerstone of the conventional economic theory and is known as interest. The logic of depriving financial resources of a fixed rent has already been discussed. Since Islam does not allow Ujrat to an economic resource if it gets consumed during the production process, the financial resources, therefore, are not entitled to any rent (or interest). The paradox in renting such a commodity becomes very clear from a Quotation given by Samuelson himself in his chapter on interest. "How to have your cake and eat it too. Lend it out at interest" (Samuelson, p. 557). Islam does no allow this irrationality.

Any such resource which is consumed during the production process can be sold in an Islamic framework in a commodity market only. But Islam prohibits money to treated as sell able commodity.[(1)] The conventional economics theory in fact does not consider it as a factor of production but treats it as a commodity. The theory determines its price not in the factor market but in the money market - a prohibited institution in Islam. This leads to the third major difference - institutional, in nature - arising out of our classification. Financial market which is in our framework, a factor market for monetary resources, is a real sector and merely a money-market.

The following section now discusses the nature and function of the two types of factors of production recognized in Islam. It should be noted that the two types of factors of production:

a) are mutually exclusive (i.e., the same resource cannot be an entrepreneur and Ejrat-receiving at the same time);

b) perform entirely different function.

2.4 Entrepreneurial Factors of Production (EFP)

Entrepreneurship, in our framework, is to perform the following functions:

a) Making a decision whether or not to participate in or initiate a particular productive activity.

b) Be willing to bear the risks associated with it.

Thus, in our framework, an entrepreneur does not have to be a special man. If he can simply visualize a productive profitable venture, can take a decision to initiate it and is willing to subject the resources at his command to bear the risks, if any, associated with this project, he becomes an entrepreneur. He may not be having the special organizational capabilities as highlighted in economic literature. It is assumed that organizational capabilities can be hired by offering appropriate Ujrat to the managers or executives capable of doing the job. Organizers, thus are ujratable resource rather than entrepreneurs.

The two functions, decision making and risk bearing are capable of being isolated. Whereas decision making rests solely upon the human resources, the risk bearing can be done by the human resources, or physical resources or monetary resources. Suppose a person sees a productive opportunity. He can take the decision to initiate the project as well as bear the risk by investing his own human resources in the project. Alternatively, he may take the decision to initiate the project but may make his non human resources to bear the risk by investing his physical capital or monetary resources alone. No human resource can become entrepreneurial simply on the basis of decision making function. Some resources have to be offered to bear the risk.(2) The share in the profits of the project will be dependent upon the resources that are in vested to bear the risk. That is why we find it expedient to use the term "entrepreneurial factors of production (EFP)" rather than simply entrepreneurs, to reflect the combination of human and non-human resources that are willing to bear risks involved in initiating or participating a productive economic venture.

This definition of entrepreneurship obviously does not require the EFPs to be "innovative" or "social deviants". We are assuming that EFPs are simply economic resources who, when confronted with a choice to work for a wage or to have their own work (or whether to rent their resources or earn profit on them), decide in favour of the latter. In several situations, the economic resources may find no choice but to be come an EFP. This may occur, for example, in the following cases:

a) A man wants to pursue an economic activity but finds it religiously prohibited to rent the resources at his command (such as a man having money as the only utilize-able resource with him).

b) A man wants to pursue an economic activity but finds it uneconomic to rent the resources at his command (because of too low a wage level to rent his labour or too low a rent to lease his buildings, assets etc.).

It will be discussed in the section on institutional framework that the economic resources may not be allowed to sit idle or a man may not decide to keep his resources idle. Certain penalties in the system will leave him no choice but to become an entrepreneur. This indicates a peculiar feature of the system viz. that the system generates entrepreneurs in the economy. This feature will be discussed in detail in later sections.

The supply and demand on EFPs and their determinants will be discussed later. It may, however, be useful to explain here what do we mean by the supply of and demand for EFPs.

By supply of EFPs we briefly mean the willingness or availability of the economic resources to initiate a productive venture and to bear the risk associated with it. By demand of EFPs we mean the actual involvement of entrepreneurial resources in the entrepreneurial jobs. In other words, demand of EFPs is reflected by the availability of entrepreneurial opportunities to engage the EFPs.

2.5 Hired Factors of Production (HFP)

All resources that offer definite productive services for a definite reward known in advance are called hired factors of production. All physical capital and human resources can fall into this category as long as they don't get "consumed" in the process of production while offering their production services. "Organization" and "managers" as factors of production too are treated as HFPs as long as they are not willing to bear the entrepreneurial risks.

HFPs get employed only by the EFPs. Their employment i.e., their demand will increase as the EFPs avail more and more entrepreneurial opportunities. The determinants of. the supply of the HFPs are more or less same as have been discussed in conventional economic theory. It will, however, be instructive to describe the main features and principles of the legal system of Islam that covers the renting of HFP resources. These features will help understanding the features of factor market of HFPs in Islamic framework. The section on institutional framework will discuss these features in brief.

HFPs include land, labour, physical capital goods and human capital. It excludes monetary resources. HFPs are derived from the same resources which can offer themselves as entrepreneurial resources. The supply and demand for HFPs thus competes with the supply and demand of EFPs. All these resources have to make a choice whether to opt in favour of becoming an HFP and get an Ujrat or to become an EFP to enjoy the profits.

3. Some Features of the Institutional Framework in Islamic Economic System

It is not the intention to describe the entire institutional framework of Islamic economic system. Only some broad features, that are very basic to explaining the nature of factors of production and factor markets being developed here, are presented in this section.

3.1 Commodity Market

Islam allows commodity markets as an institution of exchange. In fact, trade has been described as one of the most liked professions for the human beings. Several verses of Qur'an and numerous sayings of the Prophet (Peace be upon him) can be quoted to indicate the utmost importance of the institution in Islam. The literature on the Islamic legal system gives a very elaborate code of rules and regulations for operation of the institution of trade. These rules more or less ensure a perfectly free commodity market except in such circumstances where a free market may lead to misallocation of resources from the point of view of the objectives of Islamic legal system. Since the commodity markets in Islam have more or less same features as are assumed by conventional economic theory under ideal conditions, the description of these features is therefore omitted.

3.2 Factor Markets for HFP

As described earlier, there are two types of factors of production - EFP and HFP. Output is to be distributed among these two types of resources. Ujrat which is the price of the HFP resources is determined in the market by the supply and demand of these resources. The EFP resources share the residual which is called profit. Profit determines the demand of EFP resources in the economy. The supply and demand of the factors of production particularly of EFP resources is discussed later. In this section the provision of the Islamic legal system that have bearing on the market of HFP inputs are briefly discussed to describe the feature of this institution.

Only those goods/resources can be rented or hired which are not "consumed" while they are used. Renting or hire is the sale or purchase of the benefits/services of physical assets or resources including human resources. The assets or resources that generate benefits in the form of real goods (like tree giving fruits or animals giving milk) can not be rented for such benefits. Financial resources can not be rented because they can not generate any service without being "consumed".

There is some difference of opinion about renting land for agricultural purposes. A minority of Islamic scholars disallow renting of land for agricultural purpose. The majority of Islamic scholars allow renting of land for agricultural purpose within the general principle of renting, which is, that any physical resource that is capable of generating a productive service is capable of being rented or hired. Land should not be confused with trees whose renting is disallowed because their benefits are in the form of real goods. Land rented for agricultural purposes is rented to benefit from its productive capacity which is a service and not a real good. This service can be utilized to generate real goods only after providing adequate inputs (seeds, water, etc.). This is just like a machinery which too provides a service in the form of productive capacity. This service can be utilized to produce real goods.

Rented goods should generate permitted economic benefits which should be definitely known. Where there is any doubt about the nature or amount of the benefits or the benefits are uncertain, then the goods can not be rented. Again the reference is to the service for which the resources have been rented to provide and not to the output that is produced by using this service. For example, if a machine is being hired for producing a certain good then its capacity to produce such goods should be definitely known. No goods can be rented which are prohibited or which generate prohibited services or are capable of producing only prohibited goods. Maintenance of the rented resources to maintain the flow of benefits/services for which the resources have been rented is the responsibility of owner. Any loss or damage to the property not wilfully caused by the tenant is to be borne by the owner. The resources will cease to be on Ujrat as soon as they become or are found to be incapable of providing the service for which the resources have been rented.

Ujrat is to be determined by the supply and demand forces. It is permitted to have the total rent over the entire life of the rented resource exceed its cost. This is because the holder of rented resource is entitled to a profit as he bears the responsibility of loss and damage to the rented resources. Ujrat should be definite and known in advance. No uncertainty element is involved. If Ujrat is uncertain it will be treated as profit and the resources rented on such an Ujrat will be called entrepreneurial resources. Ujrat, by definition, is fixed and known-in-advance.

Ujrat can be paid in kind but it cannot be in terms of the same or similar benefits/ services that the rented asset itself is providing. For example, Ujrat of a machine cannot be in terms of allowing the use of a similar machine. It is, however, allowed to pay Ujrat of a machine by allowing the use of a building, or by allowing the use of a different kind of machinery.

The resources that have been allowed to be rented or hired include:

1) Land for (cultivation, or construction, or plantation etc.)
2) Animals (for transportation or for help in cultivation)

3) Human Resources: This includes manual labour such as loader, unskilled worker, servants etc., as well as such skills and professions as doctors, lawyers, professors, organisors, managers etc.

4) Buildings (such as houses, shops, factories, stores etc.)

5) All such other goods that are capable of rendering services without being consumed in a production process (such as machinery, tools, dresses, tents, jewellery, etc.)

Though the factor market for HFP is almost similar to the conventional factor market for land, labour and capital, there are still a couple of distinguishing features which are highlighted below:

1) Monetary resources are out of the HFP category which is not so in the conventional framework. There are two implications of this. First, the rental of goods is no more the interest rate as it is treated in the conventional economic theory. It is now a real rental i.e., price of a real service. Secondly, the supply of capital cannot be treated as a supply of savings which are generated in a process of a choice between present consumption and future consumption. The supply of capital is now generated by the output of the capital goods and has no links with the interest rate as is the case with the supply of other commodities.

2) The supply of HFP factors particularly of labour results in the process of a choice whether to be a hired factor or an entrepreneurial factor whereas in the conventional theory, their supply results in the process of a choice whether to get employed or not to get employed. (This will be discussed in more detail in the section on supply and demand of factors of production after discussing the institutional framework).

3.3 Institution of Participation

Islam encourages participation in production process. All economic resources are allowed to join each other to initiate a joint project. Thus it is possible that a person with his human resources alone and the other with financial resources alone decide to initiate a productive venture. The participation will be entirely on profit and loss sharing basis. There can be no other form of participation. In other words only entrepreneurial resources can participate with each other. A combination where a person invests his resources to bear the risk of a project and the other simply rents his re sources, will not be a participation.

The participation between non-human resources alone is also possible. For example, it is possible that two or more persons initiate a project by investing financial resources only. They hire managers to organise and run the project.

Islam has laid down rules for sharing profit in any economic participation. The principle is that profits of a joint project can be shared by the participating entrepreneurial resources on any basis agreed in advance. For example, two participating parties may decide to share the profits of the project on 50:50 basis or 40:60 basis or 70:30 basis or on the basis of the ratio in which they have invested their respective financial resources or on the basis of any other pre-agreed ratio. Whether there is a person A participating with no financial resources at all with a person B participating with financial resources or whether two persons are investing only financial resources in any ratio, the participating parties are allowed to decide profit sharing ratios irrespective of their volume of investment. The ratios have been left to be determined by mutual bargaining. It is obvious that since the participating resources are likely to be different in nature as well as in such economic characteristics as productivity, scarcity etc., it is fair to leave the profit sharing ratio to the market forces. The freedom of bargaining will obviously develop a market for participation where the profit sharing ratio will be determined by the relative supply and demand of the participating resources. It is however, instructive to note that whereas the profit sharing ratio can be agreed upon by mutual negotiation the losses can be shared only in the ratio in which financial resources have been invested.

The main economic purpose that the institution of participation can serve is to distribute entrepreneurial risk so that more and more potential entrepreneurial resources may come forward to avail the entrepreneurial opportunities in the economy. The participation also increases output. Output of A and B together will be larger than the sum of their individual outputs because of division of labour and specialization.

No society prohibits participation. All capitalist economies have the institution of participation. But there is something peculiar about this institution in the Islamic system. The peculiarity is that Islamic institution of participation is supported by various elements in the economic system to promote the institution whereas the capitalist system has elements to discourage participation. In the capitalist system, all productive resources are rentable. In an economy with high business risks, all productive resources will prefer to be on Ujrat rather than to be entrepreneurial resource. Scarce factors obviously will have high Ujrat. They will have no compelling reason to opt for participation in an economy where entrepreneurial risks are very high. They will be willing to participate only in projects that ensure them very high profitability. They will usually be looking for big ventures. The abundant resources will have very low Ujrat. Bulk of them would be willing to look for entrepreneurial jobs (as will be discussed later). They will, however, not be able to find a participation from the scarce resource. This is because they being abundant (implying marginal utility or productivity close to zero) have very little at stake compared to the scarce factor when participating in an entrepreneurial activity.

Thus we observe that in labour abundant developing countries operating under capitalist system, bulk of the population in working age sits idle.[3] This is because the wage level is too low to induce them to forego the leisure and the family privileges that they enjoy and the social benefits that the family gets even from the non-working members.[(4)] This so-called surplus labour obviously would fail to get participation from the physical or financial capital because the risk is great and the labour being surplus does not have much at stake in the event of a loss. There is nothing in a capitalist economy to impose compulsion of entrepreneurial participation particularly between scarce and abundant resources.

Islamic economic system has several elements to promote the institution of participation. Keeping the ethical norms away (that require co-operative spirit among economic agents) let us see only a few of the institutional provisions. Islam has made one scarce factor to be totally available for participation. This is the monetary resources. These resources are prohibited to earn rent. But they have been allowed to participate in entrepreneurial activities.

Disallowing the earning of rent is, obviously, not enough to compel a resource to participate in the risk bearing. The resource may sit idle. Besides ethical restrictions, Islamic system provides an institutional penalty on the idle resources. One of the Islamic injunctions is that a Zakah at the rate of 2.5 percent has to be paid on the productive assets. The revenue from Zakah is distributed among the poor. Any person who decides to keep his monetary resources idle will have to pay a Zakah of 2.5 percent every year, ultimately losing almost all his financial resources. The only way to save his financial resources is either to purchase a capital equipment which he can rent or to become an entrepreneur and initiate a productive venture of his own, or to participate on profit-loss sharing basis in anyone else's project. This is required so that Zakih could be paid out of the income earned from such investment. Thus, there is a compulsion in the system for the finances to opt for initiating own investment or participating with someone else.

The capitalist system does not encourage participation of big entrepreneurs with small entrepreneurs even if small entrepreneurs can prove themselves to be more productive. In the interest-based system there is always demand from the entrepreneurs to acquire financial resources on fixed rent (interest). These entrepreneurs have to be entrepreneurs who have the surety to earn profits much higher than the interest rate. The system makes the existing entrepreneur bigger and bigger because they can offer guarantees to the banking system for the payment of interest. This prohibits small entrepreneurs from entering, particularly those who can not expect to earn profits higher than the interest rate. The big corporation thus becomes bigger and bigger mostly relying on interest-based finance. The restriction to make the finances available only on a profit-loss sharing basis reduces the profits of big entrepreneurs because the entire profit is now to be more widely distributed. This induces new entrepreneurs to enter into the market who were previously out because they were not big. All financial entrepreneurs now become equal.

Also, an institution that compels a scarce factor to participate rather than claim Ujrat creates demand for entrepreneurship by reducing the risk. Participation is more fruitful the more it is between abundant and scarce factors. Such a participation promotes the interests of the abundant factor as bulk of the burden of risk bearing comes to the scarce factor due to its opportunity cost.

Before closing the discussion on the economic implication of this institution it may be instructive to discuss, in the context of participation, the implications of keeping the loss sharing ratio strictly in accordance with the ratio of financial resources whereas profit sharing ratios are allowed to be different.

No project is initiated for earning a loss. This is against rationality and against Islamic injunctions. The participating resources, therefore, participate for profit. The resulting profit is the reward of the invested resources (both human as well as financial). This reward, in nature, is a price of entrepreneurial resources as Ujrat is a price of the services of hired factors of production As Ujrat is determined in the market by mutual negotiation so is the profit sharing ratio which too is determined in the market by mutual negotiation. Now suppose two entrepreneurs decide to participate with their respective financial resources only. There is no reason that market forces of supply and demand will lead to a profit sharing ratio different from the ratio of financial resources. A rupee will be valued a rupee in the market whether it is invested by person A or person B.

But suppose person A invests financial resources only and person B invests human resources only. Negotiations in the market will determine a profit ratio, irrespective of the ratio with which financial resources are invested by the two parties. Since expected profits are assessed in advance, the profit sharing ratio would reflect the relative productive worths of the resources invested by the two parties. As soon as one of the parties or both mix human entrepreneurial resources in the joint enterprise, the ratio of financial resources loses its relevance to determine the basis for sharing the profit.

Now consider the sharing of losses. It is totally wrong from the economic point of view to consider losses as negative value of profits on the same scale (though in accounting it is right). Profit is a result of deliberate efforts which were geared towards making this profit. Loss is not the result of deliberate efforts which were geared to achieve this loss.

Loss is a result of unforeseen factors. It is these unforeseen factors that are the basis of entrepreneurial risk.

Participation has two aspects: Profit sharing and risk bearing. Risk bearing is loss bearing i.e., bearing the fruits of the unforeseen or uncontrolled factors or the fruits of chance factors.

Profit sharing should be done on the basis of efforts contributed by participants. Market determines the value of respective efforts. Risk bearing can not be determined by the market because unforeseens are not offered in the market. They are unknown. So there should be some other mechanism for fair sharing of risk.

Consider the participation of human resources on the one hand and financial resources on the other hand. When a loss arises, it is a loss in financial terms (it is not an economic loss). It does not take into account the opportunity cost of the lost human resources that were invested in the project. The human resource has already lost what he invested, viz his labour. The remaining loss (that is the total financial loss) is to be borne by the remaining resources (viz, the financial resource). The rule is that financial loss is to be borne by the financial resources as the human resources loss has already been borne by the human resource.

A basic requirement for the promotion of participation of entrepreneurial resources is that the risks of the project being participated should be distributed fairly among the participants. It will discourage participation if human resources are asked to share the financial loss too (which would be over and above the entire loss of his own investment i.e., the human resources invested in the project).

A further provision in the Islamic framework conducive to promoting the institution of participation, i.e., social security is discussed in the next section.

Thus there is not only a mechanism to promote the Islamic institution of participation but also this institution creates demand for entrepreneurial resources by:

a) creating new entrepreneurs to come into the market to avail entrepreneurial opportunities;

b) promoting participation of scarce resources with abundant resources hence causing abundant entrepreneurial resources to come into the market as EFP;

c) promoting participation of big entrepreneur with small entrepreneurs and hence creating demand for small entrepreneurs;

d) reducing risk in the economy by distributing risk fairly among the entrepreneurs and hence making the potential entrepreneurs to come forward to take up entrepreneurial activities.

3.4 Institution of Social Insurance

Islam has put the share of the have-nots in the resources of the haves. This means Muslims are required to feed the deprived section of the population who for some reason can not earn their living. This is basically a voluntary institution. This institution is the institution of Zakah, Sadaqat and charity. The institution will be stronger, the stronger is the practice of ethical norms of Islam by the Muslims. The state is, however, authorized to-take part of what is due from the resources of the haves to distribute it to the have-nots.

The presence of this institution in Islamic economy is conducive to promoting participation and hence the demand for EFP resources. Human resources with nothing else to live upon would hesitate to involve in entrepreneurial activities, because in the event of loss, the risk is too much - starvation for himself and his family. He would, therefore, prefer getting a job at a low wage rather than initiating a higher profit venture if it has a slight chance of ending up with a loss. However, if the system ensures looking after his and his family's minimum living needs.(5) he is quite free to take entrepreneurial risks. He will have no compelling reason to opt for a low wage against higher expected profit having the risk of loss.

4. Equilibrium in the Factor Markets

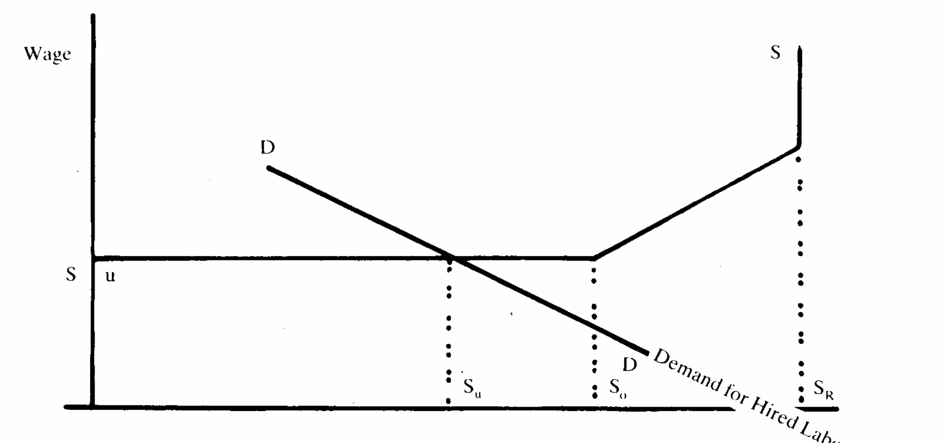
4.1 Supply and Demand of Hired Factors of Production

We do not dispute much with the theories of supply and demand of labour and capital in the conventional economic theory and can easily adopt them to explain the supply and demand of human resources and physical capital in an Islamic economy except that rental of capital goods will really be a rental and not an interest rate. Marginal productivity will determine the demand for the human resources and physical capital to be employed on Ujrat basis. Supply of labour will be determined by the marginal utility of leisure to the labourer. Supply of capital goods will be determined by the opportunity cost of producing capital goods.

This is entirely different from the conventional theoretical framework where supply of capital is derived from the supply of savings which is determined by the marginal utility of future consumption vis-a-vis present consumption.

4.2 Supply and Demand of Entrepreneurial Factors of Production

The supply of such EFP resources which could also be hired will be determined as a residual out of the total stock of resources left over after getting employed on Ujrat. Suppose S_R is the given supply of the resources which are capable of becoming entrepreneurial as well as being hired. After S_u of these have been able to get placement on Ujrat, the remaining S_R - S_u is entrepreneurial supply of resources. This is shown in the following diagram:



Supply and Demand for Human Resources

SS is the supply curve of the hired resources. Up till certain level S_O, these resources are available at a constant opportunity cost; between S_O and S_R they can he supplied only at an increasing opportunity cost and beyond S_R, their supply can not be increased at any cost in the short run. S_R is the total available stock of these resources. Out of these S_u get employed on Ujrat u which is where the supply curve intersects the demand curve DD. The resources S_u S_R will not find it economic to get employed on Ujrat because opportunity cost is higher than what the employer is willing to pay. The resources beyond S, therefore, have to decide to be entrepreneurial resource.

They will prefer to sit idle till they actually find an entrepreneurial activity to get involved.

Two things need further elaboration before we go to the demand for entrepreneurial resources.

a) How the S_R is determined
and (b) How the remainder S_R - S_u become EFP.

S_R for human resources will be determined by the size of population and the growth of population. Migration and other factors discussed in the literature are other sources of determining the stock of human resources in the economy. S for capital goods in the country will be total output of capital goods in the country minus exports plus imports. The total stock of capital goods may exceed demand at any one point of time. If this situation persists the holders of physical capital will have no choice but to look for an entrepreneurial activity utulizing their physical capital which, otherwise, will be depleted by the Zakah deductions.

With regard to the second question: why a resource not finding adequate Ujrat paid job would be willing to bear entrepreneurial risk, the answer is clear in case of physical capital. Zakah deductions force the owner to deploy the physical capital in any project that would at least yield some positive expected profits i.e., anything greater than 0, so that a part or total of the Zakah could be paid out of the profit, instead of from the asset itself. Thus all such capital goods that fail to get employed on Ujrat are available for entrepreneurial employment. For human resources, though there is no such formal institutional compulsion as Zakah to refrain him from sitting idle if he can not get employed on Ujrat, yet the human instincts do force individuals to achieve something for themselves and their families. Social norms too encourage human beings to do some productive work. A man involved in productive work al ways has a social status higher than a person sitting idle. There do exist some societies where a sweeper or a domestic servant or a cobbler etc., may have a social status les ser than an idle person. Such a social setting does not exist in Islam. There are specific Islamic injunctions that force individuals to earn their own living. Sitting just idle, is assumed to be no human motive.(6) Thus a person having been unable to get employment on the basis of Ujrat is assumed to be available for an entrepreneurial activity. Besides "profit" is a recognised motive even in conventional economic theory. Human beings want to make, rather maximize, profit. Those who are unable to get employment to earn "profit" from their services should look for an opportunity where they can earn "profit" by utilizing their capability to bear entrepreneurial risk.

Factors determining the demand for entrepreneurial resources may be listed as:

a) Capability to visualize a productive activity that would yield him an expected profit greater than the prevailing level of Ujrat for his resources;

b) Risks involved in initiating the project;

c) Supply of other productive resources;

d) Institutional arrangement conducive for free entry in the market.

The capability to visualize a profitable venture in turn depends on several factors like education, means of communication, level of incomes, consumption and spending patterns etc. The risks in an economy are determined by the sociopolitical climate on the one hand and the moral fiber of the society on the other hand. The resources required to initiate the project can either be entrepreneur's own resources or he can work with the resources owned by the others. Rent (reflecting the relative supply) of other productive resources will be a key factor in the demand for entrepreneurial resources. Higher the rents in the economy, the lower will be the demand for the EFP. The factors relating to free entry are promoted by the institution of participation and the institution of social security as described earlier.

The supply of different EFPs raises each other's demand. Thus availability of entrepreneurial capital i.e., risk bearing capital will raise the demand for the entrepreneurial human resources and vice versa. Hence there is an indirect application of Say's law to the EFP in the sense that the aggregate supply of EFPs generates their own demand (provided supply of all EFPs increases more or less in equal proportion).

4.3 Factor Market Equilibrium

As discussed earlier, the supply of the two factors of production is determined as below:

Supply of Factors of Production = S_R	determined by the choice between leisure income and *ibadat* (worship) in case of human resources and by a choice between present consumption and future consumption in case of capital goods and financial resources.
Supply for *ujrat* based jobs = $S_{u = Du}$,	i.e., determined by the entrepreneur's demand for HFP resources.
Supply for Entrepreneurial jobs = S_N	determined by S_R - S_u or S_R - D_u
Demand for Entrepreneurs = D_N	exogeneously given.

Demand for hiring the resources is determined by the productivity of HFPs in the entrepreneurial activities. Whereas productivity determines the slope of the demand curve, the level of entrepreneurial activities determines the shifts in the demand for hired resources.

Any excess demand in the HFP market will result into raising the Ujrat level hence clearing the HFP market. Any excess supply in the HFP market is available to be come an EFP rather than waiting at the doors of the entrepreneur as HFP. Thus HFP market can be said to be always in equilibrium.

All supply of EFP, however, may not be able to get involved in entrepreneurial activities. In other words, there may not be enough demand for EFP in the economy. Thus, it is possible to have an excess supply or a disequilibrium in the EFP market implying that there are several EFP resources that are willing to take up entrepreneurial jobs but there are not enough jobs available. There can not be excess demand in the EFP market because that would shift resources from the HFP market to EFP market. The only reason for disequilibrium in the factor market is, therefore, the excess supply in the EFP market. Otherwise the factor markets are in equilibrium in the economy. The growth in the economy will simply raise Ujrats as well as profits. Depression will result in lowering the Ujrats and profits till the Ujrats become down ward rigid which will result into creating excess supply in the EFP market.

Physical capital has a choice to become HFP or EFP. The rent at which physical capital will be supplied in the HFP market will depend on the cost of production of these goods (which is to be recovered from the rent by the time it completely depreciates) plus the expected profits on the investment of resources used in the production of these capital goods. The demand for the capital goods as HFP will depend upon the productivity of these goods as HFP. If there occurs an excess supply of capital goods, i.e., their marginal productivity as an HFP falls, they will be offered a rent lower than what the capital goods are willing to accept. This will cause the capital goods to shift from HFP market to EFP market. An increase in supply of capital goods in the EFP market may reduce the expected profits of capital goods. A new equilibrium level of rent and expected profits of capital goods will, therefore, be achieved clearing both the markets for these goods.

It can easily be visualized that there can not remain substantial excess supply of capital goods even in the EFP market. Suppose the stock of capital goods reached a level that has brought the Ujrat in its HFP market and profits in its EFP market to a level where a further decline would compell the owners to keep their assets idle till more profitable opportunities arise in the EFP market. This situation will obviously lead further production of capital goods to stop because of lack of demand. The excess supply will either be soon wiped out or will not remain quite substantial.

Similarly, human resources too have a choice to become HFP or EFP. The wage at which human resources will be supplied in the HFP market will depend on the marginal utility of time.(7) The demand for the human resources as HFP will depend upon the productivity of these resources as HFP. If there happens to be an excess supply of human resources, they will be offered a wage lower than what they are willing to accept. This will cause the human resources to shift from HEP market to EF? market. An increase in supply of human resources in the EFP market may reduced the expected profits of human resources in this market. A new equilibrium level of wage and expected profits (of human resources) will, therefore, be achieved, clearing the market for these resources.

It is, however, always a possibility that the excess supply of human resources, not getting employed in the HFP market, also fail to get absorbed in the EFP market. This means that there are not enough entrepreneurial opportunities that these resources can visualize or initiate or participate to yield them a profit equal to or more than the wage. In other words there is not enough demand in the EFP market.

We treat this situation as a disequilibrium (excess supply) in the human resource EFP market. The HFP market will remain in equilibrium as the wage will be determined where markets clear supply and demand. The wage level determines the expected profit level in EFP market. The demand for EFP resources at this expected profit is exogenously given and fixed in EFP market. The EFP market will clear as the demand for EFP shifts upwards. Wage and expected profit level remain same. The EFP market may also clear if expected profits in the economy rise. But in this case, wages and profit levels increase too as the EFP market clears.

Money does not have a choice to become HFP. Its can only become EFP. Savings that are not converted into assets or capital goods become the money available for investment. The supply of monetary savings for investment will depend on the income as well as the profits on the investment that these savings can bring.(8) Some part of savings will always be in the form of monetary savings. As physical capital/assets are usually quite expensive, the smaller savers, therefore, have no choice but to have their savings in monetary terms. Even all those who can afford to buy a physical asset may not do so as they have to take double risk - first, at the time of buying the asset which requires adequate knowledge of the market of the assets along with the ability to anticipate future prices of the assets and second, at the time of renting the assets which involves the risk of keeping the asset idle during the search of a tenant for the desired rent as well as the risk of loss or of damage to the asset during the period of tenancy.

An excess supply of monetary resources is hardly conceivable in any capital scarce economy in general and in an Islamic economy in particular. An excess demand in EFP of money market may arise which will mean more profits on the monetary resources. The higher profits will lead to more savings in monetary resources till the market is cleared. Supply of monetary resources to meet the demand may get constrained by the capacity to save in the economy. This may let the excess demand in the economy persist if adequate monetary and fiscal measures do not intervene in the EFP market of monetary resources or if the monetary resources from abroad are not allowed to fill the gap.

Notes

1. The logic behind not treating money as sellable commodity is very clear. A commodity is sold in the market at a price which is composed of the following:

   a) Cost of materials gone into its productions,
   b) Ujrats of HFP used to add value in it,
   c) Opportunity cost of EFP used to bring this commodity to the market.

   Commodities can be exchanged in the market only if they differ in terms of any of the above 3 features.

2. In fact, risk bearing is the necessary and sufficient condition to define an entrepreneur. Any resources willing to bear the risks of a project implicitly are making a decision to initiate or participate in a project. The distinction between decision making and risk bearing has been made to highlight the nature of human resources which may make a decision without subjecting themselves to risk bearing.

3. This is what Arthur Lewis calls unlimited supply of labour in his well known work, *Economic Development with Unlimited Supplies of Labour*, The Manchester School of Economics and Social Studies (May 1954). Reprinted in **B. Okun** and **R.W. Richardson**, *Studies in Economic Development* (New York: Holt, Rinehart and Winston, 1961).

4. An empirical evidence of such a phenomenon has been discussed in **M. Fahim Khan**, *A Study into the Causes of Fluctuations in Real Wages in the Labour Surplos Economy of Pakistan*, Ph.D. Dissertation (unpublished) (Boston: Boston University, August , 1978).

5. For further information of the institutions guaranteeing minimum living needs in an Islamic system, see **M.N. Siddiqi**, "Guarantee of a Minimum Level of Living in an Islamic State" included in **Munawar Iqbal (ed.),** *Distributive Justice and Need Fulfilment in an Islamic Economy* (Islamabad: International Institute of Islamic Economics, 1986), 249-284.

6. Several sayings from the Prophet (May peace be upon him) can he quoted to indicate that Islam discourages resources to sit idle and encourages human beings to earn resources:

   i) for their own living.
   ii) for deprived, destitutes and the have-nuts in the society.
   iii) for the promotion and development of the society.
   iv) for the propagation of Islam.

   Thus Islamic setting has no room for idle population or unutilized resources.

7. We prefer to use the phrase "Marginal Utility of Time" rather than "Marginal Utility of Leisure". This is because "leisure" is not the only opportunity cost of getting involved in an economic activity. Time required to be devoted to Allah (such as prayers, social obligations, propagation of words of Allah and *Jihad fi-Sabilillah*) is more important opportunity cost than leisure. We, therefore, like to refer to the utility of time rather than utility of leisure.

8. The institution of moderation not discussed in this paper is the peculiarity of an Islamic system which enables the economy to generate savings more than it would be in a non-Islamic economy in a similar economic conditions. Some discussion of this institution can be seen in **M. Fahim Khan**, "Macro Consumption Function in an Islamic Framework", *Journal of Research in Islamic Economics*, "Vol. **1**, No. **2**, (Winter 1984): 1-24.

References

Baumol, W.J. "Entrepreneurship in Economic Theory", *American Economic Review*, Vol. **LVIII**, May, 1968, 64-71.

Khan, F. Fahim, *A Study into the Causes of Fluctuation in Real Wages in the Labour Surplus Economy of Pakistan*, Ph.D. Dissertation (Unpublished) Boston: Boston University, August, 1978.

_____, "Macro Consumption Function in an Islamic Framework". *Journal of Research in Islamic Economics*, Vol. **1**, No. **2**, Winter, 1984, 1-24.

Leff, N.H. "Entrepreneurship and Economic Development, the Problem Revisited". *Journal of Economic Literature*, March, 1979.

Leibenstein, H. "Entrepreneurship and Economic Development", *American Economic Review*, Vol. **LVIII,** May, 1968, 72-83.

Samuelson, P., *Economics*, 11th Edition**,** New York, Mc-Graw Hill, 198(3.

Scott, R.H. and **Nigro, N.,** *Principles of Economics*, New York: Macmillan**,** 1982.

Siddiqi, M.N. "Guarantee of a Minimum Level of Living in an Islamic State" in **Munawar Iqhal (ed.)** *Distributive Justice and Need Fulfilment in an Islamic Economy*, Islamabad: International Institute of Islamic Economics, 1986, 249-284.

عناصر الإنتاج وأسواقها في إطار إسلامي

محمد فهيم خان
أستاذ الاقتصاد
المؤسسة الدولية للاقتصاد الإسلامي
إسلام آباد – باكستان

المستخلص : يستعرض البحث ويمحص التقسيم التقليدي لعناصر الإنتاج، ويقدم تصنيفًا جديدًا مبنيًا على أسلوب مكافأة تلك العناصر وفق الشريعة الإسلامية. ثم يصف البحث عناصر الإنتاج المقدمة من صاحب المنشأة، وعناصر الإنتاج المستأجرة، وشروط الطلب والعرض لكلا النوعين من العناصر في إطار التوازن في سوق عناصر الإنتاج .