



Price behaviour, vintage capital and Islamic economy

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Abstract

Purpose – To find out the behaviour of firms with objectives of Islamic *Shariah* when a number of techniques are working simultaneously with the different productive efficiencies.

Design/methodology/approach – This is a theoretical paper based on the modified model of layers of techniques which was initially developed by Professors W. Leontief and P. N. Mathur and tries to evaluate the impact of entrance of new techniques on obsolescence in the ethical-moral cum economic framework of Islamic political economy system.

Findings – This study suggests wastage of the resources because of their economic obsolescence and on the cost of future generation is not allowed in the system of Islam and ultimately decrease the social welfare level.

Research limitations/implications – A dynamic cum marginal input-output table can be constructed on the basis of this framework and formulate the socio-economic policy.

Originality/value – This research is beneficial to the researchers, policy makers and social scientists for the enhancement of the level of social welfare through this model.

Keywords Obsolescence, Islam, Social policy, Economic theory

Paper type Conceptual paper

1. Introduction

An economy experiencing technical advances will necessarily embody part of its improving know-how in new capital equipment. Equipment of different vintages will work with different efficiencies and may require different amounts of input, labour, and working capital stocks to produce a unit of output. In a particular time, it may be expected that fixed capital equipment of several vintages to be used for producing the same commodity may also continue production, even if it is likely to earn lower returns than new equipment. The old equipment will continue to be used, however, until enough capital of the newer vintages is accumulated to satisfy total demand for the commodity being produced. In a competitive industry with free entry, innovators with new techniques that are more efficient can start production units; if demand does not increase *pari passu*, they will be able to lower the price of the commodity, which in turn will displace a requisite number of the most inefficient production units from the market. In a monopoly, however, the producer may deliberately delay the introduction of the new process, thus giving older capital equipment more time to survive economically than otherwise would have been possible[1].



In such an environment, those vintages, which are not earning their variable cost per unit of output, will quit the market without considering their physical condition. The opportunity cost of these vintages is equal to zero; it will fetch their scrap value. This is known as economic obsolescence. In a conventional economy, the entrepreneur is compelled not to use those vintages that are covering their operating cost; economic obsolescence is a common phenomenon in this environment. It has been observed that the new vintage is not hiring/utilizing the same units of factors of production that are released by the old vintage. This creates the problem of unemployment and underutilization of the resources and the capacity (Mathur, 1990, 1977, 1989).

It is not acceptable from the social/moral/ethical point of view. This is not only a loss for the present generation but for the future generation also. It becomes a necessary and sufficient condition for the state to estimate the actual social loss of the economy. However, the postulate of the conventional economic rationality does not provide an alternative solution except the maximization of utility and profit. This requires an alternative system.

Islamic economic theory, as an alternative system, is based on different assumptions to the secular economy. It is guided by the *Qur'an* and *Sunnah*, two main epistemological sources of Islam. Islam is not in favour of wastage and exploitation of the factors of production. One cannot find any attempt in the Islamic literature that seriously discusses the wastage and exploitations of the resources. However, to some extent some attempts can be seen in the literature that briefly discuss the issue (Azid, 2001; Azid and Chaudhry, 2003). For the solution of this problem, Islam gives us an alternative that is based on its ethical/moral/social foundations. Since in this system the preference order is different, efficiency is not always preferred to equity. Ethical-moral and social values are more preferable than economic ones.

2. Vintage capital

The approach of vintage capital is generally defined as a spectrum of techniques or different vintages with different productive efficiencies, working simultaneously in an industry. In this economy, the opportunity cost of fixed capital, once installed, is equal to zero. Fixed capital is not, in this view, a “meccano” set that can be pulled apart and reconstructed. In this approach, there is no point in calculating or developing a methodology for calculating the value of fixed capital after its installation. These considerations should be given only to working capital, because it is easily transferable from one production process to another. In this construct, the least efficient technique (the technique of the oldest vintage) determines the price of the product, it is then equal to the variable cost per unit of output produced by the least efficient technique plus mark-up. While the most recent technique (best practice or the latest vintage) earns the highest pseudo quasi-rent. Note that prices of manufactured goods, in this framework, are determined by the Hicksian fix price framework. A technique can only survive in this world when the price of the product does not fall below its average variable cost, otherwise it will be abandoned or scrapped. Firms still using the technique will either voluntarily exit the industry or be forced out by bankruptcy (Mathur, 1990, 1977, 1989; Azid, 1993).

In the real world, a technique of a particular vintage exists simultaneously with a number of other techniques each having its own distinct productive efficiency.

Every “latest” technique is more efficient than the preceding one. Those vintages that have the highest, average, zero pseudo quasi-rent are conceived, respectively, as “best” “average” and “marginal techniques”. Marginal techniques are on the verge of obsolescence. Pseudo quasi-rent is the difference between the prevailing price of the product (average revenue) and its average variable cost. In this fluid economic milieu, the best practice technique of today is the average technique of tomorrow and the average of today is the marginal of tomorrow. As a result, the reality of layers of techniques determines the industrial structure of an economy (Mathur, 1990, 1977, 1989; Azid, 1993).

2.1 The model

This section briefly presents the model of Mathur (1990, 1977).

Thus, in a state of technological change we expect to witness a spectrum of technologies of different vintages existing and working simultaneously. We can define the technology associated with k th vintage capacity for the production of the j th commodity as follows:

- $C(k_j)$ denotes capacity; $A(k_j)$, and $S(k_j)$ input and working stock per unit capacity; and
- $l(k_j)$ labour coefficient.

Further, let:

$$C(k_j) = P_j - wl(k_j) - PA(k_j) - rPS(k_j)$$

be the excess left after meeting the prime costs per unit of output. This excess may be called “residual”. It may be noted that while price (P), wage rate (w), and interest rate (r) can be assumed to be the same for all units irrespective of their vintage or technique of production, the “residual” is different for each. It is on the value of this residual that the actions of an individual unit depend. When investment is being undertaken in equipment pertaining to a new technology, the expected residual should be large enough to cover not only the interest and depreciation charges, the risk premium, etc. but also the profit expectations of the entrepreneurs themselves. It should be remembered that this residual is not like a fixed annuity over the physical lifetime of the equipment as will be the case if there is no technological progress and so no obsolescence. In this age of advancing technology, the value of this residual should be progressively declining, and an entrepreneur should consider this while making his investment decision.

However, after installation of fixed capital equipment when it is no longer economically worthwhile to produce with it, it can only fetch its scrap value. Thus, its opportunity cost is almost zero. Therefore, in taking decisions whether to continue the production process, the unit will not consider whether it can get any returns on the fixed capital by continuing production. It should continue production so long as it can cover the prime cost of production. In other words, a unit will remain in production until its residual is not negative.

Let \bar{A} , \bar{S} and \bar{L} denote the input-output, and capital coefficients matrices and labour vector, respectively, representing the technology of marginal units of each commodity which have their residual zero. For this we should have:

$$P = P\bar{A} + w\bar{L} + rP\bar{S}$$

Thus, given the wage rate and interest rate the prices are given by:

$$P = w\bar{L}(I - \bar{A} - r\bar{S})^{-1}$$

Let \bar{X} denote the output of these units with marginal techniques, then net output available for final use is $P(I - \bar{A})\bar{X}$. Out of this $rP\bar{S}\bar{X}$ represent interest payments, and $P(I - \bar{A} - r\bar{S})\bar{X}/\bar{L}\bar{X}$ the total wage bill of the units with the marginal techniques. Thus, the given interest rate, the marginal technology determines both price structure as well as the real wage rate in the economy. It can be shown, similarly that given the real wage rate, the marginal technology will determine the interest rate as well as the price structure. There is one degree of freedom; either wage rate or the interest rate can be independently determined.

Each commodity would have one such technique of production, when price just meets the cost of intermediate inputs, wages and interest on working capital. If not, a less efficient technique would become feasible. This, hence, would be the marginal one. Thus, we collect such marginal techniques of production – one for each commodity and put its price equal to its prime cost of production, then we get N simultaneous equations for n commodities. Here, unknowns are $n - 1$ relative prices, wage rate and interest rate on working capital. They would simultaneously determine the price structure of the economy.

The marginal technology itself will be determined in such a way that the total savings in the economy are equal to total investment and other autonomous demands. Short term increases in demand will bring less and less efficient technologies into production, thus increasing employment in the economy. These techniques will be economically viable only if the real wage rate and/or the interest rate decreases. This in turn will increase the residuals of all the units. The saving rate is likely to be higher from the transitory residual income than from the wage or interest incomes. This redistribution of income in all the working units will, therefore, increase the total savings. Over and above, there will be some savings by the income recipients from the increased production. Thus, bringing more and more marginal techniques into production will increase total savings in the economy. Similarly in the opposite case, taking more and more marginal firms out of production will decrease the total savings in the economy. The number of units that should be working will thus depend on the savings of the co-operating factors in production matching the investment and other autonomous demand in the economy (Mathur, 1990, 1977, 1989; Azid, 1993).

2.2 Flex price system within a fix price system

When demand and supply of a commodity is equated with changes in the price of the commodity itself, it is termed by Hicks (1965) as a “flex price commodity”. Then Marshall’s partial equilibrium system as well as Walrasian’s general equilibrium system deal with economies where each commodity behaves as a flex price commodity. On the other hand, the fix price commodities will be those where the adjustment of demand and supply is not done through price flexibility but through output and stock management. This is demonstrated in the modern manufacturing industry where reduction in demand is met by reduction of output and employment and increase in

demand beyond short-term capacity by the lengthening of the order book rather than short-term increase in prices.

However, when a new commodity is introduced through imports or when technological change drastically reduces the cost of production of the commodity, they behave as flex price commodities. The large portion produces surplus generated by the difference between the price and cost of production, which is simultaneously invested in increasing capacity. The increasing capital invested from this and other sources goes on expanding the output, which in turn reduces the prices. As soon as the price falls down to the level of cost of production, the flex price commodity turns itself into a fix price one. Additional capacity does not reduce the price by increasing the output, but rations the output among different producers so that the price can be maintained. We have to understand how the market forces do this rationing in an impersonal way (Mathur, 1990, 1977, 1989; Azid, 1993).

We see that the way industrial prices are determined is different; the cost of production (wage and interest rates) determines the prices that would prevail when, with the current technological conditions, they would reach a “stationary state”. They are the supply prices. Meanwhile their market price is more but is slowly diminishing as the supply slowly becomes plentiful. The market price moves from a scarcity price to the supply price (Mathur, 1990, 1977, 1989; Azid, 1993).

3. An Islamic economics framework and context

Islam, because of its universality gives more importance to human well-being. Keeping this in view, the Islamic system proposes five foundational features of good individual and collective life; religion, life, mind, offspring, and wealth. It is also worthwhile to note that in this system normative aspects are complements to the positive aspects of the economic life of a man.

This section, thus, discusses the behaviour when different vintages of capital work simultaneously with the different levels of efficiencies in the different sectors of an Islamic economy, as was previously discussed. In this regard, it is necessary to discuss the concept of economic obsolescence and choice of technology in the periphery of the Islamic system. For tautological/pedagogical development, one has to consider all the dimensions of the Islamic injunctions instead of only assuming the interest free economy. It is a complete concept of the functioning of the whole economic system, which rejects many of the norms of contemporary economics and finance. No doubt, human efforts always have priority in any system of Islam but unfortunately, most of the existing literature discusses the structure and behaviour of capital, gives least importance to labour, and consequently does not cover different dimensions of labour. However, some basic assumptions are formulated for the understudy model.

The Islamic economic system is based on an interest free economy, and the structure of the economy is *zakah* based, as *zakah* is an important ingredient of the cost of the commercial assets. In such a system, economy consists of three sectors, namely public, private and voluntary (voluntary sector is a compulsory part of the economic model, because every *sahib-i-nisab*, or the individuals whose wealth exceeds certain prescribed level, has to pay *zakah*). In terms of full-employment, provision of employment is *fard kifaya*, namely compulsory provision either to be provided by the society or by the government. In the Islamic economic system, no control is exerted on the prices of the commodities, as long as prices do not hurt the five basic foundations,

as otherwise supervised or guided prices will prevail. In terms of trade-off between inflation and employment, the greater will be preferred, which renders more *falah*, or well-being. In such a system, wastage of resources is not appreciated and no permission of the exploitation of any economic agent is allowed.

After these foundational principles and basic assumptions, the concept of economic obsolescence and the choice of technology in the Islamic framework are described in the following sections.

3.1 Economic obsolescence

The norms of the Islamic system are completely different from the prevailing conventional economic system. No doubt utility and profit are the objectives of this system but the specification and arguments of these objectives are peculiar to this system, i.e. religious-moral cum ethical constraint is as important as the economic constraint. The *falah*, or the salvation and well-being, of the society are preferable to the efficiency. The allocation of resources has its own domain. The concept of opportunity cost is defined in a different wavelength, it is related to the nature and type of good instead of the earning stream of that good, i.e. necessities have less opportunity cost than luxuries (Amin and Yusuf, 2003). All of the basic theories of conventional economics are about to change in this framework, i.e. the theory of consumption, the theory of distribution and the theory of production. “No-injury” and *maslahah*[2] are the basic principles of this system. The principle of “no injury” requires that no action whatsoever, deliberate or unintentional, will be used to cause harm on oneself, another person or the society. The principle of *maslahah*, on the other hand demands that when a situation arises where procuring one’s interest implies the loss of another, then greater interest should be pursued in preference to the lesser. With regard to loss or injury the reverse will apply; the greater will be avoided by tolerating the lesser. *Maslahah* is about securing greater interest (Bashar, 1997).

Furthermore, Islam looks after the interest of the individual and society separately; synchronization of individual and social interest is the basic requirement. However, the spirit of *maslahah* prefers the interest of society rather than the individual. Another dimension, which is more important, is based on the complementarities of the material and spiritual life, the achievement of material desires is not independent from the spiritual life of any economic agent. The set of variables that has a significant impact on the utility of any economic agent comprises both types of variables, i.e. material as well as spiritual.

According to the guidance of Islam each member of society has the responsibility to care for the well being of others. Whatever status someone has in society or in the economy, Islam expects conscientiousness, honesty, reliability, exactitude, etc. from him. So everyone has a positive social, moral and ethical responsibility. In the secular system, there is a dire need to provide the training to each economic agent for the achievement of the above-mentioned behaviour but in the system of Islam, it is already built in.

It is worthwhile to note that from the Islamic point of view, the concept of efficiency or development is based on a different ethos. The efficiency is not only measured in the material scale but it is also measured in the periphery of moral, ethical, spiritual and virtual development. The latter deals with the serving of God and the sanctification of the human being. This sanctification can be achieved through the service of human

beings (according to the guidance of *Qur'an* and *Sunnah*), i.e. through charity, honesty, trust, helping and caring for others especially those who are deprived. The postulate of efficiency could be more elaborated if we look at the antonym of it, i.e. profligacy, waste and thrifty spending habits. So any economic process, which becomes the cause of wastage of resources, should not be considered as efficient.

The objective of the firm in the above scenario is not to maximize the profit. In the real sense the objective of the firm has four prominent components, i.e. reasonable profit plus just wage, plus a just price and plus welfare (Choudhury, 1989). However, Islam, having its own distinct ethical, sociological and cultural framework provides completely different premises for analysis of market behaviour and not based on axioms which are observed in the conventional economics, rather it all depend upon the Islamic rationality which is completely different than the economic rationality of the neoclassical economics.

In particular, Islam has a special consideration towards private property; it does not negate the right of private ownership. According to the Islamic jurisprudence, private property and private enterprise are basic institutions of Muslim society. Nonetheless, the concept of ownership of private property is not unlimited, private property is with the concept of trusteeship, so it does not guarantee into an instrument of exploitation at any stage. The same is true for the economic obsolescence of physical and financial capital. Zarqa (2003) explains the above phenomenon thus:

This is in keeping with Islam's viewpoint that prohibits waste and squandering. It is also consistent with the objective of safeguarding wealth (al ma'al), which is one of the five major objectives of *Shariah*.

The teaching of Islam regarding obsolescence as well as the state of private property can be observed from the verses in the *Qur'an* and in the sayings of the Prophet[3].

Keeping the above in view it can be concluded that in normal circumstances, there is no room for economic obsolescence of resources and it is not appreciated in Islam. In this regard, it is a moral role, duty and responsibility of the commerce not to waste the God gifted resources. It is evident that the agents of the commercial sector have to play that role which is assigned from God to them, e.g. entrepreneur and producers, to work for the general prosperity and the service of the society's well-being. It means that this is the supplementary duty of the commercial sector to serve the community besides earning the profit. al-Sadr (1968) added that Islam does not allow any one to spoil the resources through waste, luxury, selfishness, and dull enjoyment or accumulation. If someone does this he is considered egoistic, a self-seeker, miser and short sighted, whereas Mannan (1992a) is in opine that any policy regarding sustainable development, relating to the problem of the environment and transfer of technology may not be acceptable if it exploits the poor labour force. He further added that there should be a constraint on profit. Metwally (1992) is of the opinion that there should be a reasonable profit. However, according to his analysis the Islamic firm will earn more profit than the secular firm because of certain ethical and moral norms in the Islamic economy. Efficiency of the firm will increase whereas per unit cost will decrease. He further added that the Islamic firm has a higher level of output and more demand because of good deeds relative to the secular firm with a similar cost structure (Metwally, 1992). Siddiqui (1994) argued that the Islamic injunctions are preferred to

the economic rationality, which is the main pillar of conventional economics. In his view, Muslim entrepreneurs should seek satisfactory profit instead of maximum profit.

The framework of vintage capital will also follow the above-mentioned principle, i.e. the old vintage should not be exploited by the emergence of a new vintage. The Muslim *Ummah*[4] has a firm belief that God has created resources for the service of man, who in turn is only the vicegerent of God entrusted for the just use and distribution of his resources. He has ordained man to use them in the strict absence of waste, for the achievement of cooperation in production and consumption and the realization of a balanced economic growth.

The idea of cost in Islamic economics is one of total cost, i.e. the pure economic plus non economic cost component may be associated with the idea of a Muslim's punishment in the *akhira* or the hereafter subsequent to this indulgence in wasteful consumption in this world or it may also be expressed as *zakah* (or compulsory alms giving), *saddaqaah* (voluntary charity), etc. which are fundamentally associated with pure Islamic belief. In the round of secondary and spill over effects, the cost of social assistance decreased allocation of money capital to real investment and lowered the rate of profit and growth for the economy. As is discussed by Amin and Yusuf (2003) the opportunity cost is related to the nature of the good and also related to the principle of no-injury and *maslahah*. However, the argument of cost and benefit is not in favour of economic obsolescence. Wastage of factors of production is not permitted. Benefit could be negative in case of consumption wastage, capital consumption and un-recovered capital cost over time. These are signs of dynamic inefficiencies from which the society derives lower levels of social welfare.

The Islamic state is not like the secular state, it has greater preference for the normative aspects. The role of compulsory and voluntary spending in the way of God in this respect is very significant. For example, the funds from *zakah's* social assistance programs can generate secondary and external benefits through income distribution, increased training and autonomous demand, etc. In this regard as discussed above, price structure also plays a significant role in the economic obsolescence. However, in the Islamic literature the obsolescence is not discussed in a systematic way. Prohibition of the wastage of resources is discussed in the literature but the procedure of its estimation is not formulated and also not included in the economic models. The actual requirements and demands of the system are that a model should be developed which will be helpful in the estimation of the productivity of those firms, which are in an Islamic economy, on the verge of obsolescence and allow them to remain themselves in the market until physical obsolescence through the policy of the state and the training of the society.

As mentioned above, Muslims are bound to follow the injunctions of *Allah* even if they are at a great loss or to be destroyed. As the divine guidance teaches, he wants individuals to be successful both in this life and in the hereafter. Therefore, there is definitely some other way in which *Allah's* injunctions can be followed and individuals are still successful in this manner. This can only be found with enough research and use of intellect and wisdom gifted to individuals by *Allah* to solve this problem.

3.2 Knowledge, technology and development

In the Islamic framework, the acquiring of knowledge is considered as worship. However, knowledge without wisdom is a symbol of destruction. The knowledge with

wisdom is called true knowledge, i.e. which has a blessing for the human being in this world and life hereafter, leads towards the straight path, the path of those whom God has favoured and blessed.

As Biraima (1991) discussed, there are two types of people: those who are whimsical and those who are righteous. The former are those who do not have the true knowledge and the latter are those who have the true knowledge about life, which is described in the *Qur'an*[5]. Knowledge is divided by God into two types: one that is based on truth and the other that is based on falsehood[6]. Actually, what is truth and what is falsehood is based on following the orders of God[7]. Thus, according to *Qur'anic* wisdom, it is clear that knowledge is appreciated which is based on truth and the guidance of God and this is known as “knowledge with wisdom”. It implies that if an individual follows the true path prescribed by God, it means that the knowledge he/she has is complemented with wisdom.

Development of knowledge and emergence of new technology are very much appreciated in Islam; no restriction is imposed on the choice and development of new technology. However, the choice of alternatives must be related to the two types of benefits: the pure economic benefit, and the “worldly” equivalents of factors of pure Islamic belief associated with Islamic consumption and investment behaviour, the finally augment pure economic benefit. It is important to note that taking cost advantage to optimize production and ease supply of commodities is an objective of the *Shari'ah*. Therefore, scale and scope of economies are desirable attributes in the light of Islamic law, but not allowing any type of exploitation in the economy or society (Kahf, 1992).

Resources are a trust from God for every member of the society. The choice of production technique should not be made on the narrow grounds of economic and technical efficiency associated with the production of particular goods (Mannan, 1992b). The attitude of *shukar* (the grateful person) implies that resources may not be wasted or scrapped prematurely. Instead, they should be utilized until their utility is outlived. The *Qur'an* has condemned both extravagance (*israf*) and niggardliness (*bukhal*) and has enjoined us to adopt an attitude of moderation in consumption. Extravagance leads to waste of resources and niggardliness locks away the resources from the production process and leads to deprivation. The obsolescence of articles because of changes in fashion or technology lead to extravagance in most cases. In the Islamic economy, such obsolescence would be reduced to a minimum. Instead, articles of use would be used to their full maturity and exhausted before a replacement demand arose (Khan, 1992).

In the Islamic system, the institution of *zakah* and spending for good deeds may also affect the degree of obsolescence. Economic rationality on the part of the investor would motivate him to deplete his idle stock of capital and thereby make room for investment flows. Increased investment thereby causes increased income through the multiplier effect. Therefore, the presence of *zakah* and spending in the way of God will cause holders of idle capital stock to put them to productive use. In this respect, another direction can be observed, i.e. the suppliers are selling their product more than in the secular economy, because *zakah* and spending in the way of God will increase the pure economic benefits. Besides, that, in the system of Islam, savings in the form of real investment to produce the necessities and comforts of life and more capital goods, that increase their productive capacities over time is highly encouraged.

Apart from *zakah*, the principle of *mudharaba/shirakah*[8] is also used in Islamic economics to encourage partnership in work between labour and capital. Through such a partnership, intra-plant motivational efficiency can increase and a choice of new technology can come about, which in turn increases *X*-efficiency. Another aspect that is very much important is the payment of the price of capital, in this mode of financing the price of capital is not fixed as we can observe in conventional economics in the form of rate of interest. In this present state, the price of capital is based on the efficiency of the firm. If firms are more efficient then they are paying more return to the shareholders and vice versa. Through this, the chances of economic obsolescence become oblique. Similarly, in the case of *mudarabah* and *musharakah*, wages are also not fixed priori, but based on the total profit. This has the same impact on the economic obsolescence. This is one of the determinants, which also reduces the risk of the management. According to Siddiqi (1992) after following the divine guidance, the economy will observe the minimum wastage and will accrue the maximum of social gains.

No doubt, in an Islamic economy the development of knowledge is the necessary condition for the growth strategies and it also encourages the new investment but constraint is the social cost. Simultaneously, this good externality will also upgrade the state of environment and eventually will give further incentives for the new investment in the other barren areas.

3.3 Justification of price control

In a normal situation and condition, Islam believes in a free market mechanism; the deficiencies in the market were mended through teaching and participation. It is observed from a *hadith* of the Prophet (pbuh) that:

[...] one person came to the Prophet (pbuh) and requested him to fix prices in the market but he refused. Another man came and made the same request; the Prophet (pbuh) said it is God who pushes prices up or down, I do not want to face Him with a burden of injustice.

On the contrary another incident that is reported by Imam Malik, which is related to Caliph Umar's intervention in the market by dismissing a seller for selling at a lower price: "Umar bin Khattab passed by Hatib bin Balta'ah who was selling dried grapes in the market. Umar told him either raise the price or leave the market"[9].

Two opinions are established after considering the above two narrations: one is in favour of a free market and the other is in favour of a regulated market:

- (1) Followers of Imam Shafi'i and Imam Ibn Hanbal oppose price control in the market. They are in the view that the social authority has no right to fix prices for two reasons; abundance and scarcity of goods upon which cheapness and dearness depend are divine phenomena; and, if price rises resulted from natural causes, then price fixation is an act of injustice to the sellers.
- (2) The Malikite and Hanafite schools argue on the contrary that price control is legitimate and it does not necessarily amount to meting out injustice to either parties in exchanging, as the increase in efficiency will reduce the cost and increase the profit of the firm, which may even lead to price reduction as a consequence.

Those who are in favour of a regulated market rely on the following arguments: a *hadith* recorded by Tabarani narrates that “when people were plagued by famine they said, Oh Prophet of God, fix the price for us”. The fact that grains were imported and it was a period of famine, made the refusal of the Prophet (pbuh) very clear and meaningful, given the circumstances. Ibn Taimiyah (1976, p. 15), on the other hand, articulated, through his *hisbah*[10] institution, according to which:

[...] if the control of price forces traders to sell their goods at a price they do not agree with, or if it prevents people from transacting things which *Allah* has made lawful for them, and when it implies injustice, it is not permitted. On the other hand, when it facilitates administration of justice among people; when traders are forced to sell the commodity which they are obliged (by law) to sell at market price, or they are being prevented from undue profiteering, then price control is not only permissible but it becomes obligatory.

Following some extensive analysis, Ibn Taimiyah (1976, p. 37) gave the simple principle of *hisbah* in the following statement: “when people’s needs and necessities cannot be safeguarded without a fair price control, then a price control based on justice will be implemented for them – no more, no less”.

The followers of Imam Abu Hanifa, like the Malikis, have expressed the same opinion regarding price control: if it is unavoidable in the interest of the people then it can be exercised. Hanafi views are articulated in the *hedaya* in the following words:

[...] the Sultan has no right to fix prices for people. (Because) the Prophet (pbuh) said *Allah* is the price giver [...] also because declaration of price is the right of the seller ... So the Imam should not interfere except in a condition where the welfare of the people demands it [...]

In respect of hoarding, the judge “will order the hoarders to sell what is in excess of his needs which will be assessed generously”. The *qadi*, or the judge/governor, will warn him to refrain from that act. If he is caught again for the same offence, he will be imprisoned, and punished in a way deemed necessary to prevent him from wrongdoing and save the public from harm. If the traders insist on charging higher prices and the “*Qadi* has no other means of safeguarding people’s welfare except by controlling prices, then he can do so by consulting wise counsellors” (*Hedaya*, Volume 4, Babul Karahiyah).

Ibn Habib proposed that:

[...] the Imam should summon all parties to a meeting for price negotiation, i.e. the big traders, buyers and other experts. Their opinion will be sought and assessment made on the rates at which they buy and sell in the market. An agreement will be reached on prices that are beneficial to the sellers and socially acceptable without coercion. Whosoever permitted price control would use this method.

There should be a price ceiling that they should not exceed or a price floor below which they should not charge. Imam Malik is quoted as saying that “a market supervisor can fix a rate for butchers and if they do not agree to sell at that price they may leave the market” (Ibn Taimiyah, 1976, p. 26).

Ibrahim-Beg (1939, p. 90), a Hanafi jurist, analyzed *ghabn* (overvaluation or undervaluation) in the following manner: *ghabn* means undervaluation, in most cases it is small. In this case, it is referred to as negligible *ghabn*. However, in some cases we also encounter significant *ghabn*, which may be regarded as excessive. The difference

between these two is observable from the rates estimated by the values of the commodity in question.

The vintage model, which is related to the economic obsolescence, is concerned with the fixation of floor price. If the floor price is not fixed then the new vintage will compel the oldest one, which is on the verge of obsolescence, to quit the market through a price war. *Ghabn* will prevail in the market and this will become the cause of underutilization of the resources and resultantly economic obsolescence. Bashar (1997) explains the consequences of this in the following manner:

Competition in the market sometimes assumes adverse dimensions. For example, a large producer with financial advantage may engage small producers in a price war by undercutting market prices. Imposing a price floor below which sellers must not charge will protect the interests of the small enterprises.

Price fixation, hence, would safeguard the interests of labour, capital and entrepreneurship whenever such interests are at stake. The same will be true for the phenomenon of economic obsolescence.

In this view, it is necessary for the authorities to fix the floor price otherwise economic obsolescence will make resources unemployed. However, it does not mean that divergence between social and private interests is a sufficient condition for price intervention. There is a consensus among the jurists that justification of price fixation would require establishing that people will inevitably be hurt by free pricing.

What should be made clear a priori is that the *Shari'ah* objective is to remove injury. However, for whatever reason, if that injury is irremovable the principle of *maslahah* shall be applied. Let us begin with the principle of no-injury, which will indicate to us when market prices are valid or invalid. The *Shari'ah* has categorized prices as valid or invalid. By valid prices we mean the price established in a market in accordance with the dictates of Islamic law, i.e. a price emanating from a market free from any deliberate attempt to cheat, defraud, obfuscate, i.e. disguise or withhold relevant information. Valid price is that price that satisfies all possible *Shari'ah* legal requirements in the process of formation. This price may be altogether or only partially fair and just; because fairness and justice are not entirely based on legal considerations but validity is exclusively a legal concept.

In respect of valid prices, the jurists intuitively envisaged that the *Shari'ah* takes a dual stand, i.e. allowing them to reign in the market or reject them where they conflict with fairness and justice and or social interests. Since contestability assumes costless reversal of investment and absence of sunk costs, the incumbent firm will not suffer any actual or potential injury as a result of the entry and subsequent cut in the erstwhile valid prices. Now the question arises. Should the governments of Muslim countries accept prices that bring about distress and animosity? To counter this situation they are bound to impose price control. So sometimes selective price control is necessary. According to Kahf (1992), forcing people to sell at given prices is compulsion without any right, sellers should not be forced to give up profit but should not hurt others. There should be involvement of the government for fixing prices. Underutilization of resources is the cause of unemployment, which is basically an antisocial policy, or action that will ultimately deprive the poor, so in this situation the state has the right to control the prices.

The above discussion favours price control. In a situation of social loss, the authorities can intervene in the market for the sake of society's benefit.

Therefore, in this present case, the state has the right to fix the floor price and secure resources, which are becoming economically obsolete. It is also the duty of the government to estimate the input-output coefficients for each of the vintages, which will guide the policy makers for the formulation of their policies regarding the degree of economic and physical obsolescence.

3.4 Present scenario of Muslim countries

It should be stated that fixing the floor price and securing the resources will not only be necessary for predicting the effects of changes in the final demand but will also throw a significant light on international competitiveness. There is a view that one of the reasons for the competitive advantage of Japan and West Germany after the war was that while the price structure in the rest of the world was determined in such a way that even the least efficient producer may be able to produce without losses, the new industries in these countries were producing with the latest techniques transferred to them by allies, giving them sufficient cost advantage. Similarly, current developing countries are not able to become exporters of manufacturers, as the technological transfer coming their way is of the techniques on the verge of obsolescence in the developed countries (most of the Muslim countries are underdeveloped). As pointed out above, all these hypotheses depend on the substantial differences between the best practice technology and the least efficient one (Mathur, 1989, 1990; Azid and Chaudhry, 2003).

At present, however, most of the Muslim countries have become blind to the many trappings of western ways of thinking while being unable to understand this inimical culture, and thereby, being unable to adapt to it. When rulers and demagogues in the Muslim World imitate the western designs and prevail over their citizenry, they try to lock nations into expensive bottlenecks of development, costly technological change, unequal distribution of power, deprivation of freedom and rights to the masses. Western lobbying is perpetuated through this machinery of autocratic governance as also by the Muslim world's lethargy and subservience to costly technology, de-equalizing market processes and the concomitant governance of the western genre. To live a day in such inhumane bondage is yet another moment of increased slavery of the Muslim mind, body and soul to western masters (Choudhury, 1989).

To cope with their technological problems, Muslim countries need to adapt science and technology to local conditions, not simply "import" ready-made solutions from elsewhere. That said, discovering genuine scientific solutions to the perennial problems of Muslim countries will require more modern science and technology, not less. Muslim countries need to increase their capabilities in the areas of science and technology (Ahmad, 2000). For the empirical analysis, one should consider the two ends of the spectrum of techniques, least efficient and most efficient. The working of both tails increases the pure economic benefits.

In nut shell, this model can be simply extended for the global economy. Because all the human beings are equal and in real sense have the same ethical and moral values. However, the most important is to provide the education and training to the different agents of the economy and society, which will ensure the incremental change in the welfare of the whole humanity.

4. Conclusion

The main issue is to comprehend the firm within the organization and among the organizations themselves as a complete and comprehensive set of structures related to other individuals, community and nations. The success of such a structure necessitated discarding resources when they are not useful physically and economically. In that way, the wastage of resources, energy and useless expenses can be avoided. In addition, in completing the system, the most preferential option for the poor segment of the society must be taken into account: dignity of the human being and social well being. This brings the social efficiency issue of the firm's expenditure function. By overcoming waste and inefficient spending, the efficiency of the firms, its good reputation and goodwill of the firm will increase, which should be considered as a substitute for advertising. Simultaneously, in a non-debt-based economy, and hence in the absence of interest, the real cost will be the share of the shareholders, which reflects the minimum chances of obsolescence.

It is also observed from the above analysis that there is a complete harmony between the world of business and the world of faith. Profit maximization should not only be the objective of the firm, but also as the objective function of the firm has four components, i.e. reasonable profit, just wage, just (supervised) prices and welfare of the society. Authorities have the right to fix the prices in that situation when these components fail to become part of the objective function of the firm.

The model given in the first section articulates how we are able to estimate the marginal input-output coefficients and how it is possible for us to estimate the degree of economic obsolescence. It is believed that in the Islamic system entrepreneurs are trustees of the resources and ownership is not in absolute terms, it is limited. So the underutilization of resources for the maximization of the profit is not allowed within the Islamic economic framework. It can, therefore, be concluded from the preceding discussion that economic obsolescence is not appreciated, because it promotes the loss of welfare of the society.

Notes

1. For the more detailed discussion, see Mathur (1977, 1989, 1990), Azid *et al.* (2002) and Azid and Chaudhry (2003).
2. *Maslahah*, literally means benefit. Technically, it refers to any action taken to protect any one of the five basic objectives of the *Shari'ah*, namely protection of faith, life, progeny, property and reason.
3. God does not love the waster as it is observed from the following verses of *Qur'an* (6, p. 141): "Eat of their fruit in their season, but render the dues that are proper on the day that the harvest is gathered. But waste not by excess: for *Allah* loveth not the wasters"; and "Eat and drink: but waste not by excess. For *Allah* loveth not the wasters" (7:31). The divine guidance related to the private property is observed from the following verse: "O ye believe! eat not up your property among yourselves in vanities; but let there be amongst you traffic and trade by mutual good will: nor kill (destroy) yourselves: for verily *Allah* hath been to you most merciful!" (4:29). Prophet ordered that not to waste the resources, property and wealth in the following manner: "Keep your property to yourselves and do not squander it" (Bukhari); and "*Allah* disapproves for your irrelevant talk, persistent questioning and wasting of wealth" (Bukhari); and "The messenger of *Allah* forbade to debase (or scrap) the currency of Muslim except that there is a danger (of its misuse)" (Bukhari). Lastly, Khan (1992) provides a tradition of the Prophet, which describes the obsolescence in the following way: "The Holy

Prophet (pbuh) invited the people to develop dead lands. He set a stage for the development of agricultural sector. He disliked to see even the skin of a dead animal go waste. Intensive and efficient use of resources, even licking of fingers is an example. All resources are gift from *Allah* hence a suggestion that they should be utilized carefully. He assigned a high value on industry, efficiency and labour.”

4. *Ummah*, referring to the community of believers.
5. “Have they not journeyed in the earth, so that there might become unto them hearts to understand with, or ears to hear with?” (24:46).
6. *Qur’an* (53:28) says: “Verily they have no true knowledge thereof; they follow but a conjecture and conjecture is no substitute for he truth.”
7. “Verily your Lord! It is He Who is the Best knower of him who strays from His way, and He is the Best knower of him who lets himself be guided” (*Qur’an*, 53:30).
8. *Mudharaba*, *musharakah* or *shirakah* are part of the Islamic financial modes based on partnership and risk sharing in terms of profit and loss sharing.
9. Most of the arguments in this section are based on Bashar’s (1997) highly acclaimed study.
10. *Hisbah* refers to regulatory body in the market.

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