

Modelling the Economic Growth of an Islamic Economy

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In an Islamic economy economic growth is not an end in itself, but rather a means of promoting the citizenry's good life. Growth depends upon several factors, among them a consistent increase in the amount of physical goods and services produced over a given period of time. This is usually taken as an index of economic growth. Adopting the same index, this paper asks: What factor explains economic growth in an Islamic economy? For this purpose, the paper refers to the Islamic economy of Madīnah, which saw substantial expansion in all directions during the reigns of the Prophet and his four immediate political successors.

This paper gives an answer based on the hypothesis that both physical and moral factors are instrumental in causing economic growth in an Islamic economy. This hypothesis is quite different from that of secular economics, which views economic growth only in terms of physical factors. Such an explanation has been found inadequate, however, as empirical studies on American data have shown that just over half of all output growth is explained by physical factors. Denison calls the unexplained part "the measure of our ignorance" (Branson and Litvack 1981).

Many Muslim economists have discussed the role of moral factors in various forms (i.e., integrity, cultural will, and calls to the Muslim masses to regain their past glory). This paper, however, views the role of moral factors in terms of the bounty of God (*faql Allāh*). It is argued that this factor influenced economic growth through both autonomous and induced channels operating in institutional factors (i.e., the mosque and the state) and the level of God-consciousness (*taqwā*) in an Islamic society.

The hypothesis is examined theoretically, because statistical data for empirical analysis is not available. The paper relies on the Qur'an and the

Sunnah to support its reasoning. An aggregate production function is employed to explain the contribution of physical and moral factors to the growth process. Analytical results show that moral factors make a positive contribution to both income and output growth.

The model generates important implications. Contemporary Muslim countries, in the context of this paper, can accelerate the role of economic growth by the greater use of moral factors. Hence their growth strategies should recognize the importance of this factor. Some light is also shed on the puzzle of secular economists concerning the unexplained part of economic growth mentioned above, which this paper posits can be attributed to the bounties of God by way of a divine test.

Review of the Literature

Muslim economists agree that Islamic teachings provide a favorable environment for economic growth. While they use the terms "economic growth" and "economic development" interchangeably, they disagree on several points, such as the nature and the driving force behind this economic growth. These divergent opinions can be broadly classified into two categories.

The typical view of the first category is that development depends upon such economic processes as savings, investment, and technological advancement. Qureshi (1974) noted that the Qur'an and the Sunnah stress all of these factors. Other scholars in this category, like Siddiqui (1974), visualize the development process in terms of the "socialisation of surplus value" and maintain that Islam provides enough motivation for this. The development process in Islamic and secular societies is similar in both nature and form. Sadeq (1987) believes that an Islamic economy has a strong incentive to eradicate poverty and achieve a growth of income and wealth. For this purpose, Islam prohibits monasticism and encourages economic activities. In the area of growth factors, he stresses the role of natural and human resources and, particularly, research and development activities. These theories are substantially tilted towards materialism.

The representative view of the second category is that the development process is driven by religion, as its motivating force emanates from Islam's moral system. The development potential lies in humanity. Khan (1969) and al Fanjarī (1974) emphasize strongly the "transformation of the human being and the ethos of society." Similarly, Ahmad (1980) sees integrity as a key variable in growth and expansion:

The concept of development is to be derived from the concept of integrity (*tazkiyah*), as it addresses itself to the problem of hu-

man development in all dimensions and is concerned with growth and expansion towards perfection through the purification of attitudes and relationships.

Therefore the whole question of economic development is reduced to engendering internal change. Lari (1991-92) picks up the strand of argument and notes that every human being seeks to grow. This desire for growth has deep roots in the human spirit. Hence an Islamic polity emphasizes spiritual training, which should be the highest goal of every Muslim individual and society.

Bennabi (1972) makes an important point in this regard. According to him, the crucial issue in the world of Islam "is that of harnessing the social force—humanity, land, and time—in a project propelled by a cultural will undeterred by any difficulties." According to al Tahawī (1974), "invoking Islamic injunctions in the context of development efforts will release powerful forces from the masses." Chapra (1992) believes that Islam envisages an economic system that promotes human well-being and a good life (*hayāh tayyibah*) by giving the utmost importance to brotherhood and socioeconomic justice, and requiring a balanced satisfaction as regards humanity's material and spiritual needs. Hussain (1974) claims that, within an Islamic framework of work ethics, economic accomplishment turns into spiritual achievement, for the bounty of God is earned by seeking His acceptance. Thus Islam provides a strong motivation for economic growth. Austruy (1967-68) also supports the view that the motivating force for economic growth essentially emerges from religion. The crucial need, according to him, is to encourage Muslims to regain their past glory, for when they become aware of this, they will make concerted efforts to achieve rapid economic growth.

The foregoing discussion brings out the importance of the moral factor in initiating and strengthening the process of economic growth in an Islamic economy. However, none of the studies reviewed above has analyzed the role of the moral factor in a formal way. Presented below is an analysis designed to fill this gap.

Motivating Forces

In an Islamic economy, the motivating forces behind growth and development emanate from religion, as both prayers and material progress are motivated by divine commands. Islam, being a natural religion, induces growth-promoting tendencies by encouraging the human instincts of acquisition, provision, and enterprising behavior. Similarly, it discourages such growth-inhibiting tendencies as begging, sloth, the waste

of time and resources, and extravagance by invoking tendencies favorable to economic growth.

The Shari'ah's position with respect to these tendencies can be seen from the following injunctions: "Beg not anything from people" (Ibn Hanbal n.d.); "Verily, Allah likes three things for you and He disapproves three things for you. He is pleased with you that you worship Him and associate not anything with Him, that you hold fast to the rope of Allah and be not scattered; and [He disapproves for you irrelevant talk, persistent questioning and the wasting of wealth] (al Bukhārī 1987); and "But squander not (your wealth) in the manner of a spendthrift (Qur'an 17:26).

There are also numerous injunctions in the Qur'an and the Sunnah that favor and encourage growth-promoting tendencies: "Allah desires that whenever anyone of you performs a job, he/she does it perfectly" (al Suyūfī n.d.); "To earn an honest livelihood is a duty (ranking) next to the chief duty (of offering prayers)" (al Albānī 1985); "And when the prayer is finished, then disperse in the land and seek Allah's bounty" (Qur'an 62:10); and "No one eats better food than that which he/she eats out of the work of his/her hand" (al Albānī 1985).

Preserving one's life and maintaining it in a state of efficiency is regarded as an obligation: "Individually, obligatory duties relate to the person himself/herself. He/she is responsible for preserving his/her religion, in belief as well as in practice, and for preserving his/her life by fulfilling his/her needs" (al Shātibī n.d.); and "Allah desires ease and not hardship for you" (Qur'an 2:185). Such Qur'anic terms as the "Munificence of Allah" (24:10), "Good Things" (2:4), "Adornment from Allah" (7:31), and "Place of Rest" (16:80) urge Muslims to acquire these for their well-being.

Islam allows the acquisition of private property and its accumulation, subject to the norms laid down by the Shari'ah. Islam encourages enterprising behavior and initiative, as can be seen in these two traditions:

'Amr ibn Hārith reported: The brother of Sa'īd ibn Hārith said: I heard Allah's Messenger say: Whoever sells an estate, there is no blessing in its price except that he builds a similar one with its price. (Ibn Hanbal 1313)

and:

Abū Hurayrah reported direct from the Apostle of Allah that he said: "A strong believer is better and dearer to Allah than a weak believer. And you should be greedy of everything good that may benefit you. And do not show weakness (i.e., leave not struggle) because if despite your efforts you do not achieve the goal then

say: 'God has decreed what He willed to do.' And do not say: 'If it had been so, if it had been so,' because such a feeling opens the door for the devil." (Ibn Mājah 1984)

Asset formation is also recommended for living a prosperous life, as the Prophet has said: "It is better that you leave behind you your relatives well-off rather than obliged to beg alms of others" (al Bukhārī 1987).

The Qur'an says that ample provision has been made for human life and that it is the entire community's duty to exploit this generosity: "And He made in it (the earth) mountains above its surface, blessed it, and placed therein provisions in due proportion, in four days, alike for all seekers" (Qur'an 34:9). These provisions are equally accessible to all, regardless of religion. However, Muslims are more entitled to exploit them in order to facilitate their present life, as the beautiful and good things in life are meant for them:

Say, who hath forbidden the beautiful (gifts) of Allah, which He hath produced for His servants, and the things, clean and pure, (which He hath provided) for sustenance? Say: they are, in the life of this world, for those who believe (and) purely for them on the Day of Judgement. Thus do We explain the signs in detail for those who understand. (Qur'an 7:32)

In light of the above, the Prophet advised his Companions to enjoy the good things that God had created for them: "When Allah has given you means, the traces of His bounty should be visible on you" (Abū Dāwūd n.d.).

Many instances in Islamic history indicate the desirability of having material things that can make human life comfortable and beautiful. One tradition says that when 'Alī sent Ibn 'Abbās to deliberate with the Khawārīj, the latter wore his best clothes, rode his best animal, and wore his best perfume. At the meeting, he was asked why his appearance was so luxurious while, in actuality, he was the most pious person. Ibn 'Abbās recited the above-mentioned verse in response (al Ālūsī 1353). Abū Ḥanīfah used to wear a cloak worth four thousand dinars and urged his pupils to copy him. Muḥammad al Shaybānī wore good quality clothes.

Economic growth is also desired in order to acquire the material strength necessary for the defense of Islam: "Make ready for them what thou canst of (armed) force and of horses tethered that thereby ye may dismay the enemy of Allah" (Qur'an 8:60).

In sum, it can be said that Islamic teachings are conducive as regards the promotion of economic growth.

A Model of Economic Growth

The last section brought out the important fact that Islamic teachings provide adequate incentives for initiating economic growth. In this context, this section will present a model of economic growth for an Islamic economy. Its theoretical underpinnings are based on the concept of an aggregate production function. This requires the discussion of three points: specification of the function's value, arguments of the function, and functional form.

Value of the Function. In secular economics, output level is usually taken to indicate the level of economic development (Adelman 1961). The same indicator is used for an Islamic economy with one difference: the output composition. The output basket of an Islamic economy contains elements that satisfy both mundane and spiritual needs. Some of its vital elements are material goods and services as well as such nonmaterial goods as peace of mind, contentment of heart, and hope of success in the afterlife. Its proportion of material goods can increase to the point of sufficiency. For a meaningful and prosperous life, individuals need both goods at each point in time. A higher quantity of these goods means economic growth. The economic output is the aggregate output of all firms.

A typical Islamic firm is based on the unity of labor and capital as partners (*muḍārabah*) and not on the basis of employer and employee (Khan 1989). Each firm operates in a way designed to produce the maximum output from the given input in order to obtain the optimum output for the economy.

Arguments of the Production Function. In secular literature, moral, cultural, and institutional factors are treated implicitly. Their role is subsumed in the shape of the production function (Adelman 1961). Islamic economic literature, as surveyed by Siddiqui (1981), does not include the moral factor in the list of production factors. However, some Muslim economists have pointed out this factor's importance in the growth process. The approach of limiting factors of production with respect to the physical domain is inconsistent for the purpose of this paper.

This paper adopts a consistent approach and characterizes the factors inherent to both the physical and the moral domains. Moral factors contribute directly and indirectly to output growth. In this context, 'Abd al Qādir (1975) writes that there are two types of factors in this world: external and internal. External factors are the tangible factors that have some known pattern of effects. However, God sometimes changes this pattern through His will. Internal factors are those that usually cannot be

observed by the human eye. The will of God takes effect through these factors.

Islamic history supports the integration of moral and physical factors. As a result, an economy's physical output changes in a particular way. Historical proof for such an integration can be seen during the forty-year period following the Prophet's migration to Madīnah. It is widely recognized that a tremendous amount of growth and development took place during this period. However, the expansion in physical factors alone during this period cannot explain this growth. It is our contention that the Companions were able to realize this development through utilizing the physical factor in conjunction with the spiritual factor:

Allah has promised to those among you who believe and do righteous deeds that, He will, of surety, grant them in the land, inheritance (of power), as He granted it to those before them, that, He will establish in authority their religion—the one which He has chosen for them. And that He will change (their state) after the fear, in which they (lived), to one of security and peace; They will worship Me (alone) and not associate aught with Me. If any do reject Faith after this they are rebellious and wicked. (Qur'an 24:55)

As seen in the above verse, God has promised Muslims three things: they will inherit authority, Islam will be established, and they will live in peace and security. The Companions were able to obtain these things due to their adherence to Islamic polity and culture. Consequently, the Islamic economy expanded with the successful conquest of many non-Muslim countries. This paper therefore maintains that moral and institutional factors should be explicitly included along with physical factors in the set of arguments concerning the production function of an Islamic economy.

Accordingly, the paper visualizes four production factors: physical assets, labor, capital, and the bounty of God.

Physical Assets. This factor includes reusable material as a means of production. It is characterized by a) the inclusion of all forms of natural resources usually grouped under "land" or "capital" (i.e., machinery); b) assets that can be rented or leased; and c) asset depreciation over time during the production process.

Among these assets land is of particular interest, for it is a gift from God and is intended for the whole society. Two types of relationships are important here: patterns of ownership and tenurial arrangements. Islam prevents the formation of large landholdings, as occurs in the West due

to primogeniture, by means of inheritance regulations. While it may not be understood that this leads to the division of landholdings into smaller and unprofitable units, it is interesting to point out that small self-cultivated units have usually been found to be more productive. Moreover, it is also possible that small units may expand over time due to the acquisition of new land and, as such, the size of landholdings remain within reasonable limits.

With regard to the land's tenorial structure, Muslim scholars have stressed the principle of cost-sharing. However, they have favored more than one tenorial arrangement, such as sharecropping (*muzāra'ah*), under which the shares of output for the tenant and the landlord are predetermined. This is considered to be the most suitable tenorial arrangement (al Mawdūdī 1977). Cooperative farming, which is an application of the ideal of brotherhood, is also encouraged, for it is an efficient arrangement for agricultural production (Qur'an 40:10). Islamic teachings favor the optimum utilization of dead lands (*mawāt*), and the Prophet said that such lands belong to the person who develops them (Khan 1989).

Islamic teachings, therefore, provide a suitable arrangement for the cultivation of land. Consequently, the productivity of land increases in a way that does not harm the principle of equity.

Labor. Labor is a most important and honorific factor, for it provides human services, both physical and mental. Broadly speaking, labor fits into two categories: service (based on a fixed wage) and production. Labor's role in enhancing economic growth is reviewed here, while its role as regards the production sector will be discussed in the section dealing with capital. Islamic teachings have defined clearly workers' rights and obligations and have made employers and the state responsible for their interests.

On the other hand, workers are held responsible for their employers' interest. Important injunctions protecting the workers' interests can be summed up as follows: a) Wages should be predetermined so that the worker will know in advance how much he/she will be paid. This has been implied in a prophetic hadith (Ibn Hanbal n.d.); b) Wages should be just (i.e., based on the amount of work done by a worker) and should not be withheld, either in part or in full: "Three persons are sure to incur God's displeasure on the Day of Judgement . . . one who engages a worker to do a job, takes full work out of him but does not pay him his due wages" (al 'Asqalānī 1981); c) Wages should be paid promptly and immediately on completion of his/her work: "Pay the labourer his wage before the drying up of his sweat" (Ibn Mājah 1984); and d) Wages cannot fall below a certain minimum level. As Islam grants equal rights

of livelihood to all people, an Islamic state is obligated to ensure that this right is applied as intended. Therefore, it can legislate minimum wage laws to ensure that wages do not fall below zero or become negative.

Islamic injunctions regarding the obligation of workers towards their work and employers provide them with a strong motivation to perform in a reasonable, honest, and dutiful manner. Some of these injunctions are: a) The Islamic ideal of accountability (*hisbah*) considers each worker responsible for his/her work and behavior (Ibn Taymīyah 1982). The overall outcome of a worker's labor should be commensurate with his/her compensation; b) A worker is responsible for the material, tools, instruments, and the property of the employer. He/she is not supposed to damage or harm these things: "The slave is responsible for the property of the master" (al Bukhārī 1961); and c) The Islamic concept of a good worker is one who is strong and trustworthy (Qur'an 28:26). A worker reflects his/her strength by being as productive, both mentally and physically, as possible.

The worker treats his/her work, instruments, and all work-related material as a trust. This idea produces powerful internal forces, for this trust helps him/her to shun such negative tendencies as shirking, going slow, or wasting material. Islamic teachings therefore can be said to provide a framework for the emergence of a responsible, dutiful, and productive labor force.

From the above discussion, it is apparent that workers and employers have related interests. This arrangement enables them to make sincere efforts to advance their mutual interests and promote economic growth.

Capital. Capital is the factor that finances the production process. It consists of different monetary forms and assets. Islamic teachings have a specific view about its role and compensation: capital cannot remain idle and earn a fixed return without participating in the production process.

According to Islamic teachings, capital is a production factor that must enter into contractual arrangements with entrepreneurs. In this case, the guiding principle is that all contractual relations must be risk-free so that contracting parties can obtain their rightful share during production and exchange. Two of the most important contractual arrangements between capital and labor, limited partnership (*muḍārabah*) and partnership (*mushārahah*), are also guided by this principle.

In a limited partnership, the financier provides the necessary capital to the entrepreneur with the understanding that any resulting profits will be shared according to a specified proportion. The loss, if any, will be borne by the financier. In a partnership, however, two or more persons can commit a certain amount of capital to begin a business. Their contract

stipulates clearly the proportion of profit to be distributed and that the losses, if any, are to be shared proportionately based on each person's share of capital investment. Capital is thus allowed to earn a variable, as opposed to a fixed, return as is the practice of secular systems.

Islam rejects interest payments for the use of capital for a number of reasons: a) It is against the spirit of justice. The entrepreneur may earn a large amount of profit with the help of a financier's money but then only repays a small fraction in return for its use. Furthermore, it is possible that the entrepreneur may experience a loss but has to pay the principal as well as a fixed amount as interest; b) It is a major cause of income inequality. Industrialists and those involved in big business earn large profits with the help of bank credit but repay only a small part, by way of interest, to the owners of these funds (i.e., depositors); and c) Interest restrains the size of investment due to the problem of collateral. Profitable projects of small investors are not financed by banks due to insufficient securities pledged against the investors' loans.

Islamic teachings provide the basis for interest-free banking. This institution has healthy and beneficial implications for economic growth, for: a) The profitable projects of small investors as well as small businesses are not squeezed due to lack of sufficient collateral. It is more likely that they will find an alternative mode of financing in Islamic banking; b) Islamic banking can provide an enlarged supply of risk capital to finance innovative concepts and the adoption of new production techniques. Both the entrepreneur and the small farmer are encouraged to try new techniques. Under this system, they no longer have to worry about repaying borrowed money should these new techniques become financially nonviable; and c) Islamic banks, by participating in business activities, seek to increase the productivity of enterprises and, as a result, enhance the allocative efficiency of banking funds.

These factors tend to increase the pace of technological progress and economic efficiency and have well-known favorable implications in the process of economic growth.

The Bounty of God. Faith in God and His bounties are basic Islamic beliefs. Success in both worlds depends on this factor. According to a prophetic tradition, no one will enter heaven on the basis of his/her actions. Ultimately, the bounty of God will bless a person with entry (al Bukhārī 1987). Similarly, worldly success is intimately linked and caused by this factor, as attested to by the Qur'an and Islamic history.

The role of the bounty of God in affecting material activities and economic growth is seen through both autonomous and induced behaviors. Autonomous reflection occurs through such divine creations as the sun,

the moon, rain, air, oceans, mountains, and soil fertility. For example, water is an inevitable element of organic life. What would happen if God did not allow rain to fall or caused underground water to become almost inaccessible to pumps? These situations would obviously result in drought, crop failure, the death of livestock, and widespread migration, poverty, and death for human beings.

The Qur'an relates many accounts of nations whose prosperity and economic growth came to an end due to God's withdrawal of His bounty. The destruction of prosperous nations like 'Ād, Thāmūd, and Sābā are cases in point. The latter nation had constructed a chain of small dams and one large one to irrigate its agricultural lands and gardens. The resulting rich agricultural produce allowed its people to live a prosperous life. But soon they became arrogant and ungrateful, and so God withdrew His bounty. As a result: "We sent against them the flood, released from the dams, and We converted their two garden (rows) into gardens producing bitter fruit and tamarisks and some few lotetrees" (Qur'an 34:16). Indeed, the affluence of the unbelievers ultimately will work against them: "Let not the unbelievers think that Our respite to them is good for themselves. We grant them respite that they may grow in their iniquity, but they will have a shameful punishment" (Qur'an 3:178).

From the above, it is easy to understand that this factor is a variable that can transform a nation's economic condition. Its autonomous role tends to reward Muslims beyond their physical contribution. It is a sort of bonus or gift from God to His servants: "That Allah may reward them according to the best of their deeds, and add even more for them out of His Grace: For Allah does provide for those whom He will, without measure" (Qur'an 24:38). It follows that the believers' virtuous deeds are not only duly rewarded but can be more than adequately compensated. But the magnitude of the additional compensation is not known beforehand.

The induced role of the bounty of God takes effect through the internal reformation of individuals. God's help guides individuals to the right path and enables them to protect themselves from the traps of the ego and Shayṭān:

And do not covet what Allah has given some of you more than others: the men shall have their due share according to what they have earned. So pray to Allah for His bounty, most surely Allah has perfect knowledge of everything. (Qur'an 3:32)

Believers are urged not to feel jealous when confronted with economic differences, for such gradations are part of the divine plan. Instead of becoming jealous or frustrated, believers should ask God to elevate

them to a higher position. Firm belief in these injunctions brings about understanding, goodwill, pure love, and a union of hearts in the community of believers. These good attributes germinate within the human mind and heart by the will of God: "And (moreover) He hath put affection between their hearts: not if thou hadst spent all that is on the earth, couldst thou have produced that affection, but Allah hath done it: For He is exalted in Might, Wise" (Qur'an 8:63).

The strength of the Companions increased tremendously with the God-given love and affection. Enemies before embracing Islam, they became loving brothers after accepting Islam: "And remember with gratitude Allah's favour on you, for ye were enemies and He joined your hearts in love, so that by His Grace, ye became brethren" (Qur'an 3:110).

For a practical demonstration of this factor, one can cite the forty-year experience of the the early Muslim community, beginning with the Prophet's migration to Madīnah. The driving force of growth during this period was mainly the struggle in the way of God (*jihād fī sabīl Allāh*). This success was, in turn, dependent upon the bounty of God, for He bestowed upon the Muslims the qualities of steadfastness, love of Islam, and love for one another.

The induced role of this factor is also manifested through known channels constituting the set of Islamic values (i.e., God-consciousness [*taqwā*]) and institutions (i.e., mosque and state). The higher the level of the God-consciousness and the proper functioning of the institutions, the higher will be the level of the bounty of God: "If the people of townships had believed and kept from evil, surely We should have opened for them blessings from the sky and from the earth" (Qur'an 7:96). It is therefore important to highlight the connection between God-consciousness and its implications to economic growth.

God-consciousness is another important factor affecting the production process in an Islamic economy. This moral factor, which shows the Muslims' sensitivity to obeying the Shari'ah, is the key to success. God solves many difficulties and relaxes resource constraints by this factor, for following His guidelines makes it possible to produce more with the same input:

And for those who fear, He (ever) prepares a way out. And He provides for him from (sources) he never could imagine. And if anyone puts his trust in Allah, sufficient is (Allah) for him. For Allah will surely accomplish His purpose. Verily for all things has Allah appointed a due proportion. (Qur'an 65:2)

God-consciousness embodies the effects of many values, among them trust (*tawakkul*), patience (*ṣabr*), and thankfulness (*shukr*), all of which are important. Their role is discussed below.

Trust and Patience. These qualities are an important feature in the life of a God-conscious believer and refer to his ex-ante and ex-post states of mind/heart prevailing during worldly engagements. After a believer has thought out a material plan of action, the first thing he/she does is to form positive expectations regarding its success. A prophetic hadith states that "Allah says that I treat my slave according to his expectation" (al Bukhārī 1987). Thus he/she initiates the planned activity with a mind at peace. He/she acquires the knowledge, the necessary skills, and other inputs, and then goes ahead with the enterprise.

Patience shows the quality of steadfastness and is reflected when the results of an individual's enterprising efforts become known or an unusual event takes place. In all cases, reliance is placed on God and such negative tendencies as frustration and depression are avoided. Belief in the fact that everything comes from and returns to God remains firm.

This behavior is very pleasing to God and opens the gates of divine help. The Companions reflected this quality to the optimum level, with the result that God declared that one Muslim would be equivalent to ten non-Muslims. This rule continued to operate throughout the time of the Prophet's four immediate political successors: "Twenty amongst you, patient and preserving, will vanquish two hundred: if a hundred, they will vanquish a thousand of the unbelievers: for these are a people without understanding" (Qur'an 7:65).

From the above, it can be said that trust and patience play a factor-augmentation role in the area of material activities. The economic expansion under the Prophet's first four political successors can, in part, be attributed to the role of these values.

Thankfulness. Thanking God for His blessings is another quality that has a direct bearing on economic growth and expansion: "If you are grateful, I will add more (favor) unto you" (Qur'an 14:7).

Thankfulness can be expressed in several ways. Two of them, charity and the efficient use of resources, are more relevant to growth. It is even stated in the Qur'an that "[We] will give increase for deeds of charity" (2:276) or, in other words, that charitable behavior leads to growth and expansion. Similarly, the efficient use of resources is also an expression of thankful behavior: God has given material resources to the individual as a trust, the terms of which demand efficient use in order to achieve divine goals. Economic growth to strengthen the Muslims is one such goal.

Economic activity is also conditioned by institutional factors. The role of Islamic institutions as catalysts in the economic growth process will now be reviewed briefly.

Institutions

The Mosque. As an institution, the mosque plays a vital role in the shaping of an Islamic sociocultural environment. The Prophet's mosque at Madīnah presents the best example of this role, for it was a place of worship, a seat of government, a center of mass education and communication, and a caring center for the poor. Even after the Prophet's death, the mosque continued its role. This paper is interested in three aspects of this role: moral development, social harmony and cohesion, and mass education and communication.

In the area of moral development, the mosque commands a position of high respect and love, for it signifies the house of God on earth. Islam mandates that all able-bodied Muslims are to say their five daily prayers in the mosque. According to a tradition, there is a great reward for this:

When a person steps out of his house with ablution for the intention of saying prayer, he gets one sin forgiven and his position is raised for each step he takes towards the mosque. He keeps on receiving blessings so long as he is waiting for the prayer; and, the angels keep on praying for his forgiveness, provided he does not harm anyone, and his ablution is not broken. (Muslim n.d.)

Hence, there are strong motivations for frequent visits to the mosque.

Within the mosque, a divine atmosphere prevails, for people are worshipping, reciting the Qur'an, remembering God, as well as learning, teaching, and propagating Islam. All of these tend to change the outlook, taste, and aspirations of Muslims and make them more God-conscious. This consciousness is their real source of strength, as discussed above. Positive qualities like simplicity, honesty, patience, and gratitude are born and nurtured. These qualities attract the mercy and blessings of God: "For the mercy of Allah is always near to those who do good" (Qur'an 7:56).

The mosque also provides an excellent framework for achieving Islamic social cohesion in terms of brotherhood and cooperation. Everybody enters the mosque as a humble servant of God and tries to respect all others. People mix freely and inquire about each other's welfare. This congenial atmosphere produces a feeling of love and cooperation, for the assembly is like a single family: "And the believers, men and women, are protecting friends of one another" (Qur'an 71:9).

Islamic teachings stress mass education and communication, for Islam seeks to root out ignorance. The vast chain of mosques and their attached libraries operates as a center for mass education. 'Umar ordered the Muslims, even the children, to attend a prescribed program of education on Friday. Special *muktab*s for the education of children were also part of this institution (Daira Maarif-i-Islamia 1984). The mosque was also a center for communication, for, on special occasions, Muslims would gather in the local mosques and the leader, or his representative, would consult them on important issues and announce his decision(s). During droughts, epidemics, and other natural disasters, people would go to the mosques to appeal to God for relief.

The State. Islamic teachings envision an organized society that makes organized efforts to realize Islamic ideals. 'Umar emphasized that there could be no organized society without an imam and that there could be no imam without obedience (al Qurtubī n.d.). An Islamic state is necessary, for it uses its influence to strengthen the social and cultural environments to such a degree that the Shari'ah can be applied.

Muslim economists assign many functions to an Islamic state. Among the most important are social justice and the ordering of good and the forbidding of evil. Such assignments are based on the fact that the ideal of social justice emanates from the nature of Islam, which is based on the oneness of Allah and teaches the oneness of humanity: "O mankind, We have created you male and female, and appointed you races and tribes, that you may know one another. Surely, the noblest among you in the sight of God is the most God-fearing of you" (Qur'an 49:13).

The state has to ensure that all individuals are equal before the law and that each has an equal opportunity to develop fully his/her own special gift. Race, color, and status are not allowed to impede this development. The state is therefore required to take legal measures to remove all discrimination and inequality. These goals can be meaningful only if they are accompanied by state measures ensuring that everyone gets his/her due share of the society's output and that there is no exploitation of one individual by another. The Qur'an (26:183) commands that one "withhold not what is justly due to others."

Furthermore, the state must provide a minimum standard of living for each individual. If some cannot meet their basic needs for reasons beyond their control, the state must take care of them. It is also the state's duty to ensure that essential supplies of goods and services are available to the society at all times. This can be done by enabling and encouraging those who can to provide these supplies voluntarily (serve the community for a reasonable profit) or by seeing that those needs are met forcibly if those

who can do not want to provide them voluntarily. In addition, the state has to make sure that they are met in nonexploitative ways. Both the people and the producers must have a fair deal, for one is not allowed to get more than he/she should due to the weakness of the other party.

In the matter of ordering what is good and forbidding what is evil, the state adopts motivational and legal measures, such as prayer, zakah, fasting, and pilgrimage. These positive efforts tend to decrease substantially the incidence of crime: "Those who, if We give them power in the land, establish worship and pay the poor-due and enjoin kindness and forbid inequity" (Qur'an 22:41). Another aspect of this is propagating the faith.

The institutional factor, as discussed above, strengthens the role of moral factors. With a high moral standard and a favorable institutional arrangement, the output of physical factors is affected positively. This may take many forms: the same level of output is produced with less input, more output is realized with the same input, or both input and output may increase. This model specifically considers the last case, which can be termed as the factor-augmentation case.

At this stage, it would be interesting to discuss the heterogenous role of the bounty of God in an Islamic and a secular economy. In this respect, two types of differences are briefly discussed, both of which relate to the nature and the degree of incidence of the bounty of God.

For an Islamic economy, the bounty of God is granted as a divine gift to facilitate worldly life and draw Muslims closer to God through thankfulness. This bounty, therefore, signifies the pleasure of God as regards the believers. On the other hand, His blessings to secular societies does not reflect His pleasure, for they are given as a part of His divine plan. One obvious reason is that they are given more of these things so that they may further advance in their iniquitous way of life. Moreover, they attribute the blessings of God to the result of their own human efforts. As a result of this error, they sink further into disbelief: "Let not the unbelievers think that Our respite to them is good for themselves. We grant them respite that they may grow in their iniquity, but they will have shameful punishment" (Qur'an 178:3). In the final analysis, the abundance of God's bounties brings the unbelievers misery and destruction.

Another significant difference is the regularity of the bounty of God. This factor has a known and systematic relationship with the economic life of believers, as explained above. As long as they act upon Islamic values and the institutions function properly, divine bounties will be provided regularly. The incidence of divine bounties as regards nonbelievers is erratic, for they increase or decrease in an unknown way.

The Model

The discussion of this section can be summarized as follows:

$$Y_t = Y (P_t, K_t, L_t, F_t) \quad (1)$$

where:

Y_t = Output rate at time t

P_t = Amount of physical assets, including land and machinery employed, at time t

K_t = Amount of monetary capital at time t

L_t = Amount of labor at time t

F_t = Level of the bounty of God at time t (this represents the effect of moral factors in the model)

Equation (1) illustrates that the economy's output rate at time t depends on the amount of physical and moral factors present. The conversion rate of input into output depends on the general mapping rule, Y . The crucial element here is the inclusion of the bounty of God with physical factors that influence the rate of physical output. The mechanism through which this factor operates is as follows:

$$L_t = L (F_t) \quad (2)$$

$$F_t = F (T_t) \quad (3)$$

$$T_t = T (I_t) \quad (4)$$

where:

T_t = Level of *taqwā* at time t

I_t = Institutional set-up at time t

There is some problem of quantification with respect to the variables of the bounty of God, God-consciousness, and the institutional set-up. However, this can be overcome by measuring these variables in terms of ordinal units, which is all that is required at this stage. Our main problem is to highlight the vital role of moral factors affecting physical output.

Totally differentiating (1) with respect to t and recognizing the relationships at (2) through (4), we obtain:

$$\frac{dy}{dt} = Y_p \frac{dp}{dt} + Y_k \frac{dk}{dt} + Y_L \frac{dL}{dt} + Y_F \frac{dF}{dt} + Y_L \left(\frac{dL}{dF} \frac{dF}{dT} \frac{dT}{dI} \frac{dI}{dt} \right) \quad (5)$$

Rewriting (5), we obtain:

$$Y = Y_p P + Y_k K + Y_L L + Y_F F + Y_L L' \quad (5)'$$

where:

$$L' = \left(\frac{dL}{dF} \frac{dF}{dT} \frac{dT}{dI} \frac{dI}{dL} \right)$$

L' = Derivative of the augmented supply of labor with respect to time, which captures the induced role of the bounty of God. This bounty enhances moral standards and makes labor more efficient.

In equation (5), Y_p , Y_k , Y_L , Y_F , and Y_L stand for the marginal physical products of physical assets, capital, labor, and the bounty of God as well as for the induced marginal product of augmented labor, respectively, at a given point in time. The first three terms, which are quite well-known to economists, represent an increment in output rate due to the increased use of a given input with the amount of all other inputs remaining fixed. The fourth and fifth terms measure the role of moral and institutional factors in affecting the rate of physical output. The marginal product of the bounty of God (Y_F [*faql Allāh*]) is defined as the difference between the total product of two equal bundles of physical inputs using similar technology but having different sociocultural and institutional environments.

The difference in these factors can be understood by visualizing the social-institutional environment of Madīnah after the Prophet's migration. An induced marginal product of labor (Y_L) can be defined analogously, as it shows the marginal physical output of the augmented labor and implies a labor force of a given size that works with similar technology and skills and uses the same amount of physical input. The only difference is that this labor force is equipped with an improved moral standard.

The last two terms capture the direct and indirect effects of the bounty of God on the rate of output growth. In general, F and L can be positive, zero, or negative and affect the rate of economic growth accordingly. The case of the Islamic economy is quite well-known. The period under investigation is marked with a high bounty-of-God level. It is therefore plausible to assume that F and L are positive. This implies that this variable has a positive effect on the rate of output growth during this period which, in turn, supports the hypothesis analytically.

The total contribution of the bounty of God is the sum of its direct and indirect contributions. This can be found by rearranging equation (5) as done in equation (6):

$$Y_F \dot{F} + Y_L \dot{L} = Y - Y_P \dot{P} - Y_K \dot{K} - Y_L \dot{L} \quad (6)$$

As argued earlier Y_P , Y_K , and Y_L are positive. Similarly P , K , and L are positive. Therefore the left-hand side is positive. If we have data on these terms, then the contribution of the bounty of God, in terms of physical output growth, can be computed precisely. This task is not an impossible one. Future researchers will be able to define some indexes for such intangible factors as the bounty of God.

Conclusion

This paper has attempted to explain the process of economic growth as a result of an Islamic economy's physical and moral factors. It assigns an important role to the moral factor operating through an Islamic socio-cultural and institutional set-up to determine the rate of economic growth. It discovers that the moral factor makes an important contribution in the form of factor augmentation. The total contribution of moral factors is measured by that part of economic growth that cannot be attributed to the growth of physical inputs.

The findings of this paper generate two important implications. The first one is that the growth prospects of contemporary Muslim countries are not limited by the amount of physical factors at their disposal. Recognition and exploitation of the moral factor extends those prospects. Growth strategies in these countries should reflect this fact by giving an important role to the moral factor. In particular, the general attitude towards mosques should be changed. This institution should be reactivated for the society's moral development, social integration, and mass education. Similarly, governments should make a serious effort to implement the "ordering of good and the forbidding of evil," thereby promoting socioeconomic justice.

The second implication relates to the well-known puzzle of secular economics. Secular growth theories have not been able to account for output growth in terms of physical input growth. With the help of this suggested model, it can be said that the unexplained part of growth can be attributed to the bounties of God as a test.

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