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ISLAMIZATION OF KNOWLEDGE (13)

Resource Mobilization and Investment in an Islamic Economic Framework

Edited by
Zaidi Sattar

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ
الْحَمْدُ لِلَّهِ رَبِّ الْعَالَمِينَ
وَالصَّلَاةُ وَالسَّلَامُ عَلَى خَاتَمِ الْأَنْبِيَاءِ وَالرُّسُلِ

*In the Name of Allah,
the Compassionate, the Merciful,
Praise be to Allah, Lord of the Universe,
and Peace and Prayers be upon
His Final Prophet and Messenger.*

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

أَقْرَأْ بِاسْمِ رَبِّكَ الَّذِي خَلَقَ ﴿١﴾ خَلَقَ الْإِنْسَانَ مِنْ عَلَقٍ ﴿٢﴾
 اقْرَأْ وَرَبُّكَ الْأَكْرَمُ ﴿٣﴾ الَّذِي عَلَّمَ بِالْقَلَمِ ﴿٤﴾ عَلَّمَ الْإِنْسَانَ
 مَا لَمْ يَعْلَمْ ﴿٥﴾

(العلق: ١ - ٥)

Read in the name of your Sustainer, Who has Created man out of a germ cell. Read – for your Sustainer is the Most bountiful One. Who has taught (man) the use of the pen. Taught Man what he did not know.
 (Qur'an 96:1-5)

وَاللَّهُ أَخْرَجَكُمْ مِنْ بُطُونِ أُمَّهَاتِكُمْ لَا تَعْلَمُونَ شَيْئًا
 وَجَعَلَ لَكُمُ السَّمْعَ وَالْأَبْصَارَ وَالْأَفْئِدَةَ
 لَعَلَّكُمْ تَشْكُرُونَ ﴿٧٨﴾

(النحل: ٧٨)

And Allah has brought you forth from your mother's womb knowing nothing – but He has endowed you with hearing, and sight, and minds, so that you might have cause to be grateful.
 (Qur'an 16:78)

Resource Mobilization and Investment in an Islamic Economic Framework

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and
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**Edited by
Zaidi Sattar**

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ISLAMIZATION OF KNOWLEDGE (13)

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CONTENTS

word	
<i>Tāhā Jābir al Alwānī</i>	1
Preface	
<i>Zaidi Sattar</i>	5
The Islamic Economic Framework: A Conceptualization	
<i>Mahmood Abu-Saud</i>	9
Christian Perspective on Economic Thought	
<i>Alberto M. Piedra</i>	17
A Theory of Moral Entitlement in Resource Allocation	
<i>Masudul Alam Choudhury</i>	45
Investment Demand Function in a Profit-Loss Sharing System	
<i>Mohammad Fahim Khan</i>	71
Equity Capital, Profitability and Investment:	
An Islamic Perspective	
<i>Abdel-Hameed Bashir, Ali F. Darrat and M. Osman Suliman</i>	87
A Dynamic Investment Model with Profit-Sharing in	
an Interest-Free Economy: Methodological Issues	
<i>Zaidi Sattar</i>	107
Zakah Contributions and Resource Allocation—	
An Optimal Control Approach	
<i>Jamal Abu-Rashed and Belarabi Abdelhafid</i>	129
Resource Mobilization and Investment in an Islamic Framework	
<i>AbulHasan M. Sadeq</i>	141
Financing the Public Sector in an Islamic Perspective	
<i>Monzer Kahf</i>	155
Security Pricing, Capital Budgeting, Time-State, Preference	
Model, and Interest-Free Economy	
<i>Abdul Aziz Saeed Mortazavi</i>	175 ✓
Interest Rates and Usury in South Asia: A Cross-Cultural	
and Historical Perspective	
<i>Akbar Ali Khan</i>	191

Foreword

The contemporary understanding of economic resources has almost entirely to do with those elements that are capable of meeting, either directly or indirectly, the needs of mankind. These elements, or resources, both human and natural, are the things that every state attempts, as a fundamental principle of progress and prosperity, to preserve, mobilize, and invest.

In the Islamic world, in particular, this is an issue that occupies a very basic position in all development strategy and planning; particularly as, in most cases, the Islamic world continues to suffer from backwardness, and from the adverse effects of the colonialization that was itself one of the major reasons for underdevelopment in the spheres of politics, economics, and culture.

Contemporary scholars of development economics are concerned with the human element in the order of economic resources, as this is the element that moves, organizes, and invests all manner of natural resources. Therefore, when these scholars direct the attention of planners and decision makers to the important role of planning in education, health and national security, they give precedence over all others to human resources, owing to the mental and physical effort this resource is capable of expending. Indeed, to concentrate on the human element is an absolute priority stemming from the established fact that development projects are not culturally neutral, but differ from one society to another. The danger of this point is best illustrated when the planners of one society assume that the values and beliefs of their own society are naturally the best and should be adopted by all other societies.

These are matters which by now have been accepted and recognized as fact. The question, however, that we have to answer is; what does contemporary Islamic thought have to offer to humanity in this regard?

I should like to share with you, in a few short words, my own conception of the elements in the issue at hand.

Allah created man in this existence for the purpose of worshipping Him. He said: **I have not created man and Jinn save for the purpose of worshipping Me (51:56)**. And the meaning of worship is in no way limited to a few specified acts of devotion. Rather, worship consists of every good deed by means of which man intends to settle the earth, in acknowledgement of the verse: **It is He who has produced you from the earth and settled you therein (11:61)**.

Here, worship should be viewed as an incentive to development, and as a fundamental element on the road to the kind of constructive originality that leads to meaningful discovery and employs the tools of human knowledge in accordance with the teachings of revelation and the natural laws of the universe.

I recall, here, something said by Ibn Sina in his work entitled *al Ishārāt*, “When man finds that he is unable to function independently of others, but that he must participate in conjunction with another of his kind, either in cooperation or competition, then each one of them will pass on to the other responsibilities which, if taken up by an individual, would prove difficult, if not impossible to meet. When this happens, it is essential that there be transactions, and these be governed by a law, and that the law be legislated by a lawmaker distinguished by His deserving to be worshipped. Likewise, it then becomes essential that there be retribution for the doer of good and the doer of evil alike, and that this be meted out by one all-knowing and all-powerful. Under such circumstances, it is essential that the lawmaker and the one responsible for retribution be known, and that there be, along with that knowledge, a means of protecting that knowledge. Thus, mankind was charged with worship as a means of remembering the One Who is Worshipped; and this worship was to be repeated continually in order that remembrance be maintained through repetition.”

We may deduce from the above that worship is actually one among several preconditions for development, as development is really an organized expression of man's need for his brother's participation and exchange, through either cooperation or competition.

Another remark comes to mind, though this was made by a contemporary writer and thinker, the former Director General of UNESCO, Rene Maheu. He said, “Development is when knowledge becomes culture.”

Personally, I see no difference between the two. This is for the reason that in order for knowledge to become culture it must burst forth with invention and originality and knowledge attained through worship. It is natural that development, at every stage, at the stage of knowledge, of worship, of culture, be connected at the level of its foundations with the human element, that it proceed in its service, that it answer its needs, and that it make use of various natural and material resources in the process.

Indeed, man is not simply a resource from among many resources; or the resource known as “human” resource. On the contrary, man is the master of these resources, and they were made subservient to him. Intellect was given to man in order that he might ponder over these resources, explain their externals, and discover the laws which govern them. Allah said: **Say; Go forth in**

the earth, and look . . . (3:137, 6:11, 16:36, 27:69, 29:20, 30:42). Thus, man is both intellect ready for thought, and hands ready for action.

The kind of looking mentioned here is intended to achieve three major objectives: (1) to teach the lessons of history, (2) to apprise man of all aspects of the present situation and its issues, (3) to afford a glimpse of the future on the basis of which an ambitious program for taking advantage of its opportunities for the betterment of the human condition may be planned, and a list of priorities may be drawn up. Thus, the more the Ummah concerns itself with its ability to reason, and the more it regards the output of that ability, its thought, its knowledge and its technology, the more capable it will become of putting its resources to use in the best possible manner.

From here it is possible to see what great importance attaches to the development of the mind, and to the guiding of thought, and to the reform of methodology as essential tools to any sort of development planning for any society or nation. Indeed, the Ummah of Islam is in greater need of intellectual development that aims at changing people so that they become more resourceful, more capable, more responsive in their role as settlers of the earth, and more attuned to their responsibility to carry the message of Islam to those who share with them residence on this planet.

The sun of Islam set for the last time on a great portion of the map of the world when the methodology of Muslims became deficient, when superstition replaced reason, when *ijtihad* came to a standstill, and when the Ummah came under the debilitating influence of colonialism.

Indeed, all of this took place without depleting the resources of the Ummah in the least. On the contrary, there was an increase in the acreage of arable land, and in the number of valuable human and mineral resources to be exploited. Moreover, there is a historical proof as well that the real source of the Ummah's crisis is the human being; the human being whose essence is the soul that was breathed into it, and the intellect by which it is distinguished from all other creatures.

Tāhā Jābir al 'Alwānī
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Preface

This book brings together a formidable collection of conceptual and empirical work on Islamic economics—a socioscientific enquiry that is very much alive and moving. It forms the outlet for painstaking research by a group of economists committed to the advancement of Islamic economics as a field of intellectual inquiry under the broad schema of Islamic thought. This endeavor is expected to take us a step further in our quest for answers and solutions to the many conflicts and questions currently faced by policymakers in the Islamic world. It constitutes the economists' contribution to the formalization of the principles and practices in the economic management of national resources within the broad framework of contemporary Islamic thought.

The forum for deliberations was the third seminar on Islamic economics organized at the campus of The Catholic University of America, Washington, D.C., December 22-23, 1990. Clearly, the past two decades have witnessed a tremendous upsurge of interest and research productivity in Islamic economics resulting, at the very least, in the conceptual formulation of the principles and parameters of the subject while directing the focus of future research into priority areas. Investigations into various aspects of interest-free economic systems in general and interest-free banking in particular have been in the forefront of the research agenda, as governments trying to establish workable Islamic economies grappled with the challenges of transition from interest-based to interest-free banking systems. The broad parameters of the Islamic financial system having been recognized, the logical next step was to concentrate on questions of the mobilization of resources and channeling them into productive investments within the defined framework. To just such a task, the body of literature presented in this volume is addressed.

It is arguable that Islamic economics has grown out of a need to counter the unbridled sway of classical-liberal Western thought on economic decisions in the Islamic world. The notion of “mono-economics”—one economics applicable to the value and beliefs of all societies—is now defunct. The volume, therefore, begins with a succinct yet masterly presentation by Dr. Abu-Saud of the Islamic economic framework, wherein he outlines the fundamental doctrinal edicts emanating from the Holy Qur'an and providing the basic guidelines

governing economic relationships such as property ownership, work and reward, profit and loss from enterprise, and risk and uncertainty. Subsequently, Dr. Piedra's discourse on the Christian perspectives on economic thought highlights the remarkable similarities between Christianity and Islam on economic issues such as property rights, the dignity of labor, the critical importance of a just and ethical economic order and, above all, the supremacy of natural and divine law. To suggest that man acts "exclusively as *homo economicus*" would be an oversimplification, he argues, quite in line with the Islamic notion of the complete development of the human person—spiritual, moral, and economic—as the goal of society.

In his paper, Masudul Alam Choudhury makes a daring attempt to develop an Islamic concept of entitlement in resource allocation derived from the ethico-moral foundations of the Holy Qur'an. The highlight of his proposal is the principle of ethical endogeneity that leads to the fusion of moral entitlement with distributive equity under the umbrella of *Tawhīd*. This concept of entitlement then forms the epistemological basis for the interrelationships in an ethico-economic general equilibrium system which he formulates.

The next four papers reflect contributions in methodology and an empirical exercise in addressing questions about the efficacy of the Islamic financial system. Fahim Khan makes a rigorous case for concluding the profit-loss sharing ratio as an argument in the investment demand function of an Islamic economy. Khan offers an alternative formulation that appears more realistic in light of the recent experience of Islamic banks in attracting deposits and allocating funds into investment projects. His finding: the market demand for investible funds will be negatively related to the profit-sharing ratio whose value, rather than being predetermined and fixed, may vary from zero to unity depending on the market demand conditions for investment and supply conditions for investible funds.

The Bashir-Darrat-Suliman piece on equity capital and profitability of investment is at the cutting edge of current research and makes a significant contribution to the search for empirical evidence confirming the efficacy of the Islamic financial system. Their study of the Kuwait Finance House is a refreshing analogue to the robustness of the theoretical model so ingeniously crafted by the authors.

The act of investment involves intertemporal choices in a dynamic setting. This point is articulated in Sattar's paper through the formulation of a

dynamic model of investment under a PLS-based financial system. This work reflects progress in methodological sophistication while shedding new light on the efficacy of fiscal and monetary policies in an interest-free setting. In a somewhat similar vein, Abu-Rashed and Abdelhafid use dynamic analysis and optimal growth modelling in an Islamic economy where *zakāh* contributions of individuals are mandatory. They arrive at the interesting result that institutionalizing *zakāh* reflects an efficient allocation over the long run, as the economy's optimal growth path, with *zakāh*, corresponds to the neoclassical 'golden' rule of capital accumulation. Finally, AbulHasan Sadeq makes the argument that Islam provides a framework favorable for realizing the maximum potential out of given investible resources. The PLS system ensures this by permitting the continuation of investment until the marginal product declines to zero. Moreover, Sadeq maintains that resource allocation in an Islamic framework satisfies both efficiency conditions and social desirability, unlike the interest-driven system.

At a time when the public sector is receiving close scrutiny worldwide, Monzer Kahf, drawing on his long experience in dealing with public policy issues, offers a blueprint for the state's role in taxing and spending in an Islamic economy. His main thesis: though the Shari'ah assigns substantial resources to the state (by apportioning to the state a share of private income and wealth) for financing administrative and developmental objectives nevertheless, the size of the public sector is envisaged to be moderate vis-à-vis society.

In their paper, Messers Aziz and Mortazavi address questions of raising and allocating capital in an Islamic economic framework. Issues examined are the scope of various debt/equity instruments as acceptable security for raising capital in an Islamic framework. Their main finding: common stock was definitely an acceptable security under Islamic jurisprudence, since the returns on such stock (dividends or capital gains) are not risk-free.

The concluding paper by Khan surveys the practice of usury in South Asia from a cross-cultural and historical perspective. He observes that throughout history, money-lending was condoned by non-Muslim as well as Muslim rulers and widely accepted in society. Nevertheless, he argues counter-intuitively, given that money-lending practices were firmly rooted in rural South Asia, it may have contributed to the low-level equilibrium trap for their economies, as monetary surplus got diverted into money-lending rather than productive investments.

Finally, it is fitting to acknowledge our debt of gratitude to many individuals and institutions. This volume would not have seen the light of day without a generous grant from the Islamic Development Bank. Dr. Fahim Khan, Acting Head, IRTI Research Division of the IDB deserves credit for making that happen. Dr. Syeed of IIIT/AMSS has been a constant source of inspiration, beginning from arrangements for last December's seminar right to the publication of this book. Despite his preoccupations, Dr. Uppal gave time generously to review a couple of papers; so did Dr. Ehsan Ahmed and Dr. Syed I. Mahdi. In the final days, Jay Willoughby, Managing Editor of AJISS, showed remarkable fortitude in utilizing his weekends so that this book could get to press on time. Last but not least, the International Institute of Islamic Thought and Association of Muslim Social Scientists deserve commendation for their role in removing the thorns and stones to pave the way for a smooth growth path for Islamic economics into the last decade of the twentieth century.

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November 1991

The Islamic Economic Framework: A Conceptualization

by
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Human beings have, broadly speaking, four aspects of life: the aesthetic, the social, the political, and the economic. These aspects derive their basic principles and main traits from the ideology that prevails in any human society. The clearer the ideology is to the members of the society, the stronger their belief in it is, and the more committed they become to it, sacrificing all to achieve its objectives. Without this clarity of and dedication to the belief, no significant progress can take place, and no genuine civilization can be founded.

The contemporary West has adopted "Liberalism" as its ideology, and its belief and commitment to this ideology remains strong. From liberalism, those people living in the west have derived their social system (permissiveness), their political system (democracy), and their economic system (capitalism). Their aesthetics are founded on the assumption that man—not God—is the ultimate, the center of existence, and the master of everything. Religion to them is "a superstitious structure of incoherent metaphysical notions," (*Encyclopedia Americana*, 1069), and accordingly, Western aesthetics are subjective logistics and individual dispositions, whether inherited or acquired. In short, liberalism can be expressed as the doctrine that heralds individualism, utilitarianism, and materialism.

What then is the Islamic ideology? Contemporary Muslim thinkers encounter two major problems when they grapple with such an issue. There are as many definitions of Islam as the number of those who try to define it. Of course all Muslims agree that Islam means observing the five pillars, that is comprises a temporal code of life in addition to the spiritual and eschatological belief, that it encompasses the wisdom of all previous religions, that it is meant to suit all people in all environments and at all times and so on. These generalities are the reason behind our intellectual perdition and evasiveness.

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The second major problem challenging the intellectuals is closely related to the first. Having lost our civilization about six centuries ago, we find ourselves constrained to resort to Western civilization to fill the intellectual gap. Accordingly, we have either advertently or inadvertently adopted many Western concepts, along with the related Western methodology, which we use to treat any subject from an Islamic scientific point of view. The result is a strange intellectual hybrid in which the main subject body, the methodology of research, the logistics of argumentation, and the paradigm construction are Western in essence. Most thinkers and researchers add to this end product some Qur'anic verses and aḥādīth and/or compare such work with some historical Islamic models, trying in some cases to start from some general Islamic principles and delve therefore to the Western paradigm.

In my humble view, Muslim economists should start agreeing on what constitutes an Islamic framework in specific economic terms. Then the question of mobilizing resources and investments will have a particular meaning different from its Western counterpart, dominated as it is by materialism, individualism, and utilitarianism.

I shall try in this paper to define the Islamic economic framework, deriving it from the Islamic *shir'ah* (ideology) underlining the purpose of human life as revealed in Qur'an. Once this is clarified, one would see that the task of mobilizing human and natural resources does not seem to be as difficult or as important as it is in a capitalist system.

Our *shir'ah* (ideology) tells us that:

1. Allah is the Transcendent, the only Creator of all that exists in the cosmos:
 - a. He is the Lord, the Owner of all things and beings, animate and inanimate. Man, His vicegerent, owns everything by proxy.
 - b. He is the Supreme King of His kingdom and He rules over all beings. His Word, or His Will, is an inviolable law. Any breach to this law leads to causing harm. Man rules by proxy.
 - c. He is the All-knowing and the Source of all cognition and facts. All knowledge belong to Him, while man's knowledge issues from His infinite knowledge.
2. Believers must live in an organized social group, i.e., the ummah. They are required to observe the laws of existence revealed by God to His prophets and to study the signs of Allah using their mental faculties to find the relative laws and the established relationships between the variables.

3. Individual believers have mutual responsibilities: They are responsible to God, to their fellowmen, to their governments, and to themselves for the implementation of the Shari'ah laws discovered by humanity. This responsibility is the basis of any rights that the individual and/or community might enjoy.

The purpose of life for the members of this ummah as revealed in the Qur'an may be stated as follows:

1. To undertake the responsibility of vicegerency. This places on the individual the duty of maintaining all of the bounties of God and keeping them in good condition. Disruption to the ecology, waste and extravagance, inflicting harm on self or on others, and neglecting human and natural resources — all such activities are forbidden. Humanity, according to Islam, is created to safeguard the kingdom of Allah and not to abuse it. (Qur'an 2:30; 6:165; 35:39; 27:62).
2. To worship God, i.e., to act according to the laws of existence, whether revealed or discovered by humanity through its experience in life. Worship is different from the prescribed rituals. It is an individual's positive action in accordance with God's laws and the laws of the ummah so as to attain felicity in this world and in the hereafter. Rituals are exercises to help Muslims achieve the best performance of worship ('ibādāt). To worship God is to obey His orders and follow his guidance in our actions and our transactional behavior. (Qur'an 51:56; 15:99; 20:14; 53:62; 29:56) [Muslims should note that the above-mentioned second and third verses, God differentiated between prayers and worship. In the other verses, worship is related to action and good deeds.]
3. To cause growth on earth, since the laws of existence determine that nothing is static; things either grow or diminish. Animate objects grow and multiply, while inanimate objects do not. The ummah is a dynamic biological being and unless it grows, it must regress in decay. It is imperative that Muslims should "do good," produce more, add to the utilities in the community, develop and cause growth or more satisfaction. More than one hundred verses register this basic function of the Muslim (Qur'an 11:61; 6:32; 16:97; 10:9; 18:30; 3:104; 9:67; 31:1).

If we agree on these basic doctrinal edicts, what are the cardinal delineating

economic features of an Islamic economic system? I have discerned the following major principles:

1. Ownership

The right of private ownership is qualified by the principle of vicegerency. This is the most important element that characterizes an Islamic economic system. It implies that the individual can own whatever he/she wants to, provided that what he/she owns is used for the purpose for which they were created, that their use does not hurt anybody (including the owner), and that its use causes growth.

Ownership in the Islamic concept is not the right to use and abuse the possessed objects as capitalists claim, but is the obligation to look after the bounty of God entrusted to His servants who are commanded to make the best use of it and to use it for the good of themselves and others. Every person is entitled to legitimately own whatever wealth he/she wants. However, the owner of agricultural land cannot leave the land fallow, and an industrial factory cannot unjustifiably be shut down. Also, a landlord cannot arbitrarily keep his/her building vacant, and a merchant cannot whimsically close his/her shop or office. If they do, they would be violating the divine covenant of vicegerency, and the government of the ummah would be obliged to interfere, giving the neglected bounties to others to operate them. However, the government in this case has no right to expropriate or even nationalize the property.

2. Work and Reward

In many verses, God commands Muslims to work. He also stipulates that there is a reward for every type of work (Qur'an 9:105; 30:45, 99:7,8). Inversely, there is no reward for those who do not work or run a risk. As a matter of fact, all "unearned incomes" or all incomes not acquired through transactions where there is a fair exchange of values are categorically prohibited. There are three exceptions to this rule: *zakāh* paid to a deserving person, inheritance, and the *bona fide* gift.

Every Muslim must work unless he/she is incapacitated, and the state must see to it that each Muslim finds work. If the person abstains from working, such a person forfeits his/her right to *zakāh* and all social security benefits.

3. Gain Goes With Loss

No agreement in which a party is guaranteed a profit in an enterprise and guaranteed against loss is Islamically valid. The Prophet says: "The yield

[of an enterprise] is against the [negative] loss.” This means that if it is stipulated that one party in a transaction involving probable gain or loss is exempt from any potential loss, the agreement is invalid.

Lending money to any sort of business or subscribing subordinate capital against a fixed yield is prohibited. Even if the yield is conditionally positive, though variable, the contract is Islamically null and void.

This principle lies behind many patterns of traditional dealings such as *muḍarabah*, *murābahah*, and *mushārahah*. The essence is to deal in fairness without wronging others or being wronged. (Qur’an 2:279) It also explains the *raison d’être* of prohibiting usury of deferment (*nasa’*). In short, whenever there is a transaction comprising two or more partners, all participants must share both gain and loss in the same proportion.

4. No Harm

The mutual responsibility of all members of the ummah implies the imposition of some sort of material cooperation which takes many forms. However, these forms must not harm the individual or others. Islam forbids harming one’s own self, since the individual is an integral member of the same society, an organ of the same biological body. The person that suffers harm is the liability of others, and thus they have the right to stop anyone who is harming himself or herself. One of the basic rules of the science of *uṣūl* (principles of jurisprudence) is the hadith “No harm to self or to others.”

Nothing in the Shari’ah is allowed if it causes more harm than good. In dealings, this principle is taken as the basis of many other rules that determine the legitimacy and the validity of economic transactions.

5. Depreciation

God alone is the Ever-lasting, the Transcendent, the Infinite, and the Absolute. All other beings are subject to decay, annihilation and depreciation (Qur’an). However, it is the law of existence that teaches us that we have to make up for this natural loss by causing growth in whatever bounties God has entrusted to us. Unless we exchange our produced goods, invest our wealth, and keep our money continuously in circulation to achieve the optimum exchange, we will lose some of its value as all wealth and money withheld must be subjugated to the law of depreciation. This is the philosophy of *zakāh* and the axis around which the whole Islamic system revolves.

It may be of interest to mention that Islamically speaking, money cannot be considered a full-fledged commodity. It is at the best a quasi-commodity,

as it represents the value of the total commodities and services in the market. Money, by definition, is the means of exchange of goods, the standard of value, and the means of deferred payment. The measurement of anything cannot be equated to the measured article. Accordingly, money should not command any price when procured against our real sold or purchased goods. Money has been created to remain permanently in circulation in order to perform its primary function of effecting the exchange of goods. Withholding money, according to Imān Abū Ḥamīd Al Ghazālī, is similar to imprisoning the judge and preventing him from attending the court. God in His Wisdom ordained that whoever withholds money is committing a sin and should purify his money and himself by paying a penalty, i.e., *zakāh*. God also ordained that if money is exchanged against money, there should be no surplus value to either party, i.e., the exchanged values must be equal. Any excess is condemned as *ribā* or prohibited usury.

If this is the framework, what about the mobilization of resources and investment? In order to discuss this problem, one should have a good idea about how the economy of an Islamic state—or any other state for this purpose—applying the above principles would work.

The first and foremost rule to be enforced should concern the prohibition of withholding the means of exchange, i.e., money. In any human society there are the producers, consumers, and unemployed (the latter being consumers but non-income earners). By forcing people to utilize money in the way it was meant to be used, i.e., as the means of exchange and the measure of value, we are helping producers sell their goods and consumers gain more satisfaction and utilities. Since every producer is a consumer at the same time, everybody in the active economic field would benefit from this incessant activity.

But how do we force people to “spend” their money? And would not such an act violate the basic human right of freedom of people? The answer is simple. If we subject money to the law of depreciation, there would be no violation or even limitation of human freedom. In modern history, more than one society has applied this law by requiring the holder of every paper currency note to stick a stamp representing a percentage of its face value at its back on the first day of every month. By this simple method, all issued money was automatically kept (or mobilized) in the market, and all genuine dealings were promptly financed without usurious credit or interest.

Since nobody likes to pay—say, one percent of the face value of the notes still on his hand per month—for the stamps, everybody would rush to buy something before the end of every month. Buying is a demand for goods,

and demand addresses supply. The continuity of demand reflects on the continuity of production to replenish the supply. In every concluded transaction there is a gain—a surplus value that leads to the formation of new productive capital. Savings will have to be surrendered to the controlled banks who would lend them to producers seeking to increase their layouts and/or their production. In the course of such development, producers would have to find the human and natural resources necessary for such expansion.

Under such circumstances, those who do not want to spend all of their income (the savers) would be delighted to “participate” in the purchase of the new layout and other expanding projects. Failing this participation, their “saved” money would yield then nothing, while the government would still collect the monthly one percent stamp value. The risks of investment in such a pattern would be minimum, if only because demand would precede supply and any resulting shortage would command higher prices and higher margins of profits. “Savers” would safely invest in enterprises producing goods yielding above-average rates of profit.

There is no contradiction or conflict between the principle of profit maximization and the Islamic framework pattern. I feel that it is an instinct in humans to maximize their profits. The more one gains in an Islamic economy, the more *zakāh* and other taxes one pays, and the more social welfare is realized.

The problem of mobilizing resources arise from the separation of savings from investment. This, in turn, is a result of allowing those with money to either withhold it or to spend it. Under capitalism, withholding money is tantamount to saving—a process that yields interest to the saver almost without work or risk. But if nobody withheld money (otherwise money is penalized by the stamp tax), there would be no reason to think of the problem since it would be available in cash to whoever is willing to invest without paying the interest, which is a charge of profit, or at least, an increase of cost.

Inasmuch as natural resources are concerned, all that is needed is a rationalized plan to administer the utilization of such resources if the need arises. In an Islamic economy, though free competition and free enterprise are scrupulously observed, any action that may cause harm would not be allowed. The general rule is to let the private sector utilize the available natural resources to the best interest of entrepreneurs, but always within the limits of the above-mentioned general conditions and terms.

When financial capital becomes available without cost to entrepreneurs, investment will automatically be directed towards the most profitable projects. Experience has shown that when no money was withheld, interest rates became

negative and investment went into full swing. In fact, its expansion was only restricted by the shortage of labor which commanded gradually increasing wages without causing any inflationary pact or raising the consumer price index. However, the profit margins of the entrepreneurs tended to decrease over time owing to free competition and to the free availability of capital. Accordingly, the issue of investment can never be a source of anxiety in an Islamic economy as long as all money is spent and circulated in the market. In other words, as long as money is already automatically “mobilized,” investment and natural resources will only be factors in the general system and subject to the efficiency of the human factor.

These are, in brief, reflections on the subject, and it is hoped that Muslim economists will find them of some interest and that they would seriously consider establishing the Islamic framework before discussing any subsidiary issue or microeconomic subjects.

Christian Perspectives on Economic Thought

by
Alberto M. Piedra*

Introduction

In this latter part of the twentieth century when the world is facing a rising tide of violence, and hatred continues to rear its ugly face in so many different ways, it is refreshing and at the same time reassuring to witness the efforts being made to overcome past misunderstandings and the lack of charity among the three monotheistic prophetic religions: Judaism, Christianity, and Islam. The International Institute of Islamic Thought and the Association of Muslim Social Scientists must be commended for their continued attempts to bring together members of the Jewish, Christian, and Muslim academic communities. This conference is another example of the efforts being made to give satisfactory responses to the many problems that trouble modern man in his quest for a better world. A special word of thanks to our good friend Dr. Sayyid Syeed who kindly invited me to be one of the participants in this conference.

This brief study will concentrate on some general aspects of the socio-economic teachings of the Catholic Church and, in a special way, on the concept of development and the role of ethics in economics as seen through the papal encyclicals and other official documents of the Catholic Church, in particular, the Pastoral Constitution of the Church in the Modern World, *Gaudium et Spes*, one of the sixteen official texts promulgated by the Ecumenical Council, 1963-1965, (Vatican II). Particular emphasis will be placed on the following three major issues which through the centuries have been the subject of interest for Christian theologians and scholars: a) private property; b) usury; and c) work. It will be shown how in all of these matters the pontifical documents are geared toward the integral development of the human person and how religious values cannot be separated from this objective. In the last instance, all of these socioeconomic teachings of the Catholic Church are an application of the Word of God to people's lives as well as to the life of society. They offer principles

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for reflection, criteria of judgment, and directives for action.¹ In many respects, as will be shown later, some of these general principles do not differ substantially from some of those held by Islam. In fact, many of them are shared by Jews and Muslims who are also “vitally committed to giving absolute priority of respect, submission, and love to the one God who accompanies us with His providence and who, at the end of time, will judge us according to the law of right and wrong which He has written in our hearts.”²

Overview of the Socioeconomic Teachings of the Catholic Church

The socioeconomic teachings of the Catholic Church do not constitute a specific socioeconomic theory. Neither does the Catholic Church endorse any particular type of political, economic, or social system. The doctrine of the Catholic Church in these temporal matters is simply “an integral part of the Christian doctrine of man.”³ It provides a basis for a Catholic approach to socioeconomic issues, and its applicability is not limited to the Christian community but to all persons of good will who have a sincere desire to improve any given social or economic system. Its objective is not only to improve ethical behavior but also to establish a set of basic principles that, in the future, can provide the proper foundation for a concrete socioeconomic system.

The Catholic Church has always taken an interest in the economic and social problems affecting society, especially when they deal with justice and the rights of individuals. Loyal to her mission of defending the truth, the Church has never shied away from expressing her concern for an authentic development of man and society which would respect and promote all the dimensions of the “human person.”⁴ The popes, through numerous papal statements—encyclicals, *motu proprio*s, allocutions, radio addresses etc.—have continuously thrown new light upon different aspects of the social doctrine of the Church. As a result of these contributions, this doctrine “has now become an updated doctrinal corpus.”⁵

¹ John Paul II, *De Sollicitudo Rei Socialis* (On Social Concern), (Boston: St. Paul Books & Media), #2, 8.

² Cardinal Sergio Pignedoli, “The Catholic Church and the Jewish and Muslim Faiths: Trialogue of the Three Abrahamic Faiths,” in *Triologue of the Abrahamic Faiths*, (edited by Ismā’il Rāji al Fārūqī (Herndon, VA: International Institute of Islamic Thought, 1986). For a brief history of Islam, see John L. Esposito, *Islam, The Straight Path*, (New York: Oxford University Press, 1988).

³ John XXII, *Mater et Magistra* (Christianity and Social Progress), National Catholic Welfare Conference, Washington, D.C.

⁴ John Paul II, *De Sollicitudo Rei Socialis*, op cit. #1, 7-8.

⁵ Ibid, #1, 7-8.

More than one hundred years have elapsed since Pope Leo XIII ascended the throne of St. Peter, and each of the succeeding popes has added something to the heritage of Catholic social thought. In spite of the years that have passed, Pope John Paul II, following in the footsteps of his predecessors, has reaffirmed the continuity of the Church's social doctrine as well as its constant renewal. In effect, he states "continuity and renewal are a proof of the *perennial* value of the teaching of the Church."⁶

The basic principles on which the socioeconomic doctrine of the Catholic Church stands can be summarized as follows: 1) the dignity of the human person expressed through personal freedom and self-responsibility, 2) the common good, 3) the principle of solidarity, and 4) the principle of subsidiarity.⁷ All of these principles play a decisive role in the process of a person's total development, as defined by the Roman pontiffs in the official documents of the Church. Without their acceptance, the danger exists that human beings would be placed at the service of economics instead of the economy at their service and, thus, a person's development would be incomplete or even jeopardized.

Because of their importance for understanding the socioeconomic teachings of the Catholic Church, a brief comment will be made on the latter two of these principles. Both of them have acquired special significance during the last decades. They have been repeatedly mentioned by the Roman Pontiffs in their official documents but, unfortunately, have often been misinterpreted or misunderstood by Catholic and non-Catholic scholars.

The principle of solidarity comes from the Latin word *solidare* which simply means to join or unite solidly. It is based on the fact that each individual is an independent person who has a distinct personality different from any other but, at the same time, is a sociable human being. As a result of both personality and sociability, a person needs to be in contact with other people and to live in society. As Aristotle said many centuries ago: "It is evident that the state is a creation of nature, and that man is by nature a political animal."⁸ The Pastoral Constitution on the Church in the Modern World, *Gaudium et Spes*, stressed this point when it declared that "... God did not create man as a solitary. For from the beginning male and female he created them (Gen. 1:27). Their companionship produces the primary form of inter-personal communion. For by his innermost nature man is a social being, and unless he relates himself to others

⁶ Ibid., #2, 9.

⁷ Paul H. Werhahn, "The Entrepreneur," *Ordo Socialis*, No. 4 Published by the Vereinigung zur Förderung der christlichen Sozialwissenschaften, p 28. Originally published by Paulinus-Verlag, Trier, 1990.

⁸ Aristotle, *Politics*, in *Aristotle, Selections*, edited by W. D. Ross (New York: Charles Scribner's Sons, 1955), 287.

he can neither live nor develop his potential.”⁹ That is why the Catholic Church rejects as organizing principles of society both individualism, which denies the social nature of the human person and considers society as a mere association of individuals automatically guided by self-interest, and collectivism, which deprives individuals of their dignity and degrades them to the category of a mere object in the economic process.¹⁰ The organizing principle of society must be based on an original relationship and union between the individual and society that respects both the individual and social characteristics of the person, and not on either pure individualism or state collectivism.¹¹

The principle of subsidiarity comes from the Latin word *subsidium* which means auxiliary help or assistance. Applied to society, subsidiarity means the complementary or auxiliary assistance given by the superior social structures to individual persons and smaller communities. However, the superior social structures should not try to absorb or destroy individual initiative. This applies in a particular way to the state. It will be legitimate for the state to expand its public domain only when the common good so demands it, and even under such circumstances the state must provide the necessary guarantees in order that the right of private property is preserved. In economic matters, the leading role should be accorded to the private industry of individuals. The superior social structures, i.e., the state, should not try to absorb or destroy individual initiative.

The principle of subsidiarity should not be confused with the principle of solidarity or with the common good. Although the first presupposes the other two, it cannot be identified with them. Cardinal Hoffner indicated this clearly when he asserted that society's obligation to help individuals is a clear affirmation that the principle of solidarity reinforces the reciprocal bond and obligation existing between society and the individual.¹² The principle of subsidiarity was first presented in an explicit form by Pope Pius XI when he said:

Just as it is wrong to withdraw from the individual and commit to the community at large what private enterprise and industry can accomplish, so too it is an injustice, a grave evil and a disturbance of right order for a larger and higher organization to arrogate to itself functions which can be performed efficiently by smaller and lower bodies. This is a fundamental principle of social philosophy, un-

⁹ *Gaudium et Spes*, Pastoral Constitution on the Church, #12 and #25 in *The Documents of Vatican II* edited by Walter M. Abbott, New York: S.J., Guild Press, 211, 224.

¹⁰ Joseph Hoffner, *Manual de Doctrina Social Cristiana*, (Madrid: Ediciones Rialp, S.A. 1974) 39-40.

¹¹ *Ibid*, 41.

¹² *Ibid*, 51-52.

shaken and unchangeable, and it retains its full truth today. Of its very nature the true aim of all social activity should be to help individual members of the social body, but never to destroy or absorb them.¹³

Thus the principle of subsidiarity has as its object the protection of individuals and smaller communities from the abuses of larger and more powerful social structures. It protects the autonomy of weaker bodies in society. Superior structures should come to the assistance of weaker parts of the social body only when they cannot perform their duties in a satisfactory manner or when the required tasks can only be performed by the higher or more powerful entities.

Development of Peoples

The very essence of development has received renewed attention by the Roman Pontiffs, particularly since the Second Vatican Ecumenical Council. Once again, the papal documents have stated that the process of development cannot be separated from the ethical and cultural problems associated with it. They have not ceased to cry for greater solidarity among all peoples of the world in their quest for a more just society. Development cannot be reduced to mere economic growth; it must be complete. That is, it must be integral. In other words, it must “promote the good of every man and of the whole man.”¹⁴ But as Pope John Paul II reminds Christians, the development of the whole person and of all peoples cannot be attained without a solid religious foundation.

The importance of ethics in economics, and particularly in the process of a person's development, was also stressed in the documents of Vatican II where it was clearly stated that economic activity, in general, must be carried out “according to its own methods and laws but within the limits of morality, so that God's plan for mankind can be realized.”¹⁵ John Paul II also states: “Development which is merely economic is incapable of setting man free; on the contrary, it will end by enslaving him further. Development that does not include the *cultural, transcendent and religious dimensions* of man and society, to the extent that it does not recognize the existence of such dimensions and does not endeavor to direct its goals and priorities toward the same, is *even less* conducive to authentic liberation.”¹⁶

¹³ Pius XI, *Quadragesimo Anno*, #79, Five Great Encyclicals (New York: The Paulist Press, 1939) 147.

¹⁴ Paul VI, *Populorum Progressio*, On the Development of Peoples, #14, United States Catholic Conference, Washington, D.C., p 14.

¹⁵ *Gaudium et Spes*, op. cit., #64, 273.

¹⁶ John Paul II, *De Sollicitudine Rei Socialis*, op. cit., #46, 88.

Economics as an Independent Science: The Role of Ethics

The person's moral development and the welfare of society have always been a major concern of the Catholic Church. Ever since the early years of Christianity, churchmen were concerned with the morality of everyday life. They counseled the faithful on the types of occupations that were considered more suitable for an honorable Christian life, on the prices and wages that should be paid, on whether interest should be demanded on loans, on the right to private property and so on. As the economic historian Edmund Whittaker mentions: "The ethics of various lines of conduct were argued by theologians and the solutions they formulated became precepts, through local priests, for the people at large."¹⁷ Economic activities were not classified hierarchically according to their level of productivity—as is generally the case since the late eighteenth century—but rather on the basis of how honorable and moral these activities were considered to be; the latter ones occupying a higher scale in the hierarchy of values.¹⁸ In these early years, the Catholic Church was less concerned with social and economic reforms and more with the preservation and development of moral standards of individual behavior.

During the Middle Ages, the scholastic doctors (*doctores scholastici*) of the great monastic orders were deeply involved with economic topics and their impact on the moral life of the Christian community.¹⁹ According to Joseph Schumpeter, the *Summa Theologiae* of St. Thomas Aquinas "is in the history of thought what the south-western spire of the Cathedral of Chartre is in the history of architecture."²⁰ Nevertheless, in all the writings of St. Thomas, economics did not have a formal object of its own. The study of economics was considered part of moral theology or ethics. Later in the sixteenth century "sociological and economic topics were treated within the systems of scholastic jurisprudence. Individual questions, mainly about money and interest, were occasionally dealt with separately."²¹ Even though the opinions of these medieval men of science did not constitute the official teaching of the Catholic Church,

¹⁷ Edmund Whittaker, *A History of Economic Ideas*, (New York: Longmans Green and Co., 1950), 24.

¹⁸ Marie Madeleine Martin, *Les Doctrines sociales en France et l'évolution de la société française*, (Paris: Dervy-Livres, 1988), 38.

¹⁹ See Joseph Schumpeter, *History of Economic Analysis*, (New York: Oxford University Press, 1963), 73-142. See also Eric Roll, *A History of Economic Thought*, (London: Faber and Faber Ltd., 1954), 43-44 and Eduard Heimann, *History of Economic Doctrines*, (New York: Oxford University Press, 1956), 22-24.

²⁰ Schumpeter, op. cit., 74.

²¹ Ibid, 83.

their views on ethical matters were taken very seriously and often served as the basis for pastoral teaching.

Scholastic thinkers explained economic facts in terms of the individual's tastes and behavior and then applied superindividual canons of justice to these facts. As Schumpeter says: "These canons were derived from a moral schema in which the individual was an end in himself and the central idea of which was the salvation of individual souls."²² The importance of the individual's dignity and his/her ultimate salvation were always at the core of all their studies. Often there is a tendency to overlook the importance that the scholastic doctors gave to individual phenomena and to an individual as a unique person. Their stress on human dignity and individuality belies the opinion that medieval society was an objective civilization, that is, a civilization where "every individual stands in his appointed *niche* and is subject, without reference to his tastes, to super-individual rules; a society in which art is standardized and all creative activity both expresses and serves superindividual ideals."²³ The prevailing religious canons were derived from a moral order in which the individual and the salvation of his/her personal soul was an end in itself.

The analysis of the medieval doctors always centered on the idea of justice, a concept that had permeated Catholic socioeconomic teachings since the early days of Christianity. In all discussions about exchange, wages, or prices, justice played the primary role. St. Thomas Aquinas, following Aristotle, clearly established the distinction between commutative justice (*justitia commutativa*), distributive justice (*justitia distributiva*), and legal justice (*justitia legalis*). The first form of justice orders the relation of individual to individual partner. The second brings order to the relations between the community and the individuals who are its members, and the third orders the members' relations to the social whole.²⁴ For example, in the case of an exchange between individuals, the price would be considered just if it assured the equivalence of commutative justice. In general, whatever ran counter to the economic needs of the individual or was contrary to the public welfare was considered unjust. Schumpeter is of the opinion that much of the economic work performed by the scholastics up to the seventeenth century served as a basis for the analytical work of their successors, including Adam Smith.²⁵

The three great Jesuits, Leonard de Leys (Lessius), Luis Molina, and Juan de Lugo wrote treaties on *de justitia et jure* in which they studied the relative

²² Ibid, 87.

²³ Ibid, 86.

²⁴ Joseph Pieper, *Justice*, (New York: Pantheon Books, 1955), 50.

²⁵ Schumpeter, op. cit., 94.

merits of taxes on wealth and consumption. But here again they were mainly concerned, as were the great majority of the scholastic doctors, about the justice of taxation. In the case of profits, they were not necessarily against the possibility of gain in economic endeavors. This was especially true in the case of Juan de Lugo who, in accordance with St. Thomas, considered profits “as ‘a kind of wage’ for a special service.”²⁶ Again, what really interested the scholastic doctors were the ethical implications of economic activity. As Schumpeter said: “It is within their systems of moral theology and law that economics gained definite if not separate existence.”²⁷ But it was the phenomena of rising capitalism that contributed to their increased interest in economic activity—*industria*—and in the observation of business facts. However, the scholastic doctors always stood firm behind St. Thomas’ concept of prudent economic reason, a concept that always implied a moral judgment on all types of economic activities.

The origins of the separation of economics from the sociocultural context in which it is implemented and, in particular from ethics, can be traced at least partially to the ideas sponsored by the British Classical School of Economics in the early eighteenth and nineteenth centuries.²⁸ Economic liberalism, with its reliance on private property for the means of production, private responsibility in economic matters, private self-interest, and competition abandoned the traditional concepts of ethics and natural law as interpreted by the Christian theologians and scholars of the scholastic period, and substituted for them the belief in a harmonious “natural” order governed by its own laws. Following the prevailing tendencies of the times, British classical economists denied the connection of economics with any objective order of values, a connection that already had been rejected by the rational philosophers of the French Enlightenment.²⁹ Thus economics became a totally independent science with its own formal object.

²⁶ Ibid, 101.

²⁷ Ibid, 97.

²⁸ According to Keynes, “The classical economists’ was a name invented by Marx to cover Ricardo and James Mill and their predecessors, that is to say for the founders of the theory which culminated in Ricardian economics. I have become accustomed, perhaps perpetrating a solecism, to include in the classical school the followers of Ricardo, those, that is to say, who adopted and perfected the theory of the Ricardian economics, including (for example) J.S. Stuart Mill, Marshall, Edgeworth and Prof. Pigou.” See John Maynard Keynes, *The General Theory of Employment, Interest and Money*, (London: Macmillan and Co., Ltd., 1951) 3.

²⁹ See Overton Taylor, *A History of Economic Thought*, (New York: McGraw Hill Book Co., Inc., 1960), 1-27. See also Elie Halevy, *The Growth of Philosophic Radicalism*, (Boston: The Beacon Press, 1955). See also Donald Winch, “The Emergence of Economics as a Science 1750-1870,” in *The Fontana Economic History of Europe*, Edited by Carlo M. Cipolla, (London: Collins Clear-Type Press, 1971), Vol. 3, chpt. 9.

Once isolated from the other provinces of human knowledge, it no longer needed the traditional ethical foundation based on an objective moral order. The only acceptable moral order was the law of the market with its own set of rules and regulated by an enlightened self-interest. Reliance was placed on an automatic and harmonious economic system where free individuals, motivated by self-interest and guided by the invisible hand of God, would attain not only their own satisfaction but that of society as a whole.³⁰

Voices criticizing some of the basic postulates of economic liberalism, in particular the abuses of the system, have often been heard in Christian circles, including those of the popes who in their official documents have stressed some of its basic errors and those of the philosophical liberalism on which it is founded.³¹ However, these criticisms must not be interpreted as a condemnation of the free market system as such or as a blank check for socialism or any type of collectivism. On the contrary, the Church's condemnation of collectivism in any of its forms is categorical and unequivocal.³²

One of the earlier Catholic criticisms of certain aspects of economic liberalism can be attributed to the writings of the German economist Heinrich Pesch, who challenged the so-called autonomy of economics and its divorce from ethics.³³ He recognized that economics is an independent science but, at the same time, he also claimed that its degree of autonomy is limited. According to Pesch, "economic theory became a materialistic and individualistic science of money making, because its relation with the social sciences was completely forgotten. The wealth of the nation was unnaturally detached from the whole culture of the people, and thus the science soon became deprived of its subject matter."³⁴ A totally independent economic science divorced from an ethical foun-

³⁰ The French economic historians Charles Gide and Charles Rist maintain that the physiocrats and in particular Quesnay were the founders of the science of economics. They grant that, in many ways, Adam Smith was superior but, nevertheless, Quesnay and the physiocrats were the ones who opened the path for him and his followers in the nineteenth century. See Carlos Gide and Carlos Rist, *Historia de las doctrinas económicas*, (Madrid: Editorial Reus, 1927), 3.

³¹ See Pius XI, *Quadragesimo Anno*, op. cit., #10 and #103-110.

³² Ibid, #118-129. See also the encyclical of Pope Pius XI, *On Atheistic Communism*, given at Rome in 1937.

³³ Among the earlier German Catholic critics of economic liberalism the following can be mentioned: Joseph Ritter von Buss Oswald von Nell-Breuning, Wilhelm von Ketteler, and Heinrich Pesch. Among the more controversial French Catholic critics, the following are worth mentioning: Cardinal Louis-Edouard Pie, Bishop of Poitiers, Albert de Mun and René de la Tour du Pin.

³⁴ Heinrich Pesch quoted by Richard E. Mulcahy S.J. in *The Economics of Heinrich Pesch*, (New York: Henry Holt and Co., 1952), 36.

dation will not be able to contribute to a person's integral development. If economics is reduced to a mere technical problem it will not even be able to satisfy, in the longer run, a person's material needs or those of the nation.

The formal object of economics is to provide for the material needs of the people and the temporal material welfare of the nation. However, it is very difficult to grasp the real significance of economics if there is no understanding of its relationship and dependence on other sciences concerned with the subject matter. If this is not understood there is the danger that economic acts could be subject to "casual laws" when, in reality, they must be attributed to the motives of free people. Thus, according to Pesch, the economist cannot ignore the fields of social philosophy and epistemology. Otherwise the economist, the pure economist, becomes an abstraction, a pure and simple *homo oeconomicus*.³⁵

The error is not so much that philosophy has been avoided but rather that the inadequate philosophy of positivism has been adopted and, in many ways, has become the official philosophy or the creed of economics.³⁶ The late prominent American economist J. M. Clark once said that one of the most threatening features of our era is the cultural lag found in the economic world, where nineteenth-century philosophy of individualism is now combined with group organizations possessing power for good or harm.³⁷ The same philosophical error of individualism is also applied to the group. As the late Professor Goetz Briefs said: "The great danger threatening the German democracy—and any democracy—can come from powerful social groups which can use antidemocratic means of struggle or acts of passive resistance in order to attain their group interests over those of society as a whole."³⁸ In other words, the only ethics they understand is the ethics of self-interest, now applied to the group instead of to the individual.

The fact that economics is an independent science with its own formal object does not mean that it should disassociate itself from morals and ethics. As the individual is the agent of economic activity, the economist must be conscious of the morality of economic actions. The moral law has general validity for all times and places, and any contradiction of the moral law is a contradiction between the temporal and the eternal end of the human person.

It is true that the role of the economist is "not to teach us about virtues and vices but about the ways and means which lead to and preserve the material

³⁵ Fritz Machlup, "L'homo oeconomicus et ses collègues" in *Les Fondements Philosophiques des systèmes économiques*. Texts of Jacques Rueff and essays in his honor, (Paris: Payot, 1967), 117-30.

³⁶ Mulcahy, op. cit., 37.

³⁷ Ibid, 37.

³⁸ Goetz Briefs, *Entre Capitalismo y Sindicalismo*, (Madrid: Ediciones Rialp S.A., 1955), 27-8.

welfare of the people.”³⁹ Nevertheless, the existing level of morality does have a decisive influence on the material welfare of the people of any nation. Without an objective moral order, corruption, abuse of power and/or loss of freedom will prove detrimental to a person’s welfare. Any economic system without an ethical foundation and based on unrestrained self-interest is doomed to failure.

The reality of the instinct of self-interest is evident and will always be present. It does serve a useful purpose and in objectively morally indifferent matters it will always be accepted by most people. But, asks Pesch, “would not every economy and every state collapse, if the ‘average’ of its members were to permit themselves to be guided only by their own interest and would wish to deny every consideration except the ‘principle of the smallest means?’”⁴⁰ Instinct, adds Pesch, must be subject to reason. The guiding law of free rational individuals belongs to the intellectual and moral order. The instinct of self-love and the desire for a higher level of utility cannot be left unrestrained. Thus it becomes evident that as human beings are the agents of economic activity, economics cannot be totally divorced from ethics and morals.

Private Property

Economic issues, as already indicated, have been discussed extensively since the first centuries of Christianity. The legitimacy of private property and its implications for the “good life” were no exception. Although some of the early fathers of the Church had some definite ideas on the role of private property and its social function, no outright condemnation of the institution of private property was ever officially upheld by Church authorities. On the contrary, the Catholic Church through the centuries always took a position in defense of private property. The vow of poverty and the renunciation of all worldly belongings was considered an exception and an act of the individual’s total dedication to his Creator. As Joseph Schumpeter rightly commented: “The opinions on economic subjects that we might find – such as that believers should sell what they have and give it to the poor, or that they should lend without expecting anything (possibly not even repayment) from it—are ideal imperatives that form part of the general scheme of life and express this general scheme and nothing else, least of all scientific propositions.”⁴¹

The early Fathers of the Church, such as Clement of Alexandria, made it perfectly clear that private property was not abandoned by professing Chris-

³⁹ Mulcahy, op. cit., 39.

⁴⁰ Ibid, 41.

⁴¹ Schumpeter, op. cit., 71.

tianity; Christians could retain as their possessions private wealth. Nevertheless, the early Christians were encouraged to share the returns and fruits of their wealth with the less fortunate of their brethren in imitation of Christ the Lord.⁴² Many of the early Fathers maintained that private property became necessary after the fall of man in paradise. For example, St. Ambrose, bishop of Milan, claimed that if egoism, avarice, and envy would not have reared their ugly heads as a result of man's rebellion against God in paradise, God's intention that all goods be shared in common would have been realized. St. Basil the Great, bishop of Caesarea in Palestine, was also of the opinion that after the fall, a community of goods could only be attained in cenobitic communities or monasteries, for its members were totally dedicated to a life of perfection and close union with God. Otherwise, such an ideal could not be reached.

According to the German expert in Catholic social teaching Anton Rauscher, this approach to private property of some of the early Fathers of the Church is thoroughly "salvation-historical" and is based on the idea that human beings because of their sins, are in need of redemption. It does not reflect on the relation between nature and grace and between the order of nature and the order of redemption.⁴³ It would be wrong continues Rauscher, "to advance the statements of the Church Fathers as evidence against a natural law foundation of private ownership or to wish to explain ownership in a derogatory way simply as an 'order of necessity,' because, as a rule, we associate something entirely different with this concept than what the Church Fathers did."⁴⁴

The social doctrine of the Church on private property is based, at least partially, on the teachings of Aristotle and St. Thomas Aquinas and not, as some claim, on the French philosophers of the Enlightenment.⁴⁵ These teachings have been refined and systematized by the Roman Pontiffs in recent years, especially Leo XIII, Pius XI, John XXIII, Paul VI, and John Paul II.

As regards to the question of whether property should be common or not, Aristotle answered that there are serious difficulties when property is held in common. He claimed that "property *should* be common in a sense; but generally it ought to be private. If management is divided among individuals, there will not be mutual complaints; and the properties will be improved because each individual runs his own private section."⁴⁶ Thus progress will ensue. As regards

⁴² See Whittaker, op. cit., 183-5.

⁴³ Anton Rauscher. "Private Property," *Ordo Socialis*, No. 3 (Published by the Vereinigung zur Förderung der christlichen Sozialwissenschaften), p 18.

⁴⁴ Ibid, p 18.

⁴⁵ See Leon de Sousbergue, "Propriété de droit naturel," *These neoscholastique et tradition scholastique*, *Nouvelle revue théologique*, 82, 1950. pp 580 and following.

⁴⁶ Aristotle, Politics, Book II, 5, in *The Philosophy of Aristotle*, A Mentor Classic, 1963, p 397.

the use and enjoyment of said properties, “virtue will guarantee the fulfillment of the proverb ‘friends’ goods are common goods.’”⁴⁷ In other words, an individual owns property privately but makes it available to his friends and uses theirs as common property.

St. Thomas quite clearly states that “it is legitimate for a man to possess private property; indeed it is necessary for human life.” He gives the following three reasons: 1) “everyone is more concerned to take care of something that belongs only to him than of something that belongs to everyone,” 2) “human affairs are more efficiently organized if the proper care of each thing is an individual responsibility,” and 3) “peace is better preserved among men if each one is content with his property.” However, he also states that “man should not possess external things as his alone but for the community, so that he is ready to share them with others in case of necessity.”⁴⁸

The late Cardinal Joseph Hoffner in his book *Christliche Gesellschaftslehre*, reflecting the teachings of the Catholic Church, gives five “positive” reasons in favor of private property and five “negative” reasons—disastrous consequences—which would result from the elimination of private property. The “positive reasons” are the following: 1) private property is born of an orderly self-love. It is intimately linked with the dignity and other rights of the human person, 2) private property serves the clear delimitation of competencies and spheres of responsibility in the economy, 3) private property satisfies an individual’s need for security, an important aspect of family life, 4) private property contributes to fruitful economic exchanges that tie together the different branches of the economy in a peaceful and voluntary manner and not through official public functionaries, and 5) private property gives people the possibility of practicing charity and coming to the aid of the less fortunate sectors of society.⁴⁹

The “negative” reasons can be summarized as follows: 1) The community of goods leads to laziness and destroys the incentive to work, 2) private property divides and clearly establishes each person’s competence and responsibility within the economy, while the community of goods leads to confusion and disorder, 3) common property is the origin of social discord, 4) the community of goods, particularly in a modern economy, leads toward the accumulation of power and to the temptation of abuse of power. Whoever has total economic power also controls political power, and 5) the community of goods, under central control, threatens the freedom and dignity of the human being.⁵⁰

⁴⁷ Ibid, 397.

⁴⁸ *St. Thomas Aquinas on Politics and Ethics*, edited by Paul E. Sigmund (New York: W.W. Norton & Co., 1988), 72.

⁴⁹ Hoffner, op. cit., 219-20.

⁵⁰ Ibid, 220-23.

The Roman Pontiffs have always come out very strongly in defense of the right of private property. Leo XIII said in no unmistakable terms that “every man has by nature the right to possess property as his own. This is one of the *chief points of distinction* between man and the animal creation.”⁵¹ Pius XI, when writing about the rights of the state, reinforces the views of Leo XIII on private property and quotes the following passage from the encyclical *Rerum Novarum*: “The right to possess private property is derived from nature, not from man; and the State has by no means the right to abolish it, but only to control its use and bring it into harmony with the interests of the public good.”⁵² He then adds that this right of the state “does not therefore abolish, but protects private ownership, and, far from weakening the right of private property, it gives it new strength.”⁵³ John XXIII also insisted that the “right of private property, including that pertaining to goods devoted to productive enterprises, is permanently valid.”⁵⁴ Paul VI, while defending the right of private property, stresses its social aspect when he says that “the right of private property does not constitute for anyone an absolute right. No one is justified in keeping for his exclusive use what he does not need when others lack necessities.”⁵⁵

The right to private property was endorsed once again by the *Pastoral Constitution of the Church in the Modern World* when it said that “ownership and other forms of private control over material goods contribute to the expression of personality. Moreover, they furnish men with an occasion for exercising their role in society and in the economy. Hence it is very important to facilitate the access of both individuals and communities to some control over material goods.”⁵⁶

The Catholic Church has never ceased to claim that the right to private property is founded on natural law (*jus naturae*) or the law of nations (*jus gentium*). But at the same time, she has also stressed its social function.⁵⁷ The popes, in their numerous writings, following the teachings of the scholastic doctors (St. Thomas, Juan de Lugo, Luis de Molina etc.) have maintained the distinction between the use and consumption of goods (*usus*) and the management and administration of goods (*potestas procurandi et dispensandi*).⁵⁸ Human beings are entitled to acquire earthly goods in the form of private property for

⁵¹ Leo XIII, *Rerum Novarum*, op. cit., #5, 3.

⁵² Pius XI, *Quadragesimo Anno*, op. cit., #49, 139.

⁵³ Ibid, #49, 139.

⁵⁴ John XXIII, op. cit., #109, 32.

⁵⁵ Paul VI, *Populorum Progressio*, op. cit., #23, 18.

⁵⁶ *Gaudium et Spes*, #71, 280.

⁵⁷ Hoffner, op. cit., 229.

⁵⁸ See also Rauscher, op. cit., 20-1.

their own consumption and use, but they cannot avoid the responsibility of coming to the assistance of those in need. The person's social duty toward those less fortunate cannot be ignored. An individual also has the right to own property in order to better manage and administer it, a right already possessed before the fall in paradise. However, after man's rebellion against his Creator, that right became a necessity and an obligation. Otherwise the ultimate goal of the economy, the person's welfare, would be frustrated because of people's tendency toward laziness, disorder, discord, and oppression.

Pope Pius XI makes it clear that the Catholic Church has never denied "the twofold aspect of ownership, which is individual or social accordingly as it regards individuals or concerns the common good . . . the right to own private property has been given to man by nature or rather by the Creator himself, not only in order that individuals may be able to provide for their own needs and those of their families, but also that by means of it, the goods which the Creator has destined for the human race may truly serve this purpose."⁵⁹ Recently, John Paul II reaffirmed "the right to private property even when it is a question of the means of production," but he also insisted that this principle "differs from the program of capitalism practiced by liberalism and by the political systems inspired by it. Christian tradition has never upheld this right as absolute and untouchable. On the contrary, it has always understood this right within the broader context of the right common to all to use the goods of the whole of creation. The right to private property is subordinated to the right to common use, to the fact that goods are meant for everyone."⁶⁰

John Paul II stressed the social aspects of private property when he made the statement that "the position of 'rigid' capitalism continues to remain unacceptable, namely the position that defends the exclusive right to private ownership of the means of production as an untouchable dogma of economic life."⁶¹ The principle of the common destination of earthly goods for all people, in other words that God has given the earth to the use and enjoyment of the universal human race, must not be interpreted as a defense of collectivism or any system of common ownership.

Usury

A problem of great concern for the medieval scholars was the question of

⁵⁹ Pius XI, *Quadragesimo Anno*, op. cit., #44, 137.

⁶⁰ John Paul II, *Laborem Exercens* (On Human Work), #14, United States Catholic Conference, Washington, D.C., 1981, 31.

⁶¹ Ibid, #14, 32.

usury.⁶² For them as well as for Aristotle, money's fundamental function was to serve as a medium of exchange. Being a commodity like any other, it had to be useful and have an exchange value independent from its monetary function. Its value, thus, could be compared with that of other commodities. In the process of lending money, it was considered unjust to take usury—charge an interest—because it violated commutative justice. As in any process of exchange, justice demanded that the borrower return to the lender the same amount of money—i.e., gold coins—that he had borrowed. In general, the scholastic doctors thought that there was no justification for money to increase in value when changing hands. Money being considered barren, little attention was paid to interest as the price paid for the use of money. They therefore condemned interest as unjust. Critics of the scholastics are prone to attack them on this issue, claiming that they disregarded the importance of interest in the evolution of capitalism. As a result, these critics claim, the Catholic Church at a later date was forced to contradict the views of the scholastic doctors and admit the morality of interest and the fact that it is a positive factor in the process of development.

The truth of the matter is that most loans in the first centuries of Christianity and almost until the end of the Middle Ages were for consumption purposes. As Whittaker has stated:

Tertullian appears to have been the first of the Christian Fathers to declare that usury was immoral and he interpreted the statement in Luke to forbid believers to expect even repayment of principal. In the fourth century Basil, Bishop of Caesarea, his brother Gregory, Bishop of Nyssa and Ambrose, Bishop of Milan, were largely responsible for formulating the doctrine that all interest was sinful. Their attitude was not difficult to understand. The Roman Empire was declining and chaos was widespread through the western world. There could have been few opportunities for the productive employment of loans. Indeed, through the succeeding centuries, which constituted the period now called the Middle Ages, the more important loans were made to kings and nobles to meet the expenses of the military adventures and luxurious living, neither of which was in entire accord with Christian principles. Undoubtedly, as at other

⁶² Bernard W. Dempsey, *Interest and Usury*, (London: Dennis Dobson Ltd., 1948), 267-71. See also Max Weber, *General Economic Theory*, (Glencoe, IL: The Free Press, 1950), 267-71. For an Islamic approach to interest, see Muhammad Anwar, *Modelling Interest Free Economy: A Study in Macroeconomics and Development*, (Herndon, VA: The International Institute of Islamic Thought, 1987) and Zaidi Sattar, "Ethics of Profits in the Islamic Economic System," in *The Islamic Quarterly*, 1988, vol. 32 #2.

times, small-scale advances to peasants and traders for productive purposes had their place, though this form of credit had always been subject to abuse, as borrowers are likely to become the prey of extortionate lenders. If legitimate opportunities for the productive use of borrowed capital were few, as must have been the case when social conditions were insecure, obviously the lender could not maintain that he suffered a loss by doing without the money for the period of the loan, nor could the borrower acquire means whereby to meet interest payments. Unless capital could be made productive, it was difficult to justify interest.⁶³

St. Thomas accepted certain exceptions to the general ban on usury. He maintained that it was unlawful to induce a man to lend under a condition of usury but made an exception when the lender was willing to do so and was a usurer by profession, provided the borrower was well-intentioned and had in mind the relief of his/her own or his/her neighbor's needs. As time went by the economy became more complex, the exceptions to the general prohibition of usury increased. The principle was accepted that a charge was normal and acceptable when the lender incurred any loss (*damnum emergens*). Some of the scholastic doctors also believed that the gain the lender foregoes by lending (*lucrum cessans*) was in itself a justification for charging interest. In the fifteenth century Antoninus, Archbishop of Florence, although declaring that money is not profitable of itself, affirmed that it could become profitable through its employment by merchants. Thus as money markets developed, it became more common to justify the charge of interest on both direct loans and, in the case of deferred payments, for commodities.⁶⁴

As the German scholar Peter H. Werhahnn stated:

"The social moralists of the time, whilst adhering to the medieval theory of money, which maintained that money in itself was sterile, nevertheless claimed that entrepreneurial profits did not contravene the prohibition of usury. In this way the interdiction of usury encouraged the entrepreneurial spirit: interest on loans was forbidden, but capital profit from entrepreneurial activity was permitted. Later economic historians such as Werner Sombart have pointed to the great importance of this distinction."⁶⁵

In the case of usury as in the case of private property, the scholastic doctors were mainly concerned with individual behavior and, whatever scientific

⁶³ Whittaker, op. cit., 519.

⁶⁴ Schumpeter, op cit., 103-4.

⁶⁵ Werhahn, op. cit., 12.

analysis they performed, it was done in order to judge a person's economic behavior from the moral point of view. They tried to reach some uniformity of practice but, in order to do this, they had to work out concrete decisions on the more important cases. They were, Schumpeter points out, teachers or directors of individual consciences.⁶⁶ Their ideas, far from being "outlandish," helped establish the distinction between mere money-loans and the product of active investments. John Maynard Keynes brings this out very clearly when in his book, *The General Theory of Employment, Interest and Money*, he recognizes the contribution of the scholastic doctors to the theory of interest:

I was brought up to believe that the attitude of the Medieval Church to the rate of interest was inherently absurd, and that the subtle discussion aimed at distinguishing the return on money-loans from the return to active investments were merely jesuitical attempts to find a practical escape from a foolish theory. But I now read these discussions as an honest intellectual effort to keep separate what the classical theory has inextricably confused together, namely, the rate of interest and the marginal efficiency of capital. For it now seems clear that the disquisitions of the schoolmen were directed toward the elucidation of a formula which should allow the schedule of the marginal efficiency of capital to be high, whilst using rule and custom and the moral law to keep down the rate of interest.⁶⁷

Work

Papal and other documents of the magisterium of the Catholic Church especially since *Rerum Novarum*, have considered "that work as a human issue is at the very center of the 'social question.'"⁶⁸ John Paul II distinguishes between what he calls work in an objective sense and work in the subjective sense. The meaning of work in an objective sense finds expression in God's command to men and women to subdue the earth as it appears in the Book of Genesis. It throws light upon human work because "man's dominion over the earth is achieved in and by means of work."⁶⁹ To subdue the world should also be understood in the context of the entire modern age, industrial and postindustrial. It includes a relationship with technology, equipment of all sorts, and the new world of the computer, because all of them are the fruit of human labor, whether intellectual or manual. All men and women, created in the image of God, are

⁶⁶ Schumpeter, op. cit., 102.

⁶⁷ Keynes, op. cit., 351-2.

⁶⁸ John Paul II, *Laborem Exercens*, op. cit., #2, 4.

⁶⁹ Ibid, #5, 11.

called to subdue the world. It embraces all generations and every phase of economic and cultural development. But as men and women become more and more masters of the universe, they still remain within the Creator's original ordering and must bear witness to this reality.

Work in the subjective sense also finds expression in the Book of Genesis. As John Paul II indicates: "Man has to subdue the earth and dominate it, because as the 'image of God' he is a person, that is to say, a subjective being capable of acting in a planned and rational way, capable of deciding about himself and with a tendency to self-realization. As a person man is therefore the subject of work. As a person he works, he performs various actions belonging to the work process; independently of their objective content, these actions must all serve to realize his humanity, to fulfill the calling to be a person that is his by reason of his very humanity."⁷⁰ The subjective dimension of work conditions the ethical nature of work. This ethical nature of work is directly linked to the fact that "the one who carries it out is a person, a conscious and free subject, that is to say, a subject that decides about himself."⁷¹

Christianity has always taught that the basis for determining the value of work is not precisely the type of work which a man or a woman performs, but the fact that it is done by a human being. The subjective and not the objective dimension of work is the source of the dignity of work. Thus it can be said that "the primary basis of the value of work is man himself, who is its subject."⁷² The Constitution of the Church had already emphasized this point when it exalted the dignity of the human person and declared that the individual "stands above all things, and his rights and duties are universal and inviolable."⁷³

Precisely because of the preeminence of the subjective meaning of work over the objective one, work cannot be treated as a "merchandise" that can be sold in the market as any other material good. Even though this approach is no longer acceptable, there is still the danger in the postindustrial era of treating work as any other input and equating it, for example, with capital in the process of production. Work is not a special kind of "merchandise" or an impersonal "force" needed for production. To treat work in such a way disregards its true nature. The individual must be treated in accordance with the true dignity of work, as subject and maker of the process of production. No matter how welcomed and advantageous for human beings are the advances in technology and know-how, it is still true that the subjective dimension of work must retain

⁷⁰ Ibid, #6, 13.

⁷¹ Ibid, #6, 14.

⁷² Ibid, #6, 14.

⁷³ *Gaudium et Spes*, op. cit., #26, 225.

the upper hand over the objective one. Human labor is superior to the other elements of economic life.”⁷⁴ Otherwise, human beings would be deprived of their dignity and inalienable right and the social order and its development would not work to the benefit of the human person.⁷⁵

John Paul II, following the earlier teachings of the Church, reaffirms the principle of the priority of labor over capital. The Roman Pontiff reiterates that in the process of production, labor is always a primary efficient cause while capital, the whole collection of the means of production, remains a mere instrument or instrumental cause.⁷⁶ He defines capital not only as the natural resources placed at humanity’s disposal, but also as the whole collection of means by which humanity appropriates natural resources and transforms them in accordance with his needs and thus, in a sense, humanizes them. All of these means, he continues, are the result of the historical heritage of human labor.⁷⁷ In other words, he gives preeminence to the primacy of the human being in the process of production, the primacy of humanity over things. Only a man or a woman can be a person.

There should be no antinomy between labor and capital. In the production process, labor and capital are intermingled. They are inseparably linked. Human beings, through their work, are the masters of the creatures placed at their disposal in the visible world. If any dependence is to be found during the individual’s work, it is his/her dependence on his/her Creator to whom, in the last instance, he/she will have to respond for the work performed. To a lesser extent, the individual is also indebted to other human beings to whose work and initiative is owed the perfected and increased possibilities of his/her own work.⁷⁸

The economic theories which developed during the centuries were partially responsible for the antinomy between labor and capital. The major responsibility, however, falls on the economic and social practices of the times, when material wealth was increasing rapidly as a result of the Industrial Revolution and a blind faith in progress permeated large sectors of society. A materialistic approach to life, what John Paul II calls an “economistic” perspective, contributed more than anything else to the separation of labor and capital and set them up in opposition to each other. It was this error of early capitalism which caused the ethically just social reaction of many well-intentioned persons who erro-

⁷⁴ Ibid., #67, 275.

⁷⁵ Ibid., #26, 225.

⁷⁶ John Paul II, *Laborem Exercens*, op. cit., #12, 25.

⁷⁷ Ibid., #12, 26.

⁷⁸ Ibid., #13, 28.

neously put their faith in collectivism in their hope of finding a more humane type of economic organization.⁷⁹ But collectivism, in any of its forms, is also based on a materialistic philosophical system which denies the primacy of human beings over capital. Marxism, as put into practice in various countries since the Bolshevik Revolution in Russia, epitomizes the dehumanization of labor and the degradation of the individual's dignity as a human being. It has been proven time and again that collectivism is not the solution to the problems of modern societies.

Summary and Conclusions

This paper has tried to highlight some of the more salient principles upon which the socioeconomic doctrine of the Catholic Church is based. The following brief paragraphs will summarize some of these principles in an attempt to bring out the similarities – rather than the differences – that exist between many of them and those of Islam, particularly in the area of development.

1. The social teachings of the Catholic Church, as this paper has tried to demonstrate, have always had as their objective the development of a person in his/her totality. In spite of its undeniable importance, economics constitutes only one dimension in the process of a person's total development. An authentic development must include the material and spiritual dimensions of a person, because he/she is composed of both body and soul. He/she is also a spiritual being created in the image and likeness of God. To limit development to the production of material goods without taking into account a person's ultimate goal, the salvation of his/her immortal soul, would not do justice to the term itself. A person cannot lose sight of the fact that, as St. Augustine of Hippo said almost two thousand years ago, its final destination is the City of God.⁸⁰ But, it is in the City of Man that a person needs to develop its spiritual, cultural, and economic dimensions. This way, the human being, keeping present his/her intimate relationship with God and observing the dictates of natural and divine law, will be able to realize his/her innate aspiration of reaching the eternal city.

⁷⁹ For a criticism of both capitalism and socialism, from the Islamic point of view, see Tāhā Jābir al 'Alwānī. "Islamic Perspectives on the Question of History," in *American Journal of Islamic Social Sciences*, vol. 7, no. 2, September 1990, 263-8.

⁸⁰ The French philosopher Etienne Gilson, commenting on St. Augustine's *City of God*, said: "St. Augustine bequeathed the ideal of a society whose bond of union is the Divine Wisdom. Often forgotten, sometimes even for centuries, this ideal has always found men to bring it forth once more into the light of day to be their inspiration. Frequently, the price of revival has been the distortion of the ideal." See Etienne Gilson, *Saint Augustine's City of God*, (New York: Image Books, 1958), 34.

As St. Thomas said: "Besides the natural law and human law, it was necessary to have the divine law to direct human life."⁸¹ Economics is no exception.

These ulterior objectives of all human beings, which economics cannot disregard, do not seem to differ significantly from those of Islam, whose teachings never cease to mention Allah as a person's final goal. The well-known Iranian economist Abbas Mirakhor recently wrote: "Islam posits *a priori*, a unique relationship between Allah, man, society and the Divine Law. This relationship directly affects the workings of the economic system."⁸² Pope John Paul II also stresses each individual's unique relationship with God in all matters, including economics, when he said that "... peace and, as its necessary condition, the development of the whole person and of all peoples, are also a *matter of religion*, and how the full achievement of both the one and the other depends on our *fidelity* to our vocation as men and women of faith. For it depends above all on God."⁸³

2. The Catholic Church has always maintained that God has endowed human beings with an intellect and a will that permits them to distinguish between right and wrong. It is the person, through the exercise of his/her free will, who can decide in accordance with the dictates of a well-formed conscience what path he/she is to follow. In the particular area of economics, it is a person's duty to struggle freely and in a responsible manner for the establishment of a just, moral, and viable social order that will permit him or her to fulfill his/her full potential for development. Islam also believes that God has endowed each person with an intellect and a will that permit him/her to discern between right and wrong, and that he/she has certain responsibilities toward society. For example Mirakhor, in the same article quoted above, reminds his readers that Allah "bestows on man particular responsibilities: developing his own potential, and struggling for the creation of a just and moral order on earth," and that man "through his intelligence and will can discern and then choose between right and wrong, between just and unjust, between true and false, and between real and illusory."⁸⁴

3. Catholic socioeconomic doctrine has always maintained that justice is a virtue, "a habit (*habitus*), whereby a man renders to each one his due with constant and perpetual will."⁸⁵ Nevertheless, justice would be meaningless if

⁸¹ St. Thomas Aquinas, *Summa Theologiae*, I-II, Question XCI, Fourth Article. See *Introduction to St. Thomas*, (New York: The Modern Library, 1948), 621.

⁸² Abbas Mirakhor, "The Economic System in an Islamic Society," *Middle East Insight*, (Washington, D.C.: International Insight, Inc., 1987, vol. 5, 32.

⁸³ John Paul II, *De Sollicitudo Rei Socialis*, op. cit., 92.

⁸⁴ Mirakhor, op. cit., 32.

⁸⁵ Pieper, op. cit., 11.

human beings had not, through the act of creation, received their rights from God. As the well-known German Catholic philosopher Joseph Pieper has stated: "Man has inalienable rights because he is created a person by the act of God, that is, an act beyond all human discussion. In the ultimate analysis, then, something is inalienably due to man because he is *creatura*. Moreover, as *creatura*, man has the absolute duty to give another his due."⁸⁶ But St. Thomas reminds Christians that to have peace and harmony among people is not enough: "To be willing to watch over peace and harmony among men through the commandments of justice is not enough when charity has not taken firm root among them."⁸⁷

In a free market system, each of the interested parties acts in a rational way from a purely economic point of view, and it is the market, regulated by the laws of supply and demand, that determines the price. It is assumed that all the participants act rationally in an honest and "economically ethical" way. The "ethics" of the market is limited to its own honest inner functioning. Thus, each one of the participants receives his/her due in accordance with the law of the market. However, there are other ethical criteria, exogenous to the science of economics, that cannot be ignored if justice is to prevail. Market forces by themselves are not the only determinants of the justice of an economic act. For example, no one can deny that in the past the slave market functioned properly and, from the purely economic point of view, this is correct. But at the same time, the justice of an act cannot be measured exclusively in economic terms. This would also apply to any type of exchange in the market place, the area of wage determination being no exception.

It is true that economics, as any other branch of human activity, has its own rules and "laws." But economic activity cannot be divorced from other human actions. Man cannot act exclusively as an *homo oeconomicus*. This would be an oversimplification. That is why the market system, apart from having its own particular "ethics," must rely on an ethics of a more general character. And this applies not only to economics but to any other science that deals with the essential values of the human person.⁸⁸ In the last instance, Christian doctrine has always emphasized that a person has to respond to his/her Creator for all of his/her actions, whether in the field of economics or otherwise. Thus, people cannot ignore the dictates of natural and divine law.

Islam strongly emphasizes the concept of justice. As in Catholic social doctrine, Islam believes that justice has personal implications for the person who

⁸⁶ Ibid, 21-2.

⁸⁷ As quoted by Pieper, Ibid, 107.

⁸⁸ Rafael Gomez Perez, *Ethica Empresarial, Teoría casos*, Madrid: Ediciones Rialp, 1990), 50.

performs the unjust act. The individual not only does an injustice to others but “ultimately does injustice to himself and is a recipient of its results both here and in the hereafter.”⁸⁹ The concept of justice in exchange is also stressed. To assure justice in exchange, Islam provides “a network of ethical and moral rules of behavior which cover, to the minutest detail, the behavior of all participants in the market.”⁹⁰ Only on the basis of these rules will the market yield prices which are “fair” and “just.” Islamic economic justice is also distributive. It stipulates that all members of society should be given equal opportunities and all obstacles to their development removed. In Islam, Mirakhor writes, “legal justice means that all members of the society have equal status before the Law, equal protection of the Law and equal opportunity under the Law. The notion of economic justice and its attendant concept of distributive justice are important identifying characteristics of the Islamic system.”⁹¹

4. The right to private property and its social dimension have never ceased to be stressed by the Catholic Church. These rights and obligations of private property have also been emphasized by Islam. The right to private property is “based on the principle of justice, and the recognition of man’s natural tendencies, rights and obligations” but “the collectivity does not lose its original rights either to the resources or the products resulting from the individual’s creative labor applied to these resources.”⁹² Among the obligations of private property, says Mirakhor, are the responsibility of sharing and the obligation, severely incumbent upon the individual, not to waste, destroy, or squander it.⁹³

5. Islam regards work, as does the Catholic Church, not only as a right but also as a duty and an obligation. Both religions exalt work and consider it an inseparable dimension of faith. Islam teaches that the individual has “the right to choose the type of work he desires, but along with this freedom comes the obligation to consider the needs of the society.”⁹⁴ Justice demands that each worker’s benefits be commensurate with his/her productivity. But Islam also maintains that “those who are physically or mentally unable to work still have a right to what the society, individually or collectively, produces.”⁹⁵ As is the case with Christians, wealth is considered good in itself, “an object of delight

⁸⁹ Mirakhor, *op. cit.*, 36.

⁹⁰ *Ibid*, 42.

⁹¹ *Ibid*, 37.

⁹² *Ibid*, 38.

⁹³ *Ibid*, 39.

⁹⁴ *Ibid*, 40.

⁹⁵ *Ibid*, 40.

and pleasure and a support for the community,” but “it is only a means for the achievement of man’s ultimate objective and not an end in itself.”⁹⁶

In conclusion, it must be reaffirmed that development “*is not* a straightforward process, *as it were automatic and in itself limitless*, as though, given certain conditions, the human race were able to progress rapidly towards an undefined perfection of some kind.”⁹⁷ The naive mechanistic optimism inherited from the philosophers of the Enlightenment “has been replaced by a well-founded anxiety for the fate of humanity.”⁹⁸ The very concept “economic” has entered into crisis. There is a rejection, especially among the young, of a crass materialism that has not satisfied humanity’s innermost desires.

The solution to humanity’s many problems in the dawn of a new century cannot be found exclusively in the mere accumulation of material goods, no matter how important they might be. The abundance of goods and services is not sufficient to fulfill our desire for happiness. The real benefits derived from the latest technological discoveries in the computer age are no guarantee that we can find happiness or avoid losing our freedom and falling into slavery of one type or another. John Paul II has frequently stated that all these wonders of the computer age must be guided by a moral understanding and oriented toward the true good of the human race. Otherwise, modern humanity will fall into a form of superdevelopment which, in many ways, can be as pernicious as what is generally called underdevelopment. A superdeveloped society would place all of its efforts in the production and consumption of material goods; goods which, says the Pope, would tend to benefit certain social groups at the expense of others. People could easily become slaves of “possession” and of immediate gratification. This is what John Paul II calls a civilization of “consumerism” which involves so much throwing away and waste.⁹⁹ As a result, crass materialism and dissatisfaction would follow because people, in spite of the ceaseless tempting offers of new and better products, would find that their deeper aspirations for happiness would remain unsatisfied and even stifled. Therefore, development must not limit itself to the *indiscriminate* possession of created things but rather in *subordinating* their possession, dominion, and use to humanity’s ultimate goal, the transcendent reality of the human being.

Islamic scholars have often expressed the failure of the traditional approaches to economic development and have lamented the “co-existence of hunger and affluence, the exploitation of the poor by the rich and the powerful,

⁹⁶ Ibid, 41.

⁹⁷ John Paul II, *De Sollicitudo Rei Socialis*, op. cit., #27, 47.

⁹⁸ Ibid, #27, 47.

⁹⁹ Ibid, #28, 48.

the increasing disparities at the regional and international levels, the unsuitability of production and consumption processes to environmental needs and the irrational use of non-renewable resources.”¹⁰⁰ They have also claimed that “development should be rooted in the cultural sources of each people” and stress that there should be “no separation of socio-economic policy from the socio-cultural context in which it is implemented and from which it should be derived.” As an essential feature of culture, “religious thought must be included among the components of development.”¹⁰¹

The Roman Pontiffs have expressed similar objectives when they have publically stressed the need for collaboration in the development of the whole person and of every human being. In fact, John Paul II has said that collaboration for development is “a duty of *all towards all*, and must be shared by the four parts of the world: East and West, North and South.”¹⁰² Furthermore, the Pope continues, all peoples have a right to their own full development, which includes the economic and social dimensions. But, it “should also include individual cultural identity and openness to the transcendent.”¹⁰³ Finally, the leader of the Roman Catholic Church has stated in no uncertain terms that for development to be genuine “it must be achieved within the framework of *solidarity* and *freedom*, without ever sacrificing either of them under whatever pretext.”¹⁰⁴

It is not only sad but tragic that at this critical point of history, the dawn of a new century, when freedom seems to have triumphed over the tyrannies of collectivism, the drums of war continue to be heard in the Middle East and in other parts of the globe. This earth, which God created for the enjoyment and satisfaction of his *creatura*, still is engrossed in the same petty hatreds and misunderstandings that caused so much suffering to past generations. It is time that religious people the world over join forces in their struggle for the establishment of a socioeconomic order where peace and justice prevail. And this responsibility falls, in a special way, on the three great monotheistic religions of the world whose members believe in the same God, Creator of all beings, to Whom at the end of time they will have to respond for their everyday actions. It is important, therefore, that the three religions try to stress what unites them—and not what separates them—in a spirit of charity and mutual understanding for the benefit and welfare of all of God’s creatures.

¹⁰⁰ Anwar, op. cit., 5.

¹⁰¹ Ibid, 6.

¹⁰² John Paul II, *De Sollicitudo Rei Socialis*, op. cit., #32, 58.

¹⁰³ Ibid, #32, 58.

¹⁰⁴ Ibid, #33, 61.

✓ It is important to keep in mind what the late Cardinal Sergio Pignedoli said a few years ago:

The faith that we have inherited from Abraham has as its central pivot a monotheism free from uncertainties or equivocations: we profess one God, a God who is personal, the Creator of the world, provident, active in history but separated from it by an infinite gulf, the judge of men's actions, and who has spoken to men through the prophets. The Sacred Books and the traditions of our three religions admit no shadow of doubt on this fundamental point. This basic unity of faith is of such importance that it allows us to consider our differences with serenity and with a sense of perspective . . . it does mean that we can speak together in an atmosphere of understanding and friendship, because we are all believers in the same God.¹⁰⁵

It is proper and fitting to finish with a note of optimism. Perhaps the great French author and member of the *Academie Francaise*, Andre Frossard, has expressed this hoped-for objective better than anyone else when, in his latest book *Dieu en Questions*, he talks about the three monotheistic religions in the following way:

These three branches of monotheism diverge from each other at an earthly level and act as if they were strangers because of historical, cultural, climatic and psychological reasons. But the more they avoid being obsessed with daily affairs and rise to the level of their own spirituality, the more they speak the same language, which is that of praising God. At the summit of Judaism, Christianity and Islam, the mystics speak the same language. It is only when men are not able to reach such heights, and fall into the temptations of power, spirit of conquest or some other form of illusion, that they confront each other and give the impression of serving religions that are mutually incompatible.¹⁰⁶

¹⁰⁵ Pignedoli, op. cit., 2.

¹⁰⁶ Andre Frossard, *Dieu en Questions*, (Paris: Desclée de Brouwer, 1990), 43.

A Theory of Moral Entitlement in Resource Allocation

by
Masudul Alam Choudhury*

Economic Entitlement

The concept of entitlement is equatable to property rights with the singular difference that it is conditioned by the characteristics of the vectors of goods to be owned as against simply the right to own such goods. Thus the concept of entitlement carries with it the dual and inseparable conditions of the nature of ownership and the responsibility inherent in such ownership. When such a concept of entitlement is invoked, it is obvious that mere monetary returns to target groups under study do not make up the essence of such an entitlement, nor does ownership of antecedental holding of property necessarily legitimize the nature of ownership.

Such a concept of entitlement is somewhat at variance with the ones presented in the literature by Sen and Nozick.¹ The essential difference arises in terms of the unbridled, unperturbed sanctity that these authors attach to the original endowment of holdings. That initial condition of holding property legitimizes all forms of exchange in the market system. To Sen, any form of interruption in such means of entitlement as trade, production, own labor, inheritance, and transfer is seen as the cause of economic deprivation. To Nozick, such interruption in entitlement based on original holdings is considered as immoral and inefficient. Thus to Nozick the very idea of redistribution of incomes through taxes and other institutional arrangement is an unwanted act.

This concept of entitlement as a conditioned idea of property rights necessarily alters the notion of the market, exchange, and thereby, the nature of the principal socioeconomic activities that take place in the polity-market

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¹ A. Sen, *Poverty and Famines: An Essay on Entitlement and Deprivation* (Oxford: Clarendon Press, 1986).

R. Nozick, *Anarchy, State and Utopia* (New York: Basic Books, 1974).

nexus.² The market can no longer be viewed as a primordial sway of unbridled freedom enacting the neutral functions of exchange between buyers and sellers of *any* goods that these deem desirable. It is equally no more the function of the polity to superimpose its predominance over the market activity in order to give it a socialistic essence.³ The market continues to exist as a profound institution of economic activity, but it is now involved in the exchange of goods with special attributes that legitimize this vector within the entitlement due.

The role of the market in concert with the polity in establishing the exchange milieu within the entitlement context therefore alters the conjoint functions of consumption, production, and distribution. A general equilibrium system is thus invoked in the entitlement concept, just as is the case of the Walrasian general equilibrium system and its variations in other systems of a multimarket version of interactive relationships among these economic activities and between the household, the produce market, and the labor market. However, in a Walrasian general equilibrium system, the role of government and institutions to regulate economic activities is nonexistent.⁴

Objective of this Paper

With this introduction we now lay down the objective of this paper. We will first develop the concept of moral entitlement in view of the ethico-economic general equilibrium system it configures.⁵ This will be exemplified by a summary picture of the Islamic general equilibrium system in light of the Islamic concept of entitlement. We will exemplify the Islamic concept of moral entitlement and its interactive function in the socioeconomic system. Finally, we will

² For another view on the market and the entitlement formation process see, K. Polanyi, *The Great Transformation* (Boston, MA: Beacon Press, 1944).

³ The dual or mixed economy should not be construed as an example of such an ethico-economic system, for these economic systems are based on the neoclassical basis of ethical exogeneity and the methodologies used in these are either not independent of neoclassicism or are not significantly well-known. The latter is the case with the historical institutionalists. The former is the case of the new institutionalists and of Gunnar Myrdal. See, S. Tsuru, "Keynote Address: Economics of Institutions or Institutional Economics," T. Shiraishi & S. Tsuru (eds.), *Economic Institutions in a Dynamic Society: Search for a New Frontier* (London: Macmillan Press Ltd. for the International Economic Association, 1989).

⁴ The treatment of applied problems in Walras is of a normative nature. See, J. van Daal & A. Jolink, "On the Economics of Walras," paper presented at the First International Conference on the Intercommunication on New Ideas, La Sorbonne, Paris, France, Aug. 1990.

⁵ Details of such theories can be found in M.A. Choudhury & U.A. Malik, *The Foundations of Islamic Political Economy* (forthcoming, London: Macmillan Press Ltd.).

point out the contrasts between the Islamic and other theories of entitlement. Here we will show that there are certain epistemological difficulties underlying the received theories of entitlement in the literature in respect to well-defining the concept of moral entitlement and its interactive role in the socioeconomic system. We will derive the theory of moral entitlement in resource allocation directly from the Qur'an as the principal source. All other sources will be treated as comparative studies in this paper.

The Concept of Moral Entitlement

To establish the concept of moral entitlement in a polity-market interactive setting, we first note the antecedental function of the market in received economic theory.⁶ This antecedental premise is characterized by the original ownership and endowment of vectors of items at the sole disposal of the sellers and at the sole desire of the buyers. The moral standing of the market in such a perspective is then judged by the consequentialist effects it leaves in the society at large. The consequentialist result, given the unperturbed function of market exchange relying on its antecedentalist legitimacy of holding, is seen as one for which the market itself is not responsible. The responsibility for the nature of the consequentialist effects of the market exchange given original holdings is seen as being vested with polity. Sen refers to this an evaluation of the market in different institutional arrangements.⁷

The market system in economic theory is thus devoid of moral sensitivity. Consequently the function of market exchange is seen as an ethically neutral media of setting values. What this means is that while there can be moral abhorrence in the consumption and production of 'bads' (i.e., pollution), yet given the neutrality of market exchange to the nature of such 'bads,' it is solely left to the exchange to determine the moral standing of the 'bads' in exchange. When the exchange has gone through and the activities of consumption and production have taken place, the market system simply reflects the final result of the exchange mechanism. Such a reflection can be a bad one when 'bads' rather than 'goods' are transacted in the market system. But the exchange system by itself is immune to the sensitivity of this end result.

Such an ethical neutrality of the market system and, consequently, of the

⁶ A. Gewirth, "Economic Justice: Concepts and Criteria," in K. Kipnis & D.T. Meyers (eds.), *Economic Justice, Private Rights and Public Responsibilities* (Totowa, N.J.: Rowman & Allanheld, 1985).

⁷ A. Sen, "The Moral Standing of the Market," in E. F. Paul et al. (eds.) *Ethics & Economics* (Oxford: Basil Blackwell, 1985).

exchange mechanism defining consumption, production, and value has pervaded mainstream economic doctrines.⁸ The profound difficulty in making the market system sensitive to the ethical relevance of exchange emanates from the way market and polity have been treated in the literature. On the one hand, we have the institutionally unperturbed vision of the 'free' market ruled by atomistic buyers and sellers with no particular inter-group hegemony. Thus, all agents are swayed by the same pre-set order of preferences.⁹ In the case of distortionary treatment of resource allocation in a market setting, the Second Best problem of sub-optimality is well known (or nth Best Solution, when such distortions are compounded by governments and other institutions).¹⁰

The essence of ethical neutrality of the market system is based on the dual realities of the antecedentalist and consequentialist concepts of exchange. The antecedentalist idea vests the original holding in the hands of the owner, who can dispose of that holding in any way that he desires to. The consequentialist idea gives the net result of the exchange for good or for bad. It relieves itself from the responsibility of the exchange mechanism that has taken place. The evaluation of the market is done on the basis of its consequentialist reflection, not on the basis of the antecedentalist one, for the free market system cannot interfere with the original holdings. This is the idea of Nozick's "moral horrors" that Western entitlement theory sees in institutional intervention in the market allocative process.¹¹

In the concept of moral entitlement, the separation between the antecedentalist and consequentialist viewpoints of the market system and market exchange does not exist. The responsibility to be morally acting is endowed in both of these premises of the total market function. There is no exonerating the exchange system from the original ownership of vectors of goods and the moral responsibility that these entail. Thus there is neither any concept of separating the market system from the polity nor of considering the self-interested preference formation for the consumer and the producer. Economic distribution is determined in the venue of the consumption and production menus that so emanate.

⁸ M.A. Choudhury, "A Critique of Developments in Social Economics and the Alternative," *International Journal of Social Economics* vol. 18, no. 11/12 1991.

⁹ For a description of the use of preferences in political association see, J.L. Coleman, "Market Contractarianism and the Unanimity Rule," *Ethics & Economics*, op cit.

¹⁰ J.O. Ledyard, "Market Failure," J. Eatwell et al (eds.) *Allocation, Information, and Markets*, The New Palgrave (New York: W.W. Norton, 1989).

¹¹ R. Nozick, "Foundations of Ethics," in *Philosophical Explanations* (Cambridge, MA: Harvard University Press, 1981).

Since primordial ownership loses its unbridled primacy in the moral entitlement concept, the concept of absolute ownership is therefore also relegated to the relevant concept of functional ownership.¹² The market system and its element of property rights are now guided by the role of polity in them. Yet it is not the polity that controls the market function. The market system continues to be upheld as the supreme allocator of resources. It is only that the market is now a morally guided system in the sense that such moral guidance is not enforced but integrated with the preferences of the consumer and the producer. Nienhaus refers to some such distinct view of his own as an “economic theory of morality.”¹³ The moral standing of the market now integrates with an equitable distribution menu and the precept of socioeconomic value. It is in this sense of moral integration of the polity with the market system that the ethically neutral concept of market is relinquished and replaced by an endogenous concept of ethics in the economic system.¹⁴

One can turn to the entire expanse of Western and Eastern socio-economic doctrines to find that political economic thought has always been swayed singularly by the precept of ethical neutrality and of ethical exogeneity to the socioeconomic system. This comprises the age-long period from the Greeks to the modern-day public choice theory, from Buddhism’s Mahayana and Hinayana schools as two levels of man’s quest for Nirvana’ the “yin” and “yang” (micro and macro-views of the cosmos) of Confucianism; to the present-day philosophy of the One and the Many.¹⁵ The common epistemological premise of all these thought processes is based on the separation of their view of reality into a dualistic mold of perception. That perception is essentially divided between an *a priori* essence of goodness and a non-interactive *a posteriori* element of sense perception.¹⁶ Unfortunately, several of the Islamic thinkers also

¹² A.H.A. Sulayman, “The Theory of the Economics of Islam: The Economics of Tawhid and Brotherhood,” *Contemporary Aspects of Economic Thinking in Islam* (Indianapolis, IN: The Association of Muslim Social Scientists, 1980).

¹³ V. Nienhaus, “Normative and Positive Knowledge in Political Economy: New Answers to Old Questions?” *Humanomics*, vol. 7, no. 3 1990.

¹⁴ The principle of ethical endogeneity is derived directly from the Qur’an. See Qur’an 14:24-7. The principle of ethical endogeneity is the keynote of M.A. Choudhury (ed.), *Policy-Theoretic Foundations of Ethico-Economics*, (Sydney, Nova Scotia, 1989). See also, M.A. Choudhury, *A Theory of Ethico-Economics* (forthcoming, Hull, UK: Barmarick Publications, 1991).

¹⁵ F. Capra, *The Tao of Physics* (New York: Bantam Books, 1984).

L.T. Sun, “Confucianism and the Economic Order of Taiwan,” *International Review of Economics and Ethics*, vol. 1, no. 2, 1986.

R. Rucker, *Infinity and the Mind* (New York: Bantam Books, 1983).

¹⁶ I. Kant, *Groundwork of the Metaphysics of Morals* (tr.) H.J. Paton (New York: Harper & Row Publishing, 1956).

fell victims to such dualistic ways of thinking as is shown by the works of Ibn Sīnā, the Ikhwān al Ṣafāʾ, al-Farabi and Ibn Khaldūn.¹⁷

Yet the singular difference of ethical endogeneity in socioscientific reality is an essential perception of the Islamic worldview of reality. While this view is not the one always pronounced by all Islamic thinkers, perhaps because of their subservience to Islamically extraneous realms of knowledge, it is definitely the one that remains the inexorable socioscientific worldview of reality presented by the Qurʾān.¹⁸ In this perception of reality there are several elements to be noted, all of which together finally establish the concept of moral entitlement.

In this perception of reality, the essential *a priori* premise of God's unicity, governance, and guidance in the order of things is integrated with the worldly response of its comprehension. The *a priori* is thus interrelated with the *a posteriori* in continuous bonds of evolution of the tawḥīdī precept in the socioscientific reality.¹⁹ Such an integration bestows the primal and evolutionary character of morals in the socioscientific structure. Now in the context of the Islamic socioeconomic system, consumption, production, and distribution menus are all primordially influenced by the input of the *a priori* moral premise. But through the integrative function of this moral premise, the *a priori* becomes one with the *a posteriori*. Ethical considerations become endogenized in the socioscientific structure. The separation between the moral polity and the market (more broadly ecological system) system disappears.²⁰

The concept of moral entitlement is now established. The essential Islamic belief that absolute ownership of all resources lies with God relegates all temporal forms of ownership to the nature of functional ownership. With this change in the concept of primordial property rights, there remains the margin of essential irrevocability for moral intervention. All property rights are thus limited by the moral conditions of consumption, production, and distribution. These con-

¹⁷ S.H. Nasr, *An Introduction to Islamic Cosmological Doctrines* (Boulder, CO: Shambhala, 1978).

¹⁸ M.A. Choudhury, *The Epistemological Foundations of Islamic Social, Economic and Scientific Order, Volumes I & II* (book ms. 1990).

¹⁹ The understanding of the Tawḥīdī Field and the Tawḥīdī Precept is the essential element of an evolutionary epistemology of the Islamic thought processes. Such an approach, although being fundamental, has not been tried in the Islamic literature. Two other papers on the Tawḥīdī Episteme are, M. al-Fadl, "Contrasting Epistemics: Tawḥīd, the Vocationist and Social Theory," *American Journal of Islamic Social Sciences*, vol. 7, no. 1, March 1990. A. Schleifer, "Ibn Khaldun's Theories of Perception, Logic and Knowledge: An Islamic Phenomenology," *American Journal of Islamic Social Sciences*, vol. 2, no. 2, Dec. 1985.

²⁰ M.A. Choudhury, "Islamic Economics as a Social Science," *International Journal of Social Economics*, vol. 17, no. 6, 1990.

ditions are derived in the polity by the transcendence of the moral law, which in Islam is the Sharī'ah. The Sharī'ah derives its sources from the Qur'an, the traditions of Prophet Muhammad (Sunnah) and Islamically learned analogy (*ijtihād*).²¹ The formation of the Sharī'ah, its extensions over time, and the acceptance of such extensions and abrogations of the extensions are vested on the social consensus formation found in *shūrā*, the Islamic polity.

Yet it is not the ruling of *shūrā* alone that performs the integrative function of ethical endogeneity in the Islamic socioeconomic system. Rather, the most important cycle of integration comes from the side of the market (ecological) feedback to the *shūrā*. Such feedbacks signal the attained robustness of the polity-market interaction back to the *shūrā*, and enable it to continue on the cycle of the moral transformation in concert with the changing preferences in the socioeconomic system. *Shūrā thus responds to the ethical perfection that proceeds on in evolutionary cycles of comprehension.*²² Such is the learning-by-doing process that integrates it with the ecological system, of which the market is a subsystem.

The Principle of Ethical Endogeneity in Establishing Moral Entitlement

The principle of ethical endogeneity that underlies this Shuratic process of polity-market integrative moral transformation is explained in figure 1. The polity box shows that there is direct relationship between institutions, I (*shūrā*), and the formulation of ethical policies, EP. These ethical policies are then made to interact with the market (ecological) environment as shown. In the market/society box the usual general equilibrium relationship is shown to exist: Consumption, C, relates with production, P, and this with distribution, D. In each case these activities are influenced by the ethical policies. This results in the generation of social product, S. S then sends feedback signals to the polity box in two ways. In the short run, the institutions are influenced to revise their policies and the interaction continues. In the long-run, social consensus, SC, is formed. This further influences the I and E sets to generate higher levels of interactions between the polity and the market/social system. General equilibrium in the market/society set is shown in terms of interaction among the socioeconomic variables. General equilibrium in the polity set is shown in terms of social consensus formation. The integrated general equilibrium in

²¹ A.R.I. Doi, *Shariah, the Islamic Law* (London, Eng.: Ta Ha Publishers, 1984).

²² M.A. Choudhury & U.A. Malik, *The Foundations of Islamic Political Economy*, op cit.

the two sets is shown as the Islamic Ethico-Economic General Equilibrium.²³

The Concept of Islamic Ethico-Economic General Equilibrium System in Relation to Moral Entitlement

A brief epistemological formulation of the above concept of Islamic ethico-economic general equilibrium in the light of the moral entitlement concept is now presented as follows: A Qur'anic verse speaks on the topic of production, spending, and distribution in light of the epistemological foundations of the Islamic economic and social orders. That verse is in several interrelated parts.²⁴

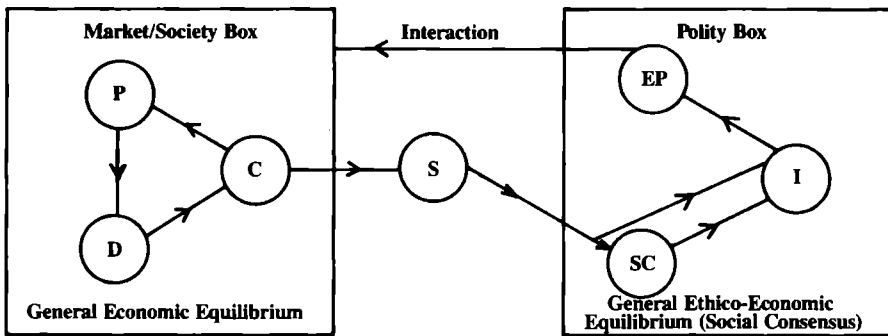


Figure 1: An Organistic View of Islamic Ethico-Economic General Equilibrium.

First, reference is made to the primary and produced goods that are delivered in the market or exchanged as gifts. Here it is shown that production is essentially a technical application to resources that are owned absolutely by God, with man as a trustee of those goods in their primary and produced forms. Thus the verse brings out the attributes of delivery of produced goods to be based on the honest production and delivery of things of use and benefit, not things that are useless and corrupting. The emphasis in this system of ethics is placed on the premise that all such deliveries are of goods that are not owned by man absolutely. Therefore man has no right to misuse those things ac-

²³ M.A. Choudhury, "The Blending of Social and Religious Orders in Islam," *International Journal of Social Economics*, vol. 16, no. 2, 1985.

²⁴ Qur'an 2:267.

cording to Islamic law. This principle is simply the principle of moral entitlement now being established on the production side.

Secondly, the verse goes on to point out the wisdom of market exchange of gifts or in the buying and selling of produced goods. The corrupt and dishonest exchange of useless and harmful items, when not characterized by the godly-set of moral values, are prohibited by the Shari'ah. According to moral characterization, all production just as all types of spending must be instilled with the attribute of God-consciousness.

Thirdly, by implication the question of moral entitlement is extended to the functional ownership of means and items of production. While the attributes of the godly-set of values are now extended to the production menu, mankind comes about not through any coercive policing rules of *shūrā* and its supportive organizations. The freedom for the shuratic process to be reinforced in the market venue indeed reflects the spontaneous response of the acceptance of truth, reason, and the fruits of felicity that are naturally generated out of the ethico-economic system. The strength and clarity of such a system is repeatedly shown in the referred to Qur'anic verses, to be due to the inexorable and impeccable presence of the godly-set in the order of things. Such a sure prevalence of truth is shown to lie in the essence of human pursuit for truth in spite of social aberrations in society among some sections of mankind over time. is thus implied.²⁵

The interrelationship among the various sections of the Qur'anic verse mentioned herein is seen in terms of the epistemological meanings of appropriate production of goods and appropriate technology, in the fair market exchange of those items that establishes moral entitlement, and in the social control and balance potentially delivered by the production activity. The early seeds of the Islamic theory of production are thus planted in this verse. These involve the role of productive activity in the general ethico-economic system of Islamic political economy. The social exchange is made to relate to these two by the determination of the social control and the balance of production and consumption, and the extension by implication of social justice to the factor market.

We have earlier presented briefly the Islamic ethico-economic general equilibrium system. It was shown to explain the interactions between *shūrā* and the ecological order. The social market system being a subset of this grand ecological order, we have shown that the concept of general equilibrium in it means the determination of social goods under the interrelationships between

²⁵ K.E. Boulding presented a non-neoclassical view of moral exchange in his, "Economics as a Moral Science," J.F. Glass & J.R. Staude (eds.) *Humanistic Society* (Pacific Palisades: Calif.: Goodyear Publications Co. Inc., 1972.

the three basic activities of an Islamic economy. These are the activities of social consumption, social production, and distributive equity (social justice). These three activities then relate with the ethical guidance of *shūrā*. But such a guidance comes about not through any coercive policing rules of *shūrā* and its supportive organizations. The freedom for the Shuratic process to be reinforced in the market venue indeed reflects the spontaneous response of the acceptance of truth, reason, and the fruits of felicity that are naturally generated out of the ethico-economic system. The strength and clarity of such a system is repeatedly shown in the referred to Qur'anic verses, to be due to the inexorable and impeccable presence of the godly-set in the order of things. Such a sure prevalence of truth is shown to lie in the essence of human pursuit for truth in spite of social aberrations in society among some sections of mankind over time.

In the context of the Qur'anic verses, the present-day concern of people all over the world with pollution, nuclear armaments, use of chemicals in war, drugs, drinking, junk food, abortion, pornography and prostitution, homosexuality, child abuse, cult worship, welfarism, irresponsible media and so on, are among the damaging forms of consumption and production items that need to be particularly focused on here. Social conflicts have thus arisen all the world over because of the harmful delivery of items that were not within the domain of the rights of individuals to deliver. On the other side, they are responded to and demanded by insatiable consumers within whose rights was never included the right for spending in such goods. The polity here appears as a promoter of this evil exchange in the market system in the hope of preserving party popularity and promoting the false image of progress and development created by a liberal and democratic visage of society.²⁶

The epistemological basis of the interrelationships mentioned in the Qur'anic verses referred to here now leads to the formalization of the general ethico-economic system in its rudimentary form. Toward developing this we define the set,

$$SG = \{(CS, PS, DS, z) : PS = f_1(CS, z), DS = f_2(PS, CS, z), CS(z) = PS(z) = DS(z)\} \quad (I)$$

where,

SG denotes a bundle of social goods.

CS denotes the demand for social consumption and investment goods.

PS denotes social production.

²⁶ W.M. Sullivan, "The Contemporary Crisis of Liberal Society," in H.B. McCullough (ed.) *Political Ideologies and Political Philosophies* (Toronto, Ont.: Wall & Thompson, 1989).

DS denotes social distribution (distributive equity).

$PS=f_1(CS, z)$ means that the supply of output responds to the demand for that output in the social market. $DS=f_2(PS, CS, z)$ means that distribution in the factor markets depends upon the production characteristics and the market exchange that generates prices, and thereby, profits that are distributively shared between the participants in a profit-sharing environment (*mudārabah*). The presence of z -vector as the Islamic ethical values in all of these menus shows the role of polity-market interaction necessary for social balance and control in the ethico-economic system. This equilibrium position is shown by $CS(z) = PS(z) = DS(z)$. Note that in the Islamic economy the principle of simultaneity between economic efficiency and distributive equity gives primacy to the goal of distribution to *shūrā*. This in turn determines the consumption-investment menu and the distribution menu in light of the costs and incomes generated by wages and profit shares.²⁷

The additional relations here as follows: The given functions are invertible in the z -vector and there is a 'basis' element of the z -vector that defines the X -set of commitment, motivation, and justice.²⁸ This basis vector establishes temporary equilibrium (optimality) in the set SG of social goods. Such an equilibrium then regenerates itself over different phases of ethical perfection attained by the evolving Islamic polity-market interactions over time. Since an equilibrium, although temporary, exists in the SG set over a particular phase of polity-market interactions, therefore, an optimal situation is attained in this set. Thus, there is an equilibrium-optimality for each of its compact subsets, i.e. CS , PS , DS , that simultaneously attain²⁹

Now, while the godly-set is compact over a particular phase of Islamic transformation, the set of equilibria over different phases of Islamization is unbounded, as there is no limit to the ethical perfection that individuals and a society can attain. The supreme example of moral perfection is found in the life of the Prophet Muhammad. Hence, over different phases of Islamization, we are involved with the mapping of the open Z^* set comprising equilibrium z^* vectors onto the corresponding SG^* set. That is, we can no longer define a limit point for the Z^* set for which a finite value exists in the SG^* set. The im-

²⁷ M.A. Choudhury, *The Principles of Islamic Political Economy: A Methodological Enquiry* (forthcoming, London, Eng.: Macmillan Press Ltd.)

²⁸ For a formalization of the commitment model see, R.H. Frank, *Passions without Reason* (New York: W.W. Norton, 1988).

²⁹ M.A. Choudhury, "A Study of Ethico-Economics in the General Equilibrium Field," *Festschrift in Honour of Anghel N. Rugina, Part I*, J.C. O'Brien (ed.) (Hull, Eng.: MCB University Press, 1986).

plication of this property of the SG*-set with respect to the Z*-set is that such sets are locally stable but globally unstable.³⁰ *Shūrā* comprehension, priorities, policies, and directions are thus constantly revised, and these bring about different configurations of consumption, production, distribution, and their responses between the polity and the market system.

The Concepts of an Islamic Market, Islamic Economy, in Relation to Moral Entitlement

A Definition of Islamic Market

The concept of the market emanates from yet another verse of the Qur'an.³¹ In the light of this verse, a generalized definition of markets, M , can be provided. Now, $M = M(p, r, qd, qs)(z)$, where, p denotes the market price in the immediate sale of the goods and services. r denotes the price for long-run sale of goods and services, and are therefore rates of return. qd and qs denote demand and supply of goods, respectively, immediately transacted in the market or in the long run. qd is also the demand for capital, $I(t)$, i.e., $qd = I(t)$; qs is also the supply price of capital, $P(V)$, i.e., $qs = P(V)$. The social aspect of these markets is shown by the dependence of all such variables on the Z -set.

Since the z -vector is invertible in the Islamic ethico-economic general equilibrium system, the spending set, production set, distribution set and the above-mentioned market variables must therefore be interrelated with each other through the z -vector. For instance, given a shuratic ethical policy z -vector by the *shūrā* of the firm, the consumption, production, and distributional menus result in a spending regime whose growth rate is governed by a declining interest rate and an increasing profit rate in the process of Islamization as discussed above. Consequently, greater mobilization of investment capital into Islamically requisite ventures strengthens the consumption, production, and distribution menus of the ethico-economic general equilibrium system.

A Definition of Islamic Economy

An Islamic economy described as the topological set,³² $E(CS, PS, DS/W, > \sim)$ is essentially an ethico-economic general equilibrium system based on

³⁰ For concepts on stability of economic equilibrium see, J. Quirk & R. Saposnik, *Introduction to General Equilibrium Theory and Welfare Economics* (McGraw Hill, 1968).

³¹ Qur'an 2:282.

³² G. Debreu, *Theory of Value: An Axiomatic Analysis of Economic Equilibrium* (New York: John Wiley & Sons, 1965).

direct and implicit contracts that influence the CS, PS, and DS sets in the economy topological set. More explicitly, in the ethico-economic set, $CS=f_1(p, r, qd, ds)$, with the variables defined in the static form if immediate delivery of goods in a market mechanism is involved, or as rates of return, investment, and present values, when long-term transactions are involved.

$$PS=f_2(p, r, qd, qs). DS=f_3'(CS, PS) = f_3(p, r, qd, qs). \text{ (Note—(2))}$$

Incorporating an Islamic market with the superstructure of an Islamic economy, we can now extend the definition of the Islamic economy as follows: It is defined now as an ethico-economic market system, EM, with polity-market interactions. This is now shown by the topology $E(M(p, r, qd, qs)(z)/W, > \sim)$. The ethical market system is shown by the vector, $(p, r, qd, qs)(z)$. The interaction between polity and the socioeconomic system is shown by the implied invertibility of these vector functions on each other's sets of values.

Figure 2 shows the formation of ethico-economic equilibrium through interactions in the EM system. The following symbols are explained:

$p, r, qd (=I(r)), qs (=P(V(r)))$ were defined earlier. Note that in order to show the ethico-economic market interactions it is sufficient to mobilize p and r in terms of the z -vector, for such induced price vectors will then qualify the quantities in the short and long run, respectively.

$(Es), s=1, 2, \dots$ comprise the short-run ethico-economic market equilibrium corresponding to greater or lesser induction of the process of Islamization as shown by the rightward and leftward movement, respectively, of the demand and supply curves. Thus the equilibrium points are induced by changes in the z -vector.

$(es), s=1, 2, \dots$ likewise comprise the long-run ethico-economic market equilibria corresponding to greater or lesser induction of the process of Islamization.

The set of z -vector corresponding to immediate market transactions is shown to be a combination of the sets— $A0''$ of pure Islamic good-set (z -variables), the admissible but not recommended set, $A0'$ in the process of being Islamized (z' -variables). Note that each of these sets is concave to the origin, as was formalized earlier. Similar sets are seen to exist for the long-term transactions. The correspondence between the $(Es), (es)$ sets and the set of z -vector is shown by the two way arrows in the sense of invertibility.

Contracts in the EM system take place between individuals, in which case the production menu can assume the form of household production function,³³

³³ For a concept of household production function see G.S. Becker, "A Theory of the Allocation of Time," *Economic Journal*, vol. 75, Sept. 1965.

or they take place between investors and businesses. In either case, the direct contract establishes the full force of the market exchange mechanism as the immediate deliverance of the fairness and utility of the contract to buyers and sellers. In the case of longer-term transactions, investments are involved. Now the implicit contract is to deliver the appropriate goods and adopt the fairest means according to the godly-set. The net result of all these is both increased material as well as spiritual welfare of the individuals and society at large.

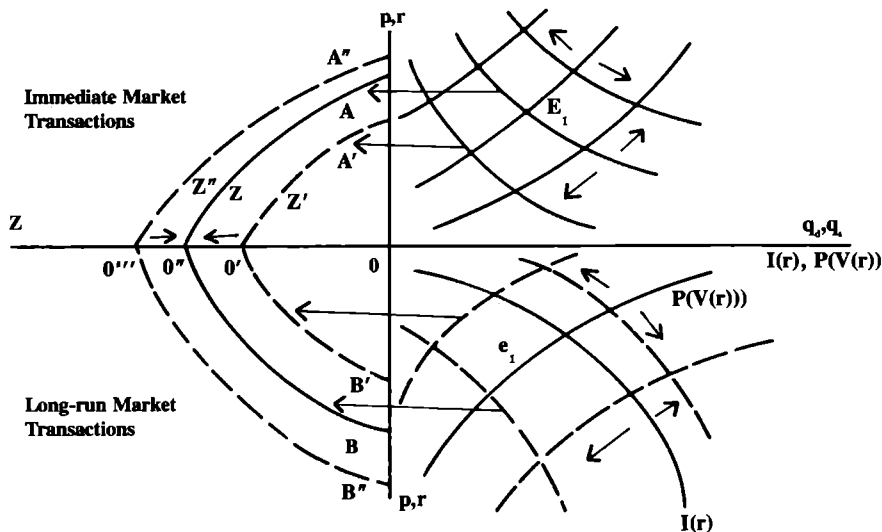


Figure 2: Correspondences in an Islamic Ethico-Economic Market Environment.

Islamic Inheritance as Moral Entitlement

The Islamic inheritance system is an important medium for establishing moral entitlement in society. But an inheritance that is squandered away cannot be categorized as deserving its entitlement by the recipient. In order to protect the status of moral entitlement in an Islamic society and mobilize it through inheritance, the Shari'ah provides necessary safeguards built into the distribution, socio-economic mobilization and maintenance of inheritance through an Islamic economy.

That is why the Islamic inheritance system is shown to be embedded in a profit-sharing (*mudārabah*) driven polity-market interactive process that generates wealth and perpetuates the capital information process through the household activity. In this type of socioeconomic relationship where both the household division of labor, complementarity between men and women, as well

as economic efficiency and self-reliance are recognized, there must necessarily be the ordering among various categories of receiving, namely sons' share, daughters' share, mother's share, relatives' share, and other shares.³⁴

In the final analysis, the mobilization of such shares through the *mudārabah* (profit-sharing) system in an Islamic economy bridges the initial differentials in the shares, as the rate of return is equalized among all participants. In the aggregate economic sense, this initial differential is further reduced as all individuals become beneficiaries of the volume of inheritance mobilized into social services.

A Comparative View of the Social Values of Inheritance

A comparative view can be presented here between the capitalist, socialist, and Islamic viewpoints on the socioeconomics of inheritance. In the capitalist system, although individual property rights and inheritance play a significant role in capital accumulation, equity is not considered to be a feature of the distribution of inheritance. Thus property distribution is left totally to the inheritance will. There is no unique way in which this inheritance will can be formulated, as it is left to the preferences of different individuals to react differently to their heirs subject to the given inheritance to be bequeathed. We show this in figure 3.

Figure 3 shows in quadrant 1 the case for the capitalist mode of distribution of inheritance. A given allocation of inheritance, (G1, G2) is represented along the line L1 at the optimal point of choice by the will of the donor at point a1, giving a certain preference by the donor between the individuals 1 and 2. The slope of this line expresses that subjective rate of preference as the ratio of a subjective rate of preference for G1 over G2. But a1 is not a unique point of choice. The same donor is free to choose point a2 if his preference between G1 and G2 changes, with the new inheritance line shown by L2 and the point of optimal allocation shown by a2. There is no other reason to shift between a1 and a2 than adhering to the relative rates of preferences shown by the slopes of the lines and as subjectively determined by the individual. Next, market mobilization of a given flow of inheritances can create wealth that shifts the inheritance indifference curve from A1 to A2, and the same formalization on allocation of inheritance repeats itself in this situation.

In quadrant 2 we show the problem of property distribution in a socialist economy, where there is no respect of inheritance rights nor any market to

³⁴ Qur'an 4:12.

mobilize the property acquired by the socialist state. Property formation in the socialist state itself remains minimal. An example of private property in the socialist system that qualifies for state acquisition for distribution is a cooperative enterprise held by an individual under conditions of perestroika. But such socialistic distribution of property is governed by state-determined rules, and under these, the state determines how to allocate (G1, G2) between two groups. The state itself then mobilizes property acquired by it. There being no market in the socialist system, the upward shift of b1 to b2 is small.³⁵ The state-determined points of property distribution are shown by b1, b2, and so on. They must lie along the uniquely determined distribution line S1 corresponding to a given assignment on the shares distributed to G1 and G2.

In quadrant 3 we show property distribution in the Islamic socioeconomic order. Since the distribution of shares is set by the Qur'an, there is a unique point c1 corresponding to a given level of inheritance and structure of family. As long as this structure remains unchanged and inheritance is mobilized through an Islamic market economy, c1 will shift to c1'. However, with changes in the structure of family, property distribution changes, as is shown. Correspondingly, c1 can shift to c2, c2 to c2' and so on. The loci of property distribution with such structural family changes and market mobilization of property, shown by I1, I2 and so on, are not unique, as the changing structure of family is not within human control. The changes in allocation do not occur due to subjective preferences of the donor for individuals G1 and G2. They do not result from state-determined prefixation of property shares. Contrarily, family structure and market forces are relied upon to activate the mobilization of inheritances. The general equilibrium implications of such mobilization were explained earlier.

Zakāh or Wealth Tax as Moral Entitlement

A very important part of moral entitlement in Islam is the institution of *zakāh*, (wealth tax). With the addition of *zakāh* to the Islamic spending vector,³⁶ the ethical attributes of the Islamic expenditure model shows how the worldly felicity derived from the doing of righteous acts emanates from the application of God's laws in society.

³⁵ P.R. Gregory, "The Soviet Bureaucracy and Perestroika," *Comparative Economic Studies*, vol. XXXI, no. 1, Sept. 1989.

³⁶ The chapter "Al Baqarah" (The Cow) of the Qur'an provides a complete list of elements of the Islamic spending vector.

The earlier expenditure function of an Islamic economy which was in terms of consumption expenditure is now extended to include *zakāh* expenditure. The expenditure set is now augmented by the following *zakāh* expenditure set:

$$H = H_1 \cup H_2 \cup H_3 \cup H_4 \cup H_5 \cup H_6 \cup H_7 \cup H_8, \dots (3)$$

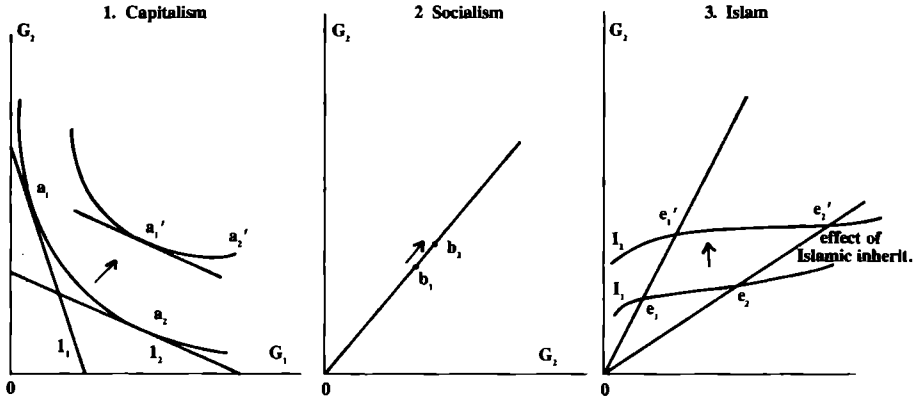


Figure 3: Allocation of Property in the Comparative Views of Capitalism, Socialism, and Islam.

where, H_i are the subsets of *zakāh* expenditures specified as in the verse, $i = 1$ (kin), 2 (orphans), 3 (needy), ... 8 (ransom of slaves). The Islamic *zakāh* expenditure is a suitable combination of these subsets of expenditures according to needs and priorities. Thus, $\Pi (i=1-8)H_i \neq \emptyset$. Each of these subsets is characterized by the following attributes: God-consciousness, hereafter, angels, messengers of God, prayer, trust and freedom.³⁷ Thus the earlier Z-vector of Islamic fundamental values is now extended to depend upon these additional attributes. In all, we have the Z-vector depending upon the following attributes: (God-consciousness (e_1), hereafter (e_2), angels (e_3), messengers of God (e_4), prayer (e_5), trust (e_6), freedom (e_7)).

These attributes in respect to their influence on *zakāh* expenditures essentially define the Islamic sense of righteousness. For the outer manifestation of prayer to be meaningful and to be acceptable to God it is mandatory for such prayer to inculcate the above-mentioned attributes of righteousness. The mention of trust here is both in regards to the Islamic trustworthiness of contracts signed with others as well as it denotes the trust that each Muslim has been

³⁷ Qur'an 2:177.

made responsible for within the Islamic *ummah*. An important aspect of this trust is that of the well-to-do to the less wealthy. *Zakāh* is thus made a pillar of the Islamic faith as it is shown to join the other principal values, namely, belief in God, prayer, belief in the angels, and belief in the messengers (therefore, on the divine message sent by God to mankind through the prophets throughout time).

The epistemological basis of formulating the Islamic expenditure function is now cast in the following problem:

Let the *zakāh* expenditure model be taken in the form,

$$h = \sum a_i \cdot h_i(z) \quad \dots (4)$$

where, a_i denotes a weight placed on the source of expenditure depending upon the social and economic circumstances prevailing at a time:

$$h_i \in H_i, h \in H, i = 1, 2, \dots, 7.$$

$z \in Z$ denotes the vector of Islamic attributes.

In the above verse the functional form $h_i(z)$ is based on the fact that *zakāh* expenditure is not a coercion on people. Rather, it is *taqwā*-creating (God-consciousness) and therefore invokes expenditure out of love for God. By the same token the payment of *zakāh* in the process model of social preference transformation in the Islamic society does not mean ostentatious or politically-motivated dues made forth to the community or the state. The motivation to pay and collect *zakāh* must be spontaneous according to the need for forming productive entitlement at the grass roots level.³⁸

The epistemological basis of the *zakāh* expenditure model can now be linked up with similar form acquired by the Islamic consumption expenditures set as follows. Let the augmented Islamic individual expenditure set, IEx , be,

$$Ex = CI(Z) \cup H(Z) = (cI(z) + h(z)), \text{ such that, } cI(z) \in C1^* \cup C2^* \\ \cup C3^*, h(z) \in H, z \in Z(e1, e2, \dots, e7) \dots (5)$$

Note now, that since both c and z depend upon z -values, they must be complementing each other. Because *zakāh* is a social expenditure variable, complementarity here would mean that with a given endowment of resources, $C3^*$ subset of luxuries would be becoming smaller in measure as $H(Z)$ set increases

³⁸ M.A. Choudhury, *Theory and Practice of Islamic Development Cooperation: Some Asian Cases* (book ms, 1990).

in measure. Therefore in the limit, $\lim.(u(H(Z) \rightarrow \inf)u(C3^*(Z))) = 0$, the Islamic social expenditure set, SEx equals the Islamic individual expenditure set, IEx. $u(.)$ denotes the mathematical mapping on the sets shown within brackets (.).³⁹ This means further that,

$$IEx = CS(Z) \cup H(Z) = (cs + h(z)), \text{ such that, } cs \in CS = (c(z), z(c)) \\ \lim(u(H(Z) \rightarrow \inf)u(C3^*(Z)))=0 \dots (6)$$

Therefore $cs(z) = cI(z)$, and by the invertibility of the cs , cI and h functions on the Z -vector,
 $z(cs) = z(cI) \dots (7)$

The above results establish further the epistemological basis of the expenditure models in the Islamic economy. That is, under the influence of *zakāh* individual consumption preferences must be inevitably transformed into social preferences. Also in Islamic social and economic frameworks individual ethics must finally conform with Islamic social ethics. This is indeed the process of ethical transformation at which the Islamic worldview aims. The invertibility properties on the Z -vector means that the rational and empirical synthesis of the Islamic moral values with the functions of society are at once primordial and derived from the Islamic social felicity that society attains from moment to moment in its evolution.

One final point must be explained here with respect to the problem of free-rider in relation to *zakāh* expenditure on the needy. Some authors have taken the view that the *zakāh* is associated with the free-rider problem.⁴⁰ To contradict this mistaken conclusion we proceed as follows.

The principle of simultaneity between economic efficiency and distributive equity is at work again. A higher degree of distributive equity being entitlement generating in an Islamic economy must necessarily result in higher production and consumption, bringing along with it higher levels of felicity. If one form of spending in the total category of Islamic spending set shows signs of misuse and free-ridership, it is followed by a change in the mode and priority of spending. This is particularly true when spending, including collection and disbursement of *zakāh*, becomes organized.

Moral Entitlement and Social Justice.

The moral entitlement theory has so far been developed in terms of Islamic

³⁹ I.J. Maddox, *Elements of Functional Analysis* (Cambridge: Cambridge University Press, 1970).

⁴⁰ H. Hosseini, "Islamic Economics—A New Economics or an Old Dogma?" *Forum for Social Economics*, vol. 16, no. 2, Spring 1987.

concepts of polity-market interrelationships, characterization of social goods, a general ethico-equilibrium system, and various types of spending including the important spending of *zakāh* and inheritance. It is next extended to invoke the Islamic concept of social justice.

The Antecedentalist and Consequentialist Ideas of Social Justice

Here we return to the question of the antecedentalist and consequentialist views of social justice through the market system pronounced in the Western economic system. We shall now show that the theories of justice relating to entitlement (distributive justice) developed in the context of such ideas are erroneous. We will next present the epistemological foundation of social justice (distributive justice) in Islam in the context of the theory of moral entitlement.

In recent years, Nozick has reaffirmed the neoclassical concept of entitlement formation.⁴¹ He says that if an initial holding of goods and resources is established by justice for an individual or group, then any redistributive influence on this holding of property bundles is unethical and counterproductive. Nozick categorizes in this argument the role of taxes as being regressive and nondistributive. The extent of such a concept of distributive justice would be extremely damaging. For example, if such types of entitlement based antecedentalist ideas were given sway, the Palestinian people would have no rights to their homeland Palestine in the face of the Nozickian antecedentalist primordial rule, saying that the land in antiquity belonged to the Jewish people.⁴² Contrarily, it is the moral entitlement to the land of Palestine that as derived from the Qur'an promises this to the righteous Muslims.⁴³

The western social welfare system is a gross aberration of socially purposeful and productive directions.⁴⁴ The concept of entitlement included in the

⁴¹ I. M. Kirzner, "Entrepreneurship, Entitlement, and Economic Justice," in J. Paul et al (eds.), *Reading Nozick, Essays on Anarchy, State and Utopia* (Totowa, N.J.: Rowman & Littlefield, 1981).

⁴² Much of Nozick's *Philosophical Explanations*, which presents many Judaic views on ethics, justice and their link with entitlement, was completed and presented as lectures during his sabbatical period at Hebrew University, University of Tel Aviv, University of Haifa, Ben-Gurion University and the Van Leer Jerusalem Foundation.

⁴³ Qur'an 7:100, 128. Contrasts these supreme Qur'anic moral messages of moral entitlement based on belief in God against the ethnocentric note given in the Old Testament, Numbers 33:51-53, 55. M. A. Choudhury, "The Concept of 'A New World Order' in relation to the Gulf Crisis," paper presented at the Tompkins Institute Seminar, University College of Cape Breton, Oct. 1990.

⁴⁴ B. R. Anderson, "Rationality and Irrationality of the Nordic Welfare State," *Daedalus*, (Winter, 1984).

welfare concept is one of income supplementation and transfer payments. This welfare concept does not ultimately protect an individual against job insecurity. Welfare payments take the form of augmenting low incomes through a transfer of programmes progressive taxation or unemployment benefits. Both of these programmes have proven to be phenomenally large and inflationary in recent times.⁴⁵ The socially unproductive results of the welfare trap, free-ridership, loss of dignity and purposeful participation in the world of work, together with the dangerously alarming social disruptions these have created are manifest in Western society without exception. The problem is heading to explosive proportions rather than mitigating in the face of economic prosperity and generous welfare system of this society.

Recent Developments on Social Justice Theory in Western Thought

The continued dependence of Western social welfare system on the neoclassical ideas of resource allocation is to be seen in contemporary public choice literature.⁴⁶ They are also inherent in the new theories of social justice.⁴⁷

The public choice theory is a re-enactment of the libertarian type individual decision making in political matters. Thus, voting behavior is simply explained in terms of a pricing mechanism wherein individuals buy votes sold by politicians to satisfy group norms. There is no role for moral and ethical questions to predominate in this arena as long as such issues are not invoked by the public in the first place. One would therefore argue that if the cost-benefit calculations of the polity show electoral profitability while maintaining shantytowns, then go for the latter. Expenditures on crime control and legal punishment can be managed through general tax revenues as long as the people and corporations find it less taxing on them than to rehabilitate the shantytown dwellers.⁴⁸

Rawls' theory of justice says that for the sake of an equalitarian society the measure of social welfare must be judged by the criterion of maximizing the social welfare of the least advantaged.⁴⁹ The attainment of such a state in the

⁴⁵ See various issues of the *OECD Observer* (Paris, France: Organization of Economic Cooperation and Development) for statistics on social welfare expenditure in member countries.

⁴⁶ T. Romer, "James Buchanan's Contribution to Public Choice Theory," *Journal of Economic Perspective*, vol. 2, n. 4, 1988.

⁴⁷ J. Rawls, *A Theory of Justice* (Cambridge, MA: Harvard University Press, 1971).

⁴⁸ H.R. Rodgers Jr. *Poverty Amid Plenty: A Political and Economic Analysis* (Reading, MA: Addison-Wesley, 1979).

⁴⁹ For a critique of this Rawlsian viewpoint see, P.R. Wolff, *Understanding Rawls* (Princeton, NJ: Princeton University Press, 1977). M.A. Choudhury, "Attempts Towards a Systemic Approach to Ethical Value Theory in Economics," in his *A Theory of Ethico-Economics* (forthcoming, Hull, UK: Barmarick Publications, 1991).

new justice model necessitates that each citizen be started off at an original position, where each, not knowing about expectations of the other, is made to decide for itself. Such an idea is simply a return to the liberation concept of individualism now given a different methodological form. The theory suffers from the same problems of independence of utilitarian behavior and thus falls short of addressing the more primal questions of the causes of social dissent and malaise.⁵⁰

The Concept of Social Justice under Socialism

Social justice is also the target of socialism as a social and economic order. Yet both the substantive and procedural components of the idea of justice are very different from those of capitalism. The substantive element derives itself from the assumed premise made by Marx that morality and ethics preached by the religions in the name of God are illusions; they are used for sustaining a capitalistic order through the machinery of the church. This type of conclusion was based not on rigorous analytical arguments but rather on Marx's observations on the impoverishing and exploiting machinery of capitalism during the early days of the Industrial Revolution in England. He saw the rapacious role of profits on the working class in the name of entrepreneurship. He saw the impoverishing wages and the connection of this to the business cycle, which he claimed represented the structural consequences of a capitalist economy going through long cycles of exploitative production, high profits as surpluses, gluts, massive unemployment or low wages and so on.⁵¹ In this, Marx read the signs of gross inequity for the working classes and peasants. His was thus a prognosis against the capitalist means and ends of production. Marx questioned the profit-basis of capitalism, free markets and ownership of the means of production.

By and large then, Marx's idea of justice is centered around the idea of economic justice. Social justice is seen to be subsumed in this, as there exists no profound epistemological foundation for Marx to derive a substantive premise for a theory of justice. The substantive idea of social justice finding its origins in socialism independently of established traditions was at once a revolt against the church as it was against the institutions of law and justice found in the Western world. This same substantive idea became a revision of the libertarian basis of the social order in order to reveal its economic-centered concept of justice.

⁵⁰ J. Rawls, "Distributive Justice," in E.S. Phelps (ed.), *Economic Justice* (New York: Penguin Education, 1973).

⁵¹ P.M. Lichtenstein, *An Introduction to Post-Keynesian and Marxist Theory of Value and Price* (London: Macmillan Press Ltd., 1983).

The individualistic decisions, choices, freedom, and preferences taken singly meant deception to Marx. Accepting these would mean reverting socialism back to the same capitalist foundations and institutions. The conduct of organizations would then be similar. Marx therefore changed this libertarian leaning from individualism to collectivism. The socialist state became the expression of the people, called the proletariat. The social welfare goals of the state thus represented those of the people, who had given it the mandate in the first place. The perceived distributional process to bring about distributive justice was thus taken over by the state as the ideal representation of the collective preferences.⁵²

Social Justice and Economic Justice in Islam

The Islamic concepts of distributive justice and social justice are inseparable from each other. The reasons for this are that both concepts derive their substantive components from the same primacy of revealed knowledge; but further still, because ethics and morals in Islamic politico-economic matters are inseparable elements of the social relationships. This feature of the Islamic social system is a critical one. It assumes both the essence of the polity-market interrelationship as well as the *modus operandi* of the ethico-economic system of Islam within which the Islamic distributive equity unfolds.

The salient features of this ethical interrelationship are shown in figure 4. It implies that the primacy of the principle of *tawhīd* (unity of God, along with its two other linked sub-principles, *risālah*, (prophethood) and *ākhirah* (belief in the hereafter), the principle of distributive equity and the principle of entitlement formation, pervade all deliberations in various *shūrā* levels resulting in policy information that impact upon the market system.⁵³ The market system is thus given high sanctity in the Islamic socioeconomic order. It is looked upon as the rich arena for the inculcation of the bounties of God on the welfare of humanity. It is seen as the arena for the effective integration of Islamic ethics, laws, and shuratic policies in the life of *ummah*, for Islamic transformation is a grass roots movement and must be freely accepted by the populace. It cannot be imposed from above. This democratic process of feedback and integration between the polity and the market through ethical policies enacted in the *shūrā*, which is decentralized and democratically represented at all levels and groups of the Islamic society, is a secure one. The Qur'an says of this security

⁵² E. Raiklin & K. McCormick, "Soviet Man on the Road to Utopia: A Moral-Psychological Sketch," *International Journal of Social Economics*, vol. 15, no. 10, 1988.

⁵³ This general equilibrium was first presented in M.A. Choudhury, *Islamic Economic Co-operation* (London: Macmillan Press Ltd. 1989).

on two fronts: First, it is Truth of assured certainty—"And what is there after the truth but error" (10:32); "And with truth have We revealed it and with truth did it come" (17:105). Secondly, the Qur'an says that those who relinquish the way prescribed by Islam cannot do an atom of harm to the Islamic cause.

Inseparability of the Substantive and Procedural Components of Social Justice in Islam

The substantive and procedural components of Islamic social justice can now be seen as being inseparable from each other. This is again because of the inseparability of the principle of *tawhīd* even from the most mundane affairs of the Islamic society, say the caring of animals or the irrigation system in early Islamic period. Here then is a sharp contrast of the Islamic epistemology of social justice with the substantive and procedural premises of social justice in Western social philosophy. The latter system of thought treated matters relating to ethics and morals as exogenous elements of the procedural component, although their relevance can be traced to the religious roots and Greek philosophy in the substantive component. As for the socialist philosophy, there is no discernible epistemological foundation for deriving the communist ethics. The procedural component derives itself from the communist lure to establish an earthly paradise through industrialization and collectivization. Conclusively therefore, the inseparability of the substantive and procedural elements of social justice in Islam establishes the premise of endogeneity of ethics and values in the Islamic social and economic order.

Antecedentalism and Consequentialism of Islamic Social Justice

The antecedentalist and consequentialist properties of social justice are strong features in the Sharī'ah. Antecedentalism of the Sharī'ah is derived from the epistemological foundations of the Qur'an and Sunnah. It plays its primal role in the formulation of rules of conduct, policy formulation and syllogistic deductionism (*ʿilm uṣūl al fiqh*) in *shūrā* and *ijtihād*. It establishes a consensus in social choice ordering that configures the measure of *falāh* (felicity). It is like the originary philosophy of Kant, but lends itself to human reason through receptivity. In this sense, the Islamic originary philosophy is based on the premise of *tawhīd* that is dynamic and self generating in its relationship with the real world. On the other hand, the originary philosophy of Western thought is construed in terms of a "society as a whole (being) regulated by an external, pre-given, and unquestionable teleological *myth*. More important than

its function in guiding the behavior of the individual is the theoretical status of the telos.”⁵⁴ Consequentialism in Islamic social justice is the result of the polity-market interaction that we have explained above. The prowess of the ethical policies is proven by its acceptability in transforming society. It is continuously subjected to a learning-by-doing process of change, improvement, and application.

Because of the integrative nature of the substantive and procedural components of Islamic social justice, of the inseparability of economic justice from social justice, and of the central role of ethics as endogenous elements of the Islamic polity-market interrelationships, there can exist no real separability between the antecedentalist and consequentialist features of social justice in Islam. Islamic political economy thereby, negates the neoclassical assumptions of marginalism in resource allocation. Equally, it negates custodianship like that of the Communist party hegemony over the proletariat, which is without a substantive base other than the Marxist-Hegelian reflexivity of relation.⁵⁵ The end that completes this philosophic system is the Communist party as a physical form motivated by the precept of creating a political-economic paradise on earth.

Conclusion.

The theory of moral entitlement in Islam is intrinsically linked with the foundation of social and distributive justice as elaborately established by Shari'ah. Within this purview all functions of the socioeconomic order revolves, bestowing forms and meaning in an ethio-economic general equilibrium framework. The principle of ethical endogeneity and the essentially by unified nature of reality pervades such a system. In this context, the shuratic process that both endows and reinforces itself over evolutionary phases of Islamization, sustains all social and economic relationships in the framework of the primacy of principle of *tawhīd*, the principle of justice, and the principle of moral entitlement. The Islamic precept of social justice being the foundation of moral entitlement and emanating from the crowning principle of *tawhīd*, the core relationships in the Islamic ethico-economic general equilibrium system turns out to be as provided in figure 4.⁵⁶

⁵⁴ D. Howard, *From Marx to Kant* (Albany, N.Y.: State University of New York Press, 1985).

⁵⁵ G.W.F. Hegel, *The Philosophy of History*, (trans. J. Sirbee (New York: Dover Publications, 1956).

⁵⁶ M.A. Choudhury, *Islamic Economic Co-operation*, op cit.

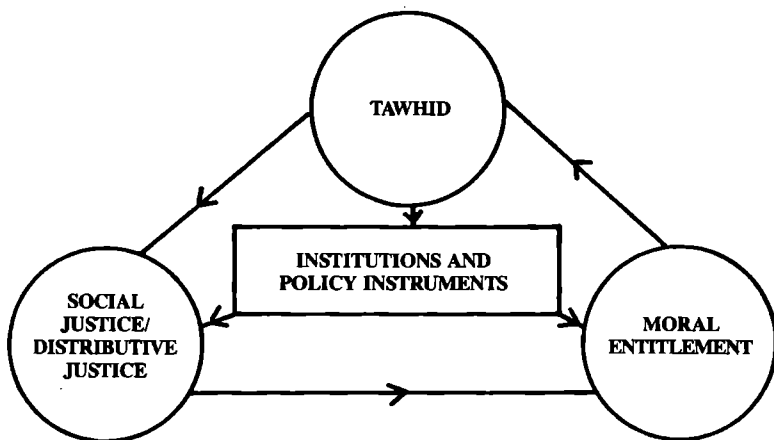


Figure 4: The Core of Islamic General Ethico-Economic System.

Investment Demand Function in a Profit-Loss Sharing Based System

by
Mohammad Fahim Khan*

Introduction

Interest has no place in an Islamic economy. The Islamic alternative is that financing either be free of any return or that it should bear the risk of loss as well if it expects to earn a return. There are several ways in which financing can be made to earn a return in an Islamic way.¹ Though the contemporary practice of Islamic banking has concentrated its operations on what is called markup-based (trade) financing, the theory of Islamic banking has been advocating the use of what is called Profit-Loss Sharing (PLS) based financing as the first best alternative to interest-based financing.² A substantial amount of theoretical literature has emerged during last fifteen years, in the East as well as in the West, discussing the economics of a PLS-based financial system as an alternative to an interest-based system. Several Ph.D. dissertations have also been written on the subject in Western universities as well.³

Investment demand has been one of the topics most subjected to rigorous analysis. The analyses, however, have been found deficient in one way or the other. The objective of the present paper is to point out some of the deficiencies in the several major attempts made in this area and to suggest an alternative formulation for understanding the investment demand phenomenon under a PLS system.

The Issue

The theory of Islamic banking suggesting PLS as an alternative to interest defines the concept of PLS in the following terms:

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¹ See Council of Islamic Ideology (26).

² See, for example, M.N. Siddiqi (8), M.U. Chapra (2), Council of Islamic Ideology (26).

³ See, for example, Waqar M. Khan (10), Nadir Habibi (27), Shah Rukh Rafi Khan (29).

- Let the investor be the one who demands funds for investment in an enterprise.
- Let the capital supplier be the one who supplies funds to the investor for investment in the enterprise.
- Both parties agree to share the profit arising out of the investment according to any preagreed ratio.
- The loss, if any, will be shared by the two parties in exactly the same ratio of their respective capital in the total investment of the enterprise. (If the investor does not invest any of his own funds, in which case he will be treated as *muqārib*, then he will not share any loss.)

How will the demand for investment funds (by the investor) be determined in this framework?

Will the Investment Level Be Higher under PLS?

Several writers have argued that under such a system the level of investment will increase, because the elimination of interest will allow firms to invest up to a level where the marginal product of investment becomes equal to one.⁴

Their argument is as follows:

We have a production function $Y = F(L, I)$ where L and I represent labor and investment respectively. We define profit in the interest-based system as:

$$\begin{aligned} P &= F(L, I) - I - wL - rI \quad \text{_____} \quad (1) \\ &= F(L, I) - wL - (1 + r)I \end{aligned}$$

where w is the price for labor, r is the interest rate on capital, and P is profit.

Profit-maximizing conditions require that the marginal productivity of investment be equal to $(1 + r)$.

$$\frac{dF}{dI} = 1 + r \quad \text{_____} \quad (2)$$

Correspondingly, we define profit in the PLS-based system as:

$$\begin{aligned} P &= F(L, I) - I - wL - k[F(L, I) - I - wL] \\ \text{or, } P &= \{1 - k\} [F(L, I) - I - wL] \quad \text{_____} \quad (3) \end{aligned}$$

⁴ See, for example, Waqar M. Khan (10, 30), Nadeemul Haq and Abbas Mirakhor (22).

Where k is the ratio in which the profit is to be shared by the capital supplier.

Profit-maximizing condition require that:

$$\frac{dF}{dI} = 1 \quad (4)$$

The condition requires that the marginal productivity of investment be equal to unity. Comparison of equation (4) with equation (2) is used to directly imply that the investment made in a PLS-based system will be higher than that in the interest-based system because $(1 + r) > 1.0$, and a lower marginal productivity of investment implies a higher level of investment.

The above analysis, though rigorous, fails to recognize the supply constraint. If the marginal productivity of investment is equal to unity, this implies that the opportunity cost of capital is zero. This would be a naive assumption. Islam has nothing against having a positive time preference. Besides, there is risk-bearing involved in all investments. These two factors may not allow the capital supplier to supply funds unless he finds it quite likely to realize a certain minimum rate of return. This capital owner's reservation rate of return may occur above or below the interest rate r . Hence in the above framework, it is not *a priori* clear whether the investment demand will be lower or higher in a PLS-based system. As far as the investment demand function is concerned, equations (3) and (4) do not help us. Some alternate function is needed.

Infinitely Elastic Demand for Investment under PLS?

On the other hand, some authors have argued that a PLS system implies an infinitely elastic demand for investment funds.⁵

Their argument is as follows:

The investor's status in the enterprise is fixed to the extent of his own investment in the form of capital (physical, human, or financial capital). The more investment funds he gets from the capital supplier, all additional liability of loss will go to the capital supplier while the investor will have a share of any additional profit that may come as a result of more investment. In other words, the investor does not lose anything by demanding more and more investment funds, for his gains are likely to increase as the invested amounts rise.

This argument is also naive. It assumes two things:

- The profit-sharing ratio is exogenously given and remains constant irrespective of the level of demand for and supply of investment funds.
- The opportunity cost of capital is zero.

⁵ See, for example, Nadir Habibi (27).

The problem arises because the above formulation assumes k to be independent of the level of investment demand.

It is, however, unrealistic to assume k to be independent of I (the level of investment demanded by the investor). There are objective reasons to assume that the higher the I , the higher the k will be demanded by the capital supplier to compensate for the risk of putting all his eggs in one basket. (This will be further elaborated in the next session.)

If k is a function of I , then in terms of equation (3) the profit maximization would require $\frac{dF}{dI}$ to be greater than unity.

Equation (3) states that:

$$P = [1 - k] [F(L, I) - I - W]$$

If $k = F(I)$ such that $k' > 0$

$$\text{then } \frac{dP}{dI} = [1 - k] \left[\frac{dF}{dI} - 1 \right] + [F(L, I) - I - W] (-k') = 0$$

$$\text{or } k' [F(L, I) - I - W] = (1 - k) \frac{dF}{dI} - (1 - k)$$

$$\text{or } \frac{k' P + (1 - k)}{1 - k} = \frac{dF}{dI}$$

$$\text{or } \frac{dF}{dI} = 1 + \frac{k'}{1 - k} P$$

Both things are immediately clear:

i) Whether the investment level will be higher in PLS is not certain. It may or may not be, depending upon:

- a) The level of profit sharing (k),
- b) k' (the rate) at which k increases with increase in investment, and
- c) the level of profit of the enterprise (P).

Capital has an opportunity cost. Its productivity cannot be less than its opportunity cost, and hence whether the investment level will be higher or lower is either an empirical question or has to be answered in a general equilibrium framework.

ii) There is no question of an infinitely elastic demand for investment funds. The investor will demand the investment funds only up to the level where the marginal productivity of capital becomes equal to

$1 + k' P/1 - k$. Hence demand for K_2 will not be even theoretically allowed up to the level where its marginal productivity becomes unity. Hence there is no question of an unlimited demand for investment funds.

Alternate Formulation

The demand for investment, the supply of investment funds, and the profit-sharing ratio will be determined simultaneously. The supply of capital will not be infinitely elastic at a constant profit-sharing ratio. Beyond a certain level of investment, a capital supplier may like to increase the profit-sharing ratio (even at an increasing rate) to increase the supply of capital. This may be due to the fact that the risks of giving higher amounts to a single investor may increase at an increasing rate, or because the entrepreneurial abilities of the investor are fixed and the marginal productivity of the entrepreneur (in producing profits) may start declining after a certain level.

On the other hand, investment demand will depend on the profit-sharing ratio and the productivity of capital. The investor will not demand investment funds as soon as the profit-sharing ratio implies payment of a share in profit higher than the marginal contribution of the capital. A reduction in the profit-sharing ratio may thus increase demand for investment funds and vice versa.

Consider an investor demanding funds for an enterprise. With Y as output/income, I as capital, and L as labor, we write the production function as: $Y = F(L, I)$ (5).

Since labor and capital are sharing the income of the project and hence do not impose fixed costs, this production function also represents the net income function for the project.

Assuming the labor component as fixed, we can write the production function as:

$$Y = F(I) \quad (7).$$

As a typical production function, we assume that this production function has a declining marginal productivity of capital, i.e., $F'(I) > 0$, $F''(I) < 0$.

On the other hand, the provider of capital expects to receive certain return on his/her capital. This expected return, of course, will be directly related to the total amount he/she invests. In its simplest form, this relationship can be a linear relationship of the type:

$$C = rK \quad (8),$$

where C is the total return that the provider of capital expects to earn on the

capital (I) and r is based on his/her own utility function or on the opportunity cost of capital.

In the interest-based framework, the provider of capital demands a fixed r from the user of his/her capital. In an Islamic framework, the provider of capital cannot demand a fixed r , as an Islamic framework can only fix a share in the income or profit of the project.

Let this share be called k . Since income, i.e., Y is not fixed and varies at different levels of I , therefore the profit-sharing ratio becomes a function of the amount of capital. At different levels of I , the changing productivity of capital will require the supplier of capital to adjust the profit-sharing ratio (k) so that the rate of return (r) remains unchanged.

Using equations (7) and (8), we can write:

$$k = \frac{C}{Y} = \frac{rK}{F(I)} \quad \text{-----} \quad (9)$$

This equation shows that the profit-sharing ratio will vary as more and more capital is invested, because C is increasing at a constant rate and Y is increasing at a declining rate.

This fact can be more clearly seen in the following diagram:

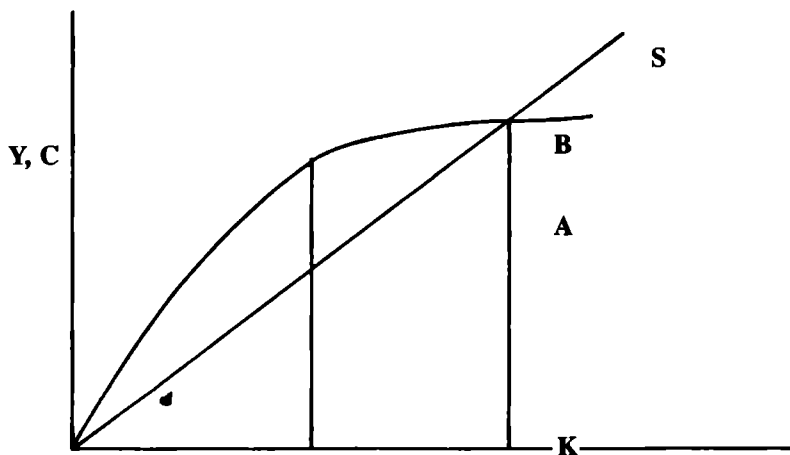


Figure 1

Curve A is the production function representing equation (7). Line B shows the total return expected by the capital owner at different amounts of capital to be provided by him/her. This is a straight line representing equation (8).

Investment Demand Function

Two things are clear from Fig (1):

Firstly, the profit-sharing ratio k is different at different levels of I . The value of k can be observed at any level of I as a ratio of the corresponding value at line B to the ratio of the corresponding value at curve A.

It can be noted that beyond a certain level of I , the profit-sharing ratio starts increasing until it reaches a level equal to 1.0. This will occur at I_0 .

Secondly, it will not be in the interest of the investor to demand any amount of capital from the capital owner. A profit-maximizing investor will demand only that amount of capital from the capital owner which will allow him to retain maximum profit. In terms of figure 1, he would demand that amount of capital against which the distance between curve A and line B is maximum. (The distance between curve A and line B measures the income to be retained by the investor after paying the share of capital supplier from the income of the enterprise.)

Hence, the assertion that under PLS there will be an infinite demand for capital is not valid.

The argument can be taken a step further.

Under a PLS arrangement, the supply schedule for capital funds may not be a linear function as shown by equation (8). Since the capital owner is expected to bear losses up to the full extent of his/her capital, the capital supplier would not like to give all of the capital demanded by the investor at a constant rate of return r . Giving all of his/her money to one investor would mean putting it all in one basket. It seems only natural that an investor would like to spread his/her investment among different enterprises unless a *muḍārib* is willing to offer a higher-than- (r) return—higher enough to compensate for the risk of putting more capital into one enterprise.

Thus, a higher supply of capital for the same investor would mean a higher income-sharing ratio with the same investor. In other words, we will have to re-write equation (8) as follows:

$$C = g(I) \quad (10)$$

$$\text{with } g'(I) > 0$$

$$g''(I) > 0$$

The profit maximizing investor then faces the following profit function:

$$P = Y - C$$

$$P = F(I) - g(I)$$

The optimum demand for capital by the investor will be for that level of K where,

$$F'(I) = g'(I)$$

This can be shown in the following diagram as well:

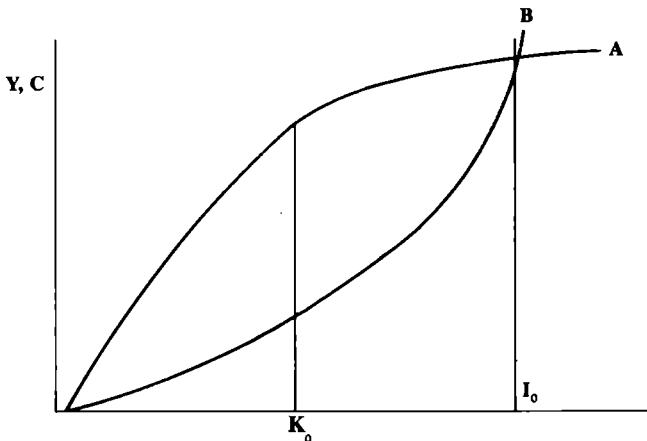


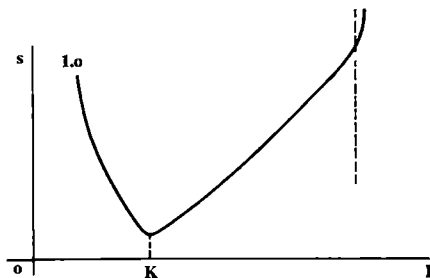
Fig. (3)

Curve A represents the production function as shown by equation (7). Curve B represents the capital supply schedule of the capital owner as shown by equation (10).

The profit-maximizing investor will demand I where the distance between curve A and curve B is reflecting the maximum profit left with the *muḍārīb* after paying the income-sharing portion of the capital owner.

Once again this proves that the demand for *muḍārabah* capital will not be infinite when $F''(I) < 0$ and $g''(I) > 0$.

Keeping in view the conclusion of figures 1 and 2, we can define a relationship between I (the effectively demanded level of investment) and k (the profit-sharing ratio) as below:



Between the zero and I_0 level of investment for this project, the effective relationship between I and k is negative. Beyond I_0 , the portion of the curve is irrelevant from the point of view of demand for investment, as the investor would have no reason to demand any investment beyond K_0 .

Within the range of 0 to I_0 , we observe $I = I(k)$ with $I' < 0$.

Market Demand for Investment

One more dimension needs to be added when discussing market demand for investment, and that is the riskiness of the enterprises where investments are intended. Coming back to figure 2, the position of the supply schedule B will depend on how risky the project is. The more uncertain the productivity/profitability of the project (curve A), the higher will be the B curve to compensate for the higher risk bearing.

The following diagram explains the point:

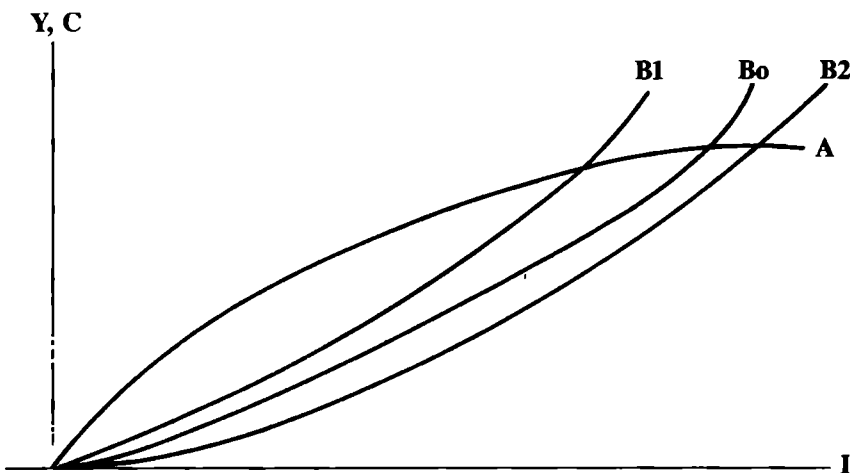


Fig. (2)

B_0 is the supply schedule of the funds owner referring to a certain project riskiness involved in curve A . The supply schedule of the funds owner would have been higher than B_0 (say, at B_1) if the project were more risky, and the supply schedule would have been lower than B_0 (say, at B_2) if the project were less risky. (The schedules B_0 , B_1 , and B_2 may not be referring to the same person.) The economy may also have projects of varying riskiness, or funds owners with varying degrees of risk aversion.

We assume that there are n' sets of projects having different levels of riskiness $6_1, 6_2, 6_3, \dots, 6_4$. The demand from these sets of projects and the supply of funds available for each set of project determines the respective equilibrium level of s' for each set of project. In the economy, thus there will be n' sets of s' . Let us see the market demand for the i th set of projects that corresponds to the level of riskiness.

The k value in the market of a particular set of projects will determine the market demand for investment in that set of projects. The market demand will decline as the " s " in the market of a particular set of projects goes up, and the market demand will go up as the k value goes down. Suppose a marginal project is yielding a return Co and hence yielding kC as a share of the funds owner's return. If k increases, the marginal project would be compelled to reduce its demand for investment [as explained in figures 2 and 3] because it would mean raising the supply schedule (curve B). If s goes down, not only the existing projects may increase their demand for investment (because a decline in s means a downward shifting of the supply schedule) but other projects which were not previously feasible may become feasible from the investor's point of view.

We thus draw the conclusion that the market demand for investible funds will be negatively related to the profit-sharing ratio s' . This relationship may be expressed as:

$$I = I(k) \quad I < 0 \quad (11)$$

This will be referred to as the investment demand function.

Properties of k

k varies between 0 and 1.

It is possible for k to become zero.

$k = 0$ implies that the owner of funds supplies his/her funds to the investor with no share in any resulting profit. This also implies that the owner will not share or bear any loss and that the investor is obliged to return the full amount at some time in the future. It is thus possible that the owners of funds may supply their funds at $k = 0$. This may occur due to several reasons:

- (1) Expected profits are too low and the risk of loss is considered too high to be compensated for by the share in the expected profits.
- (2) The spirit of helping a poor investor and allowing him/her to keep all the profits till the enterprise is developed to the extent that it can afford to pay a sizable share of the profit.

These two factors become particularly important when there is also an in-

centive of avoiding the penalty (z) on money balances (*zakāh* at the rate of 2.5 percent), and there is also religious encouragement to help the needy.

It is possible that there may be a lower limit on k , which may be referred to as s , below which k may not decline except to become zero. This will happen when the equilibrium value of k happens to be the value that generates such a low expected return for the owner of the funds will no longer be interested in investing due to the larger risks involved. In such a situation, the owner of the funds prefers rather to advance his/her funds at $k = 0$ for reasons already explained.

It is not possible for k to become unity or more than unity, though it may approach unity. This is because $k = 1$ implies that the owner of the funds will take all the profits that the investor makes, which will not be a rational situation from the investor's point of view. Hence, he/she may cease to effectively demand any amount of investible funds. k may approach unity if the profitability of investment or productivity of capital is very large and/or if the supply of investible funds is very scarce.

A Bank's Demand for Investment Funds: A Case for Infinitely Elastic Demand

It may be instructive to consider a bank as an investor that demands investible funds from its depositors.

A bank has the ability to diversify its portfolios and hence ensure a certain return R on its investment with a negligible risk. The diversification of investments in a large (and/or open) economy can enable a bank to reduce risks (to almost though not exactly zero) and still earn a substantial return R on its investment. This ability creates an opportunity for such owners of funds who do not want to take a substantial risk but who want to earn a return on their funds.

These features can enable a bank or a financial intermediary to have an infinitely elastic demand for the investible funds of small savers. This may occur because:

- a. The risks associated with investment do not increase with the increased investment.
- b. There are large numbers of suppliers of capital, meaning that no one holds a significant portion of the total supply of capital. Hence, no single investor is able to influence the profit-sharing ratio.
- c. The investor (the bank) has access to and has credibility with a large number of available suppliers.
- d. There are a large number of feasible projects available to the investor (the bank).

- e. The bank is able to adequately diversify its investment over such a large number of projects that the risk is reduced to an almost negligible level.

Based on the past track record, banks can offer a profit-sharing ratio to attract sufficient funds from the suppliers. They will not have to change the profit-sharing ratio as long as they are attracting deposits from a large number of small savers. They will thus have an infinitely elastic demand for deposits on a fixed and predetermined profit-sharing ratio as long as the capital is scarce in the economy and the bank faces no dearth of viable projects.

Discounting for the Time Value of Money

Discounting for the time value of money for the purpose of the investment decision-making process poses no special problem in a PLS system. The appropriate discount rate will still remain the opportunity cost of capital, which is the expected rate of return on capital which the investor expects before supplying capital on a PLS basis in projects of similar riskiness. This is the conclusion that has been drawn by Zarqa as well.⁶ Thus, the expected rate of return on capital in the marginal project in each class of projects of similar riskiness will serve as a discount rate for the respective class of projects. There is nothing new about using the expected rate of return on capital as a discount rate in investment decision making. The actual practice, in fact, uses R_o rather than the interest rate as the discount rate.⁷

The discount rate R_o contains two elements of the opportunity cost of capital:

- a. A compensation for the pure time value of money or the pure time preference reflecting uncertainties associated with time alone.
- b. A compensation for bearing the risks other than those attributable to time alone.

In public sector projects, the consideration for type b risk might be negligible as the distribution of risk over a large number of taxpayers maximizes these considerations. These projects are, therefore, required to be discounted for the pure time preference alone. The most representative discount rate reflecting pure time preference alone will be the expected rate of return on the banks' non-time deposits. The average rate of return on such deposits paid in the past would be a close estimation of the expected rate of return and hence of the discount rate.⁷

⁶ See M. Anas Zarqa (31).

⁷ For more arguments on this, see M. Anas Zarqa (31).

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Equity Capital, Profitability and Investment: An Islamic Perspective

by

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Abstract

The potential effect of financial variables on the level of investment is among the key issues in contemporary financial economics. Some researchers have claimed that there is an inherent risk in the Islamic profit-and-loss sharing scheme that replaces the Western fixed-interest rate system. This paper argues that such concerns are baseless. In an Islamic framework, equity capital (i.e., a strong financial position) and the degree of the firm's profitability are the primary determinants of investment. It is shown that both equity capital and profitability could enhance the firm's business reputation and mitigate the level of risk facing it.

The paper, in so doing, constructs a two-period equilibrium model of a profit-and-loss sharing contract. An optimal solution for the investment function is derived for the firm. Besides equity capital and profitability, other relevant determinants of investment will also be considered, including depreciation and expected inflation. Moreover, unlike most previous research in this area, the resultant investment function will be subjected to empirical testing using data from an Islamic investment firm.

Introduction

The emergence of interest-free financial institutions in the last two decades has raised the concerns of some observers about the ability of the new system to mobilize enough savings and investment funds to maintain economic growth

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[see, Pryor (1985) and Nienhaus (1983), among others]. However, several researchers [i.e., Haque and Mirakhor (1986) and Darrat and Suliman (1990)] have recently demonstrated that such concerns are not warranted and showed that investment does not necessarily decline under an interest-free financial system. This view is also supported by the vigorous theoretical analysis of Khan (1986), who showed that interest-free banks exhibit a much higher degree of stability than interest-based banks. Empirical support for Khan's theoretical proposition has been provided by Darrat (1988).

Since the essence of the Islamic economic system is to abolish fixed interest payments, financial institutions operating under an Islamic system use profit-and-loss-sharing (PLS) arrangements to attract and allocate funds. However, the fact that PLS contracts are characterized by relatively high risk and variable returns stresses the importance of many financial variables in the determination of investment. These financial variables include the total equity and/or total liabilities of the institution, as well as its profitability. The importance of such financial variables in the investment process is emphasized in a number of recent models of applied macroeconomics [see Bernanke and Gertler (1987)]. Deposits in Islamic financial institutions are considered as shares (i.e., equity participation), and thus entitled to dividends if the invested deposits generate profits. Consequently, the total liabilities of the institution in question indicate its financial position. A strong financial position enables the institution to diversify its portfolio of investment projects, increases its profits, and minimizes the inherent risk. This would enhance the institution's reputation as a relatively safe depository intermediary, and thus attract more depositors, in turn, generating more funds and expanding investment.

In this paper, we present a two-period general equilibrium model of investment under uncertainty and symmetric information. Our objective is to highlight the determinants of investment under PLS contracts and examine the effect of equity capital and profits on the level of investment. Our model bears some relationship with many previous models in the literature, particularly that of Haque and Mirakhor's (1986), though differs from it by assuming perfect information. Furthermore, our theoretical model is subjected to an empirical test using quarterly data whereas their model was not.

The paper is organized as follows. Section 2 develops the theoretical model and section 3 distills its optimal solution. Section 4 presents some empirical results, while section 5 concludes the paper.

The Model

Consider an economy with many financial institutions (banks) and with

many entrepreneurs (firms), where the number of firms is larger than the number of banks. Banks generate their capital through selling equity shares and/or accepting deposits from the general public. Depositors in these banks are not guaranteed fixed returns, but are entitled to a given share of the generated profit. Firms have no capital, but have investment projects for which they seek bank financing. For simplicity, we have limited our analysis to one bank and one firm. We assume that both the firm and the bank are risk-averse and have the same information about the uncertainty regarding the project's return.¹ Let there be two periods; an investment period and a consumption period. In the first period, the bank is endowed with Y units of capital.² No endowment in the second period exists, but the bank lives off the proceeds of the invested capital.

Banks are interested in financing investment projects on the basis of profit-and-loss-sharing contracts. When the firm applies for a loan to undertake a project, the bank must evaluate the project. Only those projects which pass the evaluation process are funded. Once a project is rejected in the evaluation process, it will not be replaced. Without loss of generality, assume that the projects are indivisible, i.e., a project can only be financed by one bank. The firm, if successful in its loan application, is assumed to have the capability to transform the units of capital acquired into consumption goods (profits) in the second period. The economy is characterized by the absence of a fixed rate of returns, with no time preference, and with no or limited hoarding.³ The firm's production technology depends on the amount of capital invested and a random state of nature. To be precise, if the amount of capital is K , then the firm's output is X :

$$(1) \quad X = F(K, \alpha)$$

α is a random state of nature, introduced to allow for uncertainty in production. α is assumed to have a known distribution with unitary mean, $E(\alpha) = 1$, and a constant variance. F is an increasing function with $F(0,0) = 0$ (i.e., no output without input), $F_K > 0$, $F_{KK} < 0$, and both F and F_K are monotonically increasing in α .

Since interest payments on capital is not allowed, the firm views the rate of return on capital as the cost of acquired capital. Define:

$$(2) \quad k = \lambda\theta$$

as the rate of return per unit of investment, where θ is the "normal" rate of profit

¹ The assumption of risk-aversion is introduced to allow for risk-sharing, while the assumption of symmetric information is introduced to eliminate the adverse effect of moral hazard.

² Y is the total liabilities of the bank, which includes equity and/or net worth plus total deposits.

³ The uninvested capital is subject to *zakāh*, a wealth tax particularly on idle balances.

in the economy⁴, and λ is the profit-sharing ratio, $0 < \lambda < 1$. The anticipated user's cost of capital is then given by $(k + \delta - \pi)$, where δ is depreciation, and π is the inflation rate.⁵ The profit-maximization of the firm is then given by:

$$(3) \quad \max_k [F(K, \alpha) - (1 + k + \delta - \pi)K]$$

Note that in calculating its profit, the firm has to subtract the principal K . When optimizing, the firm assumes θ (and hence k) as given. Also, depreciation and the inflation rate are taken as given. Given the risk-averse assumption, the bank's objective is to maximize its two-period utility function given its initial holdings (endowment). In the first period, it consumes $Y-K$, and invests K units in the firm. In the second period, the bank is entitled to a share of the firm's profit plus its principal. Explicitly, its second period income will be:

$$(4) \quad \lambda F(K, \alpha) - (1 + k + \delta - \pi)K + K$$

The firm will then end up with:

$$(5) \quad (1-\lambda) F(K, \alpha) - (1 + k + \delta - \pi)K$$

Note that both the firm and the bank (the borrower and the lender) are residual income earners, i.e., their earnings are calculated after the initial costs are deducted.

The investor's expected utility is now:

$$(6) \quad U(K, \lambda, \alpha, K, \pi, \alpha) = EU[Y-K, \lambda F(K, \alpha) - (1 + k + \delta - \pi)K + K]$$

where the expectation is taken over the distribution of a .⁶ Likewise, the firm's expected utility is given by:

$$(7) \quad V(K, \lambda, \alpha, \pi, K, \alpha) = EV [(1 - \lambda)(F(K, \alpha) - (1 + k + \delta - \pi)K)]$$

EU and EV are assumed to be continuously differentiable, concave, and strictly increasing in their arguments. Under such a framework, the bank moves first (after evaluating the project) by choosing the amount of capital to be invested. The sharing ratio will then be agreed upon by negotiation with the firm. Since it is hard to replace rejected projects, the bank must attempt to convince the firm with its sharing ratio terms. In other words, for the contract to be optimal, it has to offer incentives to the firm by guaranteeing at least a minimum level of utility. The bank's problem is then to design a sharing contract that maximizes

⁴ θ is defined as the total profit of the firm divided by the total capital invested. For explicit formulation, see M. Anwar (1987). Also see Haque and Mirakhor (1986) for a similar treatment.

⁵ See Anwar (1987) for a similar assumption.

⁶ Although a is unknown, its distribution is assumed to be common knowledge.

its expected utility, taking into account the rational behavior of the firm. Thus, the bank must choose the values of K and λ to solve the following optimization problem:

$$(6) \quad \max_{K, \lambda} EU [Y - K, \lambda \quad F(K, \alpha) - (1 + k + \delta - \pi)K + K]$$

subject to:

$$(8) \quad EV [(1 - \lambda) \quad F(K, \alpha) - (1 - (1 + k + \delta - \pi)K)] \geq \bar{V}$$

where $\bar{V} \geq 0$ is the reservation level of utility needed to induce the firm to participate in the arrangement. Equation (8) is a voluntary participation constraint necessary for the characterization of the optimal contract. Note that since the model is a general equilibrium model, the optimal capital K obtained as a solution to the constrained maximization is the same K that solves the firm's problem, equation (3) above.

Characterization Of The Optimal Solution

We now solve the bank's optimization problem, that is, maximizing equation (6) subject to the constraint (8). Suppose that the optimization problem is sufficiently regular, so that the first order necessary conditions are satisfied. Then, given K and λ :

$$(9) \quad -EU_1 + EU_2 [1 + \lambda \quad F_K - (1 + k + \delta - \pi)] + \nu EV' (1 - \lambda) [F_K - (1 + k + \delta - \pi)] = 0$$

where EU_1 , EU_2 , and EV' are the partial derivatives of EU and EV with respect to K , and ν is the Lagrange multiplier of (8). F_K is the firm's marginal product of capital for all α . Differentiating with respect to λ , we have:

$$(10) \quad (EU_2 - \nu EV') (F(K, \alpha) - (1 + k + \delta - \pi)K) = 0$$

Given the presence of many banks and many firms in the financial market, the optimal level of investment is attained when the marginal product of capital equals the user's cost of capital. That is, the firm would invest up to the point where the marginal productivity of investment equals the cost of investing. This implies:

$$(11) \quad F_K - (1 + k + \delta - \pi) = 0$$

Substituting equation (11) in equations (9) and (10), the first-order necessary conditions will reduce to:

$$(12) \quad EU_1/EU_2 = 1$$

$$(13) \quad EU_2/EU' = \nu$$

Equation (13) is the necessary condition for the optimal risk-sharing.⁷ This condition is particularly important, since risk-sharing is a required feature of profit-and-loss-sharing contracts. Equation (12) indicates that given the sharing ratio λ , the investor will choose an optimal investment (K^*) that equates expected marginal utilities over the two periods. That is, the marginal rate of time preference, implicitly derived by the marginal rate of substitution between the two periods, is equal to 1. The solution for these two equations would generate the optimal (equilibrium) values of investment K^* and the sharing ratio λ^* .

Since our objective is to investigate the effects of equity capital and profits of the bank on the level of investment undertaken, special regularity conditions could be imposed on the production and the utility functions to generate a unique optimal solution. One way is to consider the model when particular functional forms are assumed. This technique is often used in the theory of contracts, as in Green and Kahn (1983). As shown in Appendix A, specific forms of utility and production functions are constructed. For simplicity, we assume that our model satisfies the required regularity conditions, and that the optimal solution is unique. Given the assumptions on α , we further assume that the optimal solution (contract) is state-independent. This is a sufficient condition, since both the bank and the firm have similar information about the state of nature α . If the two parties have different information about the distribution of α , the contract would be contingent upon the private information concerning α , having adverse effects on the level of investment.

Solving simultaneously equations (12) and (13) would produce the optimal investment K^* and the profit-sharing ratio λ^* , which can implicitly be written as:

$$(14) \quad K^* = K(Y, \lambda, k, \delta, \pi)$$

$$(15) \quad \lambda^* = \lambda(K^*, Y, k, \delta, \pi)$$

These two equations indicate that if the contracting parties agreed first on the sharing ratio λ , then K^* can be uniquely determined endogenously by the model. On the other hand, if K is instead determined ex-ante, then λ^* can be uniquely determined endogenously by the model.

Equation (14) is the main focus of our study, and thus some key policy issues are highlighted. First, K^* , the level of investment supplied by the bank, is expected to be increasing in Y , the total equity capital. The intuition is that a bank with a large equity capital will tend to finance more projects to diversify its investment opportunities and minimize the risk of loss. Another objective could

⁷ The optimal risk-sharing condition equation (12) still holds if the investor is assumed to be risk-neutral.

be to generate more profits for its depositors to keep them. Also, since hoarding is discouraged, the bank will tend to invest as long as the expected rate of return from investment exceeds the opportunity cost of hoarding.⁸ Higher profits and therefore a higher sharing ratio λ should also induce more investment. These positive effects on the level of investment that our theory predicts for equity capital and profitability (Y and λ) represent the key implications of our theoretical model which will be tested empirically in the next section. As for depreciation, δ is expected to have a positive effect on the level of investment as the theory predicts [see Appendix A for a proof]. The rate of return on investment, k , has similar effects on investment as does λ , since k is simply a linear function of λ (see equation 2 above). The inflation rate has a priori an ambiguous effect on investment. On the one hand, during periods of inflation it would cost the bank more to invest. So only a few projects might get funded, and the level of investment may consequently decline. However, if the bank expects higher future inflation it may want to invest most of its capital before higher inflation occurs. This will increase current investment. These theoretical implications will be empirically tested in the next section using quarterly data from an Islamic investment bank.

Empirical Results

The preceding theoretical analysis suggests that the optimal investment function of an Islamic bank takes the following form:

$$(16) \quad I = I(Y, \lambda, k, \delta, \pi)$$

where, for convenience, the variables are re-defined as follows:

I = the level of optimal investment of the Islamic bank (equal to K^* in equation (15) above,

Y = the bank's total equity capital,

λ = the profit-sharing ratio,

k = the rate of return on investment,

δ = depreciation, and

π = the expected rate of inflation.

Our theory developed in the preceding section predicts the following signs of the partial derivatives:

⁸ The *zakāh* paid on idle balances could be interpreted as the opportunity cost of hoarding.

$$\frac{\partial I}{\partial Y} > 0 ; \frac{\partial I}{\partial \lambda} > 0 ; \frac{\partial I}{\partial k} > 0 ;$$

$$\frac{\partial I}{\partial \delta} > 0 \text{ and } ; \frac{\partial I}{\partial \pi} > 0$$

In order to examine the validity of the theoretical model and its sign restrictions, the above model is estimated using actual data from an Islamic investment bank, namely, the Kuwaiti Finance House. However, consistent data on all required variables is available only on an annual basis over the period 1978-1988. It is well-known that such a small sample of only 11 observations (half of which will be used up in the estimation) will be insufficient to produce reliable estimates. Therefore, the corresponding quarterly figures were interpolated from the annual data using the interpolation procedure available in the Regression Analysis of Time Series (RATS), Version 3.1.⁹

Equation (16) can be rewritten in the following estimatable form:

$$(17) \quad \text{Ln } I_t = a_0 + a_1 \text{Ln } Y_t + a_2 \text{Ln } \lambda_t + a_3 \text{Ln } k_t \\ + a_4 \text{Ln } \delta_t + a_5 \text{Ln } \pi_t$$

where Ln indicates natural logarithm, t indicates time, and the a_i 's ($i = 1, 2, \dots, 6$) are the estimated parameters. The logarithmic form is used for convenience since the estimated parameters will be direct measures of elasticities. Moreover, imposing the logarithmic form on the equation can correct for possible heteroscedasticity in the error term.

Three analytical and technical comments about the above investment specification are important. The first comment relates to the adjustment process and the incorporation of short-run dynamics. A popular procedure is the Koyck scheme, whereby a lagged dependent variable (I_{t-1}) is included among the regressors.¹⁰ However, this Koyck adjustment mechanism has come under severe attack for its several shortcomings.¹¹ As an alternative, Hendry, Pagan, and Sargan (1984) have recently proposed the inclusion of lagged values for each of the regressors along with the lagged dependent variable. They demonstrated that such a modified dynamic process is quite rich and general compared with the naive Koyck scheme, as it comprises at least nine different types of dynamic specifications. In addition, these researchers have also argued that any theoretical

⁹ Because such time series data is rather difficult to compile, Appendix B provides the annual and the corresponding quarterly figures for all variables used in the empirical analysis. It is hoped that these time series data would generate some future research in this area.

¹⁰ For a mathematical proof, see any econometric textbook, e.g., Koutsoyiannis (1977).

¹¹ On this, see Gould (1968), and Darrat (1982).

model must be tested against the general dynamic version to avoid any serious misspecifications. It should also be noted that with the inclusion of lagged values of the inflation rate (in addition to the lagged dependent variable), the inflation variable π in the equation would then measure the effect of expected inflation by virtue of the adaptive expectations scheme.

Secondly, preliminary results showed the presence of a high degree of collinearity between k and λ in equation (17), with a correlation coefficient of about 0.90. This finding supports our earlier theoretical postulate that k and λ are simply linear combinations of each other, and thus one of them is empirically redundant in equation (17). Since λ , the profit-sharing ratio, is a key aspect in this paper, we have decided to maintain λ and drop k from the estimation.

Thirdly, one of the most significant events in Kuwaiti financial history was the stock market crash that took place during the third quarter of 1982 and lasted through the third quarter of 1984.¹² In view of the potential effect of such events on the stability of the estimated investment function, a dummy variable (DUM) is included in the equation, taking the value unity for 1982:Q3 to 1984:Q3, and the value zero otherwise.

Based on the foregoing discussion, the estimated investment function takes the following final form:

$$(18) \quad \text{Ln } I_t = \beta_0 + \beta_1 \text{Ln } Y_t + \beta_2 \text{Ln } Y_{t-1} + \beta_3 \text{Ln } \lambda_t + \beta_4 \text{Ln } \lambda_{t-1} + \beta_5 \text{Ln } \delta_t \\ + \beta_6 \text{Ln } \delta_{t-1} + \beta_7 \text{Ln } \pi_t + \beta_8 \text{Ln } \pi_{t-1} + \beta_9 \text{Ln } I_{t-1} + \beta_{10} \text{DUM} + e_t$$

where the variables are defined as before, and e_t is the error term which, in the usual fashion, is assumed to be serially uncorrelated and normally distributed with zero mean and constant variance.

Equation (18) represents our basic investment model estimated for the Kuwaiti Finance House using the quarterly data 1978:Q1-1988:Q4. Table I provides the empirical results. As shown in the table, the proposed model fits the data quite well, as evidenced by the high value of adjusted R-squared. Another evidence for a good fit is the absence of significant autocorrelation according to both the Geary and the Breusch-Godfrey tests.¹³ As Johnston (1984) argued, the Breusch-Godfrey procedure is a robust test against autoregressive and moving-average processes of the error term. Note also that the ROBUSTSE routine in the Time Series Processor (TSP) was employed to estimate equation (17), resulting in heteroscedastic-consistent estimates of the coefficients' stan-

¹² See various annual budgetary reports of the Kuwaiti Finance House, particularly those for 1982 and 1984.

¹³ The common Durbin-Watson (D.W.) test is not reported since it is known to be biased in the presence of a lagged dependent variable among the regressors.

dard errors. Consequently, the obtained values of the t-statistics may be viewed as reliable measures of the statistical significance of the various regressors.

The results indicate that all (summed) coefficients have the correct signs as predicted by the underlying theory. Moreover, the majority of the individual variables, and certainly their summed coefficients, are statistically significant. Interestingly, the coefficient on the dummy variable representing the stock market crash of 1982-1984 is also significant with a positive sign. This indicates that the financial panic and the resultant possible distrust in the stock market appears to have shifted more depositors towards the Kuwaiti Finance House, leading in turn to higher levels of investment during the estimation period.

Table II displays the estimates of the normalized short- and long-run elasticities of investment with respect to the various independent variables (see notes to Table II for definitions of these elasticities). Normalized (beta) estimates of the elasticities are employed instead of direct elasticity estimates in order to make comparable examination of the relative strengths of the various exploratory variables in influencing investment behavior. As clear from the table, all of the proposed variables exhibit positive and sizable elasticities, particularly with respect to equity capital (the bank's financial position). The results suggest that a ten percent increase in equity capital in any given quarter would enhance the level of investment by more than three percent within two quarters (the current and one lagged quarters). Over the long-run, however, investment would have increased by more than seven percent for every ten percent increase in equity capital. Although much smaller in size, profitability (or the profit-sharing ratio) also exhibits significant short- and long-run elasticities, as do the remaining explanatory variables proposed by the theory.

In sum, the empirical results from the investment model are in accordance with the underlying theoretical considerations. These results clearly indicate that the financial position of the Islamic bank under study (the Kuwaiti Finance House) and its profitability have indeed exerted positive and significant effects upon the level of investment undertaken by the Islamic bank.

Concluding Remarks

This paper constructs a two-period equilibrium model of investment under the profit-and-loss sharing arrangement. An optimal solution for the investment model is also derived for a representative firm. It is shown that equity capital (or the financial position of the firm) and the profit-sharing ratio are among the primary determinants of investment, each of which exerts a positive effect on investment. Besides these two factors, potential effects from deprecia-

tion and the rate of inflation on the level of investment are also considered in the theoretical analysis.

The theoretical model is empirically tested against actual data for a representative Islamic bank (the Kuwaiti Finance House) over the quarterly period 1978-1988. The empirical results are quite consistent with the implications of the proposed model. In particular, these results indicate that equity capital and the profit-sharing ratio have exerted significant effects upon the level of investment undertaken by the Kuwaiti Finance House. Therefore, contrary to the view of some critics, a strong financial position and the degree of the Islamic bank's profitability do enhance the bank's business reputation and its investment activities.

TABLE I

Regression Results From Estimating the Investment Model (17)

Coefficient	Estimate	(t-statistic)
β_0	2.240	(10.87)
β_1	0.762	(11.79)
β_2	-0.367	(6.08)
β_3	-0.001	(0.49)
β_4	0.003	(1.91)
β_5	0.007	(3.45)
β_6	-0.005	(2.17)
β_7	0.004	(0.44)
β_8	0.011	(1.55)
β_9	0.518	(33.82)
β_{10}	0.143	(5.99)

$$\bar{R}^2 = 0.99$$

$$\text{S.E.} = 0.04648$$

$$\text{Tau} = 14$$

$$\text{BG} = 5.34$$

Notes: The numbers in parentheses are the absolute values of the t-statistics. Tau is the Geary non-parametric statistic to test for general (unspecified) serial correlation. BG is the Breusch-Godfrey chi-squared statistic (with 4 d.f.) to test for autoregressive and moving-average processes of the error term.

TABLE II

Regression Estimates of Normalized Short- and Long-Run Investment Elasticities

With Respect To	Normalized Short-Run Elasticity	Normalized Long-Run Elasticity
Equity Capital	0.339	0.704
Profit-Sharing Ratio	0.005	0.010
Depreciation	0.009	0.019
Inflation	0.016	0.034

Notes: The short-run elasticity of any variable is defined as the sum of the coefficients on the current and lagged variable. The long-run elasticity is calculated as the ratio of the short-run elasticity over the speed of adjustment, where the latter is defined as one minus the coefficient on the lagged dependent variable. In the above case, the speed of adjustment = $1 - 0.518 = 0.482$. To obtain the normalized values of these elasticities, each is multiplied by the ratio of the standard deviation of the explanatory variable over the standard deviation of the dependent variable.

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Appendix A

Assuming particular functions for the model derived in the text, let:

$$EU = E C_1^{1/2} C_2^{1/2} \quad (A1)$$

Let the firm's production function be:

$$f(k,a) = \lambda \ln K \quad (A2)$$

Then substituting for the first and second period consumptions (C_1 and C_2) in equation (A1) and optimizing with respect to K , we have:

$$\begin{aligned} & -1/2 E (Y - K)^{-1/2} [\lambda F(K,a) + (1 - \lambda (1 + k + \delta - \pi))K]^{1/2} \\ & + 1/2 E (Y - K)^{1/2} \lambda F(K,a) + (1 - \lambda (1 + k + \delta - \pi))K^{-1/2} \\ & [\lambda F_K + 1 - \lambda (1 + k + \delta - \pi)] = 0 \end{aligned} \quad (A3)$$

Using equation (11) and (12) in the text, we have

$$(Y-K)^{-1/2} E[\lambda F(K,a) + (1 - \lambda (1 + k + \delta - \pi))K]^{1/2} \quad (A4)$$

which will simplify to:

$$(Y-K) = E[\lambda F(K,a) + (1 - \lambda (1 + k + \delta - \pi))K] \quad (A5)$$

substituting $F(K,a) = \lambda \ln K$ in (A5) and using the assumption $E(a) = 1$;

$$(Y-K) = \lambda \ln K + (1 - \lambda (1 + k + \delta - \pi))K \quad (A6)$$

The optimal value of investment K^* will be the solution of:

$$\lambda \ln K + (2 - \lambda (1 + k + \delta - \pi))K - Y = 0 \quad (A7)$$

Using total derivatives, the effect of Y , λ , k , δ and π on K can be derived. The total differential of (A7) will be:

$$\ln K d\lambda + \lambda/K dK + (2 - \lambda(1 + k + \delta - \pi))dK - (1 + k + \delta - \pi)Kd\lambda - \lambda K dk - \lambda K d\delta + \lambda K d\pi - dY + 0 \quad (A8)$$

The partial derivatives will then be obtained by setting all differentials, other than the ones we need equal to zero. To get the partial derivative of K with respect to Y , assume the other differentials are zeros. This will give:

$$dK/dY = 1/(\lambda/K + 2 - \lambda(1 + k + \delta - \pi)) \quad (A9)$$

Using equation (11), the right-hand term of equation (A9) reduces to $1/2$, which is positive. The partial derivative of K with respect to λ is given by:

$$dK/d\lambda = K(1 + K + \delta - \pi) - \ln K / 2 > 0 \quad (A10)$$

The rest of the comparative statistics are derived similarly.

$$dK/dk = \lambda K/2 > 0 \quad (A11)$$

$$dK/d\delta = \lambda K/2 > 0 \quad (A12)$$

$$dK/d\pi = \lambda K/2 < 0 \quad (A13)$$

For further details of the above proofs, see Henderson and Quandt (1980).

Appendix B

Time Series Data for the Kuwaiti Finance House

TABLE I: Annual Data

Year	I (Continuous Time Deposits, 90% Invested) Kuwaiti Dinars	Y (Total Equity Capital) Kuwaiti Dinars	λ (Profit-Sharing Ratio) %	k (Rate of Return on Investment) %	δ (Depreciation Kuwaiti Dinars	P (Consumer Price Index; the inflation rate, π , is the percentage change in P)
1978	4, 607,100	2,810,000	9.00	8.75	0	0.646
1979	22,954,500	3,250,000	9.125	19.25	188,375	0.702
1980	33,826,948	5,264,491	10.125	11.25	188,375	0.752
1981	100,522,528	18,089,383	13.00	15.00	181,862	0.804
1982	189,078,968	35,628,178	12.00	13.33	336,404	0.863
1983	252,973,244	35,185,047	7.50	8.33	391,233	0.930
1984	231,912,158	34,774,786	0.00	0.00	564,383	0.974
1985	170,749,187	35,899,109	4.00	4.44	545,806	0.985
1986	176,875,465	38,138,804	5.25	5.83	849,584	1.010
1987	215,459,098	42,609,555	5.40	6.00	922,525	1.016
1988	239,612,701	47,128,801	5.55	6.17	1,104,742	1.031

Source: Various issues of the *Annual Budgetary Reports*, the Kuwaiti Finance House. Data on P is compiled from various issues of the IMF, *Inter national Financial Statistics*.

TABLE II: Interpolated Quarterly Data

Year Quarter	I (Continuous Time Deposits, 90 % Invested)		Y (Total Equity Capital) Kuwaiti Dinars	λ (Profit-Sharing Ratio) %	k (Rate of Return on Investment) %	δ (Depreciation Kuwaiti Dinars)	P (Consumer Price Index; the inflation rate, π , is the percentage change in P)
	Kuwaiti Dinars						
1978:1	216,661		2,936,660	9.76277	6.24636	0.00100	0.63400
1978:2	1,951,590		2,756,320	9.02747	6.96463	0.00200	0.63500
1978:3	5,464,810		2,719,930	8.63344	9.10320	0.00100	0.64900
1978:4	10,795,300		2,827,090	8.57682	12.68580	0.00200	0.66700
1979:1	18,002,400		2,078,990	8.85547	17.75229	135,233	0.69400
1979:2	22,841,800		3,247,310	9.07379	20.36609	184,609	0.69100
1979:3	25,367,200		3,333,920	9.23372	20.55640	212,984	0.70500
1979:4	25,606,700		3,339,790	9.33702	18.32520	220,675	0.71700
1980:1	23,562,900		3,264,970	9.38486	13.64770	207,765	0.74300
1980:2	26,827,000		4,029,660	9.69801	10.83120	194,917	0.74700
1980:3	35,435,100		5,642,360	10.28000	9.84451	181,987	0.75500
1980:4	49,482,900		8,120,970	11.13720	10.67660	168,831	0.76100
1981:1	69,126,400		11,493,000	12.27920	13.33660	155,304	0.78200
1981:2	89,428,500		15,457,700	13.02060	15.05750	160,467	0.79800
1981:3	110,615,000		20,058,900	13.36980	15.85820	184,377	0.80700
1981:4	132,920,000		25,347,900	13.33050	15.74770	227,301	0.82700
1982:1	156,593,000		31,383,400	12.90230	14.72490	289,715	0.84300
1982:2	178,934,000		35,474,900	12.37320	13.76300	333,135	0.86200

TABLE II: Interpolated Quarterly Data (continued)

Year Quarter	I (Continuous Time Deposits, 90 % Invested)		Y (Total Equity Capital)		λ (Profit-Sharing Ratio)		k (Rate of Return on Investment)		δ (Depreciation Kuwaiti Dinars)		P (Consumer Price Index; the inflation rate, π , is the percentage change in P)	
	Kuwaiti Dinars		Kuwaiti Dinars		%		%		Kuwaiti Dinars		the inflation rate, π , is the percentage change in P)	
1982:3	200,190,000		37,667,800		11.73720		12.85160		358,045		0.86500	
1982:4	220,598,000		37,986,700		10.98730		11.98050		364,721		0.88200	
1983:1	240,385,000		36,434,900		10.11510		11.13990		353,237		0.89800	
1983:2	253,271,000		35,320,000		8.72847		9.68846		363,759		0.92800	
1983:3	259,399,000		34,639,500		6.81201		7.61006		396,403		0.94000	
1983:4	258,838,000		34,355,800		4.34443		4.88159		451,533		0.95400	
1984:1	251,580,000		34,495,900		0.00100		0.00100		529,762		0.96900	
1984:2	240,873,000		34,662,500		0.00200		0.00200		574,688		0.97200	
1984:3	226,598,000		34,857,600		0.00100		0.00100		586,813		0.97600	
1984:4	208,597,000		35,083,100		0.00200		0.00200		566,269		0.97900	
1985:1	186,668,000		35,431,800		2.15892		2.35562		512,830		0.98100	
1985:2	171,606,000		35,666,300		3.75203		4.11918		504,640		0.98500	
1985:3	163,241,000		36,060,300		4.79366		5.27856		541,608		0.98700	
1985:4	161,482,000		36,528,100		5.29538		5.84664		624,145		0.98800	
1986:1	166,309,000		37,075,100		5.26277		5.82975		753,168		1.01000	
1986:2	172,431,000		37,715,700		5.24470		5.82312		842,888		1.00900	
1986:3	179,916,000		38,457,000		5.24098		5.82667		894,301		1.01100	
1986:4	188,847,000		39,307,400		5.25155		5.84046		907,980		1.00800	

TABLE II: Interpolated Quarterly Data (continued)

Year Quarter	I (Continuous Time Deposits, 90% Invested) Kuwaiti Dinars	Y (Total Equity Capital) Kuwaiti Dinars	λ (Profit-Sharing Ratio) %	k (Rate of Return on Investment) %	δ (Depreciation Kuwaiti Dinars	P (Consumer Price Index; the inflation rate, π , is the percentage change in P)
1987:1	199,324,000	40,276,300	5.27655	5.86463	884,075	1.01500
1987:2	209,910,000	41,589,400	5.33556	5.92805	889,828	1.01800
1987:3	220,722,000	43,261,500	5.42925	6.03142	925,303	1.02000
1987:4	231,880,000	45,311,000	5.55864	6.17589	990,893	1.01100
1988:1	243,509,000	47,760,800	5.72518	6.36307	1,087,330	1.02100
1988:2	246,594,000	48,485,800	5.72193	6.36094	1,132,670	1.03400
1988:3	241,170,000	47,494,100	5.54886	6.16946	1,127,430	1.03200
1988:4	227,177,000	44,774,600	5.20403	5.78653	1,071,540	1.03700

A Dynamic Investment Model with Profit-Sharing in an Interest-Free Economy: Methodological Issues

*Zaidi Sattar**

The present paper is a contribution to the building blocks of an investment model within the framework of an integrated macroeconomic model of an Islamic economy. Investment behavior in the model is guided by an Islamic-ethical value system and profit-sharing financial contracts. The typical firm's investment decision is believed to emerge from a dynamic inter-temporal maximization exercise within an infinite time horizon. The method of Calculus of Variations is applied to arrive at the optimal investment and employment criteria for the firm. The result is then incorporated into a macroeconomic model to study the behavior of key endogenous variables like national income and the rate of profit-share. Comparative statics exercised within a general equilibrium framework reveal the potency of monetary policy but the neutrality of fiscal policy with respect to output and employment.

Introduction

The past decade has witnessed a tremendous outpouring of interest as well as effort in the formalization of economic models based on profit-sharing financial arrangements as an Islamic alternative to the conventional interest-based economic system. Several macroeconomic models for interest-free economies have been proposed (Anwar 1987; Habibi 1987; Metwally 1981 & 1983). The rigor of an integrated approach to such macroeconomic modelling depends on the rigor of the component models, namely, the consumption, investment, monetary, and fiscal relationships. Economists have written

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extensively on different aspects of consumer behavior in Islamic societies. Kahf (1978) and Khan (1984), among others, have contributed to the conceptual and analytical formulation of the consumption function under the rubric of Islamic rationality. Considerable work is also evident in the discussion of the fiscal and monetary economics of Islam (Arif 1982; Ziauddin 1983). For practical reasons, the most rigorous treatment we have seen deals with the precepts and practices of interest-free banking (Siddiqi 1983; Khan and Mirakhor 1987), as researchers have sought to grapple with the conceptual and practical aspects of this model of an Islamic financial system to which several Islamic countries have pledged their commitment.

A critical component of macroeconomic models of the Islamic economy that has hitherto not received the rigorous analytical treatment it deserves is the behavioral relation governing investment in physical capital. The exercise at hand is an attempt to contribute to the building blocks of an investment model within the framework of an integrated macroeconomic model. In particular, the paper recognizes investment as a dynamic rather than a static behavior of the firm, thus making it necessary to invoke dynamic optimization procedures to derive the investment model.

Throughout, the assumption is that of an efficient capital market such that firms are able to maintain the desired level of capital stock via transactions in the capital market. A wide array of Islamic financial instruments¹ effectively helps mediate between savers and investors. Finally, it is apt to note that the conceptual basis of the ensuing model owes much to the work of Tobin in his Dynamic Aggregative Model (Tobin 1955) with a methodological approach following Sargent's (1987) recent interpretation of Tobin. Most importantly, the model rests on the foundations of an Islamic-ethical value system based on the Qur'an and the Sunnah.

Ethico-Economic Institutional Framework

At the outset, it is necessary to characterize the Islamic environment in which a firm is to pursue its production, investment, and profit-seeking activity. As is customary, we will regard the Islamic economy as a "theoretical construct" in which individuals, firms, institutions, and the state are all governed by the laws of the Islamic Shari'ah while subscribing to the ethical-spiritual value system stemming from the Qur'an and the Sunnah. Moreover, individual behavior is tempered by the pursuit of *falāḥ* – a term involving the maximization

¹Examples of Islamic financial instruments are: *muḍārabah*, *murābahah*, *muqāraḍah*, *mushārah*, *ijārah*, *bay' al salam*, and so on.

of well-being not merely in the present but in the hereafter as well. *Falāh*, therefore, serves as the basis for “Islamic rationality,” as opposed to the Smithian notion of individual self-interest.

In addition to the above general principles, the following specific features of an Islamic economic system will be assumed to obtain:

- (a) The institution of interest in borrowing and lending ceases to exist.
- (b) Zakah is imposed at a fixed rate on all Muslims owning property above a specified minimum level. This rate is called *niṣāb*. Zakah revenues are distributed among the poor who live below the level of *niṣāb*.
- (c) Private enterprise and private ownership of the means of production exist alongside possibly significant public sector activities.
- (d) Wages and prices are generally determined by free market forces, albeit under the watchful eyes of *ḥisbah* that may regulate these variables to ensure equity and harmony in society. The principle of a just wage is upheld.
- (e) Since savers, investors, and entrepreneurs are different entities, their pursuit of positive returns on their financial undertakings gives rise to an efficient market for financial instruments (i.e., *muḍārabah*, *mushāarakah*, *muqāraḍah*).
- (f) The government intervenes in the market only when private endeavors fail to achieve the desired social goals.

It is in the light of the foregoing ethico-economic environment that we shall investigate a given firm’s investment behavior in an Islamic economy.

A Firm’s Equilibrium Capital Stock

In keeping with the idea of an aggregate production function, it will be assumed that there exists a single aggregate commodity that is sold at a standardized price, p , which will serve as the numeraire for the valuation of the portion of output that is consumed and that which is invested (physical capital). The assumption is that capital stock in the ownership of a typical firm will be regarded as a fungible resource that can be bought or sold in a perfectly competitive and efficient capital market. In other words, capital market equilibrium implies that each firm’s holding of capital stock corresponds

to the desired level. Any discrepancies between the desired and the actual levels of capital stock will prompt transactions in the capital market and a consequent adjustment towards equilibrium.² Under these conditions of equilibrium, it will be shown that the firm equates the marginal productivity of capital to the rental or user cost of capital. The adjustment process envisaged in the proposed model differs from the one proposed by Tobin in his formulation of the Keynesian investment schedule (Tobin 1969). There, the crucial variable driving investments was Tobin's q , the ratio of the nominal value of the firm's equities to the current replacement cost of capital.³ Positive investments would be forthcoming for $q > 1$, but the adjustment to equilibrium is not instantaneous, for it only takes place at some finite rate per unit of time.

A Firm's Investment Behavior under Profit-Sharing

The typical loanable funds market in an Islamic financial system would operate on an interest-free basis but permit the pursuit of profits, albeit under certain ethical constraints⁴ as ordained in the Qur'anic principle: "God has permitted trade but forbidden *ribā*" (2:275).

The upshot of these principles is the emergence of a market for financial instruments that recognize some form of profit-sharing arrangements between financier and entrepreneur. The most relevant of these instruments for the investment demand function are *muḍārabah*, *mushārah*, and *muqārah*.

Muḍārabah involves interest-free loans from commercial banks under an arrangement whereby the banks share in the profits of the enterprise at a predetermined ratio, say, $(1 - k):k$, where k is the share of profits accruing to the financier. An alternative source of funds arises from equity participation (*mushārah*) with the bank, where both equity capital and perhaps management is shared. The banks, in turn, might float equity bonds (*muqārah*) to attract investors. The consequence is the emergence of a stock market comprised of transferrable instruments whose "price and rate of return are determined by market forces" (Khan and Mirakhor 1986). The critical variable in the loanable funds market that determines the rates of return in all of the various financial instruments is the profit-sharing ratio k . More important for the purpose at hand, it serves as the critical component

²For the sake of simplicity, the assumption here is that of zero cost of adjustment. However, it is possible to incorporate a cost of adjustment function into the model as Lucas (1967) and Treadway (1969) have done.

³See Tobin and Brainard (1977) for more details on q .

⁴See Sattar (1988) for a discussion on ethical constraints on profits.

of the user cost of capital. Note that unlike the interest cost of capital, which is a constant, the user cost based on the profit-sharing ratio and the profit rate is subject to variability in response to changes in the profit-rate. Thus, investment decisions must be based on some expected profit-rate, which might be arrived at in the following manner:

Let the expected rate of business profits in time t be given by:

$$\bar{\phi} = E_t(\phi_{t+1}) = \sum_{i=0}^n w_i \phi_{t-i} \quad (1)$$

where $E_t(\phi_{t+1})$ is the expected value of profits in the next period and w_i are weights that follow a geometrically declining lag function, such that:

$$\sum_{i=0}^n w_i = \lambda \sum_{i=0}^n (1-\lambda)^i = 1 \text{ as } n \Rightarrow \infty \text{ and } 0 < \lambda < 1.$$

The specification (1) implies that the expected profit-rate, $\bar{\phi}$, is a weighted average of past such profit-rates with declining weights accorded to rates in the more distant past. Thus, the expected user cost of capital is given by $\alpha = k\bar{\phi}$ (the product of the profit-sharing ratio and the expected profit-rate). Ex post values of α might diverge from ex ante values as actual ϕ_t differs from $\bar{\phi}$. It has been shown by Siddiqi (1983) and others that k , the profit-sharing ratio, is determined by the demand for and supply of savings in the loanable funds market. For an entrepreneur, however, k is an agreed pre-determined rate. The ex post value of α might diverge from its ex ante value if the actual profit rate, ϕ , differs from its expected rate, $\bar{\phi}$. Hence the uncertainty in the financier's rate of return in an interest-free economy.⁵

Prices and Wages

The existence of ethical constraints on profit-making suggest certain upper bounds for prices in relation to unit or marginal costs. Profit-optimization is therefore subject to such exogenous constraints on prices. Similarly, the notion of a just wage on the grounds of equity in Islamic societies is analogous

⁵Note that α , the expected rate of return for the financier, is a combination of the profit-sharing ratio and the expected profit rate.

to the idea of a wage-floor, thus introducing an element of Keynesian downward wage-rigidity into the labor market of an Islamic economy. Further, the absence of money illusion ensures that the real wages of workers are protected by the proportionate adjustment of wages to price changes.

Discounting Future Values

Discounting future values is necessitated by considerations of inter-temporal economic efficiency as well as the pursuit of the Islamic objective of avoiding waste in consumption or production (the principle of *isrāf*). The fact that current investments yield a positive return makes it necessary to discount the future yields by an appropriate factor. Zarqa (1981) furnishes a rigorous argument for considering the expected rate of return on equities (*mushārah*) as the appropriate discount factor. Since, in equilibrium, this rate covers the rate of profit-share, α , this latter coefficient serves to replace the interest rate as the discounting factor in an Islamic economy.

The Investment Model

In this section, we set out to lay the microfoundations of the given firm's investment behavior over time. It is hypothesized that the typical firm's investment decisions are brought about by an inter-temporal maximization problem within an infinite time horizon. The firm employs capital and labor, and its output at any instant in time is given by a linear homogeneous production function:

$$(2) \quad Y(t) = F(K(t), L(t)) \quad t \in [0, \alpha)$$

with all the standard marginal productivity conditions, including the Euler theorem, duly satisfied. We also assume a one-sector model such that output⁶ and capital are both evaluated at the price of the homogeneous good, Y .

The firm's objective is to maximize its present value subject to the condition that it will have to share its net cash flow with the financier in accord with

⁶Introducing additional goods and making a distinction between output and capital goods does not alter the outcome of the optimization exercise, but rather adds unnecessary complexity. Hence it is avoided.

a pre-agreed profit-sharing ratio, k . Thus, the firm's net cash flow at time t is given by:

$$(3) \quad (1-k)CF(t) = (1-k)[p(t)Y(t) - w(t)L(t) - p(t)\dot{K}(t)]$$

where: $p(t)Y(t)$ is the firm's revenue,
 $w(t)L(t)$ is its wage bill, and
 $p(t)\dot{K}(t)$ is its current expenditures on capital goods, i.e., its financial costs of adding to existing capital stock at the rate of $K(t)$ per unit of time.⁷ Thus, the firm's present value at time t_0 is given by:

$$(4) \quad PV = \int_0^{\alpha} e^{-\int_0^{\alpha} \alpha(s)ds} (1-k)CF(t)dt$$

In specification (4), α is expected to vary over time, thus introducing a complexity to the computation of present values with a variable discounting factor. For the sake of simplicity and mathematical tractability, we therefore use the expected rate of profit share ($\alpha = k\phi$) as a constant discounting factor. Then, the firm's maximization problem is reduced to:

$$(5) \quad \begin{matrix} \text{MAX} & \int_0^{\alpha} e^{-\alpha} (1-k)CF(t)dt \\ & L(t) \\ & K(t) \end{matrix}$$

or:

$$(5') \quad \begin{matrix} \text{MAX} & \int_0^{\alpha} e^{-\alpha} (1-k)[p(t)F(K(t),L(t)) - w(t)L(t) - p(t)\dot{K}(t)]dt \\ & L(t) \\ & K(t) \end{matrix}$$

Further, we will assume that given the economy's anticipated rate of inflation, π , prices are adjusted along the path: $p(t) = p e^{\pi t}$. Ensuring a just wage in periods of inflation requires that wages are also adjusted along the path: $w(t) = w e^{\pi t}$.

⁷Although the depreciation term is ignored, it may be noted that the standard assumption of a constant rate of depreciation has no effect on the optimal criteria for investment.

Incorporating these adjustments into (5') yields^a:

$$(6) \quad \text{MAX}_{L(t), K(t)} \int_0^{\alpha} e^{-(\alpha-\pi)t} (1-k)[pF(K(t), L(t)) - wL(t) - p\dot{K}(t)]dt$$

Addressing the above maximization problem by way of Calculus of Variations yields the first order conditions summarized by the following set of Euler equations:

$$(A) \quad \partial I / \partial L = 0, \quad d/dt(\partial I / \partial \dot{L}) = 0 \quad t \in [0, \alpha)$$

The above condition applied to the objective functional gives the result:

$$e^{-(\alpha-\pi)t}(1-k) [p(\partial F / \partial L - w)] = 0$$

which then yields the optimal criteria for the employment of labor:

$$(7) \quad (A) \quad \partial F / \partial L = F_L = w/p$$

Thus, the requirements for dynamic optimality with respect to the firm's hiring decisions are identical with the static condition that firms equate the marginal productivity of labor to the real wage.

The second Euler equation, related to the capital stock, is given by:

$$(B) \quad \partial I / \partial K - d/dt(\partial I / \partial \dot{K}) = 0, \quad t \in [0, \alpha)$$

$$\partial I / \partial K = e^{-(\alpha-\pi)t} (1-k)pF_K$$

$$d/dt(\partial I / \partial \dot{K}) = p(\alpha-\pi)(1-k)e^{-(\alpha-\pi)t}$$

Thus:

$$pe^{-(\alpha-\pi)t}(1-k)F_K - p(\alpha-\pi)(1-k)e^{-(\alpha-\pi)t} = 0$$

^aThe objective functional in this maximization or control problem corresponds to an intermediate function of the form:

$$I(K, \dot{K}, L, t)$$

lending the maximization problem to be addressed by way of Calculus of Variations in order to obtain the extremum solutions. For more details, see Intrilligator (1971, chapter 12).

Therefore:

$$p(1-k)e^{-(\alpha-\pi)t}[F_K - \alpha + \pi] = 0$$

which yields the optimal investment criteria:

$$(8) \quad F_K = \alpha - \pi$$

The above criteria indicates that in an interest-free economy with an equilibrating capital market, firms will attain their desired capital stock by borrowing from the capital market and investing up to the point where the marginal productivity of capital is equalized with the user cost of capital⁹: $(\alpha - \pi)$.

The rationale for such investment behavior is simple. Firms will find it profitable to borrow and invest as long as the marginal product of capital exceeds the user cost, i.e., $K(t) > 0$ if $F_K > \alpha - \pi$. Firms will decumulate their capital stock when $F_K < \alpha - \pi$. Thus, the more fundamental relationship takes the form:

$$(9) \quad I(t) = I\left(\frac{F_K}{\alpha - \pi}\right) \quad I' > 0$$

showing that investment is an increasing function of the marginal productivity of capital and a decreasing function of the user cost of capital.¹⁰ In practical terms, the marginal productivity of capital is difficult to estimate. So, to obtain an estimable investment function, this argument needs to be replaced. Given the linear homogeneity of the production function $Y = F(K, L)$, we have $F_1 > 0$, $F_2 > 0$, and $F_{12} > 0$. The last inequality implies that the marginal productivity of capital is positively related to L , so that when L is high, so is F_K . But L , the employment of labor, is high precisely when output Y is high. Thus, the functional relationship (9) implies that investment is an increasing function of Y and a decreasing function of $(\alpha - \pi)$. The structural equation for the investment function may be written thus:

⁹Following the work of Metwally (1983), an additional source of rigidity needs to be borne in mind—a minimum floor for α . Metwally has shown that for investments to continue, the rate of profit share must exceed the rate of zakah on idle balances (i.e., $\alpha > .025$).

¹⁰Alternatively, the investment function may be specified as $I(t) = I(F_K, \alpha - \pi)$, $I_1 > 0$, $I_2 < 0$.

$$I = aY + b (\alpha - \pi)$$

Incorporating a constant and a stochastic term, we obtain the econometric formulation of the investment equation:

$$(10) \quad I = a_0 + a_1 Y + a_2 (\alpha - \pi) + \epsilon$$

$$a_0, a_1 > 0, a_2 > 0, \quad \epsilon \simeq N(0, \sigma_\epsilon^2)$$

The following points about the preceding exercise on the derivation of an investment function in an interest-free economy are noteworthy:

- (a) The marginal conditions for optimality are identical regardless of whether the firm seeks to maximize total cash flow or its own share of the cash flow. The term $(1-k)$ in the objective functional leaves no impact on the optimality criteria, as is evident from the Euler equations (A) and (B) and the subsequent derivation of the optimality criteria for employing labor or capital.
- (b) It is possible to demonstrate the equivalence of maximizing the firm's present value and maximizing profits at each point in time. Indeed, they lead to the same optimality conditions, as is shown below. Central to this issue is the imputation of the cost of capital (Anwar 1987, 31) which, in an interest-free economy, must involve the use of the expected real user cost of capital, $(\alpha - \pi)$. Thus the firm's profit maximization problem at time t is given by:

$$(11) \quad \begin{aligned} \text{MAX } \Pi(t) = & p(t)F(K(t), L(t)) - w(t)L(t) - (\alpha - \pi)p(t)K(t) \\ & L(t) \\ & K(t) \end{aligned}$$

The first order conditions are:

$$\Pi_L = p(t)F_L - w(t) = 0$$

which yields $F_L = w(t)/p(t)$ [same as (7)]

Again,

$$\Pi_K = p(t)F_K - (\alpha - \pi)p(t) = 0$$

so that $F_K = \alpha - \pi$

[same as (8)]

- (c) The real return on new capital, $\alpha - \pi$, will vary over time if the actual profit rate itself diverges from the long-run expected rate of profit. However, where $\alpha (=k\phi)$ is treated by financiers as the long-run expected rate of return on investible funds, the distinction between $(\alpha - \pi)$ in the interest-free economy and $(r - \pi)$ in an interest-based economy is given by the fact that r guarantees a certain positive return on financial capital while α does not. Given that $\phi = E(\phi(t))$, i.e., ϕ is the expected rate of profit at time t , it is possible that $\phi(t) \neq \phi$. Then $\alpha(t) \neq \alpha$. However, $r(t)$ involves a guaranteed nominal rate of return on capital such that $r(t) = E(r(t)) = r$.
- (d) Regardless of the differences between α and r , it is important to note that since α substitutes for r in an interest-free economy, it appears as the substitute argument in investment as well as in money demand functions.

The Macroeconomic Model

We now incorporate the optimality conditions (7) and (8) derived from the preceding profit-maximization exercise into a macroeconomic model following a methodology attributable to Sargent (1987):

- (i) Consumption: $C = c(Y^d, \alpha)$ $0 < c_1 < 1$; $c_2 < 0$; $Y^d = Y - T$
- (ii) Income Identity: $Y = C + I + G$
- (iii) Production Function: $Y = F(K, L)$
- (iv) Equilibrium condition for employment: $F_L = w/p$, $w = \bar{w}$
- (v) Equilibrium condition for investment: $F_K = \alpha - \pi$
- (vi) Money Market Equilibrium: $M/p = m(\alpha, Y)$, $m_1 < 0$, $m_2 > 0$

Endogenous variables: C, I, Y, L, α, p

Exogenous variables: G, T, M, w, π, K

Equations (i), (ii), and (iii) represent conventional specifications of the consumption function, national income identity, and the production function, except that consumption is made responsive to changes in the rate of profit-share (a rise in such a rate increases the incentive to save and to reduce consumption).

Equation (iv) incorporates the optimal employment criteria (7), but introduces the condition of wage rigidity in view of the requirement that a “just” minimum wage must be ensured through an equitable wage policy in an Islamic economy. This condition (given by $w = \bar{w}$) introduces a notion of disequilibrium in the labor market that is typically Keynesian. Equation (v) is the capital market equilibrium condition following from the optimal investment criteria (8). Equation (vi) postulates money market equilibrium with α replacing the interest rate in a conventional money demand function [following al Jarhi (1981)].

Linearizing the system of equations and presenting the endogenous variables on the left-hand side and exogenous variables on the right-hand side, we get:

$$(i') \quad dC - c_1 dY - c_2 d\alpha = -c_1 dT$$

$$(ii') \quad dY - dC - dI = dG$$

$$(iii') \quad dY - F_L dL = 0$$

$$(iv') \quad F_{LL} dL + (w/p^2) dp = dw/p$$

$$(v') \quad F_{KL} dL = d\alpha - d\pi$$

$$(vi') \quad m_\alpha d\alpha + m_Y dY + (M/p^2) dp = dM/p$$

[See Appendix A for a compact presentation of the above system and its solution].

To study the behavior of the system and analyze the impact of policies, we depict the model graphically, first, to study the effect of fiscal policies and, next, to analyze the effects of monetary policies. This will be done, first, in a partial equilibrium framework followed by a general equilibrium analysis to enable a comparison of results.

First, capital market equilibrium is analyzed as follows: Using the investment function:

$$(12) \quad I = I(F_K, \alpha - \pi), \quad I_1 > 0, \quad I_2 > 0$$

and taking total derivatives, we obtain:

$$(13) \quad dI = I_1 F_{KL} dL + I_2 d\alpha - I_2 d\pi$$

Using the condition $dI = 0$ for capital market equilibrium (CME), and equation (iii'):

$$(14) \quad 0 = I_1 (F_{KL}/F_L) dY + I_2 d\alpha - I_2 d\pi$$

which yields:

$$(15) \quad \left. \frac{d\alpha}{dY} \right|_{CME} = \frac{-I_1}{I_2} (F_{KL}/F_L) > 0$$

Using equations (i') and (ii') coupled with (13) yields the result for goods market equilibrium (GME) [see Appendix B for details]:

$$(16) \quad d\alpha = 1/\eta [1 - c_1 - I_1 (F_{KL}/F_L)] dY + 1/\eta [c_1 dT + I_2 d\pi - dG]; \quad \eta = c_2 + I_2$$

$$(17) \quad \left. \frac{d\alpha}{dY} \right|_{GME} = 1/\eta [1 - c_1 - I_1 (F_{KL}/F_L)] < 0$$

Figure 1 describes the interaction of the goods and the capital market.¹¹

¹¹Detailed comparative statics results within a general equilibrium framework may be obtained from the reduced form equations for key endogenous variables. This has been done subsequently.

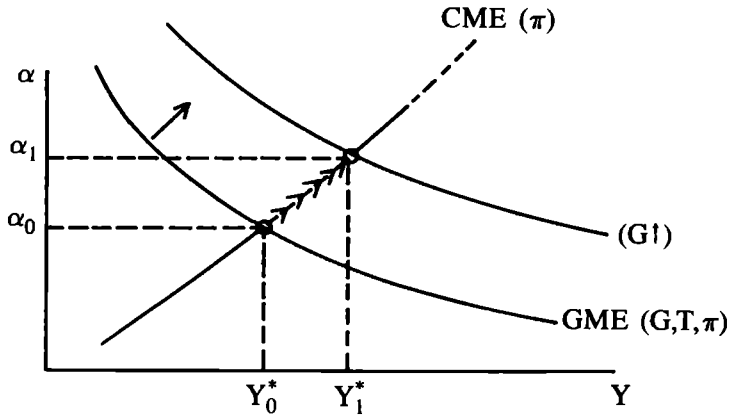


Figure (I)

Thus, in a partial equilibrium analysis of the goods and capital markets, fiscal policies appear to have the conventional impact on output, while expansionary fiscal policies help to raise the rate of profit-share in the economy and contractionary policies have the opposite effect. This result is not difficult to imagine if we do not consider the money market: expansionary fiscal policies create excess demands in the goods market raising the profitability of investments. Any disequilibrium in the capital market is then resolved through a rise in the rate of profit-share, α .

To study the behavior in the money market, we postulate money market equilibrium (MME) through appropriate substitutions in equations (iii') – (vi'). We obtain these results [see Mathematical Appendix C for details]:

$$(18) \quad d\alpha = 1/m_\alpha [dM/p - \frac{M}{p} \frac{dw}{w} + (\frac{M}{p} \frac{F_{LL}}{F_L^2} - m_Y) dY]$$

Hence:

$$(19) \quad \left. \frac{d\alpha}{dY} \right|_{MME} = 1/m_\alpha \left(\frac{M}{p} \frac{F_{LL}}{F_L^2} - m_Y \right) > 0$$

$$m_\alpha < 0, m_Y > 0, F_{LL} < 0$$

Figure 2 describes the interaction of the money and capital markets:

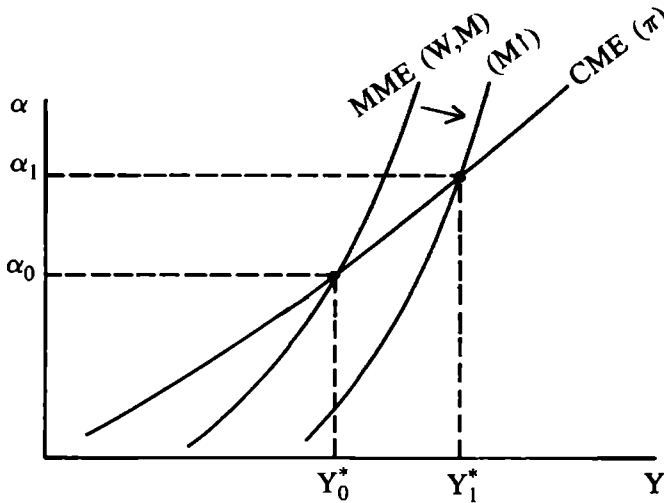


Figure (2)

Since the slope of the CME and MME curves are both positive, a necessary condition for the stability of equilibrium requires that MME have a steeper slope than CME. It is demonstrated that monetary expansion, just as fiscal expansion, has output effects but that capital market equilibrium is maintained at a higher level of profit-share. Thus, the separate treatment of the interaction between the goods and the money markets with the capital market generate the outcome that fiscal and monetary expansion both raise the rate of profit-share by raising the profitability of investments as aggregate demand and output both rise.

A general equilibrium analysis would be difficult to present graphically. Therefore, the comparative statics results will be derived from the reduced form solutions for the key endogenous variables, namely, Y and α .

Thus, substitution of (18) and (iii') into (v') yields reduced form for Y :

$$(20) \quad \left[\frac{F_{KL}}{F_L} - \frac{M}{p} \cdot \frac{F_{LL}}{F_L^2} \cdot \frac{1}{m_\alpha} + \frac{m_Y}{m_\alpha} \right] dY = \frac{1}{m_\alpha} \left[\frac{dM}{p} - \frac{M}{p} \cdot \frac{dw}{w} \right] - \pi$$

and:

$$(21) \quad dY = \frac{1}{Sm_\alpha} \left[\frac{dM}{p} - \frac{M}{p} \cdot \frac{dw}{w} \right] - \frac{d\pi}{S}$$

$$S = \left[\frac{F_{KL}}{F} - \frac{M}{p} \cdot \frac{F_{LL}}{F_L^2} \cdot \frac{1}{m_\alpha} + \frac{m_Y}{m_\alpha} \right] \quad \text{and } S < 0$$

The above produces the following comparative statics results:

$$dY/dM > 0$$

$$dY/dw < 0$$

$$dY/d\pi > 0$$

Notice that dY/dG , $dY/dT = 0$ implying that output changes are not responsive to fiscal policy. Only monetary shocks have output effects.

Substituting (21) into (18) yields the reduced form for $d\alpha$:

$$d\alpha = \frac{1}{m_\alpha} \left[\frac{dM}{p} - \frac{M}{p} \cdot \frac{dw}{w} \right] + \frac{1}{m_\alpha} \left(\frac{M}{p} \cdot \frac{F_{LL}}{F_L^2} - m_Y \right)$$

$$\left\{ \frac{1}{Sm_\alpha} \left[\frac{dM}{p} - \frac{M}{p} \cdot \frac{dw}{w} \right] - \frac{d\pi}{S} \right\}$$

The comparative statics are:

$$d\alpha/dM \text{ ambiguous}$$

$$d\alpha/dw < 0$$

$$d\alpha/d\pi > 0$$

$$\text{and } d\alpha/dG, d\alpha/dT = 0$$

Again the neutrality of fiscal policy with respect to α is established, although the impact of monetary shocks on α appears ambiguous. In sum, it appears that the general equilibrium framework presents a comparative statics outcome that contrasts with the previous partial equilibrium analysis. The interesting result that emerges here is that of fiscal neutrality with respect

to output and the rate of profit-share. On the contrary, the non-neutrality of monetary shocks has been demonstrated. We conclude, therefore, that in an Islamic economy based on profit-sharing financial arrangements, monetary policy would be a more potent instrument of stabilization than fiscal policy, provided that the assumptions of an efficient capital market hold.

The above result makes ample sense in view of the unique constraints faced in the area of fiscal management in an Islamic economy due to the absence of bond-financing. The choice for the fiscal authority, therefore, lies between balanced budgets or monetary financing of the deficit. The latter, clearly, is indistinguishable from pure monetary expansion. Thus, inflationary consequences notwithstanding, monetary policy remains the only potent instrument of stabilization. In the prevailing circumstances, pursuing a policy of noninflationary growth would require observing a monetary rule in the Friedmanian tradition while calling for strict limits on discretionary policy.

Conclusion

The present paper has presented an initial framework for an investment model—a key building block in an integrated macroeconomic model of an Islamic economic system. The key variable introduced in investment analysis is the rate of profit-share, which turns out to be a critical variable determining investment criteria. Moreover, as investment behavior is governed by expected profitability and demand growth over the long term, the dynamic optimization exercise adopted here appears to be a more realistic basis for studying the microfoundations of investment behavior. An econometric formulation of the investment model has also been proposed that could lend itself to an estimation of the availability of an adequate amount of cross-section or time-series data.

The macroeconomic model proposed has both classical and Keynesian attributes. Therefore, the indications regarding the effectiveness of activist stabilization policies are mixed. The main policy implications of the present exercise are essentially twofold: first, the neutrality of fiscal policy with respect to output, investment, and the rate of profit-share has been demonstrated, as has the greater potency of monetary policy as an instrument of economic stabilization. However, the pursuit of noninflationary growth would call for strict limits on the scope for discretionary policy. Second, the impact of fiscal or monetary policies on the rate of profit-share is either neutral or ambiguous. Prudence, therefore, dictates the need to avoid using the rate of profit-share either as an instrument or as a target variable for stabilization policies, since

such a strategy might contribute to the volatility of investments without the benefit of higher output or productivity.

A related but critical issue that emerges is whether stabilization policies should be actively used in an Islamic economic system. The answer to this question can only be obtained after further investigation of the long-term relations between real and nominal variables in the system, the nature of interdependence between the component markets, formation of profit and other expectations in response to monetary and fiscal policies, and the desirability, for instance, of fulfilling one goal (employment) at the expense of another (investment stability). The present study attempts to provide only the preliminary answers to these broader questions.

Mathematical Appendices

Appendix A

The linearized system of equations can be presented compactly in matrix form:

$$\begin{pmatrix} 1 & 0 & -c_1 & 0 & -c_2 & 0 \\ -1 & -1 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & -F_L & 0 & 0 \\ 0 & 0 & 0 & F_{LL} & 0 & w/p^2 \\ 0 & 0 & 0 & F_{KL} & -1 & 0 \\ 0 & 0 & m_Y & 0 & m_\alpha & M/p^2 \end{pmatrix} \begin{pmatrix} dC \\ dI \\ dY \\ dL \\ d\alpha \\ dp \end{pmatrix} = \begin{pmatrix} -c_1 dT \\ dG \\ 0 \\ dw/p \\ -d\pi \\ dM/p \end{pmatrix}$$

Inspection of the 6x6 matrix above shows the presence of a 4x2 null matrix in the bottom left-hand corner implying the characteristic of “block recursivity” of the model (a typically classical attribute). By implication, the subset of equations (iii) - (vi) can then independently determine the values of Y, L, α , and p. Substituting the value of Y in (i) solves C. I is then determined in (ii).

Appendix B

Derivation of goods market equilibrium is as follows:

Given:

$$(i') \quad dC - c_1 dY - c_2 d\alpha = -c'dT$$

$$(ii') \quad dY - dC - dI = dG$$

Substituting (i') into (ii'):

$$dY - c_1 dY + c_1 dT - c_2 d\alpha - dI = dG$$

Using (iii') and (13), and substituting for dI:

$$dY - c_1 dY - c_2 d\alpha + c_1 dT - I_1 \frac{F_K}{F_L} dY - I_2 d\alpha + I_2 d\pi = dG$$

$$[1 - c_1 - I_1 \frac{F_{KL}}{F_L}] dY + c_1 dT + I_2 d\pi - dG = I_2 d\alpha + c_2 d\alpha$$

$$d\alpha = \frac{1}{\eta} [1 - c_1 - I_1 \frac{F_{KL}}{F_L}] dY + \frac{1}{\eta} [c_1 dT + I_2 d\pi - dG];$$

$$\eta = c_2 + I_2$$

$$\text{Thus: } \frac{d\alpha}{dY} \text{ GME} = \frac{1}{\eta} [1 - c_1 - I_1 \frac{F_{KL}}{F_L}] < 0$$

Appendix C

To obtain money market equilibrium, first collapse equations (iii') to (vi') into a system of two equations in $d\alpha$ and dY . Equations (iii') and (iv') then yield:

$$(w/p^2) dp = dw/p - F_{LL} dL$$

$$dp/p = dw/w - (p/w) F_{LL} dL$$

$$= dw/w - \frac{F_{LL}}{F_L} dL \quad (F_L = w/p)$$

$$dp/p = dw/w - \frac{F_{LL}}{F_L^2} dY$$

Substituting into (vi'):

$$m_{\alpha}d\alpha + m_Y dY + \frac{M}{p} \left(\frac{dw}{w} - \frac{F_{LL}}{F_L^2} dY \right) = \frac{dM}{p}$$

$$d\alpha = \frac{1}{m_{\alpha}} \left[\frac{dM}{p} - \frac{M}{p} \cdot \frac{dw}{w} + \left(\frac{M}{p} \cdot \frac{F_{LL}}{F_L^2} - m_Y \right) dY \right]$$

$$\frac{d\alpha}{dY} \text{ MME} = \frac{1}{m_{\alpha}} \left(\frac{M}{p} \cdot \frac{F_{LL}}{F_L^2} - m_Y \right) > 0$$

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Zakah Contributions and Resource Allocation— An Optimal Control Approach

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and
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Introduction

The emergence of Islamic economic literature in several Muslim countries and elsewhere in the world during the last decade should be viewed not in isolation but in the perspective of the applicability as well as the flexibility of the Islamic economic system. This system has given detailed regulations for the conduct of Muslims' socioeconomic life which concerns mainly the earning and use of wealth.¹

The economic principles of Islam strive at constructing a just society wherein every individual will behave responsibly and honestly. The Islamic economic system is concerned not only with the satisfaction of the material needs of individuals who seek to maximize their own utilities but also with the fulfillment of the legitimate basic needs of human beings, even if some of them are economically underprivileged. Thus it is the responsibility of the Muslim individuals, community, and state to provide the less fortunate with their basic needs.² This responsibility should be looked at as social and moral as well as a religious obligations.

Taxation measures and transfer payments are tools designed to deal with the problems of socioeconomic justice and the equitable distribution of income

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¹ For more information on the subject, see Faruqi (1980).

² Islamic state is defined as one in which Islamic jurisprudence inspired from Quran, Sunnah and Ijtihad tools remains the sole practical legislation in all matters of the state.

and wealth. Within this setting, compulsory payment of *zakāh* remains the cornerstone of the taxation and transfer payment programs of an Islamic economy.³ To guarantee its efficiency, *zakāh* has been placed out of the discretionary power of the political system by listing it as one of the five decreed pillars of Islam. Denying its obligation is tantamount to denying Islam.⁴

The *zakāh* system is endowed with an incentive structure that provides a positive stimulus to economic growth. The incentive structure emanates from the formation, practice, and maintenance of attitudes and behavior that can be practiced in institutional arrangements. Because of the attitude and behavior of the Muslim economic agent which springs from the Islamic ideology, this study enhances the conventional approach to economic growth by portraying the altruistic behavior that a Muslim individual manifests through his/her *zakāh* payment.⁵ In doing so, this paper develops an optimal economic growth model by explicitly incorporating *zakāh* into the utility index. This framework stipulates that a Muslim individual derives his/her felicity from his/her own consumption of goods and services as well as from contributions to others through fulfilling his/her *zakāh* obligations. Underlying analysis are three main assumptions:

1. The existence of a fully operating *zakāh* institution to administer the *zakāh* fund.
2. Only Muslims acquiring *zakāh niṣāb* are portrayed in the model.⁶
3. *Zakāh* is imposed on nonproductive capital as well as on the return of productive capital.⁷

The results of the model indicate that the incorporation of *zakāh* yields multiple stationary solutions. One interpretation tends to set specific planning priorities under which the wealth and income distribution issues are of primordial stature. Under reasonable assumptions, however, we find that the optimal

³ For further elaboration on the subject of *zakāh* see Yusuf El-Qardawi, Siddiqui (1981) and Choudhury (1980) among others.

⁴ *Zakāh* in Quranic terminology means a compulsory payment by the wealthy to the economically under-privileged. It should be noted here that *zakāh* is not a charity and cannot be treated as a tax in the modern sense of the term because first, it is institutionalized by the state. Secondly, it is earmarked to be distributed on specific groups (Quran 9:60). Third, it is a compulsory payment on Muslim members of the state only and there is no quid pro quo attached to it.

⁵ We maintain that altruistic man rather than self-interested economic man is the fundamental assumption in Islamic economics.

⁶ Nisab is the minimum level of income or wealth below which no *zakāh* is due.

⁷ Since *zakāh* is imposed on idle assets, it can be put to productive use. Therefore, economic rationality will call for a depletion of all idle assets to make room for investment flows and hence a rise in income through a multiplier effect (see Choudhury, 1980).

economic growth path at the stationary state corresponds to that of the golden rule of capital accumulation, which implies an efficient allocation of resources through the process of institutionalizing *zakāh* contributions.

1. The Model

We shall first set up the problem using the following notations:

Y_t = GNP produced at time t

Y_t = Per capita output at time t

L_t = Total labor force at time t

K_t = Capital stock at time t

c_t = Per capita consumption at time t

z_t = Per capita *zakāh* payment at time t

Before we proceed with our model we should state the basic properties of the variable z_t . The basic characteristics of z_t that are relevant to our model are:

- (1) It is a mandatory disbursement on the holding of capital, provided that such capital exceeds a minimum threshold level.
- (2) There is no mandatory disbursement on the productive part of capital.
- (3) Mandatory disbursements are imposed on the returns of productive capital as well as on nonproductive capital.

The basic premise of the model can be described by a single homogeneous output (Y_t) produced with the use of two homogeneous factors, labor (L_t) and capital (K_t). The aggregate production function can be written as:

$$Y_t = F(K_t, L_t) \quad (1)$$

The production function exhibits constant returns to scale, i.e., positive marginal productivity but at decreasing rates. The production function in per capita terms can thus be written as:

$$Y_t = f(K_t) \quad (2)$$

where k_t is the capital labor ratio and:

$$f'(k_t) > 0, \quad f''(k_t) < 0$$

$$\lim_{k \rightarrow 0} f'(k) = \infty \text{ and } \lim_{k \rightarrow \infty} f'(k) = 0$$

for all positive k , thus satisfying the Inada (1963) conditions.

Let L_t grow at constant rate $n > 0$, thus $L_t = e^{nt}$ normalizing the initial labor force at unity.

Since the *zakāh* payment is on nonproductive capital as well as on the increase in assets due to investment and production then,

$$Z_t = [a_1(1 - B) + a_2rB]K_t \quad (3)$$

where a_1 is the disbursement rate on nonproductive capital, a_2 is the rate imposed on the return of productive capital, r is the rate of return on the productive capital, and B is the proportion of productive capital to total capital. In per capita terms, equation (3) can be written as:

$$z_t = [a_1(1 - B) + a_2rB] k \quad (4)$$

The national accounting identity in the economy is given by:

$$F[k_t, L_t] = C_t + \dot{K}_t + Z_t \quad (5)$$

where $\dot{K}_t = \frac{dK_t}{dt} = I_t$ is investment. Therefore, according to the identity which

states that output (Gross National Product) is composed of consumption, investment, and *zakāh* payments, equation (5), in per capita terms, can be written as:

$$c_t = f(k_t) - \frac{\dot{K}_t}{K_t} \cdot k_t - z_t$$

Since $\dot{k} = \frac{d(K/L)}{dt}$, then the equation of motion which is the fundamental

differential equation in our economy is given by:

$$\dot{k}_t = f(k_t) - c_t - [n + a_1(1 - B) + a_2rB]k_t \quad (6)$$

Equation (6) is an expression tracing the increase in per capita capital by taking into consideration the necessary capital stock per capita needed to maintain a constant (k) in the face of rising population as well as the necessary k needed to surmount the idle proportion of capital envisaged by the *zakāh* payment, and also as the payments on the return of productive capital.

Next we assume that society's task is to maximize the welfare of its citizens. Within this context, an individual derives his/her own felicity from his/her own private consumption of goods and services as well as from his/her contribution to others through his/her *zakāh* disbursement. We postulate the existence of a social welfare function:

$$U = U(c_t, z_t) \quad (7)$$

This social utility function is assumed to be strictly concave with continuous first and second order derivatives.

The above assumption in particular implies that:

$$\frac{\partial U}{\partial c} = U_c > 0, \frac{\partial^2 U}{\partial c^2} = U_{cc} < 0$$

$$\frac{\partial U}{\partial z} = U_z > 0, \frac{\partial^2 U}{\partial z^2} = U_{zz} < 0$$

$$\text{and } U_{cc} \cdot U_{zz} - U_{cz}^2 > 0$$

To insure that no optimal path will entail a zero level of per capita consumption, we postulate that the slope of the welfare function is infinity as c approaches zero:

$$\lim_{c \rightarrow 0} U_c \rightarrow +\infty \text{ for all } c > 0, \lim_{z \rightarrow 0} U_z \rightarrow \infty$$

$$\lim_{c \rightarrow \infty} U_c = 0 \text{ and } \lim_{z \rightarrow \infty} U_z = 0$$

we also make the assumption that $\frac{\partial^2 U}{\partial c \partial z} > 0$ implying that as

consumption rises, utility from *zakāh* contributions will also rise.

A necessary condition for the existence of the optimal solution requires that the social discount rate (φ) be equal to or greater than the population growth rate (n). Otherwise, the economy will be unable to support the population even at the subsistence level.⁸

Now, having all the components of the problem at hand, we can state the following optimization problem:

$$\text{maximize } \int_0^T e^{(n-\varphi)t} \cdot U(c_t, z_t) dt$$

$$\text{subject to } \dot{k}_t = f(k_t) - c_t - nk_t - [a_1(1-B) + a_1rB] k_t$$

$$\text{where } k(0) = k_0, k(T) \geq k_t \text{ and } (c_t, z_t) > 0$$

Carrying out the maximization process, we form the Hamiltonian function:

$$H(t) = e^{(n-\varphi)t} \cdot U(c_t, z_t) + \lambda e^{(n-\varphi)t} [f(k_t) - c_t - nk_t - a_1(1-B) + a_2rB] k_t \quad (8)$$

Therefore the problem could be expressed as what are the rules a policy maker

⁸ For more information in this subject see Intriligator (1971).

should follow to guarantee the maximum discounted value of the stream of future utilities accruing from per capita consumption and per capita zakah. A possible answer is set within this narrow frame where a policy planner possesses one state variable $k(t)$, and two control variables, $c(t)$ and $z(t)$. However, to avoid cumbersome parameter treatment, there is neither technical progress nor capital depreciation.⁹

The necessary conditions of the Hamiltonian are:

$$\frac{\partial H}{\partial c} = U_c(c, z) = \lambda \quad (9)$$

$$\frac{\partial H}{\partial \lambda} = \dot{k} = f(k_t) - c_t - nk_t - [a_1(1 - B) + a_2rB] k_t \quad (10)$$

$$\text{and } -\frac{\partial H}{\partial k} = \dot{\lambda} = -[(a_1(1 - B) + a_2rB) \frac{U_z}{U_c} + f'(k_t) - a_1(1 - B) - a_2rB] - \sigma\lambda \quad (11)$$

where λ is the opportunity cost of investment, U_c is the marginal utility of consumption, and U_z is the marginal utility of the *zakāh* contribution.

The above set of differential equations describe the movement of the system which has three variables, namely k_t , c_t , and λ . In this model the examination of stationary points are carried in (c, k) plans.¹⁰ It requires the reduction of the above set of three equations (9, 10, and 11) to a system of two equations. Thus, totally differentiating (9) yields:

$$U_{cc}C + U_{cz} [a_1(1 - B) + a_2rB] k = \dot{\lambda} \quad (12)$$

Dividing both sides of equation (12) by λ and rearranging the terms of equation (11) yields:

$$\dot{c} = \frac{c}{\sigma} \left[\frac{U_z}{U_c} (a_1(1 - B) + a_2rB) + f'(k_t) - a_1(1 - B) - a_2rB - \varphi \right] + (a_1(1 - B) + a_2r) \theta \frac{\dot{k}}{k} \quad (13)$$

where $\sigma = -\frac{U_{cc}\dot{c}}{U_c}$ is the elasticity of marginal utility with respect to consumption and $\Theta = \frac{U_{cz}\dot{k}}{U_c}$ is the elasticity of marginal utility with respect to *zakāh*.

⁹ The omission of the technical progress in exogenous setting and capital depreciation has no impact on the main results of our model.

¹⁰ The same procedure could be carried out in the (λ, k) plane.

The system of three equations has been reduced to a system of two differential equations, namely (10) and (13), which may give rise to the following cases.

2. Multiple Stationary Solution

The c -isokine which depends on U_c , U_z , and Θ is of a complex form.¹¹ Grosso Modo, the shape of the c -isokine in the presence of *zakāh* contributions, yields multiple stationary points. The result is shown in Figure 1.

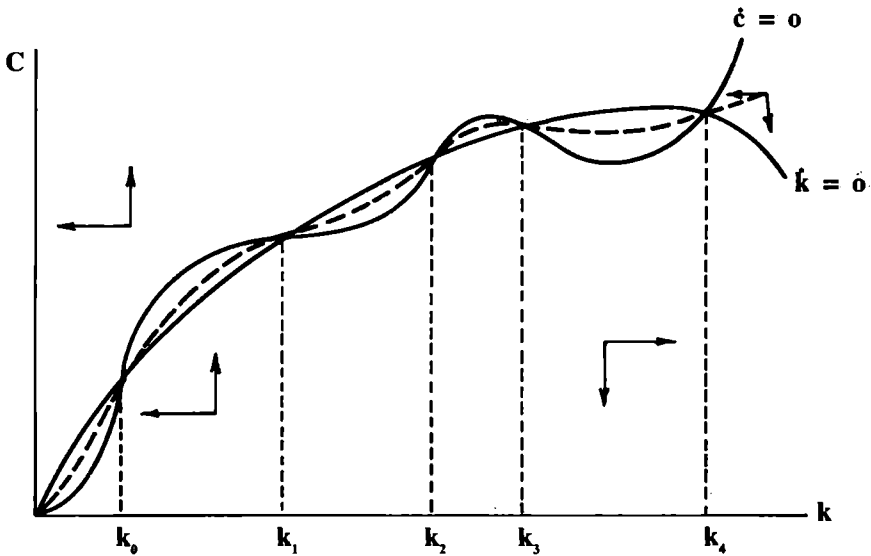


Figure 1

Due to the multiplicity of stationary points implied by the introduction of *zakāh*, and also assuming a possible detection of these points by the policy maker, one should aim at very specific issues in the realm of Islamic economic development programs. Therefore, the issue of distribution should be given priority in any optimal strategy of economic planning.

¹¹ The complexity of the behavior of c -isokine is tackled through the terms which define it. This can be quickly detected through the equation of the c -isokine which depends on U_c , U_z , and θ . The slope of the c -isokine depends on U_{czz} and U_{czc} . However, the signs as well as valid economic interpretation of these derivatives seem to be out of hand.

3. Capital Stock and Rule of Accumulation

In this case, let us assume that private per capita consumption (c) and per capita *zakāh* payment (z) are independent, i.e., $U_{cz} = 0$. Furthermore, we shall retain the assumption that $U_z > 0$ and $U_{zz} < 0$.¹² Recalling equations (9) and (11) and substituting $U_c = \lambda$ in (11), we get:

$$\frac{U_{cc}}{U_c} = - [f'(k) + (a_1(1-B) + a_2rB) \frac{U_z}{U_c} - \varphi] \quad (14)$$

Since $\frac{U_{cc}}{U_c} = -\sigma \frac{\dot{c}}{c}$ thus equation (13) becomes:

$$\frac{\dot{c}}{c} \sigma + \varphi - [a_1(1-B) - (a_2rB)] \frac{U_z}{U_c} - 1 = f'(k) \quad (15)$$

This is the equation for the optimal path of the capital accumulation rule. It asserts that along such a path the rate of consumption at each moment must be chosen so that the marginal productivity of capital is composed of the following three components:

- (1) the percentage rate at which the psychic cost of saving declines over time,
- (2) the social discount rate, and
- (3) the distributional factor of the *zakāh* contribution.

In other words, along the optimal path of capital accumulation, the marginal productivity of capital (profit rate) must be sufficient to cover the three components on the left-hand side of equation (15).¹³ However, within the framework of this model, the necessary and sufficient conditions for the golden rule to occur requires that the marginal rate of substitution between c and z should be equal to one, which implies that $\frac{\dot{c}}{c} \sigma + \varphi = f'(k)$ provided that $\varphi = n$.

¹² The assumption that $U_{cz} = 0$ implies that as c increases, utility from *zakāh* is zero. For $U_{zz} < 0$, it can be argued that $Z(t)$ in nature, is considered the same as $c(t)$, thus it has a positive marginal utility at a decreasing rate.

¹³ The optimality condition of the profit rate requires that the marginal rate of substitution between *zakāh* and consumption should be less than the sum of the rate of change in consumption, the social discount rate and the *zakāh* distribution parameter, i.e.,

$$\frac{\frac{\dot{c}}{c} \sigma + \varphi + a_1(1-B) + a_2rB}{a_1(1-B) + a_2rB} > \frac{U_z}{U_c}$$

This optimality condition produces a unique result, under which excessive altruistic behavior is bounded by certain conditions in order to prevent excessive *zakāh* contributions that may divert the productive aspect of capital into nonproductive use.

On the other hand, if $B = 1$, the modified golden rule emerges from equation (15) as:

$$\frac{\dot{c}}{c} \sigma + \varphi + r a_2 \frac{(U_z - 1)}{U_c} = f'(k)$$

The modification in the golden rule level is that the capital stock is reduced below the golden rule.

4. The Dynamic Analysis

To examine the nature of possible stationary points, we recall:

$$\dot{k} = f(k_t) - c_t - n k_t - [a_1(1 - B) + a_2 r B] k_t \quad (15)$$

$$\dot{c} = \frac{c}{\sigma} [a_1(1 - B) + a_2 r B] \frac{(U_z - 1)}{U_c} + f'(k_t) - \varphi] \quad (16)$$

To track the dynamic analysis of this system of differential equations, we define:

$$\Phi_1(c, z) = f(k) - c - n k - [a_1(1 - B) + a_2 r B] k \quad (17)$$

$$\Phi_2(c, z) = [a_1(1 - B) + a_2 r B] \frac{(U_z - 1)}{U_c} + f'(k) - \varphi] \quad (18)$$

Totally differentiating equation (15) and setting $d\Phi_1 = 0$, we get:

$$\left. \frac{dc}{dk} \right|_{\Phi_1 = 0} = f'(k) - n - [(a_1(1 - B) + (a_2 r B))] \quad (19)$$

Similarly, totally differentiating equation (17) and setting $\Phi_2 = 0$, we get:

$$\left. \frac{dc}{dk} \right|_{\Phi_2 = 0} = \frac{[a_1(1 - B) + (a_2 r B)]^2 U_{zz} U_c + U_c^2 f''(k)}{[a_1(1 - B) + (a_2 r B)] U_{cc} U_z} \quad (20)$$

Therefore, if we consider a point (k^*, c^*) as a stationary point, then such a point is a saddle point if the following necessary condition is fulfilled:

$$P(k^*, c^*) = \left. \frac{dc}{dk} \right|_{\Phi_2(k^*, c^*) = 0} - \left. \frac{dc}{dk} \right|_{\Phi_1(k^*, c^*) = 0} > 0 \quad (21)$$

Since we derived the slope expressions of both locii, we next check whether the above condition is satisfied at k^* and c^* :

$$P(k,c) = \frac{[a_1(1-B) + a_2rB]^2 + U_c^2 f''(k) - (f' - n - a_1(1-B) - a_2rB)}{[a_1(1-B) + a_2rB] U_{cc} U_z} \quad (22)$$

At this supposed saddle point, $p(k^*, c^*)$, along Φ_2 we get:

$$\frac{U_z}{U_c} = \frac{a_1(1-B) + a_2rB + \varphi - f'(k^*)}{a_1(1-B) - a_2rB} > 0 \quad (23)$$

Since the assumption $\varphi \geq n$, the expression does not imply that $n + a_1(1-B) + a_2rB - f'(k^*)$ is positive. Thus, because of the ambiguity of the sign of the term $f'(k^*) - n - a_1(1-B) - a_2rB$ in expression (23), we cannot conclude that $P(k^*, c^*) > 0$. However, only if $\varphi = n$, then expression (22) is positive and point $P(k^*, c^*)$ is a saddle point.

Considering *zakāh* contributions as a good, along with the independence assumption, the presence of *zakāh* yields an optimal path with a stationary point. Such a stationary point is a saddle point provided that the labor growth rate (n) equals the social discount factor (φ). Also, the golden rule of capital accumulation is modified by being reduced.

Conclusion

The compulsory payment of *zakāh* is one of the main principles of an Islamic economy. Every Muslim who owns wealth more than the *niṣāb* must pay the fixed rate of *zakāh* to the Islamic state. This paper, while utilizing the neoclassical growth model, goes far beyond that work. It introduces a benevolent act (*zakāh*) into the analysis by explicitly incorporating *zakāh* into the optimality criterion. Our analysis underlines the assumption of a fully operating environment in which Muslims fulfill their *zakāh* obligations on nonproductive capital as well as on the return of productive capital. The results of the model indicate that the incorporation of *zakāh* within its institutional framework yields multiple stationary solutions. This tends to bring about a point toward which the optimal path may converge. The model also shows that under reasonable assumptions the optimal growth path at the stationary state corresponds to the golden rule of capital accumulation, which implies that *zakāh* can produce a dynamic equilibrium system yielding a level of economic growth that is also associated with the maximum national well-being.

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Resource Mobilization and Investment In An Islamic Framework

by
AbulHasan M. Sadeq

Introduction

The availability of resources and their mobilization and utilization are very important for achieving the multidimensional spectrum of development in any country, be it economic or noneconomic, spiritual or material. Their relevance for economic development, in particular, has been heavily emphasized in economic literature.¹ Economic development in Islam is value-laden, as it incorporates Islamic moral values within the system due to its insistence that economic achievements alone cannot guarantee human welfare if the society suffers from moral degradation. The concept of economic development in Islam should therefore involve three elements: economic growth, distributive equity, and Islamic values.²

There are a number of factors which contribute to economic growth, such as natural resources, investible resources, human resources (skilled labor force), entrepreneurship, appropriate technology, and a favorable environment facilitated by political stability. Among these, the present paper concentrates on the investible resources, their mobilization, and investment.

Two major questions arise in this regard. First, does Islam provide a framework which is favorable for the mobilization of investible resources? Second, what is the potentiality of investing these resources fully and efficiently?

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¹ For conventional models on the need and sources of investible resources, see A.P. Thirlwall, *Financing Economic Development* (New York: MacMillan, 1973). A related work is the present author's "Mobilization of Resources for Development," *The American Journal of Islamic Social Sciences* 6, no. 2 (December 1989): 239-56.

² For elaborations on this, see the present author's "Economic Development in Islam," *Journal of Islamic Economics* 1, no. 1 (1987): 1987.

The present paper proposes to address these questions.³ The first part deals with mobilization of resources, while the matters concerning investment are discussed in the second part, which is then followed by some concluding remarks.

Part One

Mobilization of Resources

The mobilization of resources involves three elements: demand, supply, and a favorable institutional framework. Demand for investible resources provides the pull factor and relates to entrepreneurship, while their supply presents the push factor and involves incentives for parting with resources instead of luxurious consumption and hoarding. The institutional setting provides a bridge between the two.

Entrepreneurship development has been encouraged in the Islamic code of life. People have been asked to go into the world after obligatory ritual (*ṣalāh*) in order to search for whatever Allah has provided,⁴ and a very high status has been accorded to business entrepreneurs, provided they abide by Islamic business norms.⁵ Entrepreneurship needs, among other things, financial capital and resources. This provides the demand side of resource mobilization.⁶

There are two sources of investible resources: domestic and external. Mobilizing resources from these sources will require an appropriate institutional setting. We shall begin with the domestic source and the relevant institutional framework.

Mobilization of Resources from Domestic Sources

In principle, there are three major ways of financing development from domestic sources: money creation, deficit financing, and savings. It has been

³ This paper draws from the author's earlier works and, in particular, from his *Economic Development in Islam*, (Kuala Lumpur: Pelanduk Publications, 1990), and "Mobilization of Resources for Development," *The American Journal of Islamic Social Sciences* 6, no. 2 (December 1989): 239-56.

⁴ Qur'an 62:10.

⁵ The Prophet said, "A faithful and trustworthy trader (businessman) will be with the Prophets, the *Ṣādiqūri*, who have achieved the highest degree of truthfulness), and martyrs on the Day of Judgment." Tirmizi, *al Sunan*, Bāb Mā Jā'a fi al Tijārah.

⁶ If there is no attractive demand for investible resources, the question of their mobilization becomes irrelevant, and hence the suppliers do not feel motivated to part with their resources. Demand for investible resources should be high in an Islamic society, since entrepreneurship development has highly been emphasized in Islam.

argued elsewhere that the strategies of money creation and deficit financing are not preferred for an Islamic society, except in special circumstances.⁷ Therefore, an Islamic society will have to depend on the generation and mobilization of savings as far as domestic sources are concerned.

The savings potentiality of an Islamic economy is expected to be encouraging, for consumption behavior of Muslims is based on moderation, rather than on miserliness or extravagance. Such behavior is applicable to both individual and family life, and also to social and state occasions. Besides, saving is encouraged in Islam. The Prophet advised Muslims not to spend everything even in the way of Allah⁸, which is a clear incentive to save for the future. Following this advice should lead to higher savings.⁹ The elimination of interest should not reduce savings, since empirical evidence does not suggest any systematic correlation between savings and interest.¹⁰ If savings behavior is positively related to monetary gain, Islam provides suitable alternative profit-earning arrangements.¹¹

Thus, given the income level and resource endowments of the country concerned, the supply potential of savings (investible resources) seems to be quite encouraging.¹² Now the question arises: is there anything in the Islamic value system to motivate the materialization of this potential? The response to this question is that there is such a motivation. Islam provides three kinds of incentives to materialize this potential: moral incentives, the profit motive, and penalties for hoarding.

First, the moral incentive for resource mobilization comes from encouraging resource use and discouraging hoarding and keeping such resources idle. This provides a built-in preference for resource mobilization at the very micro-

⁷ Money creation and deficit financing refer to the Quantity Theory and Keynesian approaches respectively, both of which involve inflation, causing inter-group transfer of resources with the poor hard hit. Financing development for the rich at the cost of the poor is not really suitable, since the fruits of inflationary economic growth are normally confined to the business elites and industrialists, making the fixed income earners worse.

⁸ Once Ka'b, a companion of the Prophet, asked his permission to spend all that he had in the way of Allah (SWT). The Prophet (SAW) replied, "Keep some of your property for yourself, because this is better for you." (Bukhārī, *al Şaḥīḥ*.)

⁹ For further elaboration, interested readers may refer to the relevant chapters of the present author's book *Economic Development in Islam* (Kuala Lumpur: Pelanduk Publications, 1990).

¹⁰ See M. Omar Chapra, *Towards a Just Monetary System*, (Leicester, UK: Islamic Foundation, 1985), 141-1.

¹¹ This will be discussed later.

¹² Resource endowment is beyond human control. Humanity can only improve the nature of its utilization by technological progress or its spatial transfer. These are, however, beyond the scope of this paper.

foundation of the system. Islam encourages the use of resources. 'Umar ibn al Khattāb is reported to have said that if one has money it should be developed, and if one has land it should be cultivated. No piece of cultivable land resource can be kept idle, otherwise it will be given to those who can cultivate it.¹³ A severe punishment on the Day of Judgment has been declared in the Qur'an for those who hoard resources in gold, silver, and other forms.¹⁴ There are three options for the utilization of resources: consumption,¹⁵ spending in the way of Allah,¹⁶ and using them for investment, as is revealed by 'Umar ibn al Khattāb's above-mentioned statement.

In the moral system of Islam, there is no place for hoarding. This, among other reasons, is because hoarding diverts resources from the production process, results in recession, and thus produces many adverse effects in the economy as well as hardship for the people. Thus, the surplus after a modest consumption expenditure should either be spent in the way of Allah or be invested for further production.

Second, there is a profit motive for utilizing resources. Islam provides such a business framework under which a person can invest resources even as a sleeping partner. In the *muḍārabah* form of business, a person can supply capital to the entrepreneur(s) for running business and/or establishing industrial enterprises. The potential profits act as an economic incentive to channelize the investible resources to the production process.

Third, the Islamic system penalizes hoarding by the institution of *zakāh*, which is an indirect economic incentive to mobilize resources for the purpose of productive utilization. *Zakāh* imposes a penalty on keeping sayings idle. This is because those who have 'zakatable' funds will have to pay 2.5% at the end of every year, and thus gradually the entire amount will be eaten up if it is not invested. This is an economic disincentive to keep investible resources unused.

Thus as far as the supply side of resource mobilization is concerned, there is a good potential supply of savings if one follows the Islamic way of living. There is also a strong urge to materialize this potential due to the moral and economic incentives for its utilization and the penalty for its non-utilization. These will facilitate resource mobilization for use by entrepreneurs, whose growth is also highly encouraged in Islam. This completes the presence of both the demand and supply elements in the mobilization of resources in an Islamic society.

¹³ See Abū 'Ubayd, *Kiṭāb al Amwāl*. (Egypt: Dar al Fikr, 1975), 367-8.

¹⁴ Qur'an 9:34.

¹⁵ Qur'an 7:31.

¹⁶ Qur'an 2:3; 28:77; 61:11.

Institutional Setting for Mobilizing of Resources

As is well known, savers and entrepreneurs are not necessarily the same people, and hence there is a need to have an institutional setting which will mobilize all of the scattered investible resources and channelize them to entrepreneurs. This requires an efficient financial system. In addition, the institution of *khilāfah* (the Islamic Political System) should also play an important role in maintaining a favorable environment for resource mobilization and investment.

An Islamic Financial System

An Islamic financial system and, in particular, Islamic banks provide a bridge between savers and investors. Islamic banks do not act only as financial intermediaries, but rather are partners in the economic activities. It is natural, therefore, to expect Islamic banks' active interest in the efficient mobilization of resources and productive utilization.

On the other hand, the supply-side urge of savers will motivate them to get their savings invested. It is not necessary for them to identify investors willing to share investible resources with them. Islamic banks facilitate this for them. Savers can invest their resources through Islamic banks and then share in the earned profits as sleeping partners in economic activities.

There are a number of arrangements which can be used by an Islamic banking system to channelize investible resources to investment opportunities, such as *muḍārabah*, *mushārahah*, and *murābaḥah*. In addition, there will be an adequate supply of genuine shares in an equity-based Islamic society. Savers may buy shares on the stock exchange for sharing profits and not for speculative purposes. This will provide a healthy share market for genuine investment. It is not true, therefore, that the elimination of interest affects institutional mobilization and the utilization of investible resources. Instead, Islam provides a favorable institutional setting for the purposes.¹⁷

Islamic banking is no longer only a concept; it is a reality. It is encouraging to note that Islamic banks have proven to be viable and successful even in a non-Islamic financial environment. The financial sector in most of the Muslim countries of the world is based on interest. Islamic banks have been successfully operating in many of them. Interestingly enough, Islamic banks have been doing well in even some non-Muslim countries.

Muslim minorities in non-Muslim countries may try to establish an Islamic

¹⁷ For further details on the institutional setting of an Islamic financial system, see M. Umer Chapra, *Towards a Just Monetary System*, op. cit., 102-3.

bank in order to mobilize, in particular, the savings of the Muslim community for profitable investment. Alternatively, the Muslim community may make cooperative arrangements in the form of an investment trust to mobilize its savings for profitable investment. Such an institutional setting will help mobilize their investible resources for the community's development and for protecting itself from interest-based financial arrangements.

The Institution of *Khilāfah*

The institution of *khilāfah* (the Islamic Political System) is important in an Islamic society, for it is responsible for enforcing Islamic norms and values in all areas of life, including economic matters. Its functions include the propagation of Islam, ensuring the nation's external defense, running the civil administration, maintaining law and order, and providing basic needs to its people.

All of these require the mobilization of a sizable amount of resources. In addition, the institution of *khilāfah* is obliged to maintain a favorable environment for productive economic activities by the efficient and full utilization of its resources. This will facilitate the mobilization and utilization of the investible resources of the private sector. Thus, the *khilāfah* has two important roles to play: (1) mobilizing resources for performing their functions, and (2) facilitating resource mobilization at the private level, creating an investment climate, and supporting socially desirable economic activities.

Resource mobilization for the *khilāfah's* functions is of two kinds: raising funds for a compulsory social security system based on the institution of *zakāh*, and mobilizing revenues for general functions.

Resource Mobilization for Social Security: Islam has provisions for a compulsory social security system designed to help the disadvantaged population of the community. This fund is the result of the obligatory and fixed yearly contribution (*zakāh*) of the wealthier segments of the population. The state is responsible for both mobilizing this fund and for distributing it among the poor and the needy. The size of this fund is not insignificant. For example, the estimated potential *zakāh* amounts to M\$365.45 million in Malaysia, an amount which can significantly help provide the basic needs to those who receive it.¹⁸ The *zakāh* distributed to the poor may be considered as a productive investment, for it will uplift their economic conditions and thus their productivity.

The Mobilization of General Revenues: Any state needs to mobilize a large amount of resources to finance its various operations and activities. In an Islamic

¹⁸ For further details on the institutional setting of the Islamic financial system, see M. Umer Chapra, *Towards a Just Monetary System*, op. cit., 102-3.

economy, the sources of public revenue include taxes, public sector enterprises, voluntary contributions to government funds, and external finance.

Taxes are a major source of public finance in modern times. There is a consensus among the *ulema* that income taxes may be imposed when *zakāh* revenues and other incomes are not adequate to meet the obligations of the state. Except for those countries which have a large public sector or possess a substantial income from natural resources, *zakāh* revenues would normally not be large enough to cover all of the state's public expenditures. An obvious reason for this is that the number of people who pay *zakāh* is fixed, and therefore cannot be extended to cover the government's general expenditures.

Thus *zakāh* and taxes are two sources of forced mobilization of resources by the government. The other sources are voluntary, although their sizes are quite substantial in the contemporary world, and these are also permissible in an Islamic economy.

Mobilization of Resources From External Sources

An Islamic economy may need to mobilize resources on at least two occasions: when there is a shortage of domestic resources, and if there is a shortage of foreign exchange to finance imports, (even if domestic resources are adequate).

There is nothing in Islam to prohibit foreign assistance, provided its nature or its conditions do not involve something unacceptable from the Shari'ah point of view or harmful to the ummah's interest. Donor countries naturally have their own motivations when providing assistance, and some of these might be opposed to the interests of the receiving countries as well as of the ummah at large. Adverse effects include the political and economic dominance of the donor countries and ideological pollution. Moreover, *ribā* is involved in most of the cases, even if at concessional rates, which is not acceptable in the Shari'ah. Besides, the negative effects of conditional aid are also documented.

These factors limit the acceptable access of Muslim countries to foreign resources. There is, however, a potential way out. A number of Muslim countries possess appreciable surpluses of investible resources while others possess sizable surpluses of different resources. Investible financial resources and human resources provide good examples of this. Some Muslim countries have tremendous surpluses of financial resources, while others, lacking these, have abundant human resources.¹⁹

¹⁹ For example Bangladesh and Indonesia have surplus human resources, while oil-rich Arab countries possess surplus financial resources.

Muslim countries may cooperate with each other in the mobilization of resources. The capital-rich countries may help others by giving financial help in exchange for human resources. This cooperation is highly encouraged in Islam,²⁰ and will also help fill up the resource gaps and achieve allocative efficiency in resource use.

To see the truth of this claim, let us consider an example of cooperation between the two countries, A and B. Assume that country A is a capital-rich but labor-scarce country, so that capital can move to country B without affecting its industries. On the other hand, country B is a labor-rich, but capital-scarce country, so that labor movement to country A does not affect its industries.

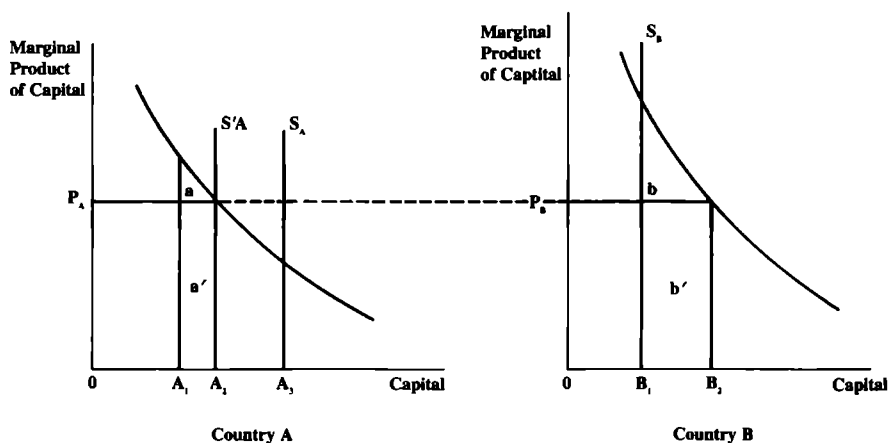


Figure 1

In Figure 1, the supply curves of capital in country A and country B are S_A and S_B respectively. Country B employs its entire capital supply OB_1 , but country A employs only a part (OA_1) of its total capital supply (OA_3), leaving A_1A_3 unused, because complementary factors are lacking. Therefore, the transfer of A_1A_3 from country A to country B does not affect country A's industries. As is evident, marginal products of capital are different in these two countries.

Let us assume that country B obtains capital resources from country A

²⁰ Al-Qur'an 5:3.

while country A gets human resources from country B. For instance, $A_2 A_3$ moves from country A to country B so that country B increases its use of capital by $B_1 B_2$. On the other hand, the movement of labor from country B to country A increases the use of capital in country A by $A_1 A_2$. The marginal products of capital in both countries are thus equalized ($OP_A = OP_B$), a development which helps achieve allocative efficiency in the two countries. This mobilization of capital and human resources from each country increases employment and output in both. The increase in output in country A is $(a + a')$ and that in country B is $(b + b')$.

Thus, Muslim countries will be able to solve the problem of resource gaps if they help each other in mobilizing resources through cooperative arrangements among themselves. Such cooperation may originate from individual initiatives among a few countries, or it may be institutionalized in the form of regional and/or international economic integration among various Muslim countries.

Part Two

Investment in an Islamic Framework

As mentioned earlier, there is a built-in preference for resource mobilization and investment at the very microfoundation of the Islamic belief and economic system. Three motives work toward this end: spiritual incentive, the profit motive, and the penalization of hoarding. These facilitate resource mobilization and provide a tremendous urge for investment. The question remains: does an Islamic system provide a favorable framework for the full investment of resources? In an interest-free system, is it possible to achieve allocative efficiency? These questions are addressed below.

Potentiality of Investment

The interest-based conventional system and, in particular, the Keynesian apparatus, may be used as a point of reference to investigate and compare investment potentiality in an Islamic framework. In the Keynesian system, investment can be carried out until the marginal efficiency of capital (MEC) is equal to the rate of interest. It cannot be carried out beyond this, since further investment will add more to costs than to profits.

In Figure 2, AB depicts the MEC curve. If the interest rate is OR_2 , investment can be carried out up to OI_1 . It cannot exceed OI_1 , since the interest cost will then be higher than any additional profit. For example, the interest cost for the marginal unit of investment at OI_2 is still OR_2 , while the marginal profit

is only OR_1 , implying a loss of R_1R_2 for the marginal investment. Thus, investment is limited to OI_1 in the Keynesian case.

An Islamic economic system, however, is free of interest, and investment is ideally based on profit-and-loss sharing (PLS) arrangements. For example, in case of *muḍārabah* arrangements, profits will be distributed between the contributor of capital (investible resources) and the entrepreneur on the basis of a previous agreed ratio. It can be shown in Figure 2 as:

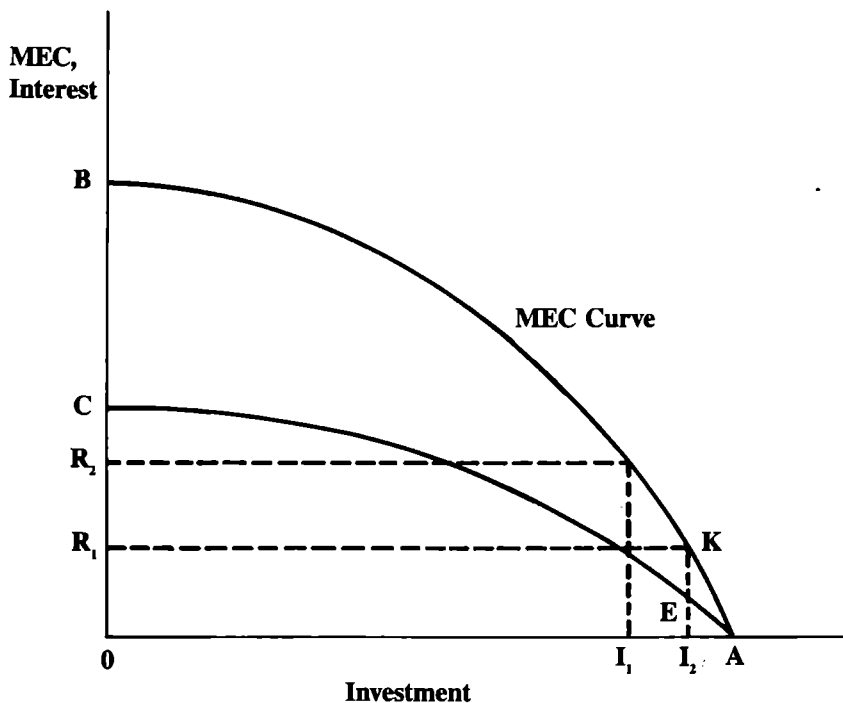


Figure 2

Let us assume that the ratio for the distribution of profits has been agreed upon in such a way that the distribution curve takes the shape of AC_3 . The vertical distance between AC and AB belongs to the contributor of capital, and that between OA and AC belongs to the entrepreneurs.

As is obvious from the diagram, investment can be carried out beyond OI_1 in the PLS system. For example, when investment is OI_2 , the entrepreneurs make a positive marginal profit of EI_2 , and the contributors of capital get the

amount represented by KE. If investment increases further, both parties realize a profit until it reaches the level where the size is zero.

For a comparison, investment can be carried out up to OI_1 in the above case under an interest-based economy, whereas it can profitably be increased to the full potential (OA) in an Islamic system. Thus the Islamic economic system provides a framework which is favorable for the full potential utilization of investible resources, *ceteris paribus*.²¹

Allocative Efficiency

It is conventionally believed that the interest rate leads to the efficient allocation of investible resources. More productive industries or projects can attract more investible resources by offering higher interest rates, thereby causing more and more resources to be invested in them. This will continue until the marginal productivities are equalized across the industries and the projects, leading to an efficient allocation of resources in the economy. Now, how will the allocation of investible resources in an Islamic economy (where interest does not exist) be achieved?

In this context, it is important to see how financing decisions are made in a banking system, both conventional and Islamic, since resource allocation is materialized through the banking system. In conventional banking, the notion of project-wise variations in interest rates is based on the assumption of auctioneer-type perfect competition, even though this rarely prevails in reality. In this type of banking practice, standard interest rates are generally followed for financing projects. Given these standard interest rates, financing decisions are made on the basis of the credit-worthiness criterion determined by the size and quality of collateral. The productivity of projects is irrelevant for financing decisions, since the interest rates are fixed and, as a result, higher productivity does not benefit the financiers. Instead, the collateral is considered more relevant, since it helps recover the principal with interest in the case of project failure.

On the other hand, an Islamic bank's financing decision ideally depends on the PLS basis and hence the project's productivity is more relevant than its credit-worthiness. This is because the bank's expected rate of return is positively related to productivity and vice versa. This does not, however, mean that Islamic banks ignore credit-worthiness criterion. In fact, they do consider it as well, but do not solely depend on it. Instead, they finance the most productive pro-

²¹ The ideal investment arrangement in an Islamic economy is the PLS system. There are other modes of investment as well which may not be as efficient in realizing investment potential.

jects subject to a minimally acceptable credit-worthiness, while conventional banks go for the most credit-worthy projects, ignoring productivity.

Let us consider a hypothetical example of the financing decision-making process of a conventional bank and an Islamic bank. Assume that each bank will choose for financing three out of five projects which vary in productivity and credit-worthiness, and that all of them satisfy a minimum standard of credit-worthiness. This is presented in Table 1.

As Table 1 shows, the conventional bank chooses projects P_1 , P_2 and P_3 for financing, since these are the most credit-worthy projects. On the other hand, the Islamic bank selects projects P_5 , P_4 and P_2 for financing, since in this way it can earn the most. The least productive project stands first in the conventional banking financial ranking, while the most productive projects stands first in Islamic banking financing ordering. This shows that the allocation of resources is likely to be more efficient in an Islamic framework.

Table 1
Proposed Projects with Different
Credit-Worthiness & Expected Rates of Return

Proposed projects	Credit-worthiness ordering (or conventional bank's ranking)	Rate of return as % of invested capital	Islamic Bank's ranking for finance
P_1	1	10	4
P_2	2	30	3
P_3	3	25	4
P_4	4	35	2
P_5	5	40	1

Let us consider those marginal conditions of efficiency which require equimarginal productivities across the projects. It is expected, as argued above, that the size of an Islamic bank's financing will be positively related to productivity, so that more funds will be invested in the more productive projects than the less productive ones.²² Thus, more funds will continue to be channelized to more productive projects, and hence their marginal products will continue to fall²³ until their marginal products are equal to those of other projects, which

²² This is because the expected rate of return is higher in more productive projects.

²³ The law of diminishing marginal productivity prevails.

will lead to equimarginal productivities across projects. Marginal efficiency conditions are thus expected to be satisfied by Islamic bank financing. On the other hand, this is impossible to achieve in conventional bank financing, since it does not take productivity into consideration.

The satisfaction of these marginal conditions is not, however, a sufficient condition for allocative efficiency. It is also necessary, from the social point of view, that investible resources are invested in socially desirable projects or, at least, not in socially undesirable projects. Islamic banks will not finance any socially undesirable project—for example, a project to produce alcoholic beverages, as these are prohibited by Islam.

This is totally absent in the project appraisal for a conventional bank's financing decisions. Such a bank will finance any project that is highly credit-worthy, since the return along with the principal is guaranteed, without any consideration for its social desirability or undesirability.

Thus it is clear that the allocation of mobilized resources is expected to be more efficient in an Islamic framework than a conventional system as regards both economic efficiency and social desirability.

Summary and Concluding Remarks

The foregoing discussion leads us to the following summary and concluding remarks:

1. The paper addresses the issues of resource mobilization and investment in an Islamic framework.
2. Resource mobilization involves three elements: demand, supply, and a favorable institutional setting. Islam's emphasis on the development of entrepreneurship takes care of the demand side, which creates a demand for resources.
3. There are two elements on the supply side: (1) The potential supply of savings, and (2) an urge to invest resources, instead of keeping them idle. Islam's demand for a modest life-style and its incentive to save indicates a large amount of potential savings, subject to income level and resource endowments. Three incentives create an urge to utilize resources, which also facilitate mobilization of resources. These are: moral incentive, the profit motive, and a penalty for hoarding.
4. Islam provides a favorable institutional setting for the mobilization of resources. Scattered savings may be mobilized by an Islamic banking network, and savers may earn profits by investing their resources, even as sleeping partners. This helps mobilize resources.

5. The institution of *khilāfah* mobilizes funds for a compulsory social security system through *zakāh*, and also general revenues for other functions from taxes, public enterprises, voluntary contributions, and so on.
6. There may be a need for external finance due to domestic resource gaps and foreign exchange gaps. Although there is nothing in Islam to prevent Muslim countries from mobilizing resources from external sources, the politico-economic and ideological implications of foreign assistance are often undesirable. An alternative source of external resources is found in the cooperation among Muslim countries in the use of their surplus resources. This will reduce their resource gaps and increase local employment and output.
7. Islam provides a framework favorable for the full potential investment of investible resources. The interest rate in the conventional system limits investment, while the PLS system allows continuation of investment until the marginal product of investment is zero, that is, to its full potential.
8. The allocation of resources is expected to be efficient in an Islamic framework in terms of both economic efficiency conditions and social desirability. Contrary to conventional belief, on the other hand, the interest-based system lacks marginal efficiency conditions, while the social desirability is not considered at all.
9. The analysis of this paper assumes an ideal Islamic society. If the behavior of individuals and the society falls short of expectations, the changes in the implications in terms of resource mobilization and investment will only be in degree, not in direction.

Financing the Public Sector in an Islamic Perspective

by
Monzer Kahf*

Introduction

This paper deals with the public sector's financing from an Islamic perspective. It consists of two sections. In the first section, I will discuss the financing of the public sector in general. The thesis of this section is twofold: 1) the Shari'ah assigns substantial resources to the state in order to finance its administrative activities as well as to fulfill its economic objectives, and 2) the size of the public sector, both economic and noneconomic, is envisaged to be moderate in an Islamic society. In other words, Islam seems to be in favor of a small state.

The conclusion of the first section is that more resources should be devoted for a smaller role. This may negate the need for deficit financing. Yet in section two, I will argue that there are circumstances under which an Islamic state needs more financial resources than those normally available. This section will therefore deal with the needs for deficit financing in an Islamic state. It will also elaborate on the modes of financing such as a deficit in Islam. Those modes shall be classified into debt-based modes, participatory modes, and contributory modes.

Section One

Financing Public Sector in Islam

For the purpose of this paper, the public sector will be said to cover all the activities of an Islamic state including its security and administrative functions as well as its economic enterprises.

This section shall explore the sources of revenues in an Islamic state and the functions of an Islamic state in comparison with those of the national welfare

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state. For this purpose, I shall begin with a historical introduction related to the types of revenues which existed in the early Islamic state of the Prophet Muhammad.

Historical Background

Upon his arrival in Madinah, the Prophet started laying the foundation of an Islamic state. With regard to this paper, three events deserve our attention. The first was the enactment of a constitutional document by the Prophet to organize relationships between Jews and Muslims as well as those among different Muslim tribes. This document anticipated certain public expenditures for purposes like defense, security, and social care. The important thing about it is that in spite of such anticipation, the Prophet never prepared any tax resources for them, thus leaving the financing of such anticipated expenditures to voluntary contributions on a case by case basis.¹

Secondly, when the Prophet established a new market in Madinah, he did not impose any fees or taxes on traders or transactors, despite the fact that he needed resources and that the old market, which was in the hands of the Jews, had taxes and fees.²

Thirdly, the construction of the first mosque in Madinah and the purchase of its lot were done by voluntary labor, materials, and cash *without imposing any taxes*. Even *hijrah* itself was financed by a voluntary contribution from Abū Bakr.³

A study by this author on the financial resources of the state in the early years of Islam (the time of the Prophet and his four immediate successors), resulted in the following conclusions:⁴

1. *Zakāh* was the only obligation on wealth and income. No other financial duties were imposed on the Muslims' assets or incomes. *Zakāh* itself cannot be used to finance government expenditures, since it has its own specified usages and recipients.
2. Voluntary contributions remained the main source of finance for government activities during the time of the Prophet. This source of revenue was not tapped during the period of the first four *khulafā'*.

¹ Monzer Kahf, "Public Financial Resources of the Early Islamic State" unpublished paper, IRTI, Jeddah, 1987.

² 'Abd al Ḥayy al Kattānī, *Al Tarātib al Idāriyah*, vol. 2, 153.

³ Monzer Kahf, *op. cit.*

⁴ *Ibid.*

3. Since the conquest of the agricultural land of Khaybar in 7 A.H. and later the conquest of Iraq, Syria, and Egypt (during 'Umar's rule), conquered lands were kept as public property. The return from this public property (*kharāj*) was huge and more than sufficient to finance all the activities of the state.
4. Beginning from the victory in the battle of Badr in 2 A.H., war booty and later *jizyah* (head tax on non-Muslims) became major sources of revenue for the government as well as major sources of income for soldiers, their families, and tribal members. With time, this source of revenue became so enormous that it was able to provide the treasury with surplus funds for direct distribution to people.
5. History tells us about a few occasions when the Prophet had pressing needs for public revenues. In such a time, he resorted to borrowing from individuals and collecting *zakāh* in advance. Such needs, however, disappeared during the period of the following four *khulafā'*.
6. Regular items of public expenditures appeared during the later part of the Prophet's life. These included salaries of public employees, purchase of weaponry, and so on. Those expenses were financed from the revenues of public land (*kharāj*) as well as from war booty. During the time of 'Umar, regular expenditure items increased tremendously, but the increase of *kharāj* was also manifold.
7. The practice of assigning certain public properties for public use began with the establishment of the mosque in Madinah. Such assignments included devoting grazing land for horses used in war, livestock taken as *zakāh* payment, and for the livestock kept by the poor. This practice is called *himā* which literally means protection. The state appointed public employees to manage and guard *himā* land.
8. Finally, except for the tax on foreign traders coming to Muslim lands, which was based on the principle of reciprocity, the state levied no taxes during the whole era of the Prophet and his four immediate successors.

Financial Resources of an Islamic State

Consequently, public revenues of an Islamic state may be classified in the following categories:

- a) revenues from public property,
- b) fees or prices for goods and services produced by the government,
- c) public borrowing,

- d) taxes, and
- e) voluntary contributions.

I will now elaborate on these categories.

a) *Revenues from Public Property*

Observing the experience of the early Islamic state, one may notice that a large segment of available land was left to the state as a source of revenue. To this land one may add minerals, whether found on or under its surface, as well as energy derived from waterfalls, since Muslim scholars also consider these as public property.⁵

It seems that the concept of public property has its origin in the basic foundation of Islamic economics, where it is always argued that an Islamic system calls for the coexistence of two types of ownership, i.e., public and private. This is based on the principle that Allah is the real and ultimate owner of all creatures, living and nonliving alike. He therefore assigned part of the things on earth to people as individuals in the form of private property and left another part to be owned collectively by the society.

In fact, Shari'ah scholars divide public property into two kinds: public property is left to people to use and benefit by their own means such as taking water from a river or grazing cattle on land which is not privately owned (hereinafter called community public property) and that which is left to the state to manage and control for the benefit of the general public. Individuals cannot use this type of land, and so we will call it state public property. State public property is considered by Muslim scholars and economists to be a major source of revenue for the treasury. The state, in the Islamic perspective, is required to administer this kind of public property so as to achieve the best interest of the society and to spend its revenue exclusively in the best interest of the whole community.⁶

In addition to conquered land and land not privately owned, state public property includes mineral, ores, oil, gas, precious stones and other materials extracted from ground, as well as springs, rivers, canals, and energy waterfalls. Thus, extractive industries represent the backbone of the economic public

⁵ See 'Abd al Salām al Abbādī, *Al Milkīyah*, vol. 1, 345-8 and Bāqir al Ṣadr, *Iqtisādunā*, 443.

⁶ *Awqāf* is not included in this kind of public property as it is a special form of ownership whereby real estate would be owned by God and devoted to serve certain charitable objectives. The judiciary supervises the fulfillment of the *awqāf*'s objectives.

sector in an Islamic economy. Additionally, public sector property may increase by the reinvestment of public sector surpluses.⁷

However, it seems that Islamic scholars throughout history have always thought that state public property should grow to an extent sufficient to generate all, or at least most, of the financial resources needed by an Islamic state. Consequently, the levying of taxes was only discussed as an assumptive intellectual exercise.

b) *Revenues from Sale of Goods and Services (Fee and Prices)*

Many government enterprises produce marketable goods and services which may be sold. These include water, electricity, education, and bridges, for example (although many of them may be subjected to the principle of market exclusion and therefore be privatized). However, the Islamic principles regulating the pricing of such services by the state are basically the following:

1. The provision and prices of such services must be set in a way that does not discriminate against the poor.⁸ In fact, Muslim countries today are full of incidents of governmental services which discriminate against the poor. For example, most urban services, including street paving and lighting, schools, universities, and other benefits are biased towards the urban population and away from the rural people, who are mostly poor.
2. Moreover, the rich must not be given an advantage by the pricing of such services. This may rule out using the price of a service as a means of taxing agricultural areas for the benefit of industrialization. As regards *himā* (state reservation and protection of land for certain objectives), the *fuqahā'* have repeatedly stipulated that land must not be reserved for interests of the rich, whereas it may be exclusively reserved for the poor.⁹
3. Since people have a right to use common public property such as rivers and

⁷ Monzer Kahf, "Economic Public Sector and Its Role in Mobilizing Resources for Development," in *Financial Resources of Modern State from Islamic Perspective* (Jeddah: IRTI, 1989), 113-50.

⁸ This is an analogy with the case of land reserved for use of general public (*himā*). Al Māwardī says that it must not be made exclusive for the rich whereas it may be exclusive for the poor on the basis of the action of 'Umar ibn al Khattāb with the *himā* of al Ribdhah. See al Māwardī, *Al Ahkām al Sultāniyah* (Cairo: Al Bābī al Halabī publishers, 1973), 186. See also my paper on public sector resources in *al Mawārid al Mālīyah li al Dawlah al Islāmīyah*, IRTI, 1989.

⁹ See footnote 8.

forests, the prices of services based on the use of common public properties should not incorporate a hidden tax which aims at mobilizing financial resources for objectives beyond the provision of the services paid for.¹⁰ In other words, the prices of services should be guided by costs and not by the desire to create a surplus.

c) *Public Borrowing*

Borrowing from the private sector seems to be the third source of finance for government activities. This source may take the form of advance payments of some public revenues such as rent on public land (*kharāj*) or *zakāh*. It may also be by means of bonds issued and purchased on the basis of religious or patriotic feelings and sentiments. Alternatively, public loans may take the form of forced borrowing from the rich. External borrowing may also be resorted to under certain circumstances.

It should be noted, however, that public borrowing is sanctioned under the following conditions:¹¹

1. An Islamic state cannot borrow on the basis of *ribā*, as such a practice is prohibited in Islam. The prohibition of *ribā* also excludes any loan which is attached to any form of benefit accruing to the lender from the borrower.
2. Public loans are only permitted when the state anticipates future resources sufficient to cover these loans. Otherwise, taxes should be imposed.
3. Public loans must not endanger the internal or external security of the country.
4. Public loans can only be taken from the rich.

d) *Taxes*

It is a known fact that there are several sayings of the Prophet against imposing taxes, and that the Islamic state under the leadership of the Prophet and his successors did not impose any taxes.

However, assuming that all the resources from state public property, though

¹⁰ For details on this point, please see Rabī' al Rubī's comments on my paper in *al Mawārid al Mālīyah*.

¹¹ For details on these conditions, refer to al Māwardī's *al Aḥkām al Sultānīyah*, and my two papers: "Taxation Policy in an Islamic Economy" and "Toward a Theory of Taxation in Islamic Economics."

wisely used, are insufficient to finance the indispensable functions of an Islamic state and that public borrowing and voluntary contributions were either unfeasible or insufficient, would taxes become a necessary evil? The Shari'ah's answer to this question is affirmative but with certain conditions, which are:¹²

1. It is not permitted to impose a tax on the rich simply because they are rich; i.e., there should be sufficient justification for the need for tax revenue before it can be levied. The presence of wealth alone, regardless of its form, is not a valid reason. This position is almost unanimous among Muslim scholars and it is based on the repeated condemnation of taxes by the Prophet and the principle of protecting individuals' wealth even against the state. This may suggest that taxes designed to reduce wealth and/or income in order to reduce aggregate demand may not be permissible.
2. Taxes are really a last resort which can be used only after exhausting all other sources of public finance.
3. Taxes can be imposed for generating revenues needed for *necessary* state functions.
4. Taxes may be imposed after subjecting state expenditures to strict rationalization so that all waste and misuse are eliminated.
5. Taxes may only be imposed on the rich in accordance with their wealth.
6. Taxes may only be imposed through the use of *shūrā*.

e) *Voluntary Contributions*

We have seen that voluntary contributions made up the main source of state revenues during the time of the Prophet in Madinah. It may also be noted that they are invoked in many pressing circumstances by modern states especially at the local and municipal levels. Voluntary contributions may be internal or external and they are mostly used for relief or beautification objectives. Some incentives may be used for encouraging contributors, such as recognizing their names in public or giving them certain honors.

¹² For more details on these conditions, see Yūsuf al Qarḍāwī, *Fiqh al Zakāh*, and Monzer Kahf, "Financial Resources of the Early Islamic State" *op. cit.*

Scope of the Functions of an Islamic State

a) *Notion and Priorities of an Islamic State*

The objective of an Islamic state is “to continue the function of prophethood in safeguarding religion and managing the worldly affairs” as al Māwardī put it more than a thousand years ago.¹³

The relationship between the management of worldly affairs and religion is explained by Ibn Khaldūn. He said, “From the point of view of the Shari’ah, worldly affairs are all considered with reference to their effect in the hereafter.”¹⁴ Consequently, Ibn Khaldūn defines the broad function of an Islamic state as “getting all and everybody to follow the intent of the position of the Shari’ah in pursuing their interests in the hereafter and in this world.”¹⁵

The above objective and broad function of an Islamic state imply the following points:

1. The functions of an Islamic state reach out to the interests of human beings in the hereafter, i.e., beyond life in this world.
2. The concern of an Islamic state in the hereafter extends to all human beings, even those outside the boundaries of the Muslim ummah. Its concern about their worldly welfare also stretches beyond its own borders, especially in the areas of justice and respect for human life and dignity.
3. The system of rationalization in an Islamic state depends upon divine revelation sent through the Prophet. This revelation itself requires utilizing observation and reasoning to maximum capacity.¹⁶

From the above, it becomes clear that the first priority of an Islamic state is to safeguard and promote religion so that, to use the common Islamic jargon, the word of Allah becomes supreme on earth. It may even be argued that because of the huge magnitude of this task, Islam assigns to the state huge resources in the form of state public property. In spite of their importance, other tasks, whether economic, social, or political, are all of secondary rank, and most of

¹³ al Māwardī, *Al Ahkām al Sultānīyah*, (Cairo: Maktabat al Bābī al Halabī, 1973), 5.

¹⁴ Ibn Khaldūn, *Al Muqaddimah*, (Cairo: Dār al Sha’b), 169.

¹⁵ *Ibid.* See also Monzer Kahf, “The Islamic State and the Welfare State,” in *Islamic Movement Challenges*, Tariq Quraishi, ed. (Indianapolis, IN: American Trust Publications, 1986).

¹⁶ Compare with the objectives of the “national state” which are to safeguard and promote the internal and external interests of its own people in accordance with human rationale and judgment.

them are in fact related to this first and most essential task. Imām al Shāṭibī argues that religion is always and absolutely given priority over and above worldly benefits.¹⁷

This notion of an Islamic state imposes its stamp on all of its activities, as it is the essential feature which distinguishes an Islamic state from other forms of political association such as monarchy, democracy, dictatorship, or anarchy. This concept is also the point of reference in determining the social and economic functions of an Islamic state and its scope.

b) *Functions of an Islamic State*

1. As stated above, the principal role of an Islamic state is to safeguard and promote religion. This implies the following:
 - a. Acquiring military and political power sufficient to protect the religion, its land, and its people.
 - b. The implementation of Islamic law in the society, such as enforcing the Islamic inheritance system and prohibiting what is forbidden, such as interest.
 - c. Whenever private means fail, teaching Muslim citizens the basics of their religion and encouraging some of them to acquire advanced Islamic knowledge.
 - d. Making knowledge about Islam and what it stands for available to as many non-Muslims as possible.
2. Management of public affairs such as security, a judicial system, public administration, and other social requirements.
3. Management and promotion of public property in accordance with the best interests of the whole society.
4. Guaranteeing a subsistence level of satisfaction of basic needs for all citizens whenever other obligatory and voluntary means of social solidarity and insurance fail to do so.
5. Encouraging, helping, and supporting the private sector in its initiative to provide income and production sufficient for all members of the society and promoting the welfare of all citizens.

¹⁷ Al Shālihi, *Al Muwāfaqāt fi Uṣūl al Shari'ah*, vol. 2, 370.

6. Ordaining what is good and forbidding what is evil, in general, and supervising the observance of moral and ethical values by all individuals in their social and economic relationships.

c) *Scope of the Functions of an Islamic State*

It must be noted that the functions of an Islamic state cannot be defined in isolation from its sources of finance, i.e., the scope of the above-mentioned tasks depends on the kind and size of its financial resources in addition to several other demographical, social, economic, political, and geographical circumstances. Hence, we have to look at both the state functions and its financial resources in order to understand an Islamic state's scope of activities.

Categories of Revenues

For this purpose, let us first classify state revenues into three categories:

1. Revenues which can be used for any state activity in accordance with the priority set within the Islamic framework discussed earlier. This category consists of revenue from public property.¹⁸ It should be noted however, that the use of this and other categories of resources are subject to the general regulatory principles of state activities which include the observance of justice, especially between poor and rich, men and women, present and future generations, compliance with Shari'ah requirements regarding lawfulness and unlawfulness, fulfillment of *shūrā* as a process of decision making, and so on.
2. Revenues assigned by the Shari'ah for special objectives. *Zakāh* is the main example of this category. The Shari'ah specifies that *zakāh* proceeds should be used exclusively for the benefit of the eight categories of recipients mentioned in the Qur'an. Therefore, *zakāh* may not be spent on general governmental activities such as salaries for judges and police, or the construction and maintenance of mosques and administrative buildings. For these reasons, we see that since the early days of Islam a special treasury account, separate from other revenues, has been used for *zakāh* receipts and expenditures.

However, the eight areas of expenditure for *zakāh* funds are normally included in the expenditure's headings of state budgets because they are generally considered to be within the function of guaranteeing the fulfillment of the basic

¹⁸ It also includes *jizyah* and the share of state of *ghanimah* and *fai*.'

needs of the poor and the destitute. In other words, the assignment of *zakāh* to these headings frees other state revenues which would have otherwise been utilized for spending on the poor and the needy.

Charitable *awqāf* is another item in this category.¹⁹ Any return on *awqāf* property must only be spent on those charitable objectives outlined by the person who donated the *waqf*. Such objectives may be education, health, social work, or religious places of ownership. *Awqaf* revenues cannot be treated as general revenues for the state budget but, like *zakāh*, they also fulfill some of the functions which would otherwise have to be undertaken by the state.²⁰

3. The third category consists of those revenues which are necessitated or called for by circumstances such as public borrowing, taxes, and voluntary contributions. It also includes proceeds from the sale of services. These revenues should also be used in accordance with the objectives for which they were solicited or paid.

Expansion of State Functions

Granted that in addition to the financial limitations discussed above there are other constraints on the state functions caused by historical, cultural, climatic, landscaping, demographic, economic, and many other factors, from the point of view of the present paper and for the sake of argument let us assume that it is possible for the state to increase its public revenues to a large extent. If this is done, can the state likewise expand its functions and activities?

In a case like this, state functions may be expanded to absorb any amount of financial resources, and we have just seen that the Shari'ah does not impose any limit on the use of revenues from public property other than the general guidelines mentioned above. Consequently, if the financial resources of this category are available in abundance, the state may provide free education, health, housing, or transportation, for example, as long as there are more than enough

¹⁹ *Awqāf* (singular *waqf*) are properties taken out of private ownership and devoted to certain objectives, mostly charitable. A *waqf* is generally real estate, but it may be a mobile asset whose usufruct may be extracted without exhausting the asset itself, such as books or money used for secured lending. *Awqāf* are of two kinds: charitable and descendents'. Descendents' *awqāf* are devoted to one's offspring, whereas charitable *awqāf* are devoted to charity. The latter may be for general charity or for a specific charitable objective such as maintenance of a given orphanage or mosque, spending on teachers of a certain school, students of certain subject, or areas of the country, and so on.

²⁰ In the classical writings, one may find in this category the share of *fai'* and *gharūmah* assigned to the poor, needy, and the wayfarer.

resources to fulfill the essential duties of the state. In fact, the historical example we have in this regard is the action of ‘Umar ibn al Khattāb, who used to distribute such surplus to all people, thus providing them with enough income so that many of them did not need to work and earn their livelihood.

On the other hand, if these resources are insufficient, the state will have to reduce its spending and trim its activities to a minimum determined in accordance with the priorities mentioned above. Here also we have an example from the early Islamic state where the Prophet did not pay the debts of the deceased, nor give charity to a person who only had two dihras worth of assets used to fulfill basic consumption needs (instead, he taught him how even one dirham could be used for productive purposes). In this case as well as in many other examples, the Prophet did not impose taxes or borrow from the rich.

In other words, one should search the sources of the Shari’ah to find those state activities which have to be done regardless of the category and among of revenues. In this regard, the following points may help:

1. Individuals are responsible to work and earn their own livelihood. They are also responsible for their families. There is a whole list of obligatory family transfers in Islam.
2. The education of children, including teaching them the Qur’an, prayers, and basic skills which prepare them to earn their livelihood when they become adults, are the responsibility of the *father and not the state*.²¹ The same applies to health care, housing, and the fulfillment of other needs to a level of living equal to that of the father or permitted by the father’s wealth and income.
3. For those persons who fail to secure a decent level of living for themselves and their families, Islam has created several institutional supports. These may be called the systems of redistribution and they include: obligatory extended family transfers, local community or neighborhood solidarity and mutual responsibility, *zakāh* expenditures, charitable *awqāf*, and voluntary charity. Before such a case comes to the attention of the state it should pass through these systems. The likelihood that the needs will be satisfied before the state is involved is usually high.
4. A minimum level of state activities is necessary, especially in areas where it is its duty to do so, such as establishing religion, implementing the Shari’ah, defending religion along with its people and land, maintaining human life and dignity, and others. In those and similar areas, and up to a necessary

²¹ See Muḥammad Abū al Ajfān, “Al Waqf ‘alā al Masjid,” a paper presented in the second International Conference on Islamic Economics, Islamabad, (Pakistan) 19-23 March, 1983.

level, the state must provide its services regardless of the category of revenue. On the other hand, expanding state activities even in the above-mentioned areas can only be done if the state taps resources from public property, the sale of services, or voluntary contributions. To clarify this matter, al Māwardī mentions an example: if a fort on the border is ruined and that fort was not essential for the defense of the country, the state is not allowed to impose taxes in order to reconstruct the fort. But if it is indispensable, then taxes may be imposed.²²

5. Economic enterprises of the state should not be financed by taxes. They may, however, be financed by revenues from public property, sales of their own products, borrowing, and voluntary contributions. This includes economic enterprises, as development itself is not a necessity according to Shari'ah, unless it is related to defense, the establishment of religion, or the provision of basic and indispensable needs for people.²³

²² al Māwardī, *op. cit.*, 245.

²³ The issue of development is outside the scope of this paper, and it deserves study of its own to determine its position in Islamic economics and how it is treated from the point of view of Shari'ah. However, a few words are worth mentioning in order to avoid any undesired implication the reader may derive. The Islamic Shari'ah as a way of life prescribed by Allah aims at the preservation and promotion of five basic objectives, usually called by Muslim scholars the five basics (*al uṣūl al khamsah*). These are: religion, life, mind, posterity, and material assets. All provisions of the Shari'ah are made in order to protect, preserve, promote, and improve these five basics. Matters related to the existence or survival of any of these basics are called necessities (*dārūrīyat*). Provisions which are not indispensable for any of these basics but are at the same time very useful in adding essential characteristics or in avoiding difficulties and harm are called needs (*ḥājīyāt*). And those provisions and measures which add improvement and prosperity to any of these basics without being necessary or needed are called refinements (*kamaliyāt*). Developmental efforts which deal with the necessities are by implication necessary, and they must be done even at the expense of individual privacy. This includes levying taxes and imposing other duties on individuals. Examples of these necessary developmental efforts are those related to defense of the country, its people and its land, the establishment of religion (including implementation of the Shari'ah's rules), the provision of basic needs fulfillment and so on). Developmental efforts which deal with needs as defined above are very desirable, and the state should make all possible efforts to undertake them without infringing upon individual wealth, privacy, freedom, etc. Examples of these needed developmental efforts may be urban transportation, elimination of illiteracy, and other features of modern life. The developmental efforts which deal with improvement of people's living conditions, promotion of religious and moral values, for example, fall under the category of refinements. They are also desirable but to a lesser extent than the needs. Lastly, there are developmental activities that may not be desirable from the point of view of the Shari'ah such as the production and distribution of tobacco, alcoholic beverages, and certain aspects of tourist industries that are incompatible with the Shari'ah. Such developmental activities may be either undesirable or prohibited.

Section Two

Financing the Public Sector's Deficit

An Islamic state, past or present, may face many needs for deficit financing. In anticipation of such deficits, Abū Ḥanīfah suggested that any surplus in the treasury should be saved for use when faced with a deficit, while al Shāfi'ī believed that a surplus must not be allowed to occur, i.e., it should be spent and any deficit, when it occurs, should be financed by new measures, including imposing taxes on the rich.²⁴

There are three types of deficit financing which can be seen in our history. The first type is the need for military equipment and expenses. Such an incident took place during the time of the Prophet, and he borrowed money as well as mail (armored clothes). The second type is reducing the amount of precious metal in the metallic money at the time of al Maqrizī in Egypt. Apparently, this was done for certain expenses by the ruler, as al Maqrizī does not mention what expenses were financed by this method. The third type of deficit financing happens when a Muslim country is defeated by its enemies and has to pay heavy war reparations to the victor. This happened in many areas during the Moghul era, the time of the Crusaders, as well as in Spain. Such duties used to be met by collecting funds from individuals in accordance with their financial ability. In this regard, Ibn Taymīyah argues that one should not evade this tax if the evasion would place one's burden on a fellow citizen, i.e., if the total amount needed to be collected was already fixed. Otherwise, evasion of this kind of tax is permissible.

In present-day Muslim countries, there are many examples of deficit financing for any combination of three objectives: developmental, facing calamities, and running an ever-growing government apparatus.

Borrowing has always been the simplest form of bridging the gap between resources and expenditures. It is, therefore, worthwhile to take note of a few remarks related to public borrowing from the Islamic point of view before I proceed to discuss modes of financing a public deficit according to the Islamic perspective.

1. Regardless of the reasons for public borrowing, the payment of any return whatsoever on debts creates a situation of injustice. By its nature, a debt is an interpersonal abstract relationship which does not generate any flow of material production. In other words, although it is an asset on one's balance sheet, a debt is neither a productive asset nor a factor of production. There-

²⁴ Al Māwardī, *op. cit.*, 215.

fore, the owner of debt should not be given any part of the production although he has done something good and deserves our thanks. In addition, the prohibition of *ribā* (interest) in the Shari'ah is consistent with rationality, the mechanism of production, and the fairness of distribution. This prohibition applies to individual loans as well as to public borrowing.

2. Negotiability of debts poses another problem, since this encourages the holding of debts by increasing their liquidity. A debt-ridden economy is more susceptible to sharp fluctuations than an economy with a light debt burden because the amount not debts a person likes to hold depends to a great extent on volatile expectations and speculations. On the other hand, the Shari'ah virtually imposes a total ban on debt negotiability, because it stipulates that debts can only change hands at their face value. This eliminates the profit incentive of negotiability.
3. Living beyond one's means is bad for an individual, because eventually one has to face the consequences. It is also bad for the state to do this for exactly the same reason. Therefore, public borrowing is not advisable. The argument that beneficiaries of public projects which will blossom in the future should pay for their cost is falsified by the mere fact that as we have inherited from our ancestors a lot of productive capital, why should we ask our children to pay for the capital which they will inherit from us? This is applicable to the macrolevel as much as it is to the microlevel. We like to leave our heirs rich, and Islam advises us to do so.²⁵ Building capital for future generations gives us personal satisfaction, self-esteem, and a feeling of performance. On the other hand, living at the expense of others, be they past or future generations, is a symptom of social decadence, demoralization, and a lack of self-respect.
4. Moreover, the distinction between current and developmental expenditures is very often misleading and usually abused. Every saving in current expenditures liberates resources and makes them available for developmental uses, and every increase in current expenditures taxes such resources. Additionally, borrowing for developmental projects relieves current decision makers of the need for strict accountability of their actions, as the burden is shifted to future generations.
5. The argument of fairness in distributing the huge expenditures associated with the early years of economic development among generations, based on the belief that letting those expenditures be shouldered by one generation

²⁵ In a well-known al Bukhārī-reported saying of the Prophet.

along unjustly overburdens it, is valid provided it is not abused by permitting current savings to fall below a reasonable level or by mortgaging more than a fraction of the saving capacity of future generations.

6. Finally, calamities, natural or man-made, should be dealt with by reverting to the Islamic principle of solidarity. Thus, individuals should share in meeting expenditure requirements in accordance with their financial abilities, even if doing so would exhaust all of their financial resources.

However, besides borrowing, an Islamic state may use other deficit financing modes, such as those mentioned below.

Islamic Modes of Deficit Financing:

It should be noted that in accordance with Islamic teachings, a financier may deserve a return on his/her financing only if he/she owns the asset which generates that return. Hence, loans do not entitle the lender to any return since the moment borrowed assets are handed to the borrower the lender no longer owns them, as he/she then the owner of a debt. Consequently, he/she does not deserve a return even if the borrowed assets were used by the borrower for productive purposes and generated a profit.

On the other hand, in trade, assets (i.e., money) are used to buy goods which the trader sells for profit. A return is deserved by the owner of assets used in buying these goods (i.e., the financier) only if he/she is the owner of goods sold. By the same token, a lessor deserves rent only if he/she owns the leased assets, and a partner or shareholder deserves profit or dividend if he/she owns part of the company's assets.

Ownership is characterized by risk and uncertainty. Risk comes from the fact that property is always exposed to natural and market conditions, and uncertainty comes from the fact that the rate of return cannot be known with certainty in advance.²⁶ This means that financing in Islam is always characterized by risking the principal and an uncertainty about a return, because a financier is an owner. Any financing which fails to pass the test of ownership does not deserve a return.

Taking the above considerations into account, there are three techniques for mobilizing financial resources in order to bridge the gap in a government's budget: i) debt-based modes, ii) participatory modes, and iii) contributory modes

²⁶ This also applies to leasing, since the owner still carries risk in addition to major maintenance which cannot be known with certainty in advance. This perhaps is what distinguishes Islamic leasing from financial leasing.

of financing. Both debt-based and participatory financing are derived from Islamic practices at the microlevel, while contributory financing is a macrolevel practice.

Debt-based Deficit Financing Modes²⁷

Debt-based public financing is that kind of financing which results in a definite debt on the state. The state may become a debtor of a fixed amount of funds (in money terms) or of a predetermined and well-specified good or service. This indebtedness entitles the holder of the debt certificate to receive the face value of the security in money or in kind on the certificate's maturity date.

There are several Islamically permissible modes of debt-based financing which the state can use to bridge the gap between its revenues and expenditures:

a) *Public Borrowing*

Borrowing without any fringe benefits or return paid to the lender. The government may borrow from a central bank, commercial banks, or private persons provided that such borrowing does not cause distortions in the value of money, real assets, and real income.

Borrowing from the private sector may also take the form of issuing return-free bonds which may be made transferable at face value. These bonds may be in foreign exchange which some people like to hold because they provide protection against domestic inflation.

b) *Murābahah*

The state may purchase goods on the basis off *murābahah* with deferred payment. This *murābahah* creates debts on the state to the benefit of the seller-cum-financier. *Murābahah* debts are practically non-negotiable, since a debt can only be sold at its face value according to the Shari'ah.

However, the seller-cum-financier may issue negotiable *muḍārabah* certificates to finance *murābahah* debts with the state if he/she maintains a flow of contractual relationships such that the total of cash and debts does not make

²⁷ This and next subsections are heavily based on a paper by M. Fahim Khan and Monzer Kahf entitled "Financing Government Deficit through Borrowing from the Private Sector." It was presented at the Seminar on Islamic Financial Market organized in Bahrain, May 1990, by Faisal Islamic Bank, Bahrain.

up the majority of his/her assets (according to the OIC Fiqh Academy resolution No. 5 in its 4th session, Jeddah, 18-23/6/1408 H).

This mode of financing can be contracted between the state and a private party such as an Islamic bank. Alternatively, a branch of the government may issue non-negotiable *murābahah* certificates to finance supplying goods to the government. Such a government branch may also issue negotiable *muḍārabah* certificates to finance the acquisition of goods and supplies, provided the above-mentioned condition is met.

c) *Ijārah and Istiṣnā'*

Public services such as education, public constructing, city cleaning, airport maintenance and so on may be financed by *ijārah/istiṣnā'* bonds due at a future date.

The Shari'ah basis for these bonds is *jārah* or *istiṣnā'* with deferred payment. However, those *ijārah* and *istiṣnā'* payment bonds cannot be transferred to a third party except at face value. But the negative effect of non-negotiability may be reduced by issuing bonds at different maturity dates so that holder may have bonds with short and long maturity according to his/her liquidity requirements.

Bonds may be issued by a government branch or a private contractor, and they may cover one project or a group of projects.

d) *Real Goods/Service Bonds*

The state may also obtain financing from the private sector by selling future goods and services with advance payment. Small denomination real goods/services bonds may be issued against advance installments on the purchase of future goods and services from the state. Well specified houses, higher education, and *hajj* trips are examples of such goods and services.

Certificates of installments of future services may be made negotiable at market prices without difficulty since the Shari'ah permits the transfer of *ijārah*. Negotiability of certificates representing debts of future goods may require further analysis by Shari'ah experts.

Finally, it should be noted that all debt-based financing may be backed by a government guarantee whether certificates/bonds are issued by a private party or by a government branch.

Participatory Deficit Financing Modes

Participatory public financing gives the provider of financing the right to

an income-producing asset either wholly or partially. Participatory certificates may be amortized for a certain number of years, or they may be subject to settlement at the end of the financing period. Once real assets are purchased with the financing money, certificates become negotiable at market prices.

Additionally, according to the OIC High Fiqh Academy resolution No. 5 in its fourth session, Jeddah 18-23/6/1408 H, a third party may, under certain conditions, guarantee any losses which may occur with regard to participatory certificates.

Participatory deficit financing may only be used for income-generating state enterprises. However, many government projects may be recognized to become income-generating projects. These include highways, bridges, government administrative buildings, school buildings, and so on. Participatory modes of deficit financing are:

a) *Equity or Mushārahah Certificates*

Holders of *mushārahah* certificates become full partners in the public projects in which they participate, a status which gives them the right to vote and share in the management process. Those certificates are used to finance income-generating projects and can be issued directly by the projects needing the financing or by a private corporation building or running public sector projects.

b) *Mudārabah Certificates*

This type of certificate resembles *mushārahah* certificates except for the right of management. In addition to income-generating projects, *mudārabah* certificates may also suit sections of projects divided so that a subdivision generates some net income. This may then be appropriated to the *mudārabah* without having the financier share in the whole project.

c) *Ijārah Shares*

Property leased to the government may be divided into rent-earning shares which can be exchanged at market prices. These shares represent ownership and entitle their owners the right of receiving rent at periodical intervals. They are fully negotiable.

Lastly, it should be noted that while Islam considers public borrowing to be unsuitable for long-term deficit financing, *murābahah* can be used for the sort and/or the long term. *Ijārah*, *istiṣnā'*, real goods/services certificates, and participatory modes can serve the objective of long-term financing, although

ijārah and *istiṣnāʿ* can also be designed for medium and probably short terms.

On the other hand, *mushārah* and *muḍārabah* certificates can only serve income-generating public enterprises, whereas borrowing, *murābahah*, *ijārah*, *istiṣnāʿ*, and real good/services certificates may serve income-generating as well as non-income-generating or mute state undertakings.

Contributory Public Financing

Financing public projects on a contributory basis refers to cases where financing is provided on the basis of community solidarity among the members of the Muslim society. Such conditions arose many times during the life of the Prophet. The Prophet used to call for voluntary contributions to meet many of the public expenditures as they arose.

Voluntary contributions are used to finance many public expenditures today in both Muslim and non-Muslim countries. They are resorted to in such cases as city beautification and the establishment of public recreation areas. They are also called for under emergency circumstances such as natural calamities, wars, and the disruption of public order.

In addition to voluntary contributions, the principle of community solidarity may be enforced by law in accordance with the *farḍ al kifāyah* concept. The application of this concept requires that if the state does not anticipate future resources to cover its present deficit, the deficit should be met by taxes levied on the rich in accordance with their taxable capacity. However, if the state anticipates sufficient future revenues, it must borrow from the rich instead of taxing them. This borrowing can also be obligatory.

Security Pricing, Capital Budgeting, Time-State, Preference Model, and Interest-Free Economy

by
Abdul Aziz
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Introduction

Pakistan, Iran, Sudan, and some other countries have taken practical steps to Islamize their economies. It has provided an impetus to develop economic concepts in economies and finance. However, the main areas in which research work has been done is the collection and disbursement of Zakat, and the elimination of interest. Islamic banking has also attracted considerable attention. Particularly in Pakistan, government agencies have tried to run their affairs to avoid the involvement of interest. For example, instead of charging interest on home loans rental arrangements leading to ownership by renters are set up. Commercial banks are being encouraged to lend some of their assets on an interest free basis. Even particularly sticky problems such as short term loans for carrying seasonal inventories, and accounts receivables are being investigated and trust certificates have been developed. All these instances augur well for the commercial and industrial development of the the Islamic world based on Islamic principles. This is likely to accelerate in the years to come because a large part of the Ummah firm believes in the universal application of the Quranic laws for enhancement of the general welfare of the human race. However, it is just a beginning and most of the banks in Islamic countries still operate as interest bearing, credit granting institutions.

The current research in "Resource Mobilization in Islamic Environment" has been mainly restricted to interest free banking. Mangla, Uppal, and Krishna Swamy [14] provide a summary of work done in this area. Whereas banking helps channel resources through the intermediation process, it is the business firm which generates the demand for the funds through investment in projects. Firms issue various types of securities to provide an investment vehicle. In an interest bearing economy scores of classes of securities have been created with

¹ This paper draws heavily upon Banz and Miller [1].

the objective of providing appropriate investment instruments for different categories of investors as well as firms. This topic forms a part of financial engineering. A good discussion on this subject is found in Finnerty [8]. At present there is no known work done to link the two sectors—the supply and the demand of funds, in an interest free environment. For equilibrium in the financial markets through the interaction of supply and demand, it is essential that the securities be fairly priced. As to which individual securities will be sold in an Islamic environment begs further discussion. The question: are options, futures, risky debt, and preferred stocks valid financial instruments? will require to be investigated. However, one security, i.e., the common stock should definitely be an acceptable security according to Islamic jurisprudence: none of the two types of return on it, i.e., the dividend return and the capital gains are risk-free. Further a firm will only invest if new projects provide non-negative net present values.

Objectives of the Paper

The objective of this paper is to investigate the extant literature and identify analytical techniques which can be used to make optimal financial decisions in the areas of (common stock) security pricing and capital budgeting in Islamic environment. A brief discussion of these topics in Islamic environment is also provided.

Security pricing

Securities are articles of commerce and are commodities. Their prices based on the principle of demand and supply are determined in open securities instantaneously and fully reflect all relevant available information. At present, the capital markets of the western and Japanese economies are considered to be at least in weak- and semistrong-form efficient.

Theoretically the current price of a security, in an informationally efficient securities market, may be estimated using the Gordon formula:

$$P_0 = D_1 / (k_s - g)$$

where

D_1 is expected dividend in time period 1, k_s is the required rate of return on the security j , and g is the expected growth rate in the dividends.

k_s is commonly computed using the Capital Asset Pricing Model (CAPM):

$$E(k_s) = k_{rf} + [E(k_m) - k_{rf}]b_s$$

where k_{rf} is the risk free rate, b_s is the market related risk of the security, and k_m is the required rate of return on the market portfolio.

In an interest free economy, a risk free asset (an asset that has constant returns in every state of the economy) is not available. Theoretically this problem can be solved using Black's [3] zero beta portfolio argument, whereby the CAPM is restated as

$$E(k_s) = E(k_z) + [E(k_m) - E(k_z)]b_s$$

where $E(k_z)$ is the expected return on the minimum variance – zero beta portfolio.

However, Ross [18] has shown that it is virtually impossible to construct a zero beta portfolio unless there are no constraints on short sales. If short selling requires the borrowing of an asset² on which some sort of interest will be assessed, it is doubtful that short selling will be permitted in Islamic environment. Therefore the problem of security pricing cannot be solved by using CAPM in its original form or as modified by Black.

Another possible venue to solve this problem is offered by the State Preference theory propounded by Hirshleifer [10]. Assuming perfect and complete markets, any market security's pay-off vector in different states of nature can be exactly replicated by a portfolio of pure securities. The value of pure securities can be estimated using expected pay-offs from available equity securities in the market. Given the prices of the pure securities, the price of any security can be calculated. None of the quantities involved in the calculations (See [5]) are based on a risk free or risky debt security. Hence state preference model can be used for security valuation in an interest free environment.

Security Pricing and State Preference Model

In a perfect and complete market the implicit price of a pure security can be derived from the prices of existing market securities. The prices of other securities can then be developed from the implicit prices of pure securities. The procedure to estimate the implicit prices of pure securities is briefly described below.

² It is a common practice that short sellers borrow assets from their brokers to sell them short. The brokers charge interest on this borrowing. However, if short selling is done in the futures markets no borrowing is required. We thank Dr. Monzer Kahf for drawing our attention to this point.

Pure Security Prices

Let P_s = price of pure securities

P_j = price of market securities

π_s = state probabilities

Q_s = number of pure securities

Suppose Table 1 gives the payoff for securities j and k

Table 1

Payoff Table for Securities j and k

Security	State 1	State 2	Price
j	\$ 5	10	6
k	\$20	8	10

$$P_j = 5P_1 + 10P_2 = 6$$

$$P_k = 20P_1 + 8P_2 = 10$$

which gives $P_1 = .32$

$$P_2 = .44$$

For pure security 1 a \$.32 payment is required for a promise of payoff of \$1 if state 1 occurs and nothing if any other state occurs. Similarly for a pure security 2 a \$.44 payment is required for a promise of payoff of \$1 if state 2 occurs and nothing if any other state occurs.

Market security prices

The prices of the pure securities derived above can be used to find the initial price of a third security, a market security "m". The information needed on this security is its payoff in different states. Restricting the analysis to two states of nature, if the payoff in state 1 is \$8 and the payoff in state 2 is \$11, then the price of security "m" is computed as follows:

$$8(.32) + 11(.44) = 2.56 + 4.84 = \underline{\underline{\$7.40}}$$

Thus without the use of discount rates, which involves the application of a risk-free rate, the price of any market security can be developed.

Securities Trading in Islamic Environment

In an Islamic society for the pricing and trading of securities the existence and development of the financial markets is required. Open markets provide an efficient mechanism of establishing fair prices and allocation of any commodity. This is in the light of the Prophet's advice. According to a hadith,³ " . . . people used to buy from the caravans in the lifetime of Prophet. The Prophet used to forbid them to sell it at the very place where they had purchased it (but they were to wait) till they carried it to the market where foodstuff was sold."

Equity securities are instruments of ownership of real assets. They are by implication commodities. In accordance with the Prophet's above stated advice, market mechanism is the most desirable and efficient method of establishing fair prices and trading of the securities.

Current practices in the western world prove the truth of the Islamic teachings. Various types of markets, such as commodities markets and capital markets are well developed and the allocational efficiency of these markets is soundly proven. Their existence results in the scarce savings to be optimally invested to the benefit of everyone.⁴ They minimize the liquidity and productivity risks. In the presence of capital markets investors are encouraged to hold diversified portfolios. In addition it can be proved that capital markets stimulate human capital production and growth [13].

An empirical evidence of the efficiency of market economies and corresponding inefficiency of non-market economies is the continuity of the market economies over thousands of years and the collapse of the non-market economies (communism) in a short period of about seventy years. Thus teachings of Islam with regard to market based pricing system is overwhelmingly supported by theoretical and empirical considerations.

For practical and religious reasons Muslim nations must create and develop financial markets. The supply and demand for the equity securities of firms, based on the desirability of firms' ownership will result into fair prices. However, a problem of confidence exists. Recently a number of securities frauds have been reported all over the world, particularly in Japan [20] and the United States [21]. Similarly, the element of speculation, an activity discouraged by Islamic economics has created volatility in both the real estate as well as capital markets [6] in the past. To keep the operations of these markets in line with the require-

³ See Sahih Al-Bukhari (Arabic-English) Vol III translation by Mohsin Khan, Al Maktabat al Salafiat, page 189.

⁴ See Fama and Miller [7], Chapter 1, Sec 2 for a theoretical discussion on the importance of capital markets.

ments of Islam some regulations⁵ will have to be undertaken. Trades⁶ which are of purely speculative nature and involve a high degree of risk and uncertainty will not be permitted. The prophet forbade such trades. In the current capital markets there are a number of practices which must be prohibited while others could be adopted as such or with some modifications.

First we take the example of option trading. Option buyers have a choice: to exercise or not to exercise the options. This right has value only when there is uncertainty. However, the prophet forbade the sale with uncertainty in it. An example extremely akin to option trading is given by Imam Malik ibn Anas [12]. "One type of uncertain transaction and risk is that a man postulates the price of a stray animal or escaped slave to be fifty dinars. A man says, 'I will take him from you for twenty dinars.' If the buyer finds him, the seller loses thirty dinars, and if he does not find him, the seller takes twenty dinars from the buyer." A stock option has an underlying asset, like a stray animal. If its value goes up it is like the animal found and the buyer exercises the option. This results in the seller of the option suffering a loss and the buyer pocketing a profit equal to the difference between the prevailing market price of the underlying security and the agreed upon exercise price. If its value goes down it is like not finding the animal and the option goes unexercised. This time the buyer suffers a loss equal to the option premium paid and the seller pockets the premium. The risk of option trading is indicated by the fact that more than 90 percent of options are not exercised and the buyers, in trading in these securities, subject themselves to a preponderantly large probability of loss. It is very similar to gambling or playing lottery where the chances of winning are minimal. In fact option trading is a zero sum game. What a seller gains is a loss to the buyer and vice versa. It does not contribute to the productive function of a firm or society. Thus the non-productiveness, risk and uncertainty inherent in option trading demands that it not be permitted in accordance with the Islamic teachings.

Another practice which influences the stock prices is margin trading. By regulating the margin on purchases, the central bank of a nation or the stock exchanges can increase or decrease the volume of trading in shares. This influences the demand for securities in the market. The practice involves lending money by the investment bankers to investors at a specified interest rate. Apart from this the trading is highly risky and in many cases the investors suffer 100 percent loss of their investment over very short periods.

⁵ For an example of such regulations being created in Muslim nations, see [17].

⁶ In our opinion, transactions such as option trading, short selling, index trading, insider trading and blue sky offerings, which we have mentioned in this section, are against the Islamic principles. However, we do not claim universal acceptance of this opinion or assumption.

Yet another example is trading in market indices. This trade does not entitle an investor to become a part owner in a firm. It simply is a technique designed by investment bankers to permit their clients speculate in markets. Islam does not approve of speculation and hence such trading is undesirable. also speculators most often have some information which is available to them but not to others. Their practice can create efficiency in the markets and hence is generally not viewed with respect even in western societies: "One's friends are investors, one's enemies speculators [19].

Apart from such practices in the currently existing markets there are many activities and regulations which an Islamic society can simply adopt with minor modifications. For instance, Security and Exchange Commission of the United States has developed a large number of rules to protect the interests of investors. Ban on insider trading⁷ is one example. This activity helps investors who possess proprietary information about a firm make profits at the cost of common, less informed investors and is prohibited. For example, based on privileged information, General Motor executives [22] sold millions of dollars worth of G.M. stock they owned one day prior to a sharp drop in the price of G.M. stock. This trading (based on privileged information helped them transfer a huge loss to common, less informed investors. Another example is "blue sky laws" which protect unsophisticated investors from speculative schemes. They outlaw frauds in security transactions and require registration of dealers and brokers. Such laws are appropriately applicable in a financial market operating in an Islamic nation.

Optimal Investment Decision. Capital Budgeting

Capital budgeting is divided into parts: one deals with the qualitative factors and is called the qualitative analysis. The other deals with the quantitative factors and is called the quantitative analysis. In the former are considered factors which affect the workers, the society, the consumers, etc. while the latter considers the projects' impact on profitability, rate of return to stockholders, et. In the western societies quantitative analysis plays a disproportionately greater role in deciding on the acceptance or rejection of the project. However, in the Islamic environment, the qualitative analysis of projects will play a very significant role. One important factor is the level of risk management wants to undertake. They may accept highly risky projects to earn high rates of return, or zero risk projects for low rate of return, or moderate risk to earn moderate rate of return.

⁷ Insider trading is a security transaction that takes advantage of "inside" corporate information unavailable to the other person(s) involved in the trade.

Islam encourages moderation. Moderate risk projects which would result into moderate rate of return for the shareholders. Being less risky theses projects are likely to provide steady employment to workers for a long time and be a boon to society at large.

Capital Budgeting and State Preference Theory

Quantitative analysis of a capital budgeting problem is based on the concept of discounted cash flows/net present value. It requires the use of cost of capital. Computation of cost of capital involves the application of risk free rate as a bench mark of return on any risky project. The use of this rate in Islamic environment can be avoided by using 'state price' estimates as provided in Banz and Miller [1]. Though the estimates are based on 'Implied Annual Real Riskless Rate' under various states of economy, yet these rates are so small that their values may be approximated to zero. Thus the capital budgeting problem may be solved without the involvement of risk free rate.

In an interest-free environment, individuals are assured to save by purchasing firm securities. For undertaking new projects firms obtain funds by issuing securities. The objective of the firm in any investment is to maximize the share price which can be shown to be equivalent to maximizing current shareholder's expected utility. Under conditions of perfect and complete markets, the prices of a full set of securities can be obtained from the prices of the market securities, and vice versa. The only requirement is that the state-contingent payoff sectors of the market securities be given. The net present value of a project can be computed as:

$$NPV = \sum_s P_s Q_{js} - I_j$$

where P_s is the price of pure security

Q_{js} is the payoff on firm j's existing securities, and

I_j is the investment required at time zero by firm j

The following example illustrates the procedure:

Firm A: stock price = \$58

initial investment cost of its project = \$9

Stock and Investment Project Payoffs

State-Contingent

State of Nature

Payoffs

	on Firm A's Stock	on Firm A's Proposed Investment Project
State 1	80	8
State 2	25	10

Firm B: stock price = \$46

initial investment cost of its project = \$8

Stock and Investment Project Payoffs

State of Nature	State-Contingent Payoffs
-----------------	-----------------------------

	on Firm B's Stock	on Firm B's Proposed Investment Project
State 1	30	1
State 2	70	7

First we find the prices of the pure securities

$$80 P_1 + 25 P_2 = 58$$

$$30 P_1 + 70 P_2 = 46$$

$$P_1 = .6, P_2 = .4$$

$$NPV_A = 8P_1 + 10P_2 - 9 = .2 \text{ and } NPV_B = 10P_1 + 7P_2 - 8 = .8$$

Using the rule: Accept a project if its NPV > 0 else reject it. Firm A's project will be rejected and that of B will be accepted.

Multi-period Capital Budgeting Problem

The above example relates to a single period problem. The following section shows how the approach can be extended to the multi-period case.

The gross present value of a project, P , may be stated as

$$G = \sum_{j=1}^n v_j X_j$$

where

X_j = expected value of the payoff of the project in each of the states

$j = 1, 2, \dots, n$

v_j = known current prices of a set of securities that call for the payment of \$1.00 if state j occurs and zero otherwise, and

n = mutually exclusive and exhaustive states into which the possible future outcomes for the economy as a whole next period can be partitioned.

If G is greater than the initial investment, the project is accepted; otherwise it is rejected.

In this formula, the values of V 's sometimes called, the state prices, are crucial. There are two methods available in literature to obtain the values of state prices. One is due to Bierman and Smidt [2, Chapter 22 and 23]. They identify the states with ranges of rates of return on the market portfolio. Next, they apply the capital Asset Pricing Model to compute the V_j 's. Banz and Miller [1] argues against this procedure for two reasons. First it requires the assumption of normality of annual rates of return which Miller and Scholes [15] have shown to be incorrect. Secondly, the procedure is useful only in single period cases where, the most interesting capital budgeting applications are multi-period in nature. Banz and Miller themselves suggest a method of estimating state prices based on the use of Black-Scholes option pricing model. This however, requires that both the riskless rate of interest and the variance rate to be used in option pricing formula be stationary over time. These assumptions are hard to justify. However, we feel that in an Islamic environment riskless interest rates will be reduced to zero, and the variance, a major cause of which is fluctuations in market interest rates, will be minimal, thus the state prices could be determined using the option pricing methodology.

Using simulated data generated by Ibbotson and Sinquefeld [11] Banz and Miller have developed state prices for three alternative state patterns (3, 5, and 20 states).⁸ Computation of the gross present values of any project, G_k , with elements $g_k(i)$ is given by the following equation:

$$G_k = \sum_{t=1}^p V^t X_k(t)$$

⁸ An alternative set of state prices can be obtained using Breeden and Litzenberger methodology [4].

where $X_k(t)$ is a sequence of $n \times 1$ vectors,

whose elements $X_k(i,t)$ represents the expected real cash flows of project k , in year t , the economy being in state i .

V is an $n \times n$ matrix of state prices whose elements are state contingent prices, and

p is the last period during which the project provides nonzero cash flows.

If a project has X_i as expected cash flow in year i which obtains a steady state in year 4, then the vector of gross present values is given as follows:

$$G_k = V.X_1 + V^2 X_2 + V^3 X_3 + V^4 (V * (I-V)^{-1})X_4$$

A simple example based on the illustration in Miller and Banz [1] is given below:

XYZ Corporation is analyzing an investment project whose real cash flows are presented in table below:

State of the economy	Cash flows before competition enter, X_m	Steady-state Cash flows after competition enters, X_e
Depression	200	-10
Normal	300	20
Boom	400	30

Suppose the estimate of cumulative probability of competitive entry are zero in the year of introduction, .3 one year later, .6 two years later, and 1 three years later.

The gross present value vector will be

$$G_k = VX_m + V^2 (.7X_m + .3X_e) + V^3 (.4X_m + .6X_e) + V^4[V(I-V)^{-1}]X_e$$

Using steady state prices, i.e. values of V , V^2 , V^3 , V^4 , and $V(I-V)$,

$$G_k = \begin{matrix} g_D \\ g_N \\ g_B \end{matrix} = \begin{matrix} .5251 & .2935 & .1735 & 200 \\ .5398 & .2912 & .1672 & 300 \\ .5544 & .2888 & .1612 & 400 \end{matrix} + \begin{matrix} .5304 & .2897 & .1681 & 137 \\ .5333 & .2915 & .1693 & 204 \\ .5364 & .2934 & .1705 & 289 \end{matrix}$$

resulted into the maiming and deaths of a number of citizens. For example, the use of skate boards and roller blades have killed many youths. Production of many videos and audios with subliminal messages, have prompted many young men and women to commit suicides. Wines, beers, and cigarettes are other obvious examples of the production of injurious products. In Islamic societies project evaluation will be based on stricter criteria of social costs and benefits. There is no doubt that such criteria can be and in some cases is being applied currently in many non-Islamic societies. However, its application will be far more easier in Islamic societies because the managers, stockholders, consumers, legislators, and employees will be acting enthusiastically to please God. Furthermore the application of stringent project evaluation techniques will result in the acceptance of less highh-risk projects. More investment funds will flow towards the production of goods which are safe to operate and consume. Less funds will be directed to the production of goods which are means of satisfying the hedonistic desires of rich people. Through the application of properly designed evaluation criteria, according to Islamic moral values, investments in the projects meant for the production of socially less desirable/undesirable goods will be eliminated. The funds released will be available for the production of socially desirable goods. The overall outcome will be a society having abundance of essential goods but less of unnecessary and luxurious goods. The standard of living of people is likely to be less disparate. A large percentage of citizens of an Islamic state will belong to middle class and less to highly rich and poor classes. Such a homogeneous society is likely to have minimal political problems and internecine divisions.

Here we must emphasize that the additional constraints placed upon firms will not result in a centrally planned economy or an economic system akin to communism. Whereas the latter systems lack the market pricing mechanism and the element of profit as a motivation for entrepreneurs the Islamic economic system encourages market pricing and reasonable profit making on trading activities.

Conclusion

The extant finance literature is based upon the existence of a risk free security. Islamic environment requires that no such security be available to investors. This poses problems in almost all areas of corporate finance. The objective of this paper was to identify techniques available in current literature to apply to security pricing and capital budgeting problems. We feel that time-state preference model can be used to solve these two problems in an interest free economy. Further, a simple logic indicates that the application of Islamic moral

values to these two areas of corporate finance will result in the enhancement of welfare of masses at large.

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Interest Rates and Usury in South Asia: A Cross-Cultural and Historical Perspective

by
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The absolute ban on interest is one of the fundamental tenets in the canonical interpretation of the Islamic economic framework. However, historically the concept and practice of interest differed not only between Muslim and non-Muslim societies but also among the Muslim societies themselves. A comparative analysis of actual practices relating to interest in different societies would indicate how and why the mechanism for intertemporal resource allocation varied. From the perspective of cross-cultural comparison, the evolution of the concept and practice of interest in South Asia deserves special attention for two reasons. First, prior to the advent of Islam, South Asia witnessed the flowering of Hinduism and Buddhism—two Aryan religions which were significantly different from Semitic religions like Judaism and Christianity which preceded Islam. The widespread practice of money-lending in ancient South Asia stands in striking contrast to its condemnation by Judaism, Christianity, and Islam. Secondly, South Asia was ruled by Muslim rulers for more than six hundred years, from the thirteenth to the nineteenth century A.D. In terms of population, South Asia contained the largest Muslim society in the world. Nevertheless, the economic system of Muslim South Asia was not shaped by the pristine ideals of Islam; it rather turned out to be a convenient amalgam of pre-Islamic and Islamic practices.

This paper seeks to survey and analyze the evolution of the perception and practice of interest in South Asia from ancient times until the establishment of British rule in the eighteenth century. It is divided into three sections. The first section summarizes the regulations regarding credit and interest rates in ancient South Asia and compares them with those of other ancient civilizations. The second section outlines the practice and perception of interest in South Asia during Muslim rule. The final section summarizes the main findings of this study and tries to account for the unique practices relating to interest in both ancient and medieval South Asia.

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I. Regulations on Credit and Interest Rates in Ancient South Asia

The emergence of economic thought, whether in a fragmentary form (i.e., law and regulation) or in a systematic form (i.e., commentaries on economic matters), is dependent on two conditions: (i) the development of the art of writing, and (ii) a sufficiency of division of labor and exchange. While the fulfillment of the second condition can be traced back to the Indus Valley civilization which flourished between 2300 and 1700 B.C., it is difficult to determine when the art of writing began in South Asia. The Indus civilization had a script; however, it has not yet been deciphered. No written material prior to the third century B.C. has survived in South Asia. The main streams of South Asian economic thought seem to have crystallized not later than second century A.D. and most likely before the birth of Christ.

Economic thought in ancient South Asia had two principal overlapping traditions—the works of the writers on *Arthashastra* and the literature on *Dharmasastras*. The authorship of *Arthashastra* is attributed to Kautilya, who helped Chandragupta Maurya come to power in Maghadha (circa 324-313 B.C.). According to Basham, the available text of *Arthashastra* is certainly not the work of Kautilya. As Basham points out,

“The text refers to people and places (notably China) which do not seem to have been known to Indians in the fourth century B.C. It does not use much of the official terminology employed in the Ashokan inscriptions or in the Pali scriptures, but it contains many governmental terms which did not become popular until post-Mauryan times. Yet it is certainly pre-Guptan and is, we believe, the elaboration of a Mauryan original which was perhaps the work of Kautilya” (Basham, 79).

It has been suggested that the *Arthashastra* contains the work of at least three hands, one of whom was Kautilya (Spengler 1980). Trautmann concluded that it is “representative of the best generations of thinkers” and contains “ancient Indian beliefs about the state with an authority which no individual creation could possess” (1976, 187). It was probably compiled in its present form during the period of 324 B.C. - 320 A.D.

The *Dharmasastras* (Instructions in the Sacred Law) are versified texts of the *Dharmasutras* which were probably composed between the sixth and second centuries B.C. The *Dharmasastras* were compiled in their final form in the second and third century A.D. (Basham 1954, 112). The most celebrated version of the *Dharmasastras* is known as the *Code of Manu*, and Manu is described as the ancestor of Manava tribe (or school) of Brahmins near Delhi.

According to legends, he was the son of a god and received his laws from Brahma himself. This code of 2,685 verses is claimed to have been composed in 1200 B.C. It is more likely to have been composed after the death of Christ.

Both the *Arthasastra* and the *Dharmasastras* were compiled in their present form around the same time. They, however, represent two distinct streams of ancient South Asian life. The *Dharmasastras* expound “duties or practices sanctified by custom from the standpoint not of a lawgiver but of a moral perceptor who lays down duties and regards deviations from them as sins to be expiated by the individual himself rather than crimes to be punished by the state” (Spengler 1980, 46). Underlying the *Dharmasastras* was a vision of the cosmic order corresponding to Western natural law and Chinese *tao*. By contrast, the *Arthasastra* was primarily concerned with rulership, and therefore discusses questions of administration including the enforcement of law and the punishment of criminals. It was in essence a code of a predominantly rural, bureaucratic, and centralized state.

Both the *Arthasastras* and *Dharmasastras* recognized money-lending as a lawful occupation. The *Dharmasastras*, however, does not recognize the legality of money-lending by all castes. Manu says that the king should order each man of the mercantile class to practice trade or money-lending, agriculture or attendance on cattle (Manu 1982, vol. III, 285). The caste status of the Brahmins is, however, affected by money-lending. Manu says that great families are sunk to a low state “by practicing manual arts, by lending at interest and other pecuniary transactions, by begetting children on Sudras only” (vol. III, 69). According to Manu “neither a priest nor a military man, though distressed, must receive interest on loans, but each of them if he pleases may pay the small interest permitted by law on borrowing for some pious use, to the sinful man who demands it” (vol. IV, 358). For the Brahmins, money-lending is characterized as *sat-yanrita*, which is permissible only in exceptional cases (vol. III, 103). To sum up, money-lending was discouraged for upper castes; it was fully legal for lower castes only.

Both the *Arthasastras* and *Dharmasastras* recognized the principle that debt did not cease with the death of a debtor; the responsibility for the repayment of the deceased’s debts devolved on his sons and heirs. Husbands are responsible for their wife’s debts; but not wives for their husbands. Debtors might be enslaved by their creditors until they had worked off their debts. This regulation was not, however, applicable in the case of debtors from the higher castes. As Manu prescribes: “Even by personal labor shall the debtor pay what is adjudged, if he be of the same class with the creditor or of a lower, but a debtor of a higher class must pay it according to his income by little and little”

(vol. IV, 249). Literary sources in ancient South Asia refer to debtors dogged everywhere by their creditors and at last committing suicide in desperation (Basham 1954). Elaborate regulations have also been laid down regarding mortgages and pawns.

The *Arthasastras* identified six types of interest: compound interest, periodical interest, stipulated interest, corporeal interest, daily interest, and the use of a pledged article. However, the definition of each type is not clear. The *Arthasastras* recognized that the rate of interest would vary according to risk, uncertainty, and the circumstances surrounding loans. Kautilya prescribed 1.25 percent monthly interest for ordinary loans, 5 percent for trading, 10 percent for trading in forest products, and 20 percent for maritime trade (1967, 200). In the *Dharmasastras*, the interest rate is determined by three factors: pledge (act of delivering goods, property, etc. to another for security), proportion of risk, and direct order of classes (Manu 1982, vol. IV, 243). The monthly rate of interest is equivalent to ordinary rate specified in the *Arthasastras* (i.e., 1.25 percent per month) where a pledge is provided. In the case of unsecured loans, the lowest rate of interest was 2 percent per month.

Interest rates in the *Dharmasastras* also vary according to the order of castes. A priest can be charged interest at the rate two percent per month; a soldier, three percent; a merchant, four percent; and a mechanic or servile man, five percent. These rates refer to unpledged loans. These were prescribed maxima and could be lowered according to the proportion of risk. Unlike the *Arthasastras*, the *Dharmasastras* did not prescribe rates for risky ventures like maritime trade or trade in forest products. However, it laid down that in risky trades interest rates above the prescribed maxima could be fixed through negotiations. Interest in this case “shall be settled between the parties, by men well-acquainted with sea voyages or journeys by land” (vol. IV, 246). Debtors were subjected to a 5 percent penalty for nonpayment when due.

An interest ceiling was prescribed in both the *Arthasastras* and the *Dharmasastras*. According to the *Arthasastras*, interest payments should cease when the total interest paid equals the principal. In the *Dharmasastras*, a distinction is made between accumulated interest and interest payment in installments. Accumulated interest must “never be more than enough to double the debt, that is more than the amount of the principal paid at the same time.” However, interest paid on installments must not be “more than enough to make the debt quintuple” (vol. IV, 245). The *Dharmasastras* also distinguish between cash loans and loans in kind. In the case of cash loans, interest and principal were paid in cash. In the case of commodity loans, repayment had to be made in kind.

Money-lending was practiced in nearly all of the ancient world. It was not,

however, totally prohibited anywhere. Nevertheless, the practice of money-lending was assailed almost everywhere from the moral point of view. Most of the borrowings and lendings in ancient civilizations took place not for working and fixed capital but for consumption loans to meet urgent personal needs. "In such circumstances, interest," Galbraith rightly points out, "is not viewed as a production cost but rather as something the more favored charge the less fortunate or the less wise. So like slavery, it raises a problem in ethics – what is right, just and decent in relations between those who are amply supplied with money and the feckless or needy" (1987, 12). Aristotle (384-322 B.C.), who equated interest to usury in all cases, strongly condemned it in the following manner: "The most hated sort (of moneymaking), and with the greatest reason, is usury. . . . For money was intended to be used in exchange, but not to increase at interest." In ancient Rome, Cato described money-lenders as "worse than thieves" (Homer, 1977). In Judaism, money-lending among the Jews themselves was prohibited. Exodus 22:25 laid down: "If thou lend money to any of my people that is poor by thee, thou shall not be to him as an usurer" (Johnson 1987, 173). The Jews were, however, permitted to lend at interest to strangers. In ancient South Asia also, reservations were expressed about interest rates. Usury was classified by Manu as a minor sin comparable to "defiling a damsel, want of perfect chastity in a student, selling a holy pool or garden, a wife, or a child" (Manu 1982, vol. IV, 371). Usury is not, however, legal; interest is. Manu defined usury in the following way: "Stipulated interest beyond the legal rate and different from the preceding rule is invalid and the wise call it a usurious way of lending: the lender is entitled at most to five in the hundred" (vol. IV, 245). Lending at prescribed interest in South Asia was not banned, it was merely discouraged for the upper castes.

These restrictions on money-lending by the upper castes may be interpreted in two ways. First, it may be hypothesized that Manu discouraged money-lending by the upper castes because it was morally reprehensible. Secondly, it may be argued that these restrictions were proposed to ensure that each caste restricted its activities to its allotted occupation. Money-lending was the hereditary profession of the mercantile classes and the upper castes would, therefore, naturally be discouraged to intrude into the occupation of another caste. This second hypothesis seems more likely because neither the *Arthasastras* nor the *Dharmasastras* denounced interest per se. Ancient South Asia, therefore, provided a more congenial environment for money-lending than all other ancient civilizations.

Apart from ethical denunciations, all major ancient civilizations except Greece enacted caps on interest rates. Keynes attributed these restrictions to

the constant tendency of the market interest rate to rise too high and “much above the level best suited to the social advantage.” As Keynes notes:

The destruction of the inducement to invest by an excessive liquidity-preference was the outstanding evil, the prime impediment to the growth of wealth, in the ancient and medieval worlds. And naturally so, since certain of the risks and hazards of economic life diminish the marginal efficiency of capital whilst others serve to increase the preference for liquidity. In a world, therefore, which no one reckoned to be safe, it was almost inevitable that the rate of interest, unless it was curbed by every instrument at the disposal of society, would rise too high to permit of an adequate inducement to invest (1964, p. 35).

There are, however, two weaknesses in the Keynesian analysis of ancient usury laws. First, interest rates in the ancient world were not always high, they fluctuated from time to time and at times were lower than the legal maxima (see Table I). Secondly, the determinant of interest rate in the ancient world was not “excessive liquidity preference” as claimed by Keynes. Markets for capital in the ancient world were highly segmented. Because of high information costs on potential clients, money-lenders did not usually expand operations beyond a small base. Each money-lender became a virtual monopolist in his locality and dictated interest rates at his discretion. Legal maxima had, therefore, to be prescribed to save the debtors.

There are three distinct features of the formal legal limits placed on interest rates in ancient South Asia. First, interest rate caps in South Asia were much higher than those in Sumeria, Babylon, Greece, Egypt, or Rome. In South Asia, interest on unsecured loans for the Sudras (who constituted the majority of the population) was as high as 60 percent per annum. For similar loans, the legal maxima was 20 percent per annum in Sumer and Babylon, and 8.33 percent to 12 percent per annum in Rome (see Table I). Though there was no formal legal limit for interest rates in Greece, the temple of Delos charged 10% on all loans made during the period 400-100 B.C. (Homer 1977, 40). Legally, interest rates connected with maritime trade in South Asia could be as high as 240 percent. This rate was much higher than usurious interest rates in most other ancient civilizations. However, actual interest rates in South Asia were sometimes much lower than the prescribed legal limits. For example, during the period 300-700 A.D., the average rate of interests for overseas trade in South Asia was only 20 percent per annum (Thapar 1974, 148). Moreover, in most cases interest was seldom permitted to exceed the principal (100 percent) in total amount. This implies that risky loans where interest rates were high were usually provided only for short periods.

Secondly, the maximum legal limits on interest rates in South Asia did not change appreciably for a period of two thousand years. In Rome, the legal maximum of interest varied between 4.33 percent and 8.33 percent before the birth of Christ. It increased to 12 percent during the first to fourth century A.D. It again fell to 6-8 percent in the Byzantine Empire. In Greece, interest rates fell from 16-18 percent in the sixth century B.C. to 8-9 percent in first century A.D.

Thirdly, interest rates in ancient South Asia varied in accordance with the caste status of the borrowers. The Sudras, who were economically worse off, had to pay the highest interest rate (5 percent per month). The prime rate was reserved for the upper castes. This preferential treatment for the upper castes may be explained in two ways. First, the credit risks of lending to members of the lower castes were very high because they were economically not well-off and might have a poor repayment record. Secondly, the upper castes were given loans on lower rates so that they would not be encouraged to take up money-lending as an occupation. The second hypothesis seems to be more plausible. Apart from the prime interest rate, the upper castes were also exempted from physical labor if they defaulted on their debt; they were allowed to repay in installments.

II. Perceptions and Practices Relating to Interest in South Asia under Muslim Rule (1206-1857 A.D.)

South Asia's first political contact with Muslim rule began as early as 712 A.D., when the Muslim Arabs conquered the province of Sind. Muslim rule in Sind was, however, confined to South Asia's periphery; it did not extend to the Indian midlands which were the center of South Asia's political and cultural life. Muslim rule in the Indian midlands lasted from 1206 to 1857 A.D.—for more than 650 years. During this long period, a large number of Muslim rulers with differing views on the relationship between the state and religion reigned. Some of them were devout Muslims who treated non-Muslims as *dhimmis* and levied the *jizyah* tax. None of them, however, ever attempted to prohibit usury in South Asia. Even an orthodox emperor like Aurangzeb (1659-1707), whose commitment to Islamic fundamentalism was unquestionable, assured good treatment to professional money-lenders. It was mentioned in a dispatch from Aurangzeb's court that the emperor asked for an interest-free loan (*garḍ ḥasan*) of a half million rupees from the "Sahukars" (professional money-lenders) of the imperial camp to pay the backsalaries of his troops. The money-lenders turned down his request on the grounds that if an interest-free loan were given to the emperor, similar concessions would be demanded by the provincial gover-

nors which “will mean the banishment of all Sahus” (Habib 1964). This incident clearly illustrates two points. First, even a pious emperor like Aurangzeb had to allow money-lenders in his imperial camp. Secondly, the money-lenders realized that their continued financial support was essential for the political survival of the Mughal empire; otherwise, they would not have dared to reject the emperor’s request. The Muslim polity in India always protected the interests of money-lenders. Imperial orders for the recovery of debts were routinely issued whenever petitions against defaulters were filed. Historical sources indicate that Aurangzeb knew that in his empire a debtor’s children were kept as security for the loans and were seized by the creditors if the debts were not repaid. He did not interfere with these age-old practices.

A comparison of the available evidence on usury in ancient and medieval South Asia suggests that usury was widespread under the Muslim rule. In ancient India, usury was primarily limited to private sector; in medieval India lending at interest also became widespread in the public sector. The Muslim nobles used to borrow from professional money-lenders, mortgaging revenues due from their *jagirs* or revenue assignments. The royal princes also borrowed from professional money-lenders. The Muslim nobles also used to lend to each other. Shaista Khan, Governor of Bengal, is reported to have lent Rs. 300,000 to his subordinate governor at Hugli at 25 percent per annum.

Muslim rulers in South Asia introduced two kinds of loans: *Musā’adāt* and *taqāwī*. *Musā’adāt* literally implies “favor” or “assistance.” It was advanced to holders of territorial revenue assignments (*jagirs*) and the recipients of a monthly salary from the state. The cost of *musā’adāt* varied between 25 percent and 7 percent per annum. The interest rate of *musā’adāt* was obviously lower than the market rate of interest. The amount of *musā’adāt* once advanced formed a part of the state’s total claim against the officers concerned, and was realized from the proceeds of revenue assignment. *Musā’adāt* loans were usually sanctioned during military expeditions and campaigns, when the nobles had to incur exceptionally large expenditures and faced difficulties in borrowing from private sources.

Taqāwī literally implies strengthening. These loans were advanced to peasants to tide them over during natural disasters or to invest in essential irrigation. Similar loans were advanced by Hindu rulers in ancient India. A Mahasthangarh inscription in Bengal, issued around the third century B.C., indicates that the ruler gave loans of seeds and grains to the farmers to tide them over the distress prevailing in the wake of a natural calamity (Ray 1976, 200). During Muslim rule, there were two types of *taqāwī* loans: loans given by the state and loans advanced by revenue officials. Usually no interest was collected

for *taqāwī* loans given by the state. The principal of a *taqāwī* loan was realized either in one installment at the time of the first harvest or in two installments at the time of the first two harvests. Though no interest was charged on *taqāwī* loans, the state benefitted from increased revenue when the expansion of cultivation resulted from the digging of wells and other improvements.

A controversy arose during the reign of Muḥammad bin Tuglug (1325-51) whether *taqāwī* loans constituted an usurious gain to the state. Muslim rulers overlooked the controversy, however, and *taqāwī* loans became a routine practice in South Asia. Interest was, however, charged on *taqāwī* loans advanced by the revenue functionaries. In such loans, the peasants had to pay two *annas* in a rupee (12.5 percent) as profit. It is not, however, clear whether the rate was monthly or for each harvest period. In the case of sugarcane, the charge for *taqāwī* was Rs. 2 per bigha.

A comparison of interest rates in South Asia and Europe during the period 1200-1850 A.D. suggests that interest rates in South Asia were always much higher than their counterparts in Europe. In Europe, interest rates on the average varied between 2 percent to 7 percent during the period 1300-1850 A.D. In the sixteenth century, South Asian-interest on *musāḍādāt*—concessional credit given by the state—varied between 6.25 percent to 7 percent. Obviously, the market rate or interest was over 7 percent during this period. In the corresponding period in Europe, the average annual interest rates varied between 4 percent to 5.5 percent. In the eighteenth century, interest rates in Europe varied between 2 percent to 2.5 percent. In the same period, interest rates for agricultural loans in Bengal stood at 150 percent.

TABLE II

Annual Interest Rates in South Asia and Europe, 1200-1850.

Period	Europe	South Asia
1200-1300 A.D.	7.5% to 10%	—
1300-1400 A.D.	5.6% to 6%	—
1400-1500 A.D.	5%	—
1500-1600 A.D.	4% to 5.5%	<i>Musa'adāt</i> — 6.25% to 7%.
1600-1700 A.D.		Commercial loan in Surat: 6% to 15% Commercial loan in Agra: 9% to 30% Commercial loan in Ahmadabad: 6% to 25% Commercial loan in Deccan: 18% to 36%
1700-1800 A.D.	2% to 2.5%	Agriculture loan in Bengal: 150%
1800-1850 A.D.	2% to 3%	—

Source: (i) For Europe: Homer Sydney, *A History of Interest Rates 2000 B.C. to the present*, (New Brunswick: Rutgers University Press, 1977).

(ii) For South Asia: Irfan Habib, "Usury in Medieval," *In India, Comparative Studies in Society and History* VI, 393-419.

Table 2 also suggests that interest rates for agricultural loans in South Asia were much higher than those for commercial loans. The rates of commercial loans also varied from region to region. Rates of interest on commercial loans in the seventeenth century were low in Surat and Ahmedabad, and were much higher in the Deccan and Agra regions.

A comparison of interest rates in ancient and medieval South Asia indicates that interest rates on agricultural loans went up significantly during the medieval period. In ancient South Asia, the highest permissible rate of interest for an agricultural loan was 60 percent per annum; it increased to 150 percent in eighteenth-century Bengal. However, the rate of interest for commercial activities in medieval South Asia remained within permissible limits. A comparison of Tables I and II indicates that there was in fact a fall in the commercial rate of interest in Muslim India. Another significant difference in the rate of interest between ancient and medieval South Asia is that in ancient period interest

rates varied according to the caste status of the debtor; in the Muslim period caste status ceased to be a determinant of interest rates.

The prevalence of widespread money-lending in South Asia under Muslim rule posed a challenge to Muslim theologians. Some of them unequivocally condemned usury. For example, Amīr Khusraū, the Indo-Persian poet of the thirteenth century, expressed his disgust at a Muslim financier who earned his living from usury and observed that “in no religion, under any circumstances, is the gain of the usurer and gambler regarded as legitimate.” All theologians in Muslim India stressed the harmful effects of usury. None of them, however, recommended its outright prohibition.

The writing of Shāh Wālī Allāh of Delhi (1703–62) on interest rate is a case in point. He justified Islam’s prohibition of interest on three grounds. First, usury is not voluntary. A poor debtor is compelled to accept harsh terms. In most cases the debtors cannot repay the debt and they ultimately become paupers. Secondly, usury is socially harmful because it leads to disputes and conflicts among the people. Finally, usury encourages unproductive activities. Shāh Wālī Allāh was of the opinion that people would abandon farming and crafts altogether if one could increase wealth by lending money without undertaking any physical activity. In spite of these shortcomings, he did not prescribe outright prohibition of interest. He maintained that the temporal authorities had the freedom to decide whether usury should be prohibited altogether or “limits should be set within which they may be permitted” (Habib 1964).

Similarly, Ziaal Dīn Barānī, the fourteenth century historian and political philosopher, denounced usury but did not recommend its prohibition. Implicitly, Muslim theologians in medieval South Asia considered interest to be a necessary evil. On the other hand, popular religious movements of medieval Hinduism viewed usury as a part of the natural order. Kabir, the medieval Hindu mystic, justified God’s claim on man on the ground that “God is a usurer who has lent man his life.” In similar vein, Arjan the fifth Guru of Sikhism sang:

“The Shahu gives countless (capital) of his own to man.

(Man) eats, drinks, and uses it with pleasure and joy.

(But) when the Shahu takes back some of the amount

He has entrusted him with,

The fool becomes angry” (Habib 1964, 419).

III. Conclusion

No other civilization had ever endorsed the practice of money-lending so enthusiastically as did South Asian civilization. No moral stigma was attached

to interest and money-lending; usury in South Asia was considered a part of the natural order. A survey of the concept and practices of interest in South Asia raises several interesting questions. First, why was South Asian civilization so lenient towards the practice of money-lending? Secondly, why were interest rates higher in South Asia than in Europe during ancient and medieval times? Finally, why did Muslim rulers and theologians in South Asia condone the practice of money-lending despite the unequivocal and firm Qur'anic injunction against any gain obtained by the creditor? Available historical sources are silent on these issues. Nevertheless, some conjectures may be in order.

To understand the attitude of a civilization towards interest rates, it is necessary to understand the origins of the concept of interest. Broadly speaking, there were two major concepts of this practice: (i) the biological concept of interest, and (ii) the compensatory concept of interest. The first concept originated in those Near Eastern societies which regarded credit as alive like plants, animals, and people, and therefore capable of reproducing itself (Johnson 1987). This concept arose from loans of seeds and animals. The seeds yielded much larger harvests. Domestic animals multiplied; some part or all of the animal's progeny could be returned for the animal. Since loans could be used for productive purposes, interest was considered legitimate. This concept was later developed by Frank Knight in his instructive image of real capital as a "Crusonia Plant" which grows continuously and autonomously at some over-all proportionate rate — except as portions are excised for current consumption (Hirshleifer 1970, 159). A similar biological image of real capital as a phased collection of maturing consumables was invoked by Bohm-Bawerk. The doctrine of usury in the Middle Age was a revolt against this biological concept. The Latin *usura* means the use of anything, in this case the use of borrowed capital. Hence, usury referred to the price paid for the use of money (Homer 1977, 73). The proponents of this doctrine maintained that loans do not necessarily lead to an increase in production. There was, therefore, no justification for paying more than what is given.

The compensatory concept of interest claims that interest is not a net gain, but rather a compensation due to a creditor because of a loss which he was likely to incur through lending. Literally, the Latin verb *intereo* means to be lost, and the modern term "interest" was a derivative of this verb. Hicks is of the opinion that compensation for default risk is the most important reason for interest in a primitive society. As Hicks points out, "It is easy to see that if there is any doubt about repayment there must be interest, for no one will voluntarily part with money, as a commercial transaction, in return for anything less than a 100 percent probability of the principal being repaid" (1969, 73). The compensatory

concept of interest was enshrined in Roman law, where interest was considered as the difference between the lender's or other injured party's present position and that in which he would have stood if he had not loaned (Homer 1977).

Though the rationale for interest was not clearly spelled out in South Asia, an analysis of Manu's code and Kautilya's *Arthashastra* clearly suggests that the biological concept of interest was unknown in South Asia, and that default risk was the most important determinant of any given interest rate. The *Arthashastra* prescribed higher interest rates for risky loans. Manu says that a lender of money may "take interest in proportion to the risk" (1982 vol. IV, 243). Manu described interest as the price of risk in the following verse: "Whatever interest or price of the risk shall be settled between the parties, by men well-acquainted with sea-voyages or journeys by land with time and with places, such interest shall have legal force (1982, vol. IV, 246). The societies where the compensatory concept of interest was predominant did not condemn interest as reprehensible. On the other hand, interest was prohibited in societies where the biological concept of interest prevailed. This may explain the divergence of views on interest between Judaism, with its biological concept of interest, and Hinduism, with its compensatory concept of interest. In medieval Europe, interest was defended by those who believed that it was not profit but rather compensation for loss (Homer, 1977, 72-3).

The level of interest in a society may be determined by a number of factors such as rate of time-preference, marginal efficiency of capital, psychological factors, risk, demand for and supply of credit, and so on. In South Asia, interest rates were always higher than those in Europe at the same time. Since credit in South Asia was primarily used in subsistence activities, it is unlikely that the marginal efficiency of capital would be higher in South Asia than in Europe. However, one of the major determinants of the rate of interest is the security of property rights (Clark 1988), which were much more well-defined in Europe than in South Asia (Chand 1961). This might have contributed to higher interest rates in South Asia. High rates of interest were not, in the long run, blessings for South Asia; they perpetuated a low-level equilibrium trap where surplus was attracted to money-lending and not to productive investments.

Three hypotheses may be put forward to account for the leniency of the Muslim rulers in South Asia towards money-lending. First, it may be argued that Muslim rulers in South Asia tolerated money-lending because they did not want to antagonize the Hindus – the overwhelming majority of their subjects – by interfering with the time-honored customs on money-lending. There are two weaknesses in this hypotheses. First, orthodox Muslim rulers in South Asia did not hesitate to impose the *jizyah* (poll-tax) on Hindu subjects though it was

intensely disliked by them. If they were so afraid of adverse Hindu public reaction, they would not have imposed this tax at all. Secondly, money-lending was not confined to the Hindus alone, it was widely practiced by Muslims also. Muslim rulers themselves borrowed and lent on interest. Thus, the fear of a Hindu backlash is not the likely cause for the leniency of Muslim rulers in South Asia as regards money-lending.

It may be hypothesized that Muslim rulers in South Asia were indifferent to money-lending because they believed in the separation of the state and religion (Chand 1961, 128-9). This could be true about some Muslim rulers who ran their administration on secular principles, but it cannot explain why orthodox Muslim rulers also acquiesced in money-lending. In fact, usury was so deeply entrenched among the Muslims in South Asia that even the local Muslim theologians implicitly compromised on money-lending.

The real reason for indulgence of Muslim rulers towards money-lending in South Asia is that owing to a chronic deficiency of tax revenues, Muslim rulers frequently had to borrow from indigenous banking firms and money-lenders to conduct military campaigns, trade, construction, *karkhanah* (workshop) production, and personal loans (Leonard 1979). This on-going fiscal crisis was not limited to medieval South Asia alone. As Hicks aptly puts it, "If there is one thing about kings (it is the regular kings and emperors of the history books who are chiefly in our middle phase, in question) — if there is one general thing about them which we seem to learn from the history books, it is that more often than not they were hard up" (1969, 81). Most of the rulers had to borrow from money-lenders or indigenous bankers to survive politically, and their political authority declined as soon as the sources of credit dried up. Since profit-loss sharing is not practicable in the case of government borrowing, Muslim rulers in South Asia had to condone money-lending and usury. Muslim theologians in South Asia seem to have failed in providing a workable solution for government borrowing in an interest-free economy. This continues to be the weakest point of an Islamic economic framework even today. As Khan and Mirakhor (1990) rightly pointed out,

"One problem which both the Islamic Republic of Iran and Pakistan share in common, and which has significantly influenced the performance of Islamic banking so far, is the intractable question of financing government deficits through the financial system. Because government policies in Iran and Pakistan strongly influence the asset acquisition behavior of the banking system, it is far more difficult to judge the efficiency of Islamic banking in allocating the mobilized resources based on the performance thus far of the systems operating

in these two countries. How the system would work in the absence of government intervention is still an open question and one would argue that as yet one has not seen a fair demonstration of Islamic banking (p. 374).”

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ
الْحَمْدُ لِلَّهِ رَبِّ الْعَالَمِينَ
وَالصَّلَاةُ وَالسَّلَامُ عَلَى خَاتَمِ النَّبِيَّاتِ وَالرُّسُلِ

*In the Name of Allah,
the Compassionate, the Merciful,
Praise be to Allah, Lord of the Universe,
and Peace and Prayers be upon
His Final Prophet and Messenger.*

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

أَقْرَأْ بِاسْمِ رَبِّكَ الَّذِي خَلَقَ ﴿١﴾ خَلَقَ الْإِنْسَانَ مِنْ عَلَقٍ ﴿٢﴾
 اقْرَأْ وَرَبُّكَ الْأَكْرَمُ ﴿٣﴾ الَّذِي عَلَّمَ بِالْقَلَمِ ﴿٤﴾ عَلَّمَ الْإِنْسَانَ
 مَا لَمْ يَعْلَمْ ﴿٥﴾

(العلق: ١ - ٥)

Read in the name of your Sustainer, Who has Created man out of a germ cell. Read – for your Sustainer is the Most bountiful One. Who has taught (man) the use of the pen. Taught Man what he did not know.
 (Qur'an 96:1-5)

وَاللَّهُ أَخْرَجَكُمْ مِنْ بُطُونِ أُمَّهَاتِكُمْ لَا تَعْلَمُونَ شَيْئًا
 وَجَعَلَ لَكُمُ السَّمْعَ وَالْأَبْصَارَ وَالْأَفْئِدَةَ
 لَعَلَّكُمْ تَشْكُرُونَ ﴿٧٨﴾

(النحل: ٧٨)

And Allah has brought you forth from your mother's womb knowing nothing – but He has endowed you with hearing, and sight, and minds, so that you might have cause to be grateful.
 (Qur'an 16:78)

Shaukat Arw
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**Resource Mobilization and Investment
in an Islamic Economic Framework**

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Zaidi Sattar**

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ISLAMIZATION OF KNOWLEDGE (13)

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CONTENTS

word	
<i>Tāhā Jābir al 'Alwānī</i>	1
Preface	
<i>Zaidi Sattar</i>	5
The Islamic Economic Framework: A Conceptualization	
<i>Mahmood Abu-Saud</i>	9
Christian Perspective on Economic Thought	
<i>Alberto M. Piedra</i>	17
A Theory of Moral Entitlement in Resource Allocation	
<i>Masudul Alam Choudhury</i>	45
Investment Demand Function in a Profit-Loss Sharing System	
<i>Mohammad Fahim Khan</i>	71
Equity Capital, Profitability and Investment:	
An Islamic Perspective	
<i>Abdel-Hameed Bashir, Ali F. Darrat and M. Osman Suliman</i>	87
A Dynamic Investment Model with Profit-Sharing in an Interest-Free Economy: Methodological Issues	
<i>Zaidi Sattar</i>	107
Zakah Contributions and Resource Allocation—	
An Optimal Control Approach	
<i>Jamal Abu-Rashed and Belarabi Abdelhafid</i>	129
Resource Mobilization and Investment in an Islamic Framework	
<i>AbulHasan M. Sadeq</i>	141
Financing the Public Sector in an Islamic Perspective	
<i>Monzer Kahf</i>	155
Security Pricing, Capital Budgeting, Time-State, Preference Model, and Interest-Free Economy	
<i>Abdul Aziz Saeed Mortazavi</i>	175
Interest Rates and Usury in South Asia: A Cross-Cultural and Historical Perspective	
<i>Akbar Ali Khan</i>	191

Foreword

The contemporary understanding of economic resources has almost entirely to do with those elements that are capable of meeting, either directly or indirectly, the needs of mankind. These elements, or resources, both human and natural, are the things that every state attempts, as a fundamental principle of progress and prosperity, to preserve, mobilize, and invest.

In the Islamic world, in particular, this is an issue that occupies a very basic position in all development strategy and planning; particularly as, in most cases, the Islamic world continues to suffer from backwardness, and from the adverse effects of the colonialization that was itself one of the major reasons for underdevelopment in the spheres of politics, economics, and culture.

Contemporary scholars of development economics are concerned with the human element in the order of economic resources, as this is the element that moves, organizes, and invests all manner of natural resources. Therefore, when these scholars direct the attention of planners and decision makers to the important role of planning in education, health and national security, they give precedence over all others to human resources, owing to the mental and physical effort this resource is capable of expending. Indeed, to concentrate on the human element is an absolute priority stemming from the established fact that development projects are not culturally neutral, but differ from one society to another. The danger of this point is best illustrated when the planners of one society assume that the values and beliefs of their own society are naturally the best and should be adopted by all other societies.

These are matters which by now have been accepted and recognized as fact. The question, however, that we have to answer is; what does contemporary Islamic thought have to offer to humanity in this regard?

I should like to share with you, in a few short words, my own conception of the elements in the issue at hand.

Allah created man in this existence for the purpose of worshipping Him. He said: **I have not created man and Jinn save for the purpose of worshipping Me (51:56)**. And the meaning of worship is in no way limited to a few specified acts of devotion. Rather, worship consists of every good deed by means of which man intends to settle the earth, in acknowledgement of the verse: **It is He who has produced you from the earth and settled you therein (11:61)**.

Here, worship should be viewed as an incentive to development, and as a fundamental element on the road to the kind of constructive originality that leads to meaningful discovery and employs the tools of human knowledge in accordance with the teachings of revelation and the natural laws of the universe.

I recall, here, something said by Ibn Sina in his work entitled *al Ishārāt*, “When man finds that he is unable to function independently of others, but that he must participate in conjunction with another of his kind, either in cooperation or competition, then each one of them will pass on to the other responsibilities which, if taken up by an individual, would prove difficult, if not impossible to meet. When this happens, it is essential that there be transactions, and these be governed by a law, and that the law be legislated by a lawmaker distinguished by His deserving to be worshipped. Likewise, it then becomes essential that there be retribution for the doer of good and the doer of evil alike, and that this be meted out by one all-knowing and all-powerful. Under such circumstances, it is essential that the lawmaker and the one responsible for retribution be known, and that there be, along with that knowledge, a means of protecting that knowledge. Thus, mankind was charged with worship as a means of remembering the One Who is Worshipped; and this worship was to be repeated continually in order that remembrance be maintained through repetition.”

We may deduce from the above that worship is actually one among several preconditions for development, as development is really an organized expression of man's need for his brother's participation and exchange, through either cooperation or competition.

Another remark comes to mind, though this was made by a contemporary writer and thinker, the former Director General of UNESCO, Rene Maheu. He said, “Development is when knowledge becomes culture.”

Personally, I see no difference between the two. This is for the reason that in order for knowledge to become culture it must burst forth with invention and originality and knowledge attained through worship. It is natural that development, at every stage, at the stage of knowledge, of worship, of culture, be connected at the level of its foundations with the human element, that it proceed in its service, that it answer its needs, and that it make use of various natural and material resources in the process.

Indeed, man is not simply a resource from among many resources; or the resource known as “human” resource. On the contrary, man is the master of these resources, and they were made subservient to him. Intellect was given to man in order that he might ponder over these resources, explain their externals, and discover the laws which govern them. Allah said: **Say; Go forth in**

the earth, and look . . . (3:137, 6:11, 16:36, 27:69, 29:20, 30:42). Thus, man is both intellect ready for thought, and hands ready for action.

The kind of looking mentioned here is intended to achieve three major objectives: (1) to teach the lessons of history, (2) to apprise man of all aspects of the present situation and its issues, (3) to afford a glimpse of the future on the basis of which an ambitious program for taking advantage of its opportunities for the betterment of the human condition may be planned, and a list of priorities may be drawn up. Thus, the more the Ummah concerns itself with its ability to reason, and the more it regards the output of that ability, its thought, its knowledge and its technology, the more capable it will become of putting its resources to use in the best possible manner.

From here it is possible to see what great importance attaches to the development of the mind, and to the guiding of thought, and to the reform of methodology as essential tools to any sort of development planning for any society or nation. Indeed, the Ummah of Islam is in greater need of intellectual development that aims at changing people so that they become more resourceful, more capable, more responsive in their role as settlers of the earth, and more attuned to their responsibility to carry the message of Islam to those who share with them residence on this planet.

The sun of Islam set for the last time on a great portion of the map of the world when the methodology of Muslims became deficient, when superstition replaced reason, when *ijtihad* came to a standstill, and when the Ummah came under the debilitating influence of colonialism.

Indeed, all of this took place without depleting the resources of the Ummah in the least. On the contrary, there was an increase in the acreage of arable land, and in the number of valuable human and mineral resources to be exploited. Moreover, there is a historical proof as well that the real source of the Ummah's crisis is the human being; the human being whose essence is the soul that was breathed into it, and the intellect by which it is distinguished from all other creatures.

Ṭāhā Jābir al 'Alwānī
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Preface

This book brings together a formidable collection of conceptual and empirical work on Islamic economics—a socioscientific enquiry that is very much alive and moving. It forms the outlet for painstaking research by a group of economists committed to the advancement of Islamic economics as a field of intellectual inquiry under the broad schema of Islamic thought. This endeavor is expected to take us a step further in our quest for answers and solutions to the many conflicts and questions currently faced by policymakers in the Islamic world. It constitutes the economists' contribution to the formalization of the principles and practices in the economic management of national resources within the broad framework of contemporary Islamic thought.

The forum for deliberations was the third seminar on Islamic economics organized at the campus of The Catholic University of America, Washington, D.C., December 22-23, 1990. Clearly, the past two decades have witnessed a tremendous upsurge of interest and research productivity in Islamic economics resulting, at the very least, in the conceptual formulation of the principles and parameters of the subject while directing the focus of future research into priority areas. Investigations into various aspects of interest-free economic systems in general and interest-free banking in particular have been in the forefront of the research agenda, as governments trying to establish workable Islamic economies grappled with the challenges of transition from interest-based to interest-free banking systems. The broad parameters of the Islamic financial system having been recognized, the logical next step was to concentrate on questions of the mobilization of resources and channeling them into productive investments within the defined framework. To just such a task, the body of literature presented in this volume is addressed.

It is arguable that Islamic economics has grown out of a need to counter the unbridled sway of classical-liberal Western thought on economic decisions in the Islamic world. The notion of “mono-economics”—one economics applicable to the value and beliefs of all societies—is now defunct. The volume, therefore, begins with a succinct yet masterly presentation by Dr. Abu-Saud of the Islamic economic framework, wherein he outlines the fundamental doctrinal edicts emanating from the Holy Qur'an and providing the basic guidelines

governing economic relationships such as property ownership, work and reward, profit and loss from enterprise, and risk and uncertainty. Subsequently, Dr. Piedra's discourse on the Christian perspectives on economic thought highlights the remarkable similarities between Christianity and Islam on economic issues such as property rights, the dignity of labor, the critical importance of a just and ethical economic order and, above all, the supremacy of natural and divine law. To suggest that man acts "exclusively as *homo economicus*" would be an oversimplification, he argues, quite in line with the Islamic notion of the complete development of the human person—spiritual, moral, and economic—as the goal of society.

In his paper, Masudul Alam Choudhury makes a daring attempt to develop an Islamic concept of entitlement in resource allocation derived from the ethico-moral foundations of the Holy Qur'an. The highlight of his proposal is the principle of ethical endogeneity that leads to the fusion of moral entitlement with distributive equity under the umbrella of *Tawhīd*. This concept of entitlement then forms the epistemological basis for the interrelationships in an ethico-economic general equilibrium system which he formulates.

The next four papers reflect contributions in methodology and an empirical exercise in addressing questions about the efficacy of the Islamic financial system. Fahim Khan makes a rigorous case for concluding the profit-loss sharing ratio as an argument in the investment demand function of an Islamic economy. Khan offers an alternative formulation that appears more realistic in light of the recent experience of Islamic banks in attracting deposits and allocating funds into investment projects. His finding: the market demand for investible funds will be negatively related to the profit-sharing ratio whose value, rather than being predetermined and fixed, may vary from zero to unity depending on the market demand conditions for investment and supply conditions for investible funds.

The Bashir-Darrat-Suliman piece on equity capital and profitability of investment is at the cutting edge of current research and makes a significant contribution to the search for empirical evidence confirming the efficacy of the Islamic financial system. Their study of the Kuwait Finance House is a refreshing analogue to the robustness of the theoretical model so ingeniously crafted by the authors.

The act of investment involves intertemporal choices in a dynamic setting. This point is articulated in Sattar's paper through the formulation of a

dynamic model of investment under a PLS-based financial system. This work reflects progress in methodological sophistication while shedding new light on the efficacy of fiscal and monetary policies in an interest-free setting. In a somewhat similar vein, Abu-Rashed and Abdelhafid use dynamic analysis and optimal growth modelling in an Islamic economy where *zakāh* contributions of individuals are mandatory. They arrive at the interesting result that institutionalizing *zakāh* reflects an efficient allocation over the long run, as the economy's optimal growth path, with *zakāh*, corresponds to the neoclassical 'golden' rule of capital accumulation. Finally, AbulHasan Sadeq makes the argument that Islam provides a framework favorable for realizing the maximum potential out of given investible resources. The PLS system ensures this by permitting the continuation of investment until the marginal product declines to zero. Moreover, Sadeq maintains that resource allocation in an Islamic framework satisfies both efficiency conditions and social desirability, unlike the interest-driven system.

At a time when the public sector is receiving close scrutiny worldwide, Monzer Kahf, drawing on his long experience in dealing with public policy issues, offers a blueprint for the state's role in taxing and spending in an Islamic economy. His main thesis: though the Shari'ah assigns substantial resources to the state (by apportioning to the state a share of private income and wealth) for financing administrative and developmental objectives nevertheless, the size of the public sector is envisaged to be moderate vis-à-vis society.

In their paper, Messers Aziz and Mortazavi address questions of raising and allocating capital in an Islamic economic framework. Issues examined are the scope of various debt/equity instruments as acceptable security for raising capital in an Islamic framework. Their main finding: common stock was definitely an acceptable security under Islamic jurisprudence, since the returns on such stock (dividends or capital gains) are not risk-free.

The concluding paper by Khan surveys the practice of usury in South Asia from a cross-cultural and historical perspective. He observes that throughout history, money-lending was condoned by non-Muslim as well as Muslim rulers and widely accepted in society. Nevertheless, he argues counter-intuitively, given that money-lending practices were firmly rooted in rural South Asia, it may have contributed to the low-level equilibrium trap for their economies, as monetary surplus got diverted into money-lending rather than productive investments.

Finally, it is fitting to acknowledge our debt of gratitude to many individuals and institutions. This volume would not have seen the light of day without a generous grant from the Islamic Development Bank. Dr. Fahim Khan, Acting Head, IRTI Research Division of the IDB deserves credit for making that happen. Dr. Syeed of IIIT/AMSS has been a constant source of inspiration, beginning from arrangements for last December's seminar right to the publication of this book. Despite his preoccupations, Dr. Uppal gave time generously to review a couple of papers; so did Dr. Ehsan Ahmed and Dr. Syed I. Mahdi. In the final days, Jay Willoughby, Managing Editor of AJISS, showed remarkable fortitude in utilizing his weekends so that this book could get to press on time. Last but not least, the International Institute of Islamic Thought and Association of Muslim Social Scientists deserve commendation for their role in removing the thorns and stones to pave the way for a smooth growth path for Islamic economics into the last decade of the twentieth century.

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The Islamic Economic Framework: A Conceptualization

by
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Human beings have, broadly speaking, four aspects of life: the aesthetic, the social, the political, and the economic. These aspects derive their basic principles and main traits from the ideology that prevails in any human society. The clearer the ideology is to the members of the society, the stronger their belief in it is, and the more committed they become to it, sacrificing all to achieve its objectives. Without this clarity of and dedication to the belief, no significant progress can take place, and no genuine civilization can be founded.

The contemporary West has adopted "Liberalism" as its ideology, and its belief and commitment to this ideology remains strong. From liberalism, those people living in the west have derived their social system (permissiveness), their political system (democracy), and their economic system (capitalism). Their aesthetics are founded on the assumption that man—not God—is the ultimate, the center of existence, and the master of everything. Religion to them is "a superstitious structure of incoherent metaphysical notions," (*Encyclopedia Americana*, 1069), and accordingly, Western aesthetics are subjective logistics and individual dispositions, whether inherited or acquired. In short, liberalism can be expressed as the doctrine that heralds individualism, utilitarianism, and materialism.

What then is the Islamic ideology? Contemporary Muslim thinkers encounter two major problems when they grapple with such an issue. There are as many definitions of Islam as the number of those who try to define it. Of course all Muslims agree that Islam means observing the five pillars, that is comprises a temporal code of life in addition to the spiritual and eschatological belief, that it encompasses the wisdom of all previous religions, that it is meant to suit all people in all environments and at all times and so on. These generalities are the reason behind our intellectual perdition and evasiveness.

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The second major problem challenging the intellectuals is closely related to the first. Having lost our civilization about six centuries ago, we find ourselves constrained to resort to Western civilization to fill the intellectual gap. Accordingly, we have either advertently or inadvertently adopted many Western concepts, along with the related Western methodology, which we use to treat any subject from an Islamic scientific point of view. The result is a strange intellectual hybrid in which the main subject body, the methodology of research, the logistics of argumentation, and the paradigm construction are Western in essence. Most thinkers and researchers add to this end product some Qur'anic verses and aḥādīth and/or compare such work with some historical Islamic models, trying in some cases to start from some general Islamic principles and delve therefore to the Western paradigm.

In my humble view, Muslim economists should start agreeing on what constitutes an Islamic framework in specific economic terms. Then the question of mobilizing resources and investments will have a particular meaning different from its Western counterpart, dominated as it is by materialism, individualism, and utilitarianism.

I shall try in this paper to define the Islamic economic framework, deriving it from the Islamic *shir'ah* (ideology) underlining the purpose of human life as revealed in Qur'an. Once this is clarified, one would see that the task of mobilizing human and natural resources does not seem to be as difficult or as important as it is in a capitalist system.

Our *shir'ah* (ideology) tells us that:

1. Allah is the Transcendent, the only Creator of all that exists in the cosmos:
 - a. He is the Lord, the Owner of all things and beings, animate and inanimate. Man, His vicegerent, owns everything by proxy.
 - b. He is the Supreme King of His kingdom and He rules over all beings. His Word, or His Will, is an inviolable law. Any breach to this law leads to causing harm. Man rules by proxy.
 - c. He is the All-knowing and the Source of all cognition and facts. All knowledge belong to Him, while man's knowledge issues from His infinite knowledge.
2. Believers must live in an organized social group, i.e., the ummah. They are required to observe the laws of existence revealed by God to His prophets and to study the signs of Allah using their mental faculties to find the relative laws and the established relationships between the variables.

3. Individual believers have mutual responsibilities: They are responsible to God, to their fellowmen, to their governments, and to themselves for the implementation of the Shari'ah laws discovered by humanity. This responsibility is the basis of any rights that the individual and/or community might enjoy.

The purpose of life for the members of this ummah as revealed in the Qur'an may be stated as follows:

1. To undertake the responsibility of vicegerency. This places on the individual the duty of maintaining all of the bounties of God and keeping them in good condition. Disruption to the ecology, waste and extravagance, inflicting harm on self or on others, and neglecting human and natural resources — all such activities are forbidden. Humanity, according to Islam, is created to safeguard the kingdom of Allah and not to abuse it. (Qur'an 2:30; 6:165; 35:39; 27:62).
2. To worship God, i.e., to act according to the laws of existence, whether revealed or discovered by humanity through its experience in life. Worship is different from the prescribed rituals. It is an individual's positive action in accordance with God's laws and the laws of the ummah so as to attain felicity in this world and in the hereafter. Rituals are exercises to help Muslims achieve the best performance of worship ('ibādāt). To worship God is to obey His orders and follow his guidance in our actions and our transactional behavior. (Qur'an 51:56; 15:99; 20:14; 53:62; 29:56) [Muslims should note that the above-mentioned second and third verses, God differentiated between prayers and worship. In the other verses, worship is related to action and good deeds.]
3. To cause growth on earth, since the laws of existence determine that nothing is static; things either grow or diminish. Animate objects grow and multiply, while inanimate objects do not. The ummah is a dynamic biological being and unless it grows, it must regress in decay. It is imperative that Muslims should "do good," produce more, add to the utilities in the community, develop and cause growth or more satisfaction. More than one hundred verses register this basic function of the Muslim (Qur'an 11:61; 6:32; 16:97; 10:9; 18:30; 3:104; 9:67; 31:1).

If we agree on these basic doctrinal edicts, what are the cardinal delineating

economic features of an Islamic economic system? I have discerned the following major principles:

1. Ownership

The right of private ownership is qualified by the principle of vicegerency. This is the most important element that characterizes an Islamic economic system. It implies that the individual can own whatever he/she wants to, provided that what he/she owns is used for the purpose for which they were created, that their use does not hurt anybody (including the owner), and that its use causes growth.

Ownership in the Islamic concept is not the right to use and abuse the possessed objects as capitalists claim, but is the obligation to look after the bounty of God entrusted to His servants who are commanded to make the best use of it and to use it for the good of themselves and others. Every person is entitled to legitimately own whatever wealth he/she wants. However, the owner of agricultural land cannot leave the land fallow, and an industrial factory cannot unjustifiably be shut down. Also, a landlord cannot arbitrarily keep his/her building vacant, and a merchant cannot whimsically close his/her shop or office. If they do, they would be violating the divine covenant of vicegerency, and the government of the ummah would be obliged to interfere, giving the neglected bounties to others to operate them. However, the government in this case has no right to expropriate or even nationalize the property.

2. Work and Reward

In many verses, God commands Muslims to work. He also stipulates that there is a reward for every type of work (Qur'an 9:105; 30:45, 99:7,8). Inversely, there is no reward for those who do not work or run a risk. As a matter of fact, all "unearned incomes" or all incomes not acquired through transactions where there is a fair exchange of values are categorically prohibited. There are three exceptions to this rule: *zakāh* paid to a deserving person, inheritance, and the *bona fide* gift.

Every Muslim must work unless he/she is incapacitated, and the state must see to it that each Muslim finds work. If the person abstains from working, such a person forfeits his/her right to *zakāh* and all social security benefits.

3. Gain Goes With Loss

No agreement in which a party is guaranteed a profit in an enterprise and guaranteed against loss is Islamically valid. The Prophet says: "The yield

[of an enterprise] is against the [negative] loss.” This means that if it is stipulated that one party in a transaction involving probable gain or loss is exempt from any potential loss, the agreement is invalid.

Lending money to any sort of business or subscribing subordinate capital against a fixed yield is prohibited. Even if the yield is conditionally positive, though variable, the contract is Islamically null and void.

This principle lies behind many patterns of traditional dealings such as *muḍarabah*, *murābahah*, and *mushārahah*. The essence is to deal in fairness without wronging others or being wronged. (Qur’an 2:279) It also explains the *raison d’être* of prohibiting usury of deferment (*nasa*). In short, whenever there is a transaction comprising two or more partners, all participants must share both gain and loss in the same proportion.

4. No Harm

The mutual responsibility of all members of the ummah implies the imposition of some sort of material cooperation which takes many forms. However, these forms must not harm the individual or others. Islam forbids harming one’s own self, since the individual is an integral member of the same society, an organ of the same biological body. The person that suffers harm is the liability of others, and thus they have the right to stop anyone who is harming himself or herself. One of the basic rules of the science of *uṣūl* (principles of jurisprudence) is the hadith “No harm to self or to others.”

Nothing in the Shari’ah is allowed if it causes more harm than good. In dealings, this principle is taken as the basis of many other rules that determine the legitimacy and the validity of economic transactions.

5. Depreciation

God alone is the Ever-lasting, the Transcendent, the Infinite, and the Absolute. All other beings are subject to decay, annihilation and depreciation (Qur’an). However, it is the law of existence that teaches us that we have to make up for this natural loss by causing growth in whatever bounties God has entrusted to us. Unless we exchange our produced goods, invest our wealth, and keep our money continuously in circulation to achieve the optimum exchange, we will lose some of its value as all wealth and money withheld must be subjugated to the law of depreciation. This is the philosophy of *zakāh* and the axis around which the whole Islamic system revolves.

It may be of interest to mention that Islamically speaking, money cannot be considered a full-fledged commodity. It is at the best a quasi-commodity,

as it represents the value of the total commodities and services in the market. Money, by definition, is the means of exchange of goods, the standard of value, and the means of deferred payment. The measurement of anything cannot be equated to the measured article. Accordingly, money should not command any price when procured against our real sold or purchased goods. Money has been created to remain permanently in circulation in order to perform its primary function of effecting the exchange of goods. Withholding money, according to Imān Abū Ḥamid Al Ghazālī, is similar to imprisoning the judge and preventing him from attending the court. God in His Wisdom ordained that whoever withholds money is committing a sin and should purify his money and himself by paying a penalty, i.e., *zakāh*. God also ordained that if money is exchanged against money, there should be no surplus value to either party, i.e., the exchanged values must be equal. Any excess is condemned as *ribā* or prohibited usury.

If this is the framework, what about the mobilization of resources and investment? In order to discuss this problem, one should have a good idea about how the economy of an Islamic state—or any other state for this purpose—applying the above principles would work.

The first and foremost rule to be enforced should concern the prohibition of withholding the means of exchange, i.e., money. In any human society there are the producers, consumers, and unemployed (the latter being consumers but non-income earners). By forcing people to utilize money in the way it was meant to be used, i.e., as the means of exchange and the measure of value, we are helping producers sell their goods and consumers gain more satisfaction and utilities. Since every producer is a consumer at the same time, everybody in the active economic field would benefit from this incessant activity.

But how do we force people to “spend” their money? And would not such an act violate the basic human right of freedom of people? The answer is simple. If we subject money to the law of depreciation, there would be no violation or even limitation of human freedom. In modern history, more than one society has applied this law by requiring the holder of every paper currency note to stick a stamp representing a percentage of its face value at its back on the first day of every month. By this simple method, all issued money was automatically kept (or mobilized) in the market, and all genuine dealings were promptly financed without usurious credit or interest.

Since nobody likes to pay—say, one percent of the face value of the notes still on his hand per month—for the stamps, everybody would rush to buy something before the end of every month. Buying is a demand for goods,

and demand addresses supply. The continuity of demand reflects on the continuity of production to replenish the supply. In every concluded transaction there is a gain—a surplus value that leads to the formation of new productive capital. Savings will have to be surrendered to the controlled banks who would lend them to producers seeking to increase their layouts and/or their production. In the course of such development, producers would have to find the human and natural resources necessary for such expansion.

Under such circumstances, those who do not want to spend all of their income (the savers) would be delighted to “participate” in the purchase of the new layout and other expanding projects. Failing this participation, their “saved” money would yield then nothing, while the government would still collect the monthly one percent stamp value. The risks of investment in such a pattern would be minimum, if only because demand would precede supply and any resulting shortage would command higher prices and higher margins of profits. “Savers” would safely invest in enterprises producing goods yielding above-average rates of profit.

There is no contradiction or conflict between the principle of profit maximization and the Islamic framework pattern. I feel that it is an instinct in humans to maximize their profits. The more one gains in an Islamic economy, the more *zakāh* and other taxes one pays, and the more social welfare is realized.

The problem of mobilizing resources arise from the separation of savings from investment. This, in turn, is a result of allowing those with money to either withhold it or to spend it. Under capitalism, withholding money is tantamount to saving—a process that yields interest to the saver almost without work or risk. But if nobody withheld money (otherwise money is penalized by the stamp tax), there would be no reason to think of the problem since it would be available in cash to whoever is willing to invest without paying the interest, which is a charge of profit, or at least, an increase of cost.

Inasmuch as natural resources are concerned, all that is needed is a rationalized plan to administer the utilization of such resources if the need arises. In an Islamic economy, though free competition and free enterprise are scrupulously observed, any action that may cause harm would not be allowed. The general rule is to let the private sector utilize the available natural resources to the best interest of entrepreneurs, but always within the limits of the above-mentioned general conditions and terms.

When financial capital becomes available without cost to entrepreneurs, investment will automatically be directed towards the most profitable projects. Experience has shown that when no money was withheld, interest rates became

negative and investment went into full swing. In fact, its expansion was only restricted by the shortage of labor which commanded gradually increasing wages without causing any inflationary pact or raising the consumer price index. However, the profit margins of the entrepreneurs tended to decrease over time owing to free competition and to the free availability of capital. Accordingly, the issue of investment can never be a source of anxiety in an Islamic economy as long as all money is spent and circulated in the market. In other words, as long as money is already automatically “mobilized,” investment and natural resources will only be factors in the general system and subject to the efficiency of the human factor.

These are, in brief, reflections on the subject, and it is hoped that Muslim economists will find them of some interest and that they would seriously consider establishing the Islamic framework before discussing any subsidiary issue or microeconomic subjects.

Christian Perspectives on Economic Thought

by
Alberto M. Piedra*

Introduction

In this latter part of the twentieth century when the world is facing a rising tide of violence, and hatred continues to rear its ugly face in so many different ways, it is refreshing and at the same time reassuring to witness the efforts being made to overcome past misunderstandings and the lack of charity among the three monotheistic prophetic religions: Judaism, Christianity, and Islam. The International Institute of Islamic Thought and the Association of Muslim Social Scientists must be commended for their continued attempts to bring together members of the Jewish, Christian, and Muslim academic communities. This conference is another example of the efforts being made to give satisfactory responses to the many problems that trouble modern man in his quest for a better world. A special word of thanks to our good friend Dr. Sayyid Syeed who kindly invited me to be one of the participants in this conference.

This brief study will concentrate on some general aspects of the socio-economic teachings of the Catholic Church and, in a special way, on the concept of development and the role of ethics in economics as seen through the papal encyclicals and other official documents of the Catholic Church, in particular, the Pastoral Constitution of the Church in the Modern World, *Gaudium et Spes*, one of the sixteen official texts promulgated by the Ecumenical Council, 1963-1965, (Vatican II). Particular emphasis will be placed on the following three major issues which through the centuries have been the subject of interest for Christian theologians and scholars: a) private property; b) usury; and c) work. It will be shown how in all of these matters the pontifical documents are geared toward the integral development of the human person and how religious values cannot be separated from this objective. In the last instance, all of these socioeconomic teachings of the Catholic Church are an application of the Word of God to people's lives as well as to the life of society. They offer principles

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for reflection, criteria of judgment, and directives for action.¹ In many respects, as will be shown later, some of these general principles do not differ substantially from some of those held by Islam. In fact, many of them are shared by Jews and Muslims who are also “vitally committed to giving absolute priority of respect, submission, and love to the one God who accompanies us with His providence and who, at the end of time, will judge us according to the law of right and wrong which He has written in our hearts.”²

Overview of the Socioeconomic Teachings of the Catholic Church

The socioeconomic teachings of the Catholic Church do not constitute a specific socioeconomic theory. Neither does the Catholic Church endorse any particular type of political, economic, or social system. The doctrine of the Catholic Church in these temporal matters is simply “an integral part of the Christian doctrine of man.”³ It provides a basis for a Catholic approach to socioeconomic issues, and its applicability is not limited to the Christian community but to all persons of good will who have a sincere desire to improve any given social or economic system. Its objective is not only to improve ethical behavior but also to establish a set of basic principles that, in the future, can provide the proper foundation for a concrete socioeconomic system.

The Catholic Church has always taken an interest in the economic and social problems affecting society, especially when they deal with justice and the rights of individuals. Loyal to her mission of defending the truth, the Church has never shied away from expressing her concern for an authentic development of man and society which would respect and promote all the dimensions of the “human person.”⁴ The popes, through numerous papal statements—encyclicals, *motu proprio*s, allocutions, radio addresses etc.—have continuously thrown new light upon different aspects of the social doctrine of the Church. As a result of these contributions, this doctrine “has now become an updated doctrinal corpus.”⁵

¹ John Paul II, *De Sollicitudo Rei Socialis* (On Social Concern), (Boston: St. Paul Books & Media), #2, 8.

² Cardinal Sergio Pignedoli, “The Catholic Church and the Jewish and Muslim Faiths: Trialogue of the Three Abrahamic Faiths,” in *Triologue of the Abrahamic Faiths*, (edited by Ismā’il Rāji al Fārūqī (Herndon, VA: International Institute of Islamic Thought, 1986). For a brief history of Islam, see John L. Esposito, *Islam, The Straight Path*, (New York: Oxford University Press, 1988).

³ John XXII, *Mater et Magistra* (Christianity and Social Progress), National Catholic Welfare Conference, Washington, D.C.

⁴ John Paul II, *De Sollicitudo Rei Socialis*, op cit. #1, 7-8.

⁵ Ibid, #1, 7-8.

More than one hundred years have elapsed since Pope Leo XIII ascended the throne of St. Peter, and each of the succeeding popes has added something to the heritage of Catholic social thought. In spite of the years that have passed, Pope John Paul II, following in the footsteps of his predecessors, has reaffirmed the continuity of the Church's social doctrine as well as its constant renewal. In effect, he states "continuity and renewal are a proof of the *perennial* value of the teaching of the Church."⁶

The basic principles on which the socioeconomic doctrine of the Catholic Church stands can be summarized as follows: 1) the dignity of the human person expressed through personal freedom and self-responsibility, 2) the common good, 3) the principle of solidarity, and 4) the principle of subsidiarity.⁷ All of these principles play a decisive role in the process of a person's total development, as defined by the Roman pontiffs in the official documents of the Church. Without their acceptance, the danger exists that human beings would be placed at the service of economics instead of the economy at their service and, thus, a person's development would be incomplete or even jeopardized.

Because of their importance for understanding the socioeconomic teachings of the Catholic Church, a brief comment will be made on the latter two of these principles. Both of them have acquired special significance during the last decades. They have been repeatedly mentioned by the Roman Pontiffs in their official documents but, unfortunately, have often been misinterpreted or misunderstood by Catholic and non-Catholic scholars.

The principle of solidarity comes from the Latin word *solidare* which simply means to join or unite solidly. It is based on the fact that each individual is an independent person who has a distinct personality different from any other but, at the same time, is a sociable human being. As a result of both personality and sociability, a person needs to be in contact with other people and to live in society. As Aristotle said many centuries ago: "It is evident that the state is a creation of nature, and that man is by nature a political animal."⁸ The Pastoral Constitution on the Church in the Modern World, *Gaudium et Spes*, stressed this point when it declared that "... God did not create man as a solitary. For from the beginning male and female he created them (Gen. 1:27). Their companionship produces the primary form of inter-personal communion. For by his innermost nature man is a social being, and unless he relates himself to others

⁶ Ibid., #2, 9.

⁷ Paul H. Werhahn, "The Entrepreneur," *Ordo Socialis*, No. 4 Published by the Vereinigung zur Förderung der christlichen Sozialwissenschaften, p 28. Originally published by Paulinus-Verlag, Trier, 1990.

⁸ Aristotle, *Politics*, in *Aristotle, Selections*, edited by W. D. Ross (New York: Charles Scribner's Sons, 1955), 287.

he can neither live nor develop his potential.”⁹ That is why the Catholic Church rejects as organizing principles of society both individualism, which denies the social nature of the human person and considers society as a mere association of individuals automatically guided by self-interest, and collectivism, which deprives individuals of their dignity and degrades them to the category of a mere object in the economic process.¹⁰ The organizing principle of society must be based on an original relationship and union between the individual and society that respects both the individual and social characteristics of the person, and not on either pure individualism or state collectivism.¹¹

The principle of subsidiarity comes from the Latin word *subsidium* which means auxiliary help or assistance. Applied to society, subsidiarity means the complementary or auxiliary assistance given by the superior social structures to individual persons and smaller communities. However, the superior social structures should not try to absorb or destroy individual initiative. This applies in a particular way to the state. It will be legitimate for the state to expand its public domain only when the common good so demands it, and even under such circumstances the state must provide the necessary guarantees in order that the right of private property is preserved. In economic matters, the leading role should be accorded to the private industry of individuals. The superior social structures, i.e., the state, should not try to absorb or destroy individual initiative.

The principle of subsidiarity should not be confused with the principle of solidarity or with the common good. Although the first presupposes the other two, it cannot be identified with them. Cardinal Hoffner indicated this clearly when he asserted that society's obligation to help individuals is a clear affirmation that the principle of solidarity reinforces the reciprocal bond and obligation existing between society and the individual.¹² The principle of subsidiarity was first presented in an explicit form by Pope Pius XI when he said:

Just as it is wrong to withdraw from the individual and commit to the community at large what private enterprise and industry can accomplish, so too it is an injustice, a grave evil and a disturbance of right order for a larger and higher organization to arrogate to itself functions which can be performed efficiently by smaller and lower bodies. This is a fundamental principle of social philosophy, un-

⁹ *Gaudium et Spes*, Pastoral Constitution on the Church, #12 and #25 in *The Documents of Vatican II* edited by Walter M. Abbott, New York: S.J., Guild Press, 211, 224.

¹⁰ Joseph Hoffner, *Manual de Doctrina Social Cristiana*, (Madrid: Ediciones Rialp, S.A. 1974) 39-40.

¹¹ *Ibid*, 41.

¹² *Ibid*, 51-52.

shaken and unchangeable, and it retains its full truth today. Of its very nature the true aim of all social activity should be to help individual members of the social body, but never to destroy or absorb them.¹³

Thus the principle of subsidiarity has as its object the protection of individuals and smaller communities from the abuses of larger and more powerful social structures. It protects the autonomy of weaker bodies in society. Superior structures should come to the assistance of weaker parts of the social body only when they cannot perform their duties in a satisfactory manner or when the required tasks can only be performed by the higher or more powerful entities.

Development of Peoples

The very essence of development has received renewed attention by the Roman Pontiffs, particularly since the Second Vatican Ecumenical Council. Once again, the papal documents have stated that the process of development cannot be separated from the ethical and cultural problems associated with it. They have not ceased to cry for greater solidarity among all peoples of the world in their quest for a more just society. Development cannot be reduced to mere economic growth; it must be complete. That is, it must be integral. In other words, it must “promote the good of every man and of the whole man.”¹⁴ But as Pope John Paul II reminds Christians, the development of the whole person and of all peoples cannot be attained without a solid religious foundation.

The importance of ethics in economics, and particularly in the process of a person's development, was also stressed in the documents of Vatican II where it was clearly stated that economic activity, in general, must be carried out “according to its own methods and laws but within the limits of morality, so that God's plan for mankind can be realized.”¹⁵ John Paul II also states: “Development which is merely economic is incapable of setting man free; on the contrary, it will end by enslaving him further. Development that does not include the *cultural, transcendent and religious dimensions* of man and society, to the extent that it does not recognize the existence of such dimensions and does not endeavor to direct its goals and priorities toward the same, is *even less* conducive to authentic liberation.”¹⁶

¹³ Pius XI, *Quadragesimo Anno*, #79, Five Great Encyclicals (New York: The Paulist Press, 1939) 147.

¹⁴ Paul VI, *Populorum Progressio*, On the Development of Peoples, #14, United States Catholic Conference, Washington, D.C., p 14.

¹⁵ *Gaudium et Spes*, op. cit., #64, 273.

¹⁶ John Paul II, *De Sollicitudine Rei Socialis*, op. cit., #46, 88.

Economics as an Independent Science: The Role of Ethics

The person's moral development and the welfare of society have always been a major concern of the Catholic Church. Ever since the early years of Christianity, churchmen were concerned with the morality of everyday life. They counseled the faithful on the types of occupations that were considered more suitable for an honorable Christian life, on the prices and wages that should be paid, on whether interest should be demanded on loans, on the right to private property and so on. As the economic historian Edmund Whittaker mentions: "The ethics of various lines of conduct were argued by theologians and the solutions they formulated became precepts, through local priests, for the people at large."¹⁷ Economic activities were not classified hierarchically according to their level of productivity—as is generally the case since the late eighteenth century—but rather on the basis of how honorable and moral these activities were considered to be; the latter ones occupying a higher scale in the hierarchy of values.¹⁸ In these early years, the Catholic Church was less concerned with social and economic reforms and more with the preservation and development of moral standards of individual behavior.

During the Middle Ages, the scholastic doctors (*doctores scholastici*) of the great monastic orders were deeply involved with economic topics and their impact on the moral life of the Christian community.¹⁹ According to Joseph Schumpeter, the *Summa Theologiae* of St. Thomas Aquinas "is in the history of thought what the south-western spire of the Cathedral of Chartre is in the history of architecture."²⁰ Nevertheless, in all the writings of St. Thomas, economics did not have a formal object of its own. The study of economics was considered part of moral theology or ethics. Later in the sixteenth century "sociological and economic topics were treated within the systems of scholastic jurisprudence. Individual questions, mainly about money and interest, were occasionally dealt with separately."²¹ Even though the opinions of these medieval men of science did not constitute the official teaching of the Catholic Church,

¹⁷ Edmund Whittaker, *A History of Economic Ideas*, (New York: Longmans Green and Co., 1950), 24.

¹⁸ Marie Madelaine Martin, *Les Doctrines sociales en France et l'évolution de la société française*, (Paris: Dervy-Livres, 1988), 38.

¹⁹ See Joseph Schumpeter, *History of Economic Analysis*, (New York: Oxford University Press, 1963), 73-142. See also Eric Roll, *A History of Economic Thought*, (London: Faber and Faber Ltd., 1954), 43-44 and Eduard Heimann, *History of Economic Doctrines*, (New York: Oxford University Press, 1956), 22-24.

²⁰ Schumpeter, op. cit., 74.

²¹ Ibid, 83.

their views on ethical matters were taken very seriously and often served as the basis for pastoral teaching.

Scholastic thinkers explained economic facts in terms of the individual's tastes and behavior and then applied superindividual canons of justice to these facts. As Schumpeter says: "These canons were derived from a moral schema in which the individual was an end in himself and the central idea of which was the salvation of individual souls."²² The importance of the individual's dignity and his/her ultimate salvation were always at the core of all their studies. Often there is a tendency to overlook the importance that the scholastic doctors gave to individual phenomena and to an individual as a unique person. Their stress on human dignity and individuality belies the opinion that medieval society was an objective civilization, that is, a civilization where "every individual stands in his appointed *niche* and is subject, without reference to his tastes, to super-individual rules; a society in which art is standardized and all creative activity both expresses and serves superindividual ideals."²³ The prevailing religious canons were derived from a moral order in which the individual and the salvation of his/her personal soul was an end in itself.

The analysis of the medieval doctors always centered on the idea of justice, a concept that had permeated Catholic socioeconomic teachings since the early days of Christianity. In all discussions about exchange, wages, or prices, justice played the primary role. St. Thomas Aquinas, following Aristotle, clearly established the distinction between commutative justice (*justitia commutativa*), distributive justice (*justitia distributiva*), and legal justice (*justitia legalis*). The first form of justice orders the relation of individual to individual partner. The second brings order to the relations between the community and the individuals who are its members, and the third orders the members' relations to the social whole.²⁴ For example, in the case of an exchange between individuals, the price would be considered just if it assured the equivalence of commutative justice. In general, whatever ran counter to the economic needs of the individual or was contrary to the public welfare was considered unjust. Schumpeter is of the opinion that much of the economic work performed by the scholastics up to the seventeenth century served as a basis for the analytical work of their successors, including Adam Smith.²⁵

The three great Jesuits, Leonard de Leys (Lessius), Luis Molina, and Juan de Lugo wrote treaties on *de justitia et jure* in which they studied the relative

²² Ibid, 87.

²³ Ibid, 86.

²⁴ Joseph Pieper, *Justice*, (New York: Pantheon Books, 1955), 50.

²⁵ Schumpeter, op. cit., 94.

merits of taxes on wealth and consumption. But here again they were mainly concerned, as were the great majority of the scholastic doctors, about the justice of taxation. In the case of profits, they were not necessarily against the possibility of gain in economic endeavors. This was especially true in the case of Juan de Lugo who, in accordance with St. Thomas, considered profits “as ‘a kind of wage’ for a special service.”²⁶ Again, what really interested the scholastic doctors were the ethical implications of economic activity. As Schumpeter said: “It is within their systems of moral theology and law that economics gained definite if not separate existence.”²⁷ But it was the phenomena of rising capitalism that contributed to their increased interest in economic activity—*industria*—and in the observation of business facts. However, the scholastic doctors always stood firm behind St. Thomas’ concept of prudent economic reason, a concept that always implied a moral judgment on all types of economic activities.

The origins of the separation of economics from the sociocultural context in which it is implemented and, in particular from ethics, can be traced at least partially to the ideas sponsored by the British Classical School of Economics in the early eighteenth and nineteenth centuries.²⁸ Economic liberalism, with its reliance on private property for the means of production, private responsibility in economic matters, private self-interest, and competition abandoned the traditional concepts of ethics and natural law as interpreted by the Christian theologians and scholars of the scholastic period, and substituted for them the belief in a harmonious “natural” order governed by its own laws. Following the prevailing tendencies of the times, British classical economists denied the connection of economics with any objective order of values, a connection that already had been rejected by the rational philosophers of the French Enlightenment.²⁹ Thus economics became a totally independent science with its own formal object.

²⁶ Ibid, 101.

²⁷ Ibid, 97.

²⁸ According to Keynes, “The classical economists’ was a name invented by Marx to cover Ricardo and James Mill and their predecessors, that is to say for the founders of the theory which culminated in Ricardian economics. I have become accustomed, perhaps perpetrating a solecism, to include in the classical school the followers of Ricardo, those, that is to say, who adopted and perfected the theory of the Ricardian economics, including (for example) J.S. Stuart Mill, Marshall, Edgeworth and Prof. Pigou.” See John Maynard Keynes, *The General Theory of Employment, Interest and Money*, (London: Macmillan and Co., Ltd., 1951) 3.

²⁹ See Overton Taylor, *A History of Economic Thought*, (New York: McGraw Hill Book Co., Inc., 1960), 1-27. See also Elie Halevy, *The Growth of Philosophic Radicalism*, (Boston: The Beacon Press, 1955). See also Donald Winch, “The Emergence of Economics as a Science 1750-1870,” in *The Fontana Economic History of Europe*, Edited by Carlo M. Cipolla, (London: Collins Clear-Type Press, 1971), Vol. 3, chpt. 9.

Once isolated from the other provinces of human knowledge, it no longer needed the traditional ethical foundation based on an objective moral order. The only acceptable moral order was the law of the market with its own set of rules and regulated by an enlightened self-interest. Reliance was placed on an automatic and harmonious economic system where free individuals, motivated by self-interest and guided by the invisible hand of God, would attain not only their own satisfaction but that of society as a whole.³⁰

Voices criticizing some of the basic postulates of economic liberalism, in particular the abuses of the system, have often been heard in Christian circles, including those of the popes who in their official documents have stressed some of its basic errors and those of the philosophical liberalism on which it is founded.³¹ However, these criticisms must not be interpreted as a condemnation of the free market system as such or as a blank check for socialism or any type of collectivism. On the contrary, the Church's condemnation of collectivism in any of its forms is categorical and unequivocal.³²

One of the earlier Catholic criticisms of certain aspects of economic liberalism can be attributed to the writings of the German economist Heinrich Pesch, who challenged the so-called autonomy of economics and its divorce from ethics.³³ He recognized that economics is an independent science but, at the same time, he also claimed that its degree of autonomy is limited. According to Pesch, "economic theory became a materialistic and individualistic science of money making, because its relation with the social sciences was completely forgotten. The wealth of the nation was unnaturally detached from the whole culture of the people, and thus the science soon became deprived of its subject matter."³⁴ A totally independent economic science divorced from an ethical foun-

³⁰ The French economic historians Charles Gide and Charles Rist maintain that the physiocrats and in particular Quesnay were the founders of the science of economics. They grant that, in many ways, Adam Smith was superior but, nevertheless, Quesnay and the physiocrats were the ones who opened the path for him and his followers in the nineteenth century. See Carlos Gide and Carlos Rist, *Historia de las doctrinas económicas*, (Madrid: Editorial Reus, 1927), 3.

³¹ See Pius XI, *Quadragesimo Anno*, op. cit., #10 and #103-110.

³² Ibid, #118-129. See also the encyclical of Pope Pius XI, *On Atheistic Communism*, given at Rome in 1937.

³³ Among the earlier German Catholic critics of economic liberalism the following can be mentioned: Joseph Ritter von Buss Oswald von Nell-Breuning, Wilhelm von Ketteler, and Heinrich Pesch. Among the more controversial French Catholic critics, the following are worth mentioning: Cardinal Louis-Edouard Pie, Bishop of Poitiers, Albert de Mun and René de la Tour du Pin.

³⁴ Heinrich Pesch quoted by Richard E. Mulcahy S.J. in *The Economics of Heinrich Pesch*, (New York: Henry Holt and Co., 1952), 36.

dation will not be able to contribute to a person's integral development. If economics is reduced to a mere technical problem it will not even be able to satisfy, in the longer run, a person's material needs or those of the nation.

The formal object of economics is to provide for the material needs of the people and the temporal material welfare of the nation. However, it is very difficult to grasp the real significance of economics if there is no understanding of its relationship and dependence on other sciences concerned with the subject matter. If this is not understood there is the danger that economic acts could be subject to "casual laws" when, in reality, they must be attributed to the motives of free people. Thus, according to Pesch, the economist cannot ignore the fields of social philosophy and epistemology. Otherwise the economist, the pure economist, becomes an abstraction, a pure and simple *homo oeconomicus*.³⁵

The error is not so much that philosophy has been avoided but rather that the inadequate philosophy of positivism has been adopted and, in many ways, has become the official philosophy or the creed of economics.³⁶ The late prominent American economist J. M. Clark once said that one of the most threatening features of our era is the cultural lag found in the economic world, where nineteenth-century philosophy of individualism is now combined with group organizations possessing power for good or harm.³⁷ The same philosophical error of individualism is also applied to the group. As the late Professor Goetz Briefs said: "The great danger threatening the German democracy—and any democracy—can come from powerful social groups which can use antidemocratic means of struggle or acts of passive resistance in order to attain their group interests over those of society as a whole."³⁸ In other words, the only ethics they understand is the ethics of self-interest, now applied to the group instead of to the individual.

The fact that economics is an independent science with its own formal object does not mean that it should disassociate itself from morals and ethics. As the individual is the agent of economic activity, the economist must be conscious of the morality of economic actions. The moral law has general validity for all times and places, and any contradiction of the moral law is a contradiction between the temporal and the eternal end of the human person.

It is true that the role of the economist is "not to teach us about virtues and vices but about the ways and means which lead to and preserve the material

³⁵ Fritz Machlup, "L'homo oeconomicus et ses collègues" in *Les Fondements Philosophiques des systèmes économiques*. Texts of Jacques Rueff and essays in his honor, (Paris: Payot, 1967), 117-30.

³⁶ Mulcahy, op. cit., 37.

³⁷ Ibid, 37.

³⁸ Goetz Briefs, *Entre Capitalismo y Sindicalismo*, (Madrid: Ediciones Rialp S.A., 1955), 27-8.

welfare of the people.”³⁹ Nevertheless, the existing level of morality does have a decisive influence on the material welfare of the people of any nation. Without an objective moral order, corruption, abuse of power and/or loss of freedom will prove detrimental to a person’s welfare. Any economic system without an ethical foundation and based on unrestrained self-interest is doomed to failure.

The reality of the instinct of self-interest is evident and will always be present. It does serve a useful purpose and in objectively morally indifferent matters it will always be accepted by most people. But, asks Pesch, “would not every economy and every state collapse, if the ‘average’ of its members were to permit themselves to be guided only by their own interest and would wish to deny every consideration except the ‘principle of the smallest means?’”⁴⁰ Instinct, adds Pesch, must be subject to reason. The guiding law of free rational individuals belongs to the intellectual and moral order. The instinct of self-love and the desire for a higher level of utility cannot be left unrestrained. Thus it becomes evident that as human beings are the agents of economic activity, economics cannot be totally divorced from ethics and morals.

Private Property

Economic issues, as already indicated, have been discussed extensively since the first centuries of Christianity. The legitimacy of private property and its implications for the “good life” were no exception. Although some of the early fathers of the Church had some definite ideas on the role of private property and its social function, no outright condemnation of the institution of private property was ever officially upheld by Church authorities. On the contrary, the Catholic Church through the centuries always took a position in defense of private property. The vow of poverty and the renunciation of all worldly belongings was considered an exception and an act of the individual’s total dedication to his Creator. As Joseph Schumpeter rightly commented: “The opinions on economic subjects that we might find – such as that believers should sell what they have and give it to the poor, or that they should lend without expecting anything (possibly not even repayment) from it—are ideal imperatives that form part of the general scheme of life and express this general scheme and nothing else, least of all scientific propositions.”⁴¹

The early Fathers of the Church, such as Clement of Alexandria, made it perfectly clear that private property was not abandoned by professing Chris-

³⁹ Mulcahy, *op. cit.*, 39.

⁴⁰ *Ibid.*, 41.

⁴¹ Schumpeter, *op. cit.*, 71.

tianity; Christians could retain as their possessions private wealth. Nevertheless, the early Christians were encouraged to share the returns and fruits of their wealth with the less fortunate of their brethren in imitation of Christ the Lord.⁴² Many of the early Fathers maintained that private property became necessary after the fall of man in paradise. For example, St. Ambrose, bishop of Milan, claimed that if egoism, avarice, and envy would not have reared their ugly heads as a result of man's rebellion against God in paradise, God's intention that all goods be shared in common would have been realized. St. Basil the Great, bishop of Caesarea in Palestine, was also of the opinion that after the fall, a community of goods could only be attained in cenobitic communities or monasteries, for its members were totally dedicated to a life of perfection and close union with God. Otherwise, such an ideal could not be reached.

According to the German expert in Catholic social teaching Anton Rauscher, this approach to private property of some of the early Fathers of the Church is thoroughly "salvation-historical" and is based on the idea that human beings because of their sins, are in need of redemption. It does not reflect on the relation between nature and grace and between the order of nature and the order of redemption.⁴³ It would be wrong continues Rauscher, "to advance the statements of the Church Fathers as evidence against a natural law foundation of private ownership or to wish to explain ownership in a derogatory way simply as an 'order of necessity,' because, as a rule, we associate something entirely different with this concept than what the Church Fathers did."⁴⁴

The social doctrine of the Church on private property is based, at least partially, on the teachings of Aristotle and St. Thomas Aquinas and not, as some claim, on the French philosophers of the Enlightenment.⁴⁵ These teachings have been refined and systematized by the Roman Pontiffs in recent years, especially Leo XIII, Pius XI, John XXIII, Paul VI, and John Paul II.

As regards to the question of whether property should be common or not, Aristotle answered that there are serious difficulties when property is held in common. He claimed that "property *should* be common in a sense; but generally it ought to be private. If management is divided among individuals, there will not be mutual complaints; and the properties will be improved because each individual runs his own private section."⁴⁶ Thus progress will ensue. As regards

⁴² See Whittaker, op. cit., 183-5.

⁴³ Anton Rauscher. "Private Property," *Ordo Socialis*, No. 3 (Published by the Vereinigung zur Förderung der christlichen Sozialwissenschaften), p 18.

⁴⁴ Ibid, p 18.

⁴⁵ See Leon de Sousbergue, "Propriété de droit naturel," *These neoscholastique et tradition scholastique*, *Nouvelle revue théologique*, 82, 1950. pp 580 and following.

⁴⁶ Aristotle, Politics, Book II, 5, in *The Philosophy of Aristotle*, A Mentor Classic, 1963, p 397.

the use and enjoyment of said properties, “virtue will guarantee the fulfillment of the proverb ‘friends’ goods are common goods.’”⁴⁷ In other words, an individual owns property privately but makes it available to his friends and uses theirs as common property.

St. Thomas quite clearly states that “it is legitimate for a man to possess private property; indeed it is necessary for human life.” He gives the following three reasons: 1) “everyone is more concerned to take care of something that belongs only to him than of something that belongs to everyone,” 2) “human affairs are more efficiently organized if the proper care of each thing is an individual responsibility,” and 3) “peace is better preserved among men if each one is content with his property.” However, he also states that “man should not possess external things as his alone but for the community, so that he is ready to share them with others in case of necessity.”⁴⁸

The late Cardinal Joseph Hoffner in his book *Christliche Gesellschaftslehre*, reflecting the teachings of the Catholic Church, gives five “positive” reasons in favor of private property and five “negative” reasons—disastrous consequences—which would result from the elimination of private property. The “positive reasons” are the following: 1) private property is born of an orderly self-love. It is intimately linked with the dignity and other rights of the human person, 2) private property serves the clear delimitation of competencies and spheres of responsibility in the economy, 3) private property satisfies an individual’s need for security, an important aspect of family life, 4) private property contributes to fruitful economic exchanges that tie together the different branches of the economy in a peaceful and voluntary manner and not through official public functionaries, and 5) private property gives people the possibility of practicing charity and coming to the aid of the less fortunate sectors of society.⁴⁹

The “negative” reasons can be summarized as follows: 1) The community of goods leads to laziness and destroys the incentive to work, 2) private property divides and clearly establishes each person’s competence and responsibility within the economy, while the community of goods leads to confusion and disorder, 3) common property is the origin of social discord, 4) the community of goods, particularly in a modern economy, leads toward the accumulation of power and to the temptation of abuse of power. Whoever has total economic power also controls political power, and 5) the community of goods, under central control, threatens the freedom and dignity of the human being.⁵⁰

⁴⁷ Ibid, 397.

⁴⁸ *St. Thomas Aquinas on Politics and Ethics*, edited by Paul E. Sigmund (New York: W.W. Norton & Co., 1988), 72.

⁴⁹ Hoffner, op. cit., 219-20.

⁵⁰ Ibid, 220-23.

The Roman Pontiffs have always come out very strongly in defense of the right of private property. Leo XIII said in no unmistakable terms that “every man has by nature the right to possess property as his own. This is one of the *chief points of distinction* between man and the animal creation.”⁵¹ Pius XI, when writing about the rights of the state, reinforces the views of Leo XIII on private property and quotes the following passage from the encyclical *Rerum Novarum*: “The right to possess private property is derived from nature, not from man; and the State has by no means the right to abolish it, but only to control its use and bring it into harmony with the interests of the public good.”⁵² He then adds that this right of the state “does not therefore abolish, but protects private ownership, and, far from weakening the right of private property, it gives it new strength.”⁵³ John XXIII also insisted that the “right of private property, including that pertaining to goods devoted to productive enterprises, is permanently valid.”⁵⁴ Paul VI, while defending the right of private property, stresses its social aspect when he says that “the right of private property does not constitute for anyone an absolute right. No one is justified in keeping for his exclusive use what he does not need when others lack necessities.”⁵⁵

The right to private property was endorsed once again by the *Pastoral Constitution of the Church in the Modern World* when it said that “ownership and other forms of private control over material goods contribute to the expression of personality. Moreover, they furnish men with an occasion for exercising their role in society and in the economy. Hence it is very important to facilitate the access of both individuals and communities to some control over material goods.”⁵⁶

The Catholic Church has never ceased to claim that the right to private property is founded on natural law (*jus naturae*) or the law of nations (*jus gentium*). But at the same time, she has also stressed its social function.⁵⁷ The popes, in their numerous writings, following the teachings of the scholastic doctors (St. Thomas, Juan de Lugo, Luis de Molina etc.) have maintained the distinction between the use and consumption of goods (*usus*) and the management and administration of goods (*potestas procurandi et dispensandi*).⁵⁸ Human beings are entitled to acquire earthly goods in the form of private property for

⁵¹ Leo XIII, *Rerum Novarum*, op. cit., #5, 3.

⁵² Pius XI, *Quadragesimo Anno*, op. cit., #49, 139.

⁵³ Ibid, #49, 139.

⁵⁴ John XXIII, op. cit., #109, 32.

⁵⁵ Paul VI, *Populorum Progressio*, op. cit., #23, 18.

⁵⁶ *Gaudium et Spes*, #71, 280.

⁵⁷ Hoffner, op. cit., 229.

⁵⁸ See also Rauscher, op. cit., 20-1.

their own consumption and use, but they cannot avoid the responsibility of coming to the assistance of those in need. The person's social duty toward those less fortunate cannot be ignored. An individual also has the right to own property in order to better manage and administer it, a right already possessed before the fall in paradise. However, after man's rebellion against his Creator, that right became a necessity and an obligation. Otherwise the ultimate goal of the economy, the person's welfare, would be frustrated because of people's tendency toward laziness, disorder, discord, and oppression.

Pope Pius XI makes it clear that the Catholic Church has never denied "the twofold aspect of ownership, which is individual or social accordingly as it regards individuals or concerns the common good . . . the right to own private property has been given to man by nature or rather by the Creator himself, not only in order that individuals may be able to provide for their own needs and those of their families, but also that by means of it, the goods which the Creator has destined for the human race may truly serve this purpose."⁵⁹ Recently, John Paul II reaffirmed "the right to private property even when it is a question of the means of production," but he also insisted that this principle "differs from the program of capitalism practiced by liberalism and by the political systems inspired by it. Christian tradition has never upheld this right as absolute and untouchable. On the contrary, it has always understood this right within the broader context of the right common to all to use the goods of the whole of creation. The right to private property is subordinated to the right to common use, to the fact that goods are meant for everyone."⁶⁰

John Paul II stressed the social aspects of private property when he made the statement that "the position of 'rigid' capitalism continues to remain unacceptable, namely the position that defends the exclusive right to private ownership of the means of production as an untouchable dogma of economic life."⁶¹ The principle of the common destination of earthly goods for all people, in other words that God has given the earth to the use and enjoyment of the universal human race, must not be interpreted as a defense of collectivism or any system of common ownership.

Usury

A problem of great concern for the medieval scholars was the question of

⁵⁹ Pius XI, *Quadragesimo Anno*, op. cit., #44, 137.

⁶⁰ John Paul II, *Laborem Exercens* (On Human Work), #14, United States Catholic Conference, Washington, D.C., 1981, 31.

⁶¹ Ibid, #14, 32.

usury.⁶² For them as well as for Aristotle, money's fundamental function was to serve as a medium of exchange. Being a commodity like any other, it had to be useful and have an exchange value independent from its monetary function. Its value, thus, could be compared with that of other commodities. In the process of lending money, it was considered unjust to take usury—charge an interest—because it violated commutative justice. As in any process of exchange, justice demanded that the borrower return to the lender the same amount of money—i.e., gold coins—that he had borrowed. In general, the scholastic doctors thought that there was no justification for money to increase in value when changing hands. Money being considered barren, little attention was paid to interest as the price paid for the use of money. They therefore condemned interest as unjust. Critics of the scholastics are prone to attack them on this issue, claiming that they disregarded the importance of interest in the evolution of capitalism. As a result, these critics claim, the Catholic Church at a later date was forced to contradict the views of the scholastic doctors and admit the morality of interest and the fact that it is a positive factor in the process of development.

The truth of the matter is that most loans in the first centuries of Christianity and almost until the end of the Middle Ages were for consumption purposes. As Whittaker has stated:

Tertullian appears to have been the first of the Christian Fathers to declare that usury was immoral and he interpreted the statement in Luke to forbid believers to expect even repayment of principal. In the fourth century Basil, Bishop of Caesarea, his brother Gregory, Bishop of Nyssa and Ambrose, Bishop of Milan, were largely responsible for formulating the doctrine that all interest was sinful. Their attitude was not difficult to understand. The Roman Empire was declining and chaos was widespread through the western world. There could have been few opportunities for the productive employment of loans. Indeed, through the succeeding centuries, which constituted the period now called the Middle Ages, the more important loans were made to kings and nobles to meet the expenses of the military adventures and luxurious living, neither of which was in entire accord with Christian principles. Undoubtedly, as at other

⁶² Bernard W. Dempsey, *Interest and Usury*, (London: Dennis Dobson Ltd., 1948), 267-71. See also Max Weber, *General Economic Theory*, (Glencoe, IL: The Free Press, 1950), 267-71. For an Islamic approach to interest, see Muhammad Anwar, *Modelling Interest Free Economy: A Study in Macroeconomics and Development*, (Herndon, VA: The International Institute of Islamic Thought, 1987) and Zaidi Sattar, "Ethics of Profits in the Islamic Economic System," in *The Islamic Quarterly*, 1988, vol. 32 #2.

times, small-scale advances to peasants and traders for productive purposes had their place, though this form of credit had always been subject to abuse, as borrowers are likely to become the prey of extortionate lenders. If legitimate opportunities for the productive use of borrowed capital were few, as must have been the case when social conditions were insecure, obviously the lender could not maintain that he suffered a loss by doing without the money for the period of the loan, nor could the borrower acquire means whereby to meet interest payments. Unless capital could be made productive, it was difficult to justify interest.⁶³

St. Thomas accepted certain exceptions to the general ban on usury. He maintained that it was unlawful to induce a man to lend under a condition of usury but made an exception when the lender was willing to do so and was a usurer by profession, provided the borrower was well-intentioned and had in mind the relief of his/her own or his/her neighbor's needs. As time went by the economy became more complex, the exceptions to the general prohibition of usury increased. The principle was accepted that a charge was normal and acceptable when the lender incurred any loss (*damnum emergens*). Some of the scholastic doctors also believed that the gain the lender foregoes by lending (*lucrum cessans*) was in itself a justification for charging interest. In the fifteenth century Antoninus, Archbishop of Florence, although declaring that money is not profitable of itself, affirmed that it could become profitable through its employment by merchants. Thus as money markets developed, it became more common to justify the charge of interest on both direct loans and, in the case of deferred payments, for commodities.⁶⁴

As the German scholar Peter H. Werhahnn stated:

"The social moralists of the time, whilst adhering to the medieval theory of money, which maintained that money in itself was sterile, nevertheless claimed that entrepreneurial profits did not contravene the prohibition of usury. In this way the interdiction of usury encouraged the entrepreneurial spirit: interest on loans was forbidden, but capital profit from entrepreneurial activity was permitted. Later economic historians such as Werner Sombart have pointed to the great importance of this distinction."⁶⁵

In the case of usury as in the case of private property, the scholastic doctors were mainly concerned with individual behavior and, whatever scientific

⁶³ Whittaker, op. cit., 519.

⁶⁴ Schumpeter, op cit., 103-4.

⁶⁵ Werhahn, op. cit., 12.

analysis they performed, it was done in order to judge a person's economic behavior from the moral point of view. They tried to reach some uniformity of practice but, in order to do this, they had to work out concrete decisions on the more important cases. They were, Schumpeter points out, teachers or directors of individual consciences.⁶⁶ Their ideas, far from being "outlandish," helped establish the distinction between mere money-loans and the product of active investments. John Mayard Keynes brings this out very clearly when in his book, *The General Theory of Employment, Interest and Money*, he recognizes the contribution of the scholastic doctors to the theory of interest:

I was brought up to believe that the attitude of the Medieval Church to the rate of interest was inherently absurd, and that the subtle discussion aimed at distinguishing the return on money-loans from the return to active investments were merely jesuitical attempts to find a practical escape from a foolish theory. But I now read these discussions as an honest intellectual effort to keep separate what the classical theory has inextricably confused together, namely, the rate of interest and the marginal efficiency of capital. For it now seems clear that the disquisitions of the schoolmen were directed toward the elucidation of a formula which should allow the schedule of the marginal efficiency of capital to be high, whilst using rule and custom and the moral law to keep down the rate of interest.⁶⁷

Work

Papal and other documents of the magisterium of the Catholic Church especially since *Rerum Novarum*, have considered "that work as a human issue is at the very center of the 'social question.'"⁶⁸ John Paul II distinguishes between what he calls work in an objective sense and work in the subjective sense. The meaning of work in an objective sense finds expression in God's command to men and women to subdue the earth as it appears in the Book of Genesis. It throws light upon human work because "man's dominion over the earth is achieved in and by means of work."⁶⁹ To subdue the world should also be understood in the context of the entire modern age, industrial and postindustrial. It includes a relationship with technology, equipment of all sorts, and the new world of the computer, because all of them are the fruit of human labor, whether intellectual or manual. All men and women, created in the image of God, are

⁶⁶ Schumpeter, op. cit., 102.

⁶⁷ Keynes, op. cit., 351-2.

⁶⁸ John Paul II, *Laborem Exercens*, op. cit., #2, 4.

⁶⁹ Ibid, #5, 11.

called to subdue the world. It embraces all generations and every phase of economic and cultural development. But as men and women become more and more masters of the universe, they still remain within the Creator's original ordering and must bear witness to this reality.

Work in the subjective sense also finds expression in the Book of Genesis. As John Paul II indicates: "Man has to subdue the earth and dominate it, because as the 'image of God' he is a person, that is to say, a subjective being capable of acting in a planned and rational way, capable of deciding about himself and with a tendency to self-realization. As a person man is therefore the subject of work. As a person he works, he performs various actions belonging to the work process; independently of their objective content, these actions must all serve to realize his humanity, to fulfill the calling to be a person that is his by reason of his very humanity."⁷⁰ The subjective dimension of work conditions the ethical nature of work. This ethical nature of work is directly linked to the fact that "the one who carries it out is a person, a conscious and free subject, that is to say, a subject that decides about himself."⁷¹

Christianity has always taught that the basis for determining the value of work is not precisely the type of work which a man or a woman performs, but the fact that it is done by a human being. The subjective and not the objective dimension of work is the source of the dignity of work. Thus it can be said that "the primary basis of the value of work is man himself, who is its subject."⁷² The Constitution of the Church had already emphasized this point when it exalted the dignity of the human person and declared that the individual "stands above all things, and his rights and duties are universal and inviolable."⁷³

Precisely because of the preeminence of the subjective meaning of work over the objective one, work cannot be treated as a "merchandise" that can be sold in the market as any other material good. Even though this approach is no longer acceptable, there is still the danger in the postindustrial era of treating work as any other input and equating it, for example, with capital in the process of production. Work is not a special kind of "merchandise" or an impersonal "force" needed for production. To treat work in such a way disregards its true nature. The individual must be treated in accordance with the true dignity of work, as subject and maker of the process of production. No matter how welcomed and advantageous for human beings are the advances in technology and know-how, it is still true that the subjective dimension of work must retain

⁷⁰ Ibid, #6, 13.

⁷¹ Ibid, #6, 14.

⁷² Ibid, #6, 14.

⁷³ *Gaudium et Spes*, op. cit., #26, 225.

the upper hand over the objective one. Human labor is superior to the other elements of economic life.”⁷⁴ Otherwise, human beings would be deprived of their dignity and inalienable right and the social order and its development would not work to the benefit of the human person.⁷⁵

John Paul II, following the earlier teachings of the Church, reaffirms the principle of the priority of labor over capital. The Roman Pontiff reiterates that in the process of production, labor is always a primary efficient cause while capital, the whole collection of the means of production, remains a mere instrument or instrumental cause.⁷⁶ He defines capital not only as the natural resources placed at humanity’s disposal, but also as the whole collection of means by which humanity appropriates natural resources and transforms them in accordance with his needs and thus, in a sense, humanizes them. All of these means, he continues, are the result of the historical heritage of human labor.⁷⁷ In other words, he gives preeminence to the primacy of the human being in the process of production, the primacy of humanity over things. Only a man or a woman can be a person.

There should be no antinomy between labor and capital. In the production process, labor and capital are intermingled. They are inseparably linked. Human beings, through their work, are the masters of the creatures placed at their disposal in the visible world. If any dependence is to be found during the individual’s work, it is his/her dependence on his/her Creator to whom, in the last instance, he/she will have to respond for the work performed. To a lesser extent, the individual is also indebted to other human beings to whose work and initiative is owed the perfected and increased possibilities of his/her own work.⁷⁸

The economic theories which developed during the centuries were partially responsible for the antinomy between labor and capital. The major responsibility, however, falls on the economic and social practices of the times, when material wealth was increasing rapidly as a result of the Industrial Revolution and a blind faith in progress permeated large sectors of society. A materialistic approach to life, what John Paul II calls an “economistic” perspective, contributed more than anything else to the separation of labor and capital and set them up in opposition to each other. It was this error of early capitalism which caused the ethically just social reaction of many well-intentioned persons who erro-

⁷⁴ Ibid., #67, 275.

⁷⁵ Ibid., #26, 225.

⁷⁶ John Paul II, *Laborem Exercens*, op. cit., #12, 25.

⁷⁷ Ibid., #12, 26.

⁷⁸ Ibid., #13, 28.

neously put their faith in collectivism in their hope of finding a more humane type of economic organization.⁷⁹ But collectivism, in any of its forms, is also based on a materialistic philosophical system which denies the primacy of human beings over capital. Marxism, as put into practice in various countries since the Bolshevik Revolution in Russia, epitomizes the dehumanization of labor and the degradation of the individual's dignity as a human being. It has been proven time and again that collectivism is not the solution to the problems of modern societies.

Summary and Conclusions

This paper has tried to highlight some of the more salient principles upon which the socioeconomic doctrine of the Catholic Church is based. The following brief paragraphs will summarize some of these principles in an attempt to bring out the similarities – rather than the differences – that exist between many of them and those of Islam, particularly in the area of development.

1. The social teachings of the Catholic Church, as this paper has tried to demonstrate, have always had as their objective the development of a person in his/her totality. In spite of its undeniable importance, economics constitutes only one dimension in the process of a person's total development. An authentic development must include the material and spiritual dimensions of a person, because he/she is composed of both body and soul. He/she is also a spiritual being created in the image and likeness of God. To limit development to the production of material goods without taking into account a person's ultimate goal, the salvation of his/her immortal soul, would not do justice to the term itself. A person cannot lose sight of the fact that, as St. Augustine of Hippo said almost two thousand years ago, its final destination is the City of God.⁸⁰ But, it is in the City of Man that a person needs to develop its spiritual, cultural, and economic dimensions. This way, the human being, keeping present his/her intimate relationship with God and observing the dictates of natural and divine law, will be able to realize his/her innate aspiration of reaching the eternal city.

⁷⁹ For a criticism of both capitalism and socialism, from the Islamic point of view, see Tāhā Jābir al 'Alwānī. "Islamic Perspectives on the Question of History," in *American Journal of Islamic Social Sciences*, vol. 7, no. 2, September 1990, 263-8.

⁸⁰ The French philosopher Etienne Gilson, commenting on St. Augustine's *City of God*, said: "St. Augustine bequeathed the ideal of a society whose bond of union is the Divine Wisdom. Often forgotten, sometimes even for centuries, this ideal has always found men to bring it forth once more into the light of day to be their inspiration. Frequently, the price of revival has been the distortion of the ideal." See Etienne Gilson, *Saint Augustine's City of God*, (New York: Image Books, 1958), 34.

As St. Thomas said: "Besides the natural law and human law, it was necessary to have the divine law to direct human life."⁸¹ Economics is no exception.

These ulterior objectives of all human beings, which economics cannot disregard, do not seem to differ significantly from those of Islam, whose teachings never cease to mention Allah as a person's final goal. The well-known Iranian economist Abbas Mirakhor recently wrote: "Islam posits *a priori*, a unique relationship between Allah, man, society and the Divine Law. This relationship directly affects the workings of the economic system."⁸² Pope John Paul II also stresses each individual's unique relationship with God in all matters, including economics, when he said that "... peace and, as its necessary condition, the development of the whole person and of all peoples, are also a *matter of religion*, and how the full achievement of both the one and the other depends on our *fidelity* to our vocation as men and women of faith. For it depends above all on God."⁸³

2. The Catholic Church has always maintained that God has endowed human beings with an intellect and a will that permits them to distinguish between right and wrong. It is the person, through the exercise of his/her free will, who can decide in accordance with the dictates of a well-formed conscience what path he/she is to follow. In the particular area of economics, it is a person's duty to struggle freely and in a responsible manner for the establishment of a just, moral, and viable social order that will permit him or her to fulfill his/her full potential for development. Islam also believes that God has endowed each person with an intellect and a will that permit him/her to discern between right and wrong, and that he/she has certain responsibilities toward society. For example Mirakhor, in the same article quoted above, reminds his readers that Allah "bestows on man particular responsibilities: developing his own potential, and struggling for the creation of a just and moral order on earth," and that man "through his intelligence and will can discern and then choose between right and wrong, between just and unjust, between true and false, and between real and illusory."⁸⁴

3. Catholic socioeconomic doctrine has always maintained that justice is a virtue, "a habit (*habitus*), whereby a man renders to each one his due with constant and perpetual will."⁸⁵ Nevertheless, justice would be meaningless if

⁸¹ St. Thomas Aquinas, *Summa Theologiae*, I-II, Question XCI, Fourth Article. See *Introduction to St. Thomas*, (New York: The Modern Library, 1948), 621.

⁸² Abbas Mirakhor, "The Economic System in an Islamic Society," *Middle East Insight*, (Washington, D.C.: International Insight, Inc., 1987, vol. 5, 32.

⁸³ John Paul II, *De Sollicitudo Rei Socialis*, op. cit., 92.

⁸⁴ Mirakhor, op. cit., 32.

⁸⁵ Pieper, op. cit., 11.

human beings had not, through the act of creation, received their rights from God. As the well-known German Catholic philosopher Joseph Pieper has stated: "Man has inalienable rights because he is created a person by the act of God, that is, an act beyond all human discussion. In the ultimate analysis, then, something is inalienably due to man because he is *creatura*. Moreover, as *creatura*, man has the absolute duty to give another his due."⁸⁶ But St. Thomas reminds Christians that to have peace and harmony among people is not enough: "To be willing to watch over peace and harmony among men through the commandments of justice is not enough when charity has not taken firm root among them."⁸⁷

In a free market system, each of the interested parties acts in a rational way from a purely economic point of view, and it is the market, regulated by the laws of supply and demand, that determines the price. It is assumed that all the participants act rationally in an honest and "economically ethical" way. The "ethics" of the market is limited to its own honest inner functioning. Thus, each one of the participants receives his/her due in accordance with the law of the market. However, there are other ethical criteria, exogenous to the science of economics, that cannot be ignored if justice is to prevail. Market forces by themselves are not the only determinants of the justice of an economic act. For example, no one can deny that in the past the slave market functioned properly and, from the purely economic point of view, this is correct. But at the same time, the justice of an act cannot be measured exclusively in economic terms. This would also apply to any type of exchange in the market place, the area of wage determination being no exception.

It is true that economics, as any other branch of human activity, has its own rules and "laws." But economic activity cannot be divorced from other human actions. Man cannot act exclusively as an *homo oeconomicus*. This would be an oversimplification. That is why the market system, apart from having its own particular "ethics," must rely on an ethics of a more general character. And this applies not only to economics but to any other science that deals with the essential values of the human person.⁸⁸ In the last instance, Christian doctrine has always emphasized that a person has to respond to his/her Creator for all of his/her actions, whether in the field of economics or otherwise. Thus, people cannot ignore the dictates of natural and divine law.

Islam strongly emphasizes the concept of justice. As in Catholic social doctrine, Islam believes that justice has personal implications for the person who

⁸⁶ Ibid, 21-2.

⁸⁷ As quoted by Pieper, Ibid, 107.

⁸⁸ Rafael Gomez Perez, *Ethica Empresarial, Teoría casos*, Madrid: Ediciones Rialp, 1990), 50.

performs the unjust act. The individual not only does an injustice to others but “ultimately does injustice to himself and is a recipient of its results both here and in the hereafter.”⁸⁹ The concept of justice in exchange is also stressed. To assure justice in exchange, Islam provides “a network of ethical and moral rules of behavior which cover, to the minutest detail, the behavior of all participants in the market.”⁹⁰ Only on the basis of these rules will the market yield prices which are “fair” and “just.” Islamic economic justice is also distributive. It stipulates that all members of society should be given equal opportunities and all obstacles to their development removed. In Islam, Mirakhor writes, “legal justice means that all members of the society have equal status before the Law, equal protection of the Law and equal opportunity under the Law. The notion of economic justice and its attendant concept of distributive justice are important identifying characteristics of the Islamic system.”⁹¹

4. The right to private property and its social dimension have never ceased to be stressed by the Catholic Church. These rights and obligations of private property have also been emphasized by Islam. The right to private property is “based on the principle of justice, and the recognition of man’s natural tendencies, rights and obligations” but “the collectivity does not lose its original rights either to the resources or the products resulting from the individual’s creative labor applied to these resources.”⁹² Among the obligations of private property, says Mirakhor, are the responsibility of sharing and the obligation, severely incumbent upon the individual, not to waste, destroy, or squander it.⁹³

5. Islam regards work, as does the Catholic Church, not only as a right but also as a duty and an obligation. Both religions exalt work and consider it an inseparable dimension of faith. Islam teaches that the individual has “the right to choose the type of work he desires, but along with this freedom comes the obligation to consider the needs of the society.”⁹⁴ Justice demands that each worker’s benefits be commensurate with his/her productivity. But Islam also maintains that “those who are physically or mentally unable to work still have a right to what the society, individually or collectively, produces.”⁹⁵ As is the case with Christians, wealth is considered good in itself, “an object of delight

⁸⁹ Mirakhor, *op. cit.*, 36.

⁹⁰ *Ibid*, 42.

⁹¹ *Ibid*, 37.

⁹² *Ibid*, 38.

⁹³ *Ibid*, 39.

⁹⁴ *Ibid*, 40.

⁹⁵ *Ibid*, 40.

and pleasure and a support for the community,” but “it is only a means for the achievement of man’s ultimate objective and not an end in itself.”⁹⁶

In conclusion, it must be reaffirmed that development “*is not* a straightforward process, *as it were automatic and in itself limitless*, as though, given certain conditions, the human race were able to progress rapidly towards an undefined perfection of some kind.”⁹⁷ The naive mechanistic optimism inherited from the philosophers of the Enlightenment “has been replaced by a well-founded anxiety for the fate of humanity.”⁹⁸ The very concept “economic” has entered into crisis. There is a rejection, especially among the young, of a crass materialism that has not satisfied humanity’s innermost desires.

The solution to humanity’s many problems in the dawn of a new century cannot be found exclusively in the mere accumulation of material goods, no matter how important they might be. The abundance of goods and services is not sufficient to fulfill our desire for happiness. The real benefits derived from the latest technological discoveries in the computer age are no guarantee that we can find happiness or avoid losing our freedom and falling into slavery of one type or another. John Paul II has frequently stated that all these wonders of the computer age must be guided by a moral understanding and oriented toward the true good of the human race. Otherwise, modern humanity will fall into a form of superdevelopment which, in many ways, can be as pernicious as what is generally called underdevelopment. A superdeveloped society would place all of its efforts in the production and consumption of material goods; goods which, says the Pope, would tend to benefit certain social groups at the expense of others. People could easily become slaves of “possession” and of immediate gratification. This is what John Paul II calls a civilization of “consumerism” which involves so much throwing away and waste.⁹⁹ As a result, crass materialism and dissatisfaction would follow because people, in spite of the ceaseless tempting offers of new and better products, would find that their deeper aspirations for happiness would remain unsatisfied and even stifled. Therefore, development must not limit itself to the *indiscriminate* possession of created things but rather in *subordinating* their possession, dominion, and use to humanity’s ultimate goal, the transcendent reality of the human being.

Islamic scholars have often expressed the failure of the traditional approaches to economic development and have lamented the “co-existence of hunger and affluence, the exploitation of the poor by the rich and the powerful,

⁹⁶ Ibid, 41.

⁹⁷ John Paul II, *De Sollicitudo Rei Socialis*, op. cit., #27, 47.

⁹⁸ Ibid, #27, 47.

⁹⁹ Ibid, #28, 48.

the increasing disparities at the regional and international levels, the unsuitability of production and consumption processes to environmental needs and the irrational use of non-renewable resources.”¹⁰⁰ They have also claimed that “development should be rooted in the cultural sources of each people” and stress that there should be “no separation of socio-economic policy from the socio-cultural context in which it is implemented and from which it should be derived.” As an essential feature of culture, “religious thought must be included among the components of development.”¹⁰¹

The Roman Pontiffs have expressed similar objectives when they have publically stressed the need for collaboration in the development of the whole person and of every human being. In fact, John Paul II has said that collaboration for development is “a duty of *all towards all*, and must be shared by the four parts of the world: East and West, North and South.”¹⁰² Furthermore, the Pope continues, all peoples have a right to their own full development, which includes the economic and social dimensions. But, it “should also include individual cultural identity and openness to the transcendent.”¹⁰³ Finally, the leader of the Roman Catholic Church has stated in no uncertain terms that for development to be genuine “it must be achieved within the framework of *solidarity* and *freedom*, without ever sacrificing either of them under whatever pretext.”¹⁰⁴

It is not only sad but tragic that at this critical point of history, the dawn of a new century, when freedom seems to have triumphed over the tyrannies of collectivism, the drums of war continue to be heard in the Middle East and in other parts of the globe. This earth, which God created for the enjoyment and satisfaction of his *creatura*, still is engrossed in the same petty hatreds and misunderstandings that caused so much suffering to past generations. It is time that religious people the world over join forces in their struggle for the establishment of a socioeconomic order where peace and justice prevail. And this responsibility falls, in a special way, on the three great monotheistic religions of the world whose members believe in the same God, Creator of all beings, to Whom at the end of time they will have to respond for their everyday actions. It is important, therefore, that the three religions try to stress what unites them—and not what separates them—in a spirit of charity and mutual understanding for the benefit and welfare of all of God’s creatures.

¹⁰⁰ Anwar, op. cit., 5.

¹⁰¹ Ibid, 6.

¹⁰² John Paul II, *De Sollicitudo Rei Socialis*, op. cit., #32, 58.

¹⁰³ Ibid, #32, 58.

¹⁰⁴ Ibid, #33, 61.

✓ It is important to keep in mind what the late Cardinal Sergio Pignedoli said a few years ago:

The faith that we have inherited from Abraham has as its central pivot a monotheism free from uncertainties or equivocations: we profess one God, a God who is personal, the Creator of the world, provident, active in history but separated from it by an infinite gulf, the judge of men's actions, and who has spoken to men through the prophets. The Sacred Books and the traditions of our three religions admit no shadow of doubt on this fundamental point. This basic unity of faith is of such importance that it allows us to consider our differences with serenity and with a sense of perspective . . . it does mean that we can speak together in an atmosphere of understanding and friendship, because we are all believers in the same God.¹⁰⁵

It is proper and fitting to finish with a note of optimism. Perhaps the great French author and member of the *Academie Francaise*, Andre Frossard, has expressed this hoped-for objective better than anyone else when, in his latest book *Dieu en Questions*, he talks about the three monotheistic religions in the following way:

These three branches of monotheism diverge from each other at an earthly level and act as if they were strangers because of historical, cultural, climatic and psychological reasons. But the more they avoid being obsessed with daily affairs and rise to the level of their own spirituality, the more they speak the same language, which is that of praising God. At the summit of Judaism, Christianity and Islam, the mystics speak the same language. It is only when men are not able to reach such heights, and fall into the temptations of power, spirit of conquest or some other form of illusion, that they confront each other and give the impression of serving religions that are mutually incompatible.¹⁰⁶

¹⁰⁵ Pignedoli, op. cit., 2.

¹⁰⁶ Andre Frossard, *Dieu en Questions*, (Paris: Desclée de Brouwer, 1990), 43.

A Theory of Moral Entitlement in Resource Allocation

by
Masudul Alam Choudhury*

Economic Entitlement

The concept of entitlement is equatable to property rights with the singular difference that it is conditioned by the characteristics of the vectors of goods to be owned as against simply the right to own such goods. Thus the concept of entitlement carries with it the dual and inseparable conditions of the nature of ownership and the responsibility inherent in such ownership. When such a concept of entitlement is invoked, it is obvious that mere monetary returns to target groups under study do not make up the essence of such an entitlement, nor does ownership of antecedental holding of property necessarily legitimize the nature of ownership.

Such a concept of entitlement is somewhat at variance with the ones presented in the literature by Sen and Nozick.¹ The essential difference arises in terms of the unbridled, unperturbed sanctity that these authors attach to the original endowment of holdings. That initial condition of holding property legitimizes all forms of exchange in the market system. To Sen, any form of interruption in such means of entitlement as trade, production, own labor, inheritance, and transfer is seen as the cause of economic deprivation. To Nozick, such interruption in entitlement based on original holdings is considered as immoral and inefficient. Thus to Nozick the very idea of redistribution of incomes through taxes and other institutional arrangement is an unwanted act.

This concept of entitlement as a conditioned idea of property rights necessarily alters the notion of the market, exchange, and thereby, the nature of the principal socioeconomic activities that take place in the polity-market

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¹ A. Sen, *Poverty and Famines: An Essay on Entitlement and Deprivation* (Oxford: Clarendon Press, 1986).

R. Nozick, *Anarchy, State and Utopia* (New York: Basic Books, 1974).

nexus.² The market can no longer be viewed as a primordial sway of unbridled freedom enacting the neutral functions of exchange between buyers and sellers of *any* goods that these deem desirable. It is equally no more the function of the polity to superimpose its predominance over the market activity in order to give it a socialistic essence.³ The market continues to exist as a profound institution of economic activity, but it is now involved in the exchange of goods with special attributes that legitimize this vector within the entitlement due.

The role of the market in concert with the polity in establishing the exchange milieu within the entitlement context therefore alters the conjoint functions of consumption, production, and distribution. A general equilibrium system is thus invoked in the entitlement concept, just as is the case of the Walrasian general equilibrium system and its variations in other systems of a multimarket version of interactive relationships among these economic activities and between the household, the produce market, and the labor market. However, in a Walrasian general equilibrium system, the role of government and institutions to regulate economic activities is nonexistent.⁴

Objective of this Paper

With this introduction we now lay down the objective of this paper. We will first develop the concept of moral entitlement in view of the ethico-economic general equilibrium system it configures.⁵ This will be exemplified by a summary picture of the Islamic general equilibrium system in light of the Islamic concept of entitlement. We will exemplify the Islamic concept of moral entitlement and its interactive function in the socioeconomic system. Finally, we will

² For another view on the market and the entitlement formation process see, K. Polanyi, *The Great Transformation* (Boston, MA: Beacon Press, 1944).

³ The dual or mixed economy should not be construed as an example of such an ethico-economic system, for these economic systems are based on the neoclassical basis of ethical exogeneity and the methodologies used in these are either not independent of neoclassicism or are not significantly well-known. The latter is the case with the historical institutionalists. The former is the case of the new institutionalists and of Gunnar Myrdal. See, S. Tsuru, "Keynote Address: Economics of Institutions or Institutional Economics," T. Shiraishi & S. Tsuru (eds.), *Economic Institutions in a Dynamic Society: Search for a New Frontier* (London: Macmillan Press Ltd. for the International Economic Association, 1989).

⁴ The treatment of applied problems in Walras is of a normative nature. See, J. van Daal & A. Jolink, "On the Economics of Walras," paper presented at the First International Conference on the Intercommunication on New Ideas, La Sorbonne, Paris, France, Aug. 1990.

⁵ Details of such theories can be found in M.A. Choudhury & U.A. Malik, *The Foundations of Islamic Political Economy* (forthcoming, London: Macmillan Press Ltd.).

point out the contrasts between the Islamic and other theories of entitlement. Here we will show that there are certain epistemological difficulties underlying the received theories of entitlement in the literature in respect to well-defining the concept of moral entitlement and its interactive role in the socioeconomic system. We will derive the theory of moral entitlement in resource allocation directly from the Qur'an as the principal source. All other sources will be treated as comparative studies in this paper.

The Concept of Moral Entitlement

To establish the concept of moral entitlement in a polity-market interactive setting, we first note the antecedental function of the market in received economic theory.⁶ This antecedental premise is characterized by the original ownership and endowment of vectors of items at the sole disposal of the sellers and at the sole desire of the buyers. The moral standing of the market in such a perspective is then judged by the consequentialist effects it leaves in the society at large. The consequentialist result, given the unperturbed function of market exchange relying on its antecedentalist legitimacy of holding, is seen as one for which the market itself is not responsible. The responsibility for the nature of the consequentialist effects of the market exchange given original holdings is seen as being vested with polity. Sen refers to this an evaluation of the market in different institutional arrangements.⁷

The market system in economic theory is thus devoid of moral sensitivity. Consequently the function of market exchange is seen as an ethically neutral media of setting values. What this means is that while there can be moral abhorrence in the consumption and production of 'bads' (i.e., pollution), yet given the neutrality of market exchange to the nature of such 'bads,' it is solely left to the exchange to determine the moral standing of the 'bads' in exchange. When the exchange has gone through and the activities of consumption and production have taken place, the market system simply reflects the final result of the exchange mechanism. Such a reflection can be a bad one when 'bads' rather than 'goods' are transacted in the market system. But the exchange system by itself is immune to the sensitivity of this end result.

Such an ethical neutrality of the market system and, consequently, of the

⁶ A. Gewirth, "Economic Justice: Concepts and Criteria," in K. Kipnis & D.T. Meyers (eds.), *Economic Justice, Private Rights and Public Responsibilities* (Totowa, N.J.: Rowman & Allanheld, 1985).

⁷ A. Sen, "The Moral Standing of the Market," in E. F. Paul et al. (eds.) *Ethics & Economics* (Oxford: Basil Blackwell, 1985).

exchange mechanism defining consumption, production, and value has pervaded mainstream economic doctrines.⁸ The profound difficulty in making the market system sensitive to the ethical relevance of exchange emanates from the way market and polity have been treated in the literature. On the one hand, we have the institutionally unperturbed vision of the 'free' market ruled by atomistic buyers and sellers with no particular inter-group hegemony. Thus, all agents are swayed by the same pre-set order of preferences.⁹ In the case of distortionary treatment of resource allocation in a market setting, the Second Best problem of sub-optimality is well known (or nth Best Solution, when such distortions are compounded by governments and other institutions).¹⁰

The essence of ethical neutrality of the market system is based on the dual realities of the antecedentalist and consequentialist concepts of exchange. The antecedentalist idea vests the original holding in the hands of the owner, who can dispose of that holding in any way that he desires to. The consequentialist idea gives the net result of the exchange for good or for bad. It relieves itself from the responsibility of the exchange mechanism that has taken place. The evaluation of the market is done on the basis of its consequentialist reflection, not on the basis of the antecedentalist one, for the free market system cannot interfere with the original holdings. This is the idea of Nozick's "moral horrors" that Western entitlement theory sees in institutional intervention in the market allocative process.¹¹

In the concept of moral entitlement, the separation between the antecedentalist and consequentialist viewpoints of the market system and market exchange does not exist. The responsibility to be morally acting is endowed in both of these premises of the total market function. There is no exonerating the exchange system from the original ownership of vectors of goods and the moral responsibility that these entail. Thus there is neither any concept of separating the market system from the polity nor of considering the self-interested preference formation for the consumer and the producer. Economic distribution is determined in the venue of the consumption and production menus that so emanate.

⁸ M.A. Choudhury, "A Critique of Developments in Social Economics and the Alternative," *International Journal of Social Economics* vol. 18, no. 11/12 1991.

⁹ For a description of the use of preferences in political association see, J.L. Coleman, "Market Contractarianism and the Unanimity Rule," *Ethics & Economics*, op cit.

¹⁰ J.O. Ledyard, "Market Failure," J. Eatwell et al (eds.) *Allocation, Information, and Markets*, The New Palgrave (New York: W.W. Norton, 1989).

¹¹ R. Nozick, "Foundations of Ethics," in *Philosophical Explanations* (Cambridge, MA: Harvard University Press, 1981).

Since primordial ownership loses its unbridled primacy in the moral entitlement concept, the concept of absolute ownership is therefore also relegated to the relevant concept of functional ownership.¹² The market system and its element of property rights are now guided by the role of polity in them. Yet it is not the polity that controls the market function. The market system continues to be upheld as the supreme allocator of resources. It is only that the market is now a morally guided system in the sense that such moral guidance is not enforced but integrated with the preferences of the consumer and the producer. Nienhaus refers to some such distinct view of his own as an “economic theory of morality.”¹³ The moral standing of the market now integrates with an equitable distribution menu and the precept of socioeconomic value. It is in this sense of moral integration of the polity with the market system that the ethically neutral concept of market is relinquished and replaced by an endogenous concept of ethics in the economic system.¹⁴

One can turn to the entire expanse of Western and Eastern socio-economic doctrines to find that political economic thought has always been swayed singularly by the precept of ethical neutrality and of ethical exogeneity to the socioeconomic system. This comprises the age-long period from the Greeks to the modern-day public choice theory, from Buddhism’s Mahayana and Hinayana schools as two levels of man’s quest for Nirvana’ the “yin” and “yang” (micro and macro-views of the cosmos) of Confucianism; to the present-day philosophy of the One and the Many.¹⁵ The common epistemological premise of all these thought processes is based on the separation of their view of reality into a dualistic mold of perception. That perception is essentially divided between an *a priori* essence of goodness and a non-interactive *a posteriori* element of sense perception.¹⁶ Unfortunately, several of the Islamic thinkers also

¹² A.H.A. Sulayman, “The Theory of the Economics of Islam: The Economics of Tawhid and Brotherhood,” *Contemporary Aspects of Economic Thinking in Islam* (Indianapolis, IN: The Association of Muslim Social Scientists, 1980).

¹³ V. Nienhaus, “Normative and Positive Knowledge in Political Economy: New Answers to Old Questions?” *Humanomics*, vol. 7, no. 3 1990.

¹⁴ The principle of ethical endogeneity is derived directly from the Qur’an. See Qur’an 14:24-7. The principle of ethical endogeneity is the keynote of M.A. Choudhury (ed.), *Policy-Theoretic Foundations of Ethico-Economics*, (Sydney, Nova Scotia, 1989). See also, M.A. Choudhury, *A Theory of Ethico-Economics* (forthcoming, Hull, UK: Barmarick Publications, 1991).

¹⁵ F. Capra, *The Tao of Physics* (New York: Bantam Books, 1984).

L.T. Sun, “Confucianism and the Economic Order of Taiwan,” *International Review of Economics and Ethics*, vol. 1, no. 2, 1986.

R. Rucker, *Infinity and the Mind* (New York: Bantam Books, 1983).

¹⁶ I. Kant, *Groundwork of the Metaphysics of Morals* (tr.) H.J. Paton (New York: Harper & Row Publishing, 1956).

fell victims to such dualistic ways of thinking as is shown by the works of Ibn Sīnā, the Ikhwān al Ṣafāʾ, al-Farabi and Ibn Khaldūn.¹⁷

Yet the singular difference of ethical endogeneity in socioscientific reality is an essential perception of the Islamic worldview of reality. While this view is not the one always pronounced by all Islamic thinkers, perhaps because of their subservience to Islamically extraneous realms of knowledge, it is definitely the one that remains the inexorable socioscientific worldview of reality presented by the Qur'an.¹⁸ In this perception of reality there are several elements to be noted, all of which together finally establish the concept of moral entitlement.

In this perception of reality, the essential *a priori* premise of God's unicity, governance, and guidance in the order of things is integrated with the worldly response of its comprehension. The *a priori* is thus interrelated with the *a posteriori* in continuous bonds of evolution of the tawḥīdī precept in the socioscientific reality.¹⁹ Such an integration bestows the primal and evolutionary character of morals in the socioscientific structure. Now in the context of the Islamic socioeconomic system, consumption, production, and distribution menus are all primordially influenced by the input of the *a priori* moral premise. But through the integrative function of this moral premise, the *a priori* becomes one with the *a posteriori*. Ethical considerations become endogenized in the socioscientific structure. The separation between the moral polity and the market (more broadly ecological system) system disappears.²⁰

The concept of moral entitlement is now established. The essential Islamic belief that absolute ownership of all resources lies with God relegates all temporal forms of ownership to the nature of functional ownership. With this change in the concept of primordial property rights, there remains the margin of essential irrevocability for moral intervention. All property rights are thus limited by the moral conditions of consumption, production, and distribution. These con-

¹⁷ S.H. Nasr, *An Introduction to Islamic Cosmological Doctrines* (Boulder, CO: Shambhala, 1978).

¹⁸ M.A. Choudhury, *The Epistemological Foundations of Islamic Social, Economic and Scientific Order, Volumes I & II* (book ms. 1990).

¹⁹ The understanding of the Tawḥīdī Field and the Tawḥīdī Precept is the essential element of an evolutionary epistemology of the Islamic thought processes. Such an approach, although being fundamental, has not been tried in the Islamic literature. Two other papers on the Tawḥīdī Episteme are, M. al-Fadl, "Contrasting Epistemics: Tawḥīd, the Vocationist and Social Theory," *American Journal of Islamic Social Sciences*, vol. 7, no. 1, March 1990. A. Schleifer, "Ibn Khaldun's Theories of Perception, Logic and Knowledge: An Islamic Phenomenology," *American Journal of Islamic Social Sciences*, vol. 2, no. 2, Dec. 1985.

²⁰ M.A. Choudhury, "Islamic Economics as a Social Science," *International Journal of Social Economics*, vol. 17, no. 6, 1990.

ditions are derived in the polity by the transcendence of the moral law, which in Islam is the Sharī'ah. The Sharī'ah derives its sources from the Qur'an, the traditions of Prophet Muhammad (Sunnah) and Islamically learned analogy (*ijtihād*).²¹ The formation of the Sharī'ah, its extensions over time, and the acceptance of such extensions and abrogations of the extensions are vested on the social consensus formation found in *shūrā*, the Islamic polity.

Yet it is not the ruling of *shūrā* alone that performs the integrative function of ethical endogeneity in the Islamic socioeconomic system. Rather, the most important cycle of integration comes from the side of the market (ecological) feedback to the *shūrā*. Such feedbacks signal the attained robustness of the polity-market interaction back to the *shūrā*, and enable it to continue on the cycle of the moral transformation in concert with the changing preferences in the socioeconomic system. *Shūrā thus responds to the ethical perfection that proceeds on in evolutionary cycles of comprehension.*²² Such is the learning-by-doing process that integrates it with the ecological system, of which the market is a subsystem.

The Principle of Ethical Endogeneity in Establishing Moral Entitlement

The principle of ethical endogeneity that underlies this Shuratic process of polity-market integrative moral transformation is explained in figure 1. The polity box shows that there is direct relationship between institutions, I (*shūrā*), and the formulation of ethical policies, EP. These ethical policies are then made to interact with the market (ecological) environment as shown. In the market/society box the usual general equilibrium relationship is shown to exist: Consumption, C, relates with production, P, and this with distribution, D. In each case these activities are influenced by the ethical policies. This results in the generation of social product, S. S then sends feedback signals to the polity box in two ways. In the short run, the institutions are influenced to revise their policies and the interaction continues. In the long-run, social consensus, SC, is formed. This further influences the I and E sets to generate higher levels of interactions between the polity and the market/social system. General equilibrium in the market/society set is shown in terms of interaction among the socioeconomic variables. General equilibrium in the polity set is shown in terms of social consensus formation. The integrated general equilibrium in

²¹ A.R.I. Doi, *Shariah, the Islamic Law* (London, Eng.: Ta Ha Publishers, 1984).

²² M.A. Choudhury & U.A. Malik, *The Foundations of Islamic Political Economy*, op cit.

the two sets is shown as the Islamic Ethico-Economic General Equilibrium.²³

The Concept of Islamic Ethico-Economic General Equilibrium System in Relation to Moral Entitlement

A brief epistemological formulation of the above concept of Islamic ethico-economic general equilibrium in the light of the moral entitlement concept is now presented as follows: A Qur'anic verse speaks on the topic of production, spending, and distribution in light of the epistemological foundations of the Islamic economic and social orders. That verse is in several interrelated parts.²⁴

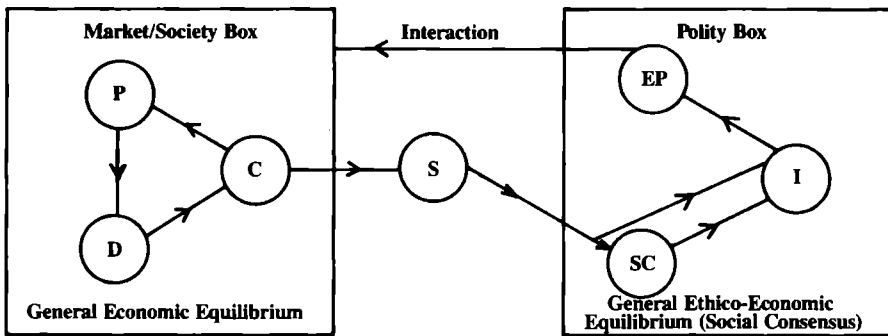


Figure 1: An Organistic View of Islamic Ethico-Economic General Equilibrium.

First, reference is made to the primary and produced goods that are delivered in the market or exchanged as gifts. Here it is shown that production is essentially a technical application to resources that are owned absolutely by God, with man as a trustee of those goods in their primary and produced forms. Thus the verse brings out the attributes of delivery of produced goods to be based on the honest production and delivery of things of use and benefit, not things that are useless and corrupting. The emphasis in this system of ethics is placed on the premise that all such deliveries are of goods that are not owned by man absolutely. Therefore man has no right to misuse those things ac-

²³ M.A. Choudhury, "The Blending of Social and Religious Orders in Islam," *International Journal of Social Economics*, vol. 16, no. 2, 1985.

²⁴ Qur'an 2:267.

cording to Islamic law. This principle is simply the principle of moral entitlement now being established on the production side.

Secondly, the verse goes on to point out the wisdom of market exchange of gifts or in the buying and selling of produced goods. The corrupt and dishonest exchange of useless and harmful items, when not characterized by the godly-set of moral values, are prohibited by the Shari'ah. According to moral characterization, all production just as all types of spending must be instilled with the attribute of God-consciousness.

Thirdly, by implication the question of moral entitlement is extended to the functional ownership of means and items of production. While the attributes of the godly-set of values are now extended to the production menu, mankind comes about not through any coercive policing rules of *shūrā* and its supportive organizations. The freedom for the shuratic process to be reinforced in the market venue indeed reflects the spontaneous response of the acceptance of truth, reason, and the fruits of felicity that are naturally generated out of the ethico-economic system. The strength and clarity of such a system is repeatedly shown in the referred to Qur'anic verses, to be due to the inexorable and impeccable presence of the godly-set in the order of things. Such a sure prevalence of truth is shown to lie in the essence of human pursuit for truth in spite of social aberrations in society among some sections of mankind over time. is thus implied.²⁵

The interrelationship among the various sections of the Qur'anic verse mentioned herein is seen in terms of the epistemological meanings of appropriate production of goods and appropriate technology, in the fair market exchange of those items that establishes moral entitlement, and in the social control and balance potentially delivered by the production activity. The early seeds of the Islamic theory of production are thus planted in this verse. These involve the role of productive activity in the general ethico-economic system of Islamic political economy. The social exchange is made to relate to these two by the determination of the social control and the balance of production and consumption, and the extension by implication of social justice to the factor market.

We have earlier presented briefly the Islamic ethico-economic general equilibrium system. It was shown to explain the interactions between *shūrā* and the ecological order. The social market system being a subset of this grand ecological order, we have shown that the concept of general equilibrium in it means the determination of social goods under the interrelationships between

²⁵ K.E. Boulding presented a non-neoclassical view of moral exchange in his, "Economics as a Moral Science," J.F. Glass & J.R. Staude (eds.) *Humanistic Society* (Pacific Palisades: Calif.: Goodyear Publications Co. Inc., 1972.

the three basic activities of an Islamic economy. These are the activities of social consumption, social production, and distributive equity (social justice). These three activities then relate with the ethical guidance of *shūrā*. But such a guidance comes about not through any coercive policing rules of *shūrā* and its supportive organizations. The freedom for the Shuratic process to be reinforced in the market venue indeed reflects the spontaneous response of the acceptance of truth, reason, and the fruits of felicity that are naturally generated out of the ethico-economic system. The strength and clarity of such a system is repeatedly shown in the referred to Qur'anic verses, to be due to the inexorable and impeccable presence of the godly-set in the order of things. Such a sure prevalence of truth is shown to lie in the essence of human pursuit for truth in spite of social aberrations in society among some sections of mankind over time.

In the context of the Qur'anic verses, the present-day concern of people all over the world with pollution, nuclear armaments, use of chemicals in war, drugs, drinking, junk food, abortion, pornography and prostitution, homosexuality, child abuse, cult worship, welfarism, irresponsible media and so on, are among the damaging forms of consumption and production items that need to be particularly focused on here. Social conflicts have thus arisen all the world over because of the harmful delivery of items that were not within the domain of the rights of individuals to deliver. On the other side, they are responded to and demanded by insatiable consumers within whose rights was never included the right for spending in such goods. The polity here appears as a promoter of this evil exchange in the market system in the hope of preserving party popularity and promoting the false image of progress and development created by a liberal and democratic visage of society.²⁶

The epistemological basis of the interrelationships mentioned in the Qur'anic verses referred to here now leads to the formalization of the general ethico-economic system in its rudimentary form. Toward developing this we define the set,

$$SG = [(CS, PS, DS, z) : PS = f_1(CS, z), DS = f_2(PS, CS, z), CS(z) = PS(z) = DS(z)] \quad (I)$$

where,

SG denotes a bundle of social goods.

CS denotes the demand for social consumption and investment goods.

PS denotes social production.

²⁶ W.M. Sullivan, "The Contemporary Crisis of Liberal Society," in H.B. McCullough (ed.) *Political Ideologies and Political Philosophies* (Toronto, Ont.: Wall & Thompson, 1989).

DS denotes social distribution (distributive equity).

$PS=f_1(CS, z)$ means that the supply of output responds to the demand for that output in the social market. $DS=f_2(PS, CS, z)$ means that distribution in the factor markets depends upon the production characteristics and the market exchange that generates prices, and thereby, profits that are distributively shared between the participants in a profit-sharing environment (*mudārabah*). The presence of z -vector as the Islamic ethical values in all of these menus shows the role of polity-market interaction necessary for social balance and control in the ethico-economic system. This equilibrium position is shown by $CS(z) = PS(z) = DS(z)$. Note that in the Islamic economy the principle of simultaneity between economic efficiency and distributive equity gives primacy to the goal of distribution to *shūrā*. This in turn determines the consumption-investment menu and the distribution menu in light of the costs and incomes generated by wages and profit shares.²⁷

The additional relations here as follows: The given functions are invertible in the z -vector and there is a 'basis' element of the z -vector that defines the X -set of commitment, motivation, and justice.²⁸ This basis vector establishes temporary equilibrium (optimality) in the set SG of social goods. Such an equilibrium then regenerates itself over different phases of ethical perfection attained by the evolving Islamic polity-market interactions over time. Since an equilibrium, although temporary, exists in the SG set over a particular phase of polity-market interactions, therefore, an optimal situation is attained in this set. Thus, there is an equilibrium-optimality for each of its compact subsets, i.e. CS , PS , DS , that simultaneously attain²⁹

Now, while the godly-set is compact over a particular phase of Islamic transformation, the set of equilibria over different phases of Islamization is unbounded, as there is no limit to the ethical perfection that individuals and a society can attain. The supreme example of moral perfection is found in the life of the Prophet Muhammad. Hence, over different phases of Islamization, we are involved with the mapping of the open Z^* set comprising equilibrium z^* vectors onto the corresponding SG^* set. That is, we can no longer define a limit point for the Z^* set for which a finite value exists in the SG^* set. The im-

²⁷ M.A. Choudhury, *The Principles of Islamic Political Economy: A Methodological Enquiry* (forthcoming, London, Eng.: Macmillan Press Ltd.)

²⁸ For a formalization of the commitment model see, R.H. Frank, *Passions without Reason* (New York: W.W. Norton, 1988).

²⁹ M.A. Choudhury, "A Study of Ethico-Economics in the General Equilibrium Field," *Festschrift in Honour of Anghel N. Rugina, Part I*, J.C. O'Brien (ed.) (Hull, Eng.: MCB University Press, 1986).

plication of this property of the SG*-set with respect to the Z*-set is that such sets are locally stable but globally unstable.³⁰ *Shūrā* comprehension, priorities, policies, and directions are thus constantly revised, and these bring about different configurations of consumption, production, distribution, and their responses between the polity and the market system.

The Concepts of an Islamic Market, Islamic Economy, in Relation to Moral Entitlement

A Definition of Islamic Market

The concept of the market emanates from yet another verse of the Qur'an.³¹ In the light of this verse, a generalized definition of markets, M , can be provided. Now, $M = M(p, r, qd, qs)(z)$, where, p denotes the market price in the immediate sale of the goods and services. r denotes the price for long-run sale of goods and services, and are therefore rates of return. qd and qs denote demand and supply of goods, respectively, immediately transacted in the market or in the long run. qd is also the demand for capital, $I(t)$, i.e., $qd = I(t)$; qs is also the supply price of capital, $P(V)$, i.e., $qs = P(V)$. The social aspect of these markets is shown by the dependence of all such variables on the Z -set.

Since the z -vector is invertible in the Islamic ethico-economic general equilibrium system, the spending set, production set, distribution set and the above-mentioned market variables must therefore be interrelated with each other through the z -vector. For instance, given a shuratic ethical policy z -vector by the *shūrā* of the firm, the consumption, production, and distributional menus result in a spending regime whose growth rate is governed by a declining interest rate and an increasing profit rate in the process of Islamization as discussed above. Consequently, greater mobilization of investment capital into Islamically requisite ventures strengthens the consumption, production, and distribution menus of the ethico-economic general equilibrium system.

A Definition of Islamic Economy

An Islamic economy described as the topological set,³² $E(CS, PS, DS/W, > \sim)$ is essentially an ethico-economic general equilibrium system based on

³⁰ For concepts on stability of economic equilibrium see, J. Quirk & R. Saposnik, *Introduction to General Equilibrium Theory and Welfare Economics* (McGraw Hill, 1968).

³¹ Qur'an 2:282.

³² G. Debreu, *Theory of Value: An Axiomatic Analysis of Economic Equilibrium* (New York: John Wiley & Sons, 1965).

direct and implicit contracts that influence the CS, PS, and DS sets in the economy topological set. More explicitly, in the ethico-economic set, $CS=f_1(p, r, qd, ds)$, with the variables defined in the static form if immediate delivery of goods in a market mechanism is involved, or as rates of return, investment, and present values, when long-term transactions are involved.

$$PS=f_2(p, r, qd, qs). DS=f_3'(CS, PS) = f_3(p, r, qd, qs). \text{ (Note—(2))}$$

Incorporating an Islamic market with the superstructure of an Islamic economy, we can now extend the definition of the Islamic economy as follows: It is defined now as an ethico-economic market system, EM, with polity-market interactions. This is now shown by the topology $E(M(p, r, qd, qs)(z)/W, > \sim)$. The ethical market system is shown by the vector, $(p, r, qd, qs)(z)$. The interaction between polity and the socioeconomic system is shown by the implied invertibility of these vector functions on each other's sets of values.

Figure 2 shows the formation of ethico-economic equilibrium through interactions in the EM system. The following symbols are explained:

$p, r, qd (=I(r)), qs (=P(V(r)))$ were defined earlier. Note that in order to show the ethico-economic market interactions it is sufficient to mobilize p and r in terms of the z -vector, for such induced price vectors will then qualify the quantities in the short and long run, respectively.

$(Es), s=1, 2, \dots$ comprise the short-run ethico-economic market equilibrium corresponding to greater or lesser induction of the process of Islamization as shown by the rightward and leftward movement, respectively, of the demand and supply curves. Thus the equilibrium points are induced by changes in the z -vector.

$(es), s=1, 2, \dots$ likewise comprise the long-run ethico-economic market equilibria corresponding to greater or lesser induction of the process of Islamization.

The set of z -vector corresponding to immediate market transactions is shown to be a combination of the sets— $A0''$ of pure Islamic good-set (z -variables), the admissible but not recommended set, $A0'$ in the process of being Islamized (z' -variables). Note that each of these sets is concave to the origin, as was formalized earlier. Similar sets are seen to exist for the long-term transactions. The correspondence between the $(Es), (es)$ sets and the set of z -vector is shown by the two way arrows in the sense of invertibility.

Contracts in the EM system take place between individuals, in which case the production menu can assume the form of household production function,³³

³³ For a concept of household production function see G.S. Becker, "A Theory of the Allocation of Time," *Economic Journal*, vol. 75, Sept. 1965.

or they take place between investors and businesses. In either case, the direct contract establishes the full force of the market exchange mechanism as the immediate deliverance of the fairness and utility of the contract to buyers and sellers. In the case of longer-term transactions, investments are involved. Now the implicit contract is to deliver the appropriate goods and adopt the fairest means according to the godly-set. The net result of all these is both increased material as well as spiritual welfare of the individuals and society at large.

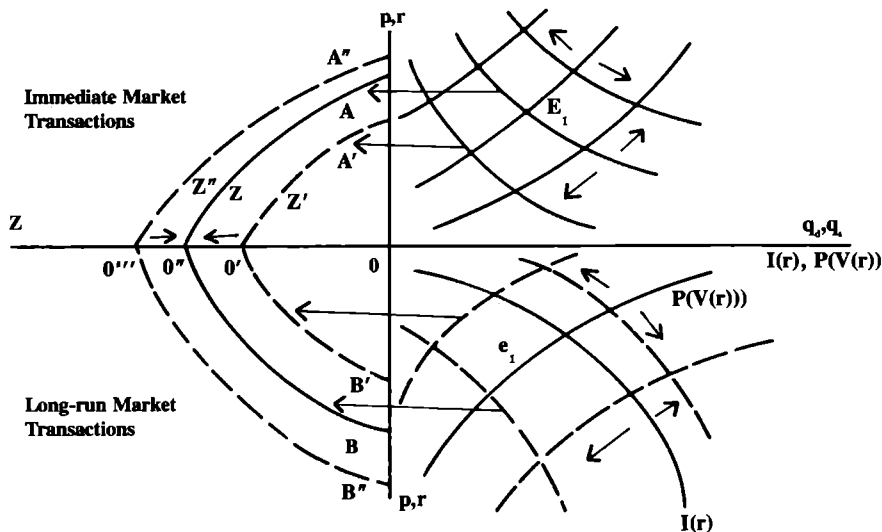


Figure 2: Correspondences in an Islamic Ethico-Economic Market Environment.

Islamic Inheritance as Moral Entitlement

The Islamic inheritance system is an important medium for establishing moral entitlement in society. But an inheritance that is squandered away cannot be categorized as deserving its entitlement by the recipient. In order to protect the status of moral entitlement in an Islamic society and mobilize it through inheritance, the Shari'ah provides necessary safeguards built into the distribution, socio-economic mobilization and maintenance of inheritance through an Islamic economy.

That is why the Islamic inheritance system is shown to be embedded in a profit-sharing (*mudārabah*) driven polity-market interactive process that generates wealth and perpetuates the capital information process through the household activity. In this type of socioeconomic relationship where both the household division of labor, complementarity between men and women, as well

as economic efficiency and self-reliance are recognized, there must necessarily be the ordering among various categories of receiving, namely sons' share, daughters' share, mother's share, relatives' share, and other shares.³⁴

In the final analysis, the mobilization of such shares through the *mudārabah* (profit-sharing) system in an Islamic economy bridges the initial differentials in the shares, as the rate of return is equalized among all participants. In the aggregate economic sense, this initial differential is further reduced as all individuals become beneficiaries of the volume of inheritance mobilized into social services.

A Comparative View of the Social Values of Inheritance

A comparative view can be presented here between the capitalist, socialist, and Islamic viewpoints on the socioeconomics of inheritance. In the capitalist system, although individual property rights and inheritance play a significant role in capital accumulation, equity is not considered to be a feature of the distribution of inheritance. Thus property distribution is left totally to the inheritance will. There is no unique way in which this inheritance will can be formulated, as it is left to the preferences of different individuals to react differently to their heirs subject to the given inheritance to be bequeathed. We show this in figure 3.

Figure 3 shows in quadrant 1 the case for the capitalist mode of distribution of inheritance. A given allocation of inheritance, (G1, G2) is represented along the line L1 at the optimal point of choice by the will of the donor at point a1, giving a certain preference by the donor between the individuals 1 and 2. The slope of this line expresses that subjective rate of preference as the ratio of a subjective rate of preference for G1 over G2. But a1 is not a unique point of choice. The same donor is free to choose point a2 if his preference between G1 and G2 changes, with the new inheritance line shown by L2 and the point of optimal allocation shown by a2. There is no other reason to shift between a1 and a2 than adhering to the relative rates of preferences shown by the slopes of the lines and as subjectively determined by the individual. Next, market mobilization of a given flow of inheritances can create wealth that shifts the inheritance indifference curve from A1 to A2, and the same formalization on allocation of inheritance repeats itself in this situation.

In quadrant 2 we show the problem of property distribution in a socialist economy, where there is no respect of inheritance rights nor any market to

³⁴ Qur'an 4:12.

mobilize the property acquired by the socialist state. Property formation in the socialist state itself remains minimal. An example of private property in the socialist system that qualifies for state acquisition for distribution is a cooperative enterprise held by an individual under conditions of perestroika. But such socialistic distribution of property is governed by state-determined rules, and under these, the state determines how to allocate (G1, G2) between two groups. The state itself then mobilizes property acquired by it. There being no market in the socialist system, the upward shift of b1 to b2 is small.³⁵ The state-determined points of property distribution are shown by b1, b2, and so on. They must lie along the uniquely determined distribution line S1 corresponding to a given assignment on the shares distributed to G1 and G2.

In quadrant 3 we show property distribution in the Islamic socioeconomic order. Since the distribution of shares is set by the Qur'an, there is a unique point c1 corresponding to a given level of inheritance and structure of family. As long as this structure remains unchanged and inheritance is mobilized through an Islamic market economy, c1 will shift to c1'. However, with changes in the structure of family, property distribution changes, as is shown. Correspondingly, c1 can shift to c2, c2 to c2' and so on. The loci of property distribution with such structural family changes and market mobilization of property, shown by I1, I2 and so on, are not unique, as the changing structure of family is not within human control. The changes in allocation do not occur due to subjective preferences of the donor for individuals G1 and G2. They do not result from state-determined prefixation of property shares. Contrarily, family structure and market forces are relied upon to activate the mobilization of inheritances. The general equilibrium implications of such mobilization were explained earlier.

Zakāh or Wealth Tax as Moral Entitlement

A very important part of moral entitlement in Islam is the institution of *zakāh*, (wealth tax). With the addition of *zakāh* to the Islamic spending vector,³⁶ the ethical attributes of the Islamic expenditure model shows how the worldly felicity derived from the doing of righteous acts emanates from the application of God's laws in society.

³⁵ P.R. Gregory, "The Soviet Bureaucracy and Perestroika," *Comparative Economic Studies*, vol. XXXI, no. 1, Sept. 1989.

³⁶ The chapter "Al Baqarah" (The Cow) of the Qur'an provides a complete list of elements of the Islamic spending vector.

The earlier expenditure function of an Islamic economy which was in terms of consumption expenditure is now extended to include *zakāh* expenditure. The expenditure set is now augmented by the following *zakāh* expenditure set:

$$H = H_1 \cup H_2 \cup H_3 \cup H_4 \cup H_5 \cup H_6 \cup H_7 \cup H_8, \dots (3)$$

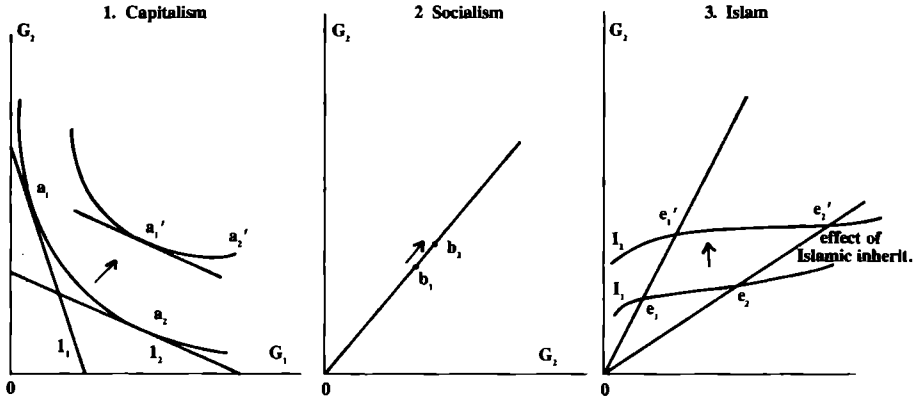


Figure 3: Allocation of Property in the Comparative Views of Capitalism, Socialism, and Islam.

where, H_i are the subsets of *zakāh* expenditures specified as in the verse, $i = 1$ (kin), 2 (orphans), 3 (needy), ... 8 (ransom of slaves). The Islamic *zakāh* expenditure is a suitable combination of these subsets of expenditures according to needs and priorities. Thus, $\Pi (i=1-8)H_i \neq \emptyset$. Each of these subsets is characterized by the following attributes: God-consciousness, hereafter, angels, messengers of God, prayer, trust and freedom.³⁷ Thus the earlier Z-vector of Islamic fundamental values is now extended to depend upon these additional attributes. In all, we have the Z-vector depending upon the following attributes: (God-consciousness (e_1), hereafter (e_2), angels (e_3), messengers of God (e_4), prayer (e_5), trust (e_6), freedom (e_7)).

These attributes in respect to their influence on *zakāh* expenditures essentially define the Islamic sense of righteousness. For the outer manifestation of prayer to be meaningful and to be acceptable to God it is mandatory for such prayer to inculcate the above-mentioned attributes of righteousness. The mention of trust here is both in regards to the Islamic trustworthiness of contracts signed with others as well as it denotes the trust that each Muslim has been

³⁷ Qur'an 2:177.

made responsible for within the Islamic *ummah*. An important aspect of this trust is that of the well-to-do to the less wealthy. *Zakāh* is thus made a pillar of the Islamic faith as it is shown to join the other principal values, namely, belief in God, prayer, belief in the angels, and belief in the messengers (therefore, on the divine message sent by God to mankind through the prophets throughout time).

The epistemological basis of formulating the Islamic expenditure function is now cast in the following problem:

Let the *zakāh* expenditure model be taken in the form,

$$h = \sum a_i \cdot h_i(z) \quad \dots (4)$$

where, a_i denotes a weight placed on the source of expenditure depending upon the social and economic circumstances prevailing at a time:

$$h_i \in H_i, h \in H, i = 1, 2, \dots, 7.$$

$z \in Z$ denotes the vector of Islamic attributes.

In the above verse the functional form $h_i(z)$ is based on the fact that *zakāh* expenditure is not a coercion on people. Rather, it is *taqwā*-creating (God-consciousness) and therefore invokes expenditure out of love for God. By the same token the payment of *zakāh* in the process model of social preference transformation in the Islamic society does not mean ostentatious or politically-motivated dues made forth to the community or the state. The motivation to pay and collect *zakāh* must be spontaneous according to the need for forming productive entitlement at the grass roots level.³⁸

The epistemological basis of the *zakāh* expenditure model can now be linked up with similar form acquired by the Islamic consumption expenditures set as follows. Let the augmented Islamic individual expenditure set, IEx , be,

$$Ex = CI(Z) \cup H(Z) = (cI(z) + h(z)), \text{ such that, } cI(z) \in C1^* \cup C2^* \\ \cup C3^*, h(z) \in H, z \in Z(e1, e2, \dots, e7) \dots (5)$$

Note now, that since both c and z depend upon z -values, they must be complementing each other. Because *zakāh* is a social expenditure variable, complementarity here would mean that with a given endowment of resources, $C3^*$ subset of luxuries would be becoming smaller in measure as $H(Z)$ set increases

³⁸ M.A. Choudhury, *Theory and Practice of Islamic Development Cooperation: Some Asian Cases* (book ms, 1990).

in measure. Therefore in the limit, $\lim (u(H(Z) \rightarrow \inf)u(C3^*(Z))) = 0$, the Islamic social expenditure set, SEx equals the Islamic individual expenditure set, IEx. $u(.)$ denotes the mathematical mapping on the sets shown within brackets (.).³⁹ This means further that,

$$IEx = CS(Z) \cup H(Z) = (cs + h(z)), \text{ such that, } cs \in CS = (c(z), z(c)) \\ \lim(u(H(Z) \rightarrow \inf)u(C3^*(Z)))=0 \dots (6)$$

Therefore $cs(z) = cI(z)$, and by the invertibility of the cs , cI and h functions on the Z -vector,
 $z(cs) = z(cI) \dots (7)$

The above results establish further the epistemological basis of the expenditure models in the Islamic economy. That is, under the influence of *zakāh* individual consumption preferences must be inevitably transformed into social preferences. Also in Islamic social and economic frameworks individual ethics must finally conform with Islamic social ethics. This is indeed the process of ethical transformation at which the Islamic worldview aims. The invertibility properties on the Z -vector means that the rational and empirical synthesis of the Islamic moral values with the functions of society are at once primordial and derived from the Islamic social felicity that society attains from moment to moment in its evolution.

One final point must be explained here with respect to the problem of free-rider in relation to *zakāh* expenditure on the needy. Some authors have taken the view that the *zakāh* is associated with the free-rider problem.⁴⁰ To contradict this mistaken conclusion we proceed as follows.

The principle of simultaneity between economic efficiency and distributive equity is at work again. A higher degree of distributive equity being entitlement generating in an Islamic economy must necessarily result in higher production and consumption, bringing along with it higher levels of felicity. If one form of spending in the total category of Islamic spending set shows signs of misuse and free-ridership, it is followed by a change in the mode and priority of spending. This is particularly true when spending, including collection and disbursement of *zakāh*, becomes organized.

Moral Entitlement and Social Justice.

The moral entitlement theory has so far been developed in terms of Islamic

³⁹ I.J. Maddox, *Elements of Functional Analysis* (Cambridge: Cambridge University Press, 1970).

⁴⁰ H. Hosseini, "Islamic Economics—A New Economics or an Old Dogma?" *Forum for Social Economics*, vol. 16, no. 2, Spring 1987.

concepts of polity-market interrelationships, characterization of social goods, a general ethico-equilibrium system, and various types of spending including the important spending of *zakāh* and inheritance. It is next extended to invoke the Islamic concept of social justice.

The Antecedentalist and Consequentialist Ideas of Social Justice

Here we return to the question of the antecedentalist and consequentialist views of social justice through the market system pronounced in the Western economic system. We shall now show that the theories of justice relating to entitlement (distributive justice) developed in the context of such ideas are erroneous. We will next present the epistemological foundation of social justice (distributive justice) in Islam in the context of the theory of moral entitlement.

In recent years, Nozick has reaffirmed the neoclassical concept of entitlement formation.⁴¹ He says that if an initial holding of goods and resources is established by justice for an individual or group, then any redistributive influence on this holding of property bundles is unethical and counterproductive. Nozick categorizes in this argument the role of taxes as being regressive and nondistributive. The extent of such a concept of distributive justice would be extremely damaging. For example, if such types of entitlement based antecedentalist ideas were given sway, the Palestinian people would have no rights to their homeland Palestine in the face of the Nozickian antecedentalist primordial rule, saying that the land in antiquity belonged to the Jewish people.⁴² Contrarily, it is the moral entitlement to the land of Palestine that as derived from the Qur'an promises this to the righteous Muslims.⁴³

The western social welfare system is a gross aberration of socially purposeful and productive directions.⁴⁴ The concept of entitlement included in the

⁴¹ I. M. Kirzner, "Entrepreneurship, Entitlement, and Economic Justice," in J. Paul et al (eds.), *Reading Nozick, Essays on Anarchy, State and Utopia* (Totowa, N.J.: Rowman & Littlefield, 1981).

⁴² Much of Nozick's *Philosophical Explanations*, which presents many Judaic views on ethics, justice and their link with entitlement, was completed and presented as lectures during his sabbatical period at Hebrew University, University of Tel Aviv, University of Haifa, Ben-Gurion University and the Van Leer Jerusalem Foundation.

⁴³ Qur'an 7:100, 128. Contrasts these supreme Qur'anic moral messages of moral entitlement based on belief in God against the ethnocentric note given in the Old Testament, Numbers 33:51-53, 55. M. A. Choudhury, "The Concept of 'A New World Order' in relation to the Gulf Crisis," paper presented at the Tompkins Institute Seminar, University College of Cape Breton, Oct. 1990.

⁴⁴ B. R. Anderson, "Rationality and Irrationality of the Nordic Welfare State," *Daedalus*, (Winter, 1984).

welfare concept is one of income supplementation and transfer payments. This welfare concept does not ultimately protect an individual against job insecurity. Welfare payments take the form of augmenting low incomes through a transfer of programmes progressive taxation or unemployment benefits. Both of these programmes have proven to be phenomenally large and inflationary in recent times.⁴⁵ The socially unproductive results of the welfare trap, free-ridership, loss of dignity and purposeful participation in the world of work, together with the dangerously alarming social disruptions these have created are manifest in Western society without exception. The problem is heading to explosive proportions rather than mitigating in the face of economic prosperity and generous welfare system of this society.

Recent Developments on Social Justice Theory in Western Thought

The continued dependence of Western social welfare system on the neoclassical ideas of resource allocation is to be seen in contemporary public choice literature.⁴⁶ They are also inherent in the new theories of social justice.⁴⁷

The public choice theory is a re-enactment of the libertarian type individual decision making in political matters. Thus, voting behavior is simply explained in terms of a pricing mechanism wherein individuals buy votes sold by politicians to satisfy group norms. There is no role for moral and ethical questions to predominate in this arena as long as such issues are not invoked by the public in the first place. One would therefore argue that if the cost-benefit calculations of the polity show electoral profitability while maintaining shantytowns, then go for the latter. Expenditures on crime control and legal punishment can be managed through general tax revenues as long as the people and corporations find it less taxing on them than to rehabilitate the shantytown dwellers.⁴⁸

Rawls' theory of justice says that for the sake of an equalitarian society the measure of social welfare must be judged by the criterion of maximizing the social welfare of the least advantaged.⁴⁹ The attainment of such a state in the

⁴⁵ See various issues of the *OECD Observer* (Paris, France: Organization of Economic Cooperation and Development) for statistics on social welfare expenditure in member countries.

⁴⁶ T. Romer, "James Buchanan's Contribution to Public Choice Theory," *Journal of Economic Perspective*, vol. 2, n. 4, 1988.

⁴⁷ J. Rawls, *A Theory of Justice* (Cambridge, MA: Harvard University Press, 1971).

⁴⁸ H.R. Rodgers Jr. *Poverty Amid Plenty: A Political and Economic Analysis* (Reading, MA: Addison-Wesley, 1979).

⁴⁹ For a critique of this Rawlsian viewpoint see, P.R. Wolff, *Understanding Rawls* (Princeton, NJ: Princeton University Press, 1977). M.A. Choudhury, "Attempts Towards a Systemic Approach to Ethical Value Theory in Economics," in his *A Theory of Ethico-Economics* (forthcoming, Hull, UK: Barmarick Publications, 1991).

new justice model necessitates that each citizen be started off at an original position, where each, not knowing about expectations of the other, is made to decide for itself. Such an idea is simply a return to the liberation concept of individualism now given a different methodological form. The theory suffers from the same problems of independence of utilitarian behavior and thus falls short of addressing the more primal questions of the causes of social dissent and malaise.⁵⁰

The Concept of Social Justice under Socialism

Social justice is also the target of socialism as a social and economic order. Yet both the substantive and procedural components of the idea of justice are very different from those of capitalism. The substantive element derives itself from the assumed premise made by Marx that morality and ethics preached by the religions in the name of God are illusions; they are used for sustaining a capitalistic order through the machinery of the church. This type of conclusion was based not on rigorous analytical arguments but rather on Marx's observations on the impoverishing and exploiting machinery of capitalism during the early days of the Industrial Revolution in England. He saw the rapacious role of profits on the working class in the name of entrepreneurship. He saw the impoverishing wages and the connection of this to the business cycle, which he claimed represented the structural consequences of a capitalist economy going through long cycles of exploitative production, high profits as surpluses, gluts, massive unemployment or low wages and so on.⁵¹ In this, Marx read the signs of gross inequity for the working classes and peasants. His was thus a prognosis against the capitalist means and ends of production. Marx questioned the profit-basis of capitalism, free markets and ownership of the means of production.

By and large then, Marx's idea of justice is centered around the idea of economic justice. Social justice is seen to be subsumed in this, as there exists no profound epistemological foundation for Marx to derive a substantive premise for a theory of justice. The substantive idea of social justice finding its origins in socialism independently of established traditions was at once a revolt against the church as it was against the institutions of law and justice found in the Western world. This same substantive idea became a revision of the libertarian basis of the social order in order to reveal its economic-centered concept of justice.

⁵⁰ J. Rawls, "Distributive Justice," in E.S. Phelps (ed.), *Economic Justice* (New York: Penguin Education, 1973).

⁵¹ P.M. Lichtenstein, *An Introduction to Post-Keynesian and Marxist Theory of Value and Price* (London: Macmillan Press Ltd., 1983).

The individualistic decisions, choices, freedom, and preferences taken singly meant deception to Marx. Accepting these would mean reverting socialism back to the same capitalist foundations and institutions. The conduct of organizations would then be similar. Marx therefore changed this libertarian leaning from individualism to collectivism. The socialist state became the expression of the people, called the proletariat. The social welfare goals of the state thus represented those of the people, who had given it the mandate in the first place. The perceived distributional process to bring about distributive justice was thus taken over by the state as the ideal representation of the collective preferences.⁵²

Social Justice and Economic Justice in Islam

The Islamic concepts of distributive justice and social justice are inseparable from each other. The reasons for this are that both concepts derive their substantive components from the same primacy of revealed knowledge; but further still, because ethics and morals in Islamic politico-economic matters are inseparable elements of the social relationships. This feature of the Islamic social system is a critical one. It assumes both the essence of the polity-market interrelationship as well as the *modus operandi* of the ethico-economic system of Islam within which the Islamic distributive equity unfolds.

The salient features of this ethical interrelationship are shown in figure 4. It implies that the primacy of the principle of *tawhīd* (unity of God, along with its two other linked sub-principles, *risālah*, (prophethood) and *ākhirah* (belief in the hereafter), the principle of distributive equity and the principle of entitlement formation, pervade all deliberations in various *shūrā* levels resulting in policy information that impact upon the market system.⁵³ The market system is thus given high sanctity in the Islamic socioeconomic order. It is looked upon as the rich arena for the inculcation of the bounties of God on the welfare of humanity. It is seen as the arena for the effective integration of Islamic ethics, laws, and shuratic policies in the life of *ummah*, for Islamic transformation is a grass roots movement and must be freely accepted by the populace. It cannot be imposed from above. This democratic process of feedback and integration between the polity and the market through ethical policies enacted in the *shūrā*, which is decentralized and democratically represented at all levels and groups of the Islamic society, is a secure one. The Qur'an says of this security

⁵² E. Raiklin & K. McCormick, "Soviet Man on the Road to Utopia: A Moral-Psychological Sketch," *International Journal of Social Economics*, vol. 15, no. 10, 1988.

⁵³ This general equilibrium was first presented in M.A. Choudhury, *Islamic Economic Co-operation* (London: Macmillan Press Ltd. 1989).

on two fronts: First, it is Truth of assured certainty—"And what is there after the truth but error" (10:32); "And with truth have We revealed it and with truth did it come" (17:105). Secondly, the Qur'an says that those who relinquish the way prescribed by Islam cannot do an atom of harm to the Islamic cause.

Inseparability of the Substantive and Procedural Components of Social Justice in Islam

The substantive and procedural components of Islamic social justice can now be seen as being inseparable from each other. This is again because of the inseparability of the principle of *tawhīd* even from the most mundane affairs of the Islamic society, say the caring of animals or the irrigation system in early Islamic period. Here then is a sharp contrast of the Islamic epistemology of social justice with the substantive and procedural premises of social justice in Western social philosophy. The latter system of thought treated matters relating to ethics and morals as exogenous elements of the procedural component, although their relevance can be traced to the religious roots and Greek philosophy in the substantive component. As for the socialist philosophy, there is no discernible epistemological foundation for deriving the communist ethics. The procedural component derives itself from the communist lure to establish an earthly paradise through industrialization and collectivization. Conclusively therefore, the inseparability of the substantive and procedural elements of social justice in Islam establishes the premise of endogeneity of ethics and values in the Islamic social and economic order.

Antecedentalism and Consequentialism of Islamic Social Justice

The antecedentalist and consequentialist properties of social justice are strong features in the Sharī'ah. Antecedentalism of the Sharī'ah is derived from the epistemological foundations of the Qur'an and Sunnah. It plays its primal role in the formulation of rules of conduct, policy formulation and syllogistic deductionism (*ʿilm uṣūl al fiqh*) in *shūrā* and *ijtihād*. It establishes a consensus in social choice ordering that configures the measure of *falāh* (felicity). It is like the originary philosophy of Kant, but lends itself to human reason through receptivity. In this sense, the Islamic originary philosophy is based on the premise of *tawhīd* that is dynamic and self generating in its relationship with the real world. On the other hand, the originary philosophy of Western thought is construed in terms of a "society as a whole (being) regulated by an external, pre-given, and unquestionable teleological *myth*. More important than

its function in guiding the behavior of the individual is the theoretical status of the telos.”⁵⁴ Consequentialism in Islamic social justice is the result of the polity-market interaction that we have explained above. The prowess of the ethical policies is proven by its acceptability in transforming society. It is continuously subjected to a learning-by-doing process of change, improvement, and application.

Because of the integrative nature of the substantive and procedural components of Islamic social justice, of the inseparability of economic justice from social justice, and of the central role of ethics as endogenous elements of the Islamic polity-market interrelationships, there can exist no real separability between the antecedentalist and consequentialist features of social justice in Islam. Islamic political economy thereby, negates the neoclassical assumptions of marginalism in resource allocation. Equally, it negates custodianship like that of the Communist party hegemony over the proletariat, which is without a substantive base other than the Marxist-Hegelian reflexivity of relation.⁵⁵ The end that completes this philosophic system is the Communist party as a physical form motivated by the precept of creating a political-economic paradise on earth.

Conclusion.

The theory of moral entitlement in Islam is intrinsically linked with the foundation of social and distributive justice as elaborately established by Shari'ah. Within this purview all functions of the socioeconomic order revolves, bestowing forms and meaning in an ethio-economic general equilibrium framework. The principle of ethical endogeneity and the essentially by unified nature of reality pervades such a system. In this context, the shuratic process that both endows and reinforces itself over evolutionary phases of Islamization, sustains all social and economic relationships in the framework of the primacy of principle of *tawhīd*, the principle of justice, and the principle of moral entitlement. The Islamic precept of social justice being the foundation of moral entitlement and emanating from the crowning principle of *tawhīd*, the core relationships in the Islamic ethico-economic general equilibrium system turns out to be as provided in figure 4.⁵⁶

⁵⁴ D. Howard, *From Marx to Kant* (Albany, N.Y.: State University of New York Press, 1985).

⁵⁵ G.W.F. Hegel, *The Philosophy of History*, (trans. J. Sirbee (New York: Dover Publications, 1956).

⁵⁶ M.A. Choudhury, *Islamic Economic Co-operation*, op cit.

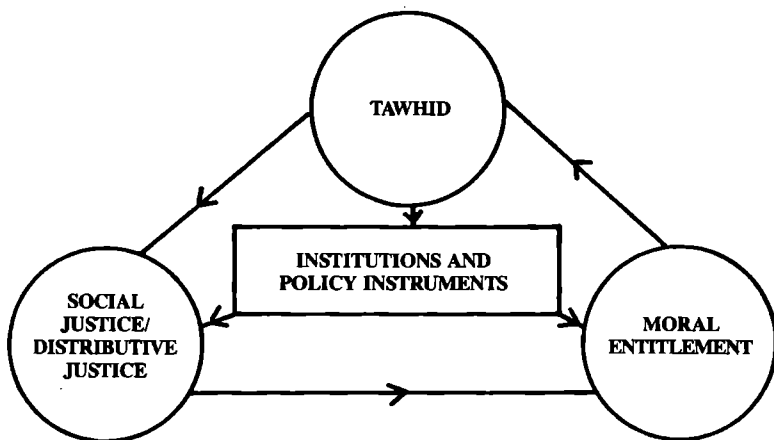


Figure 4: The Core of Islamic General Ethico-Economic System.

Investment Demand Function in a Profit-Loss Sharing Based System

by
Mohammad Fahim Khan*

Introduction

Interest has no place in an Islamic economy. The Islamic alternative is that financing either be free of any return or that it should bear the risk of loss as well if it expects to earn a return. There are several ways in which financing can be made to earn a return in an Islamic way.¹ Though the contemporary practice of Islamic banking has concentrated its operations on what is called markup-based (trade) financing, the theory of Islamic banking has been advocating the use of what is called Profit-Loss Sharing (PLS) based financing as the first best alternative to interest-based financing.² A substantial amount of theoretical literature has emerged during last fifteen years, in the East as well as in the West, discussing the economics of a PLS-based financial system as an alternative to an interest-based system. Several Ph.D. dissertations have also been written on the subject in Western universities as well.³

Investment demand has been one of the topics most subjected to rigorous analysis. The analyses, however, have been found deficient in one way or the other. The objective of the present paper is to point out some of the deficiencies in the several major attempts made in this area and to suggest an alternative formulation for understanding the investment demand phenomenon under a PLS system.

The Issue

The theory of Islamic banking suggesting PLS as an alternative to interest defines the concept of PLS in the following terms:

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¹ See Council of Islamic Ideology (26).

² See, for example, M.N. Siddiqi (8), M.U. Chapra (2), Council of Islamic Ideology (26).

³ See, for example, Waqar M. Khan (10), Nadir Habibi (27), Shah Rukh Rafi Khan (29).

- Let the investor be the one who demands funds for investment in an enterprise.
- Let the capital supplier be the one who supplies funds to the investor for investment in the enterprise.
- Both parties agree to share the profit arising out of the investment according to any preagreed ratio.
- The loss, if any, will be shared by the two parties in exactly the same ratio of their respective capital in the total investment of the enterprise. (If the investor does not invest any of his own funds, in which case he will be treated as *muḍārib*, then he will not share any loss.)

How will the demand for investment funds (by the investor) be determined in this framework?

Will the Investment Level Be Higher under PLS?

Several writers have argued that under such a system the level of investment will increase, because the elimination of interest will allow firms to invest up to a level where the marginal product of investment becomes equal to one.⁴

Their argument is as follows:

We have a production function $Y = F(L, I)$ where L and I represent labor and investment respectively. We define profit in the interest-based system as:

$$\begin{aligned} P &= F(L, I) - I - wL - rI \quad \text{_____} \quad (1) \\ &= F(L, I) - wL - (1 + r)I \end{aligned}$$

where w is the price for labor, r is the interest rate on capital, and P is profit.

Profit-maximizing conditions require that the marginal productivity of investment be equal to $(1 + r)$.

$$\frac{dF}{dI} = 1 + r \quad \text{_____} \quad (2)$$

Correspondingly, we define profit in the PLS-based system as:

$$\begin{aligned} P &= F(L, I) - I - wL - k[F(L, I) - I - wL] \\ \text{or, } P &= \{1 - k\} [F(L, I) - I - wL] \quad \text{_____} \quad (3) \end{aligned}$$

⁴ See, for example, Waqar M. Khan (10, 30), Nadeemul Haq and Abbas Mirakhor (22).

Where k is the ratio in which the profit is to be shared by the capital supplier.

Profit-maximizing condition require that:

$$\frac{dF}{dI} = 1 \quad (4)$$

The condition requires that the marginal productivity of investment be equal to unity. Comparison of equation (4) with equation (2) is used to directly imply that the investment made in a PLS-based system will be higher than that in the interest-based system because $(1 + r) > 1.0$, and a lower marginal productivity of investment implies a higher level of investment.

The above analysis, though rigorous, fails to recognize the supply constraint. If the marginal productivity of investment is equal to unity, this implies that the opportunity cost of capital is zero. This would be a naive assumption. Islam has nothing against having a positive time preference. Besides, there is risk-bearing involved in all investments. These two factors may not allow the capital supplier to supply funds unless he finds it quite likely to realize a certain minimum rate of return. This capital owner's reservation rate of return may occur above or below the interest rate r . Hence in the above framework, it is not *a priori* clear whether the investment demand will be lower or higher in a PLS-based system. As far as the investment demand function is concerned, equations (3) and (4) do not help us. Some alternate function is needed.

Infinitely Elastic Demand for Investment under PLS?

On the other hand, some authors have argued that a PLS system implies an infinitely elastic demand for investment funds.⁵

Their argument is as follows:

The investor's status in the enterprise is fixed to the extent of his own investment in the form of capital (physical, human, or financial capital). The more investment funds he gets from the capital supplier, all additional liability of loss will go to the capital supplier while the investor will have a share of any additional profit that may come as a result of more investment. In other words, the investor does not lose anything by demanding more and more investment funds, for his gains are likely to increase as the invested amounts rise.

This argument is also naive. It assumes two things:

- The profit-sharing ratio is exogenously given and remains constant irrespective of the level of demand for and supply of investment funds.
- The opportunity cost of capital is zero.

⁵ See, for example, Nadir Habibi (27).

The problem arises because the above formulation assumes k to be independent of the level of investment demand.

It is, however, unrealistic to assume k to be independent of I (the level of investment demanded by the investor). There are objective reasons to assume that the higher the I , the higher the k will be demanded by the capital supplier to compensate for the risk of putting all his eggs in one basket. (This will be further elaborated in the next session.)

If k is a function of I , then in terms of equation (3) the profit maximization would require $\frac{dF}{dI}$ to be greater than unity.

Equation (3) states that:

$$P = [1 - k] [F(L, I) - I - W]$$

If $k = F(I)$ such that $k' > 0$

$$\text{then } \frac{dP}{dI} = [1 - k] \left[\frac{dF}{dI} - 1 \right] + [F(L, I) - I - W] (-k') = 0$$

$$\text{or } k' [F(L, I) - I - W] = (1 - k) \frac{dF}{dI} - (1 - k)$$

$$\text{or } \frac{k' P + (1 - k)}{1 - k} = \frac{dF}{dI}$$

$$\text{or } \frac{dF}{dI} = 1 + \frac{k'}{1 - k} P$$

Both things are immediately clear:

- i) Whether the investment level will be higher in PLS is not certain. It may or may not be, depending upon:
 - a) The level of profit sharing (k),
 - b) k' (the rate) at which k increases with increase in investment, and
 - c) the level of profit of the enterprise (P).

Capital has an opportunity cost. Its productivity cannot be less than its opportunity cost, and hence whether the investment level will be higher or lower is either an empirical question or has to be answered in a general equilibrium framework.

- ii) There is no question of an infinitely elastic demand for investment funds. The investor will demand the investment funds only up to the level where the marginal productivity of capital becomes equal to

$1 + k' P/1 - k$. Hence demand for K_2 will not be even theoretically allowed up to the level where its marginal productivity becomes unity. Hence there is no question of an unlimited demand for investment funds.

Alternate Formulation

The demand for investment, the supply of investment funds, and the profit-sharing ratio will be determined simultaneously. The supply of capital will not be infinitely elastic at a constant profit-sharing ratio. Beyond a certain level of investment, a capital supplier may like to increase the profit-sharing ratio (even at an increasing rate) to increase the supply of capital. This may be due to the fact that the risks of giving higher amounts to a single investor may increase at an increasing rate, or because the entrepreneurial abilities of the investor are fixed and the marginal productivity of the entrepreneur (in producing profits) may start declining after a certain level.

On the other hand, investment demand will depend on the profit-sharing ratio and the productivity of capital. The investor will not demand investment funds as soon as the profit-sharing ratio implies payment of a share in profit higher than the marginal contribution of the capital. A reduction in the profit-sharing ratio may thus increase demand for investment funds and vice versa.

Consider an investor demanding funds for an enterprise. With Y as output/income, I as capital, and L as labor, we write the production function as: $Y = F(L, I)$ (5).

Since labor and capital are sharing the income of the project and hence do not impose fixed costs, this production function also represents the net income function for the project.

Assuming the labor component as fixed, we can write the production function as:

$$Y = F(I) \quad (7).$$

As a typical production function, we assume that this production function has a declining marginal productivity of capital, i.e., $F'(I) > 0$, $F''(I) < 0$.

On the other hand, the provider of capital expects to receive certain return on his/her capital. This expected return, of course, will be directly related to the total amount he/she invests. In its simplest form, this relationship can be a linear relationship of the type:

$$C = rK \quad (8),$$

where C is the total return that the provider of capital expects to earn on the

capital (I) and r is based on his/her own utility function or on the opportunity cost of capital.

In the interest-based framework, the provider of capital demands a fixed r from the user of his/her capital. In an Islamic framework, the provider of capital cannot demand a fixed r , as an Islamic framework can only fix a share in the income or profit of the project.

Let this share be called k . Since income, i.e., Y is not fixed and varies at different levels of I , therefore the profit-sharing ratio becomes a function of the amount of capital. At different levels of I , the changing productivity of capital will require the supplier of capital to adjust the profit-sharing ratio (k) so that the rate of return (r) remains unchanged.

Using equations (7) and (8), we can write:

$$k = \frac{C}{Y} = \frac{rK}{F(I)} \quad \text{-----} \quad (9)$$

This equation shows that the profit-sharing ratio will vary as more and more capital is invested, because C is increasing at a constant rate and Y is increasing at a declining rate.

This fact can be more clearly seen in the following diagram:

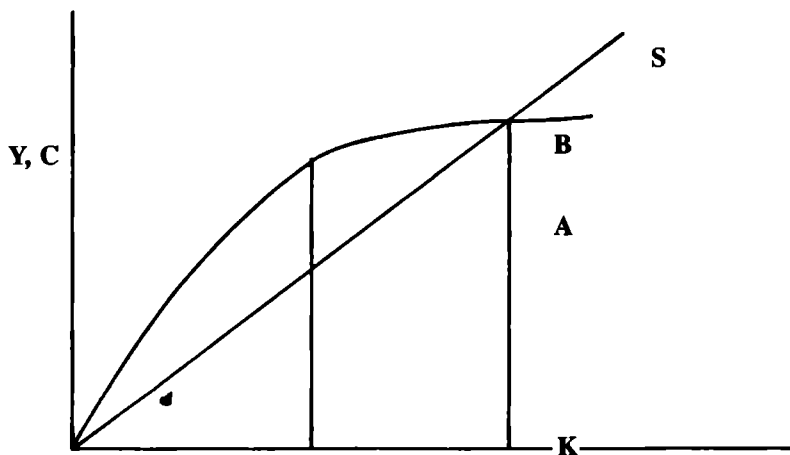


Figure 1

Curve A is the production function representing equation (7). Line B shows the total return expected by the capital owner at different amounts of capital to be provided by him/her. This is a straight line representing equation (8).

Investment Demand Function

Two things are clear from Fig (1):

Firstly, the profit-sharing ratio k is different at different levels of I . The value of k can be observed at any level of I as a ratio of the corresponding value at line B to the ratio of the corresponding value at curve A .

It can be noted that beyond a certain level of I , the profit-sharing ratio starts increasing until it reaches a level equal to 1.0. This will occur at I_0 .

Secondly, it will not be in the interest of the investor to demand any amount of capital from the capital owner. A profit-maximizing investor will demand only that amount of capital from the capital owner which will allow him to retain maximum profit. In terms of figure 1, he would demand that amount of capital against which the distance between curve A and line B is maximum. (The distance between curve A and line B measures the income to be retained by the investor after paying the share of capital supplier from the income of the enterprise.)

Hence, the assertion that under PLS there will be an infinite demand for capital is not valid.

The argument can be taken a step further.

Under a PLS arrangement, the supply schedule for capital funds may not be a linear function as shown by equation (8). Since the capital owner is expected to bear losses up to the full extent of his/her capital, the capital supplier would not like to give all of the capital demanded by the investor at a constant rate of return r . Giving all of his/her money to one investor would mean putting it all in one basket. It seems only natural that an investor would like to spread his/her investment among different enterprises unless a *muḍārib* is willing to offer a higher-than- (r) return—higher enough to compensate for the risk of putting more capital into one enterprise.

Thus, a higher supply of capital for the same investor would mean a higher income-sharing ratio with the same investor. In other words, we will have to re-write equation (8) as follows:

$$C = g(I) \quad (10)$$

$$\text{with } g'(I) > 0$$

$$g''(I) > 0$$

The profit maximizing investor then faces the following profit function:

$$P = Y - C$$

$$P = F(I) - g(I)$$

The optimum demand for capital by the investor will be for that level of K where,

$$F'(I) = g'(I)$$

This can be shown in the following diagram as well:

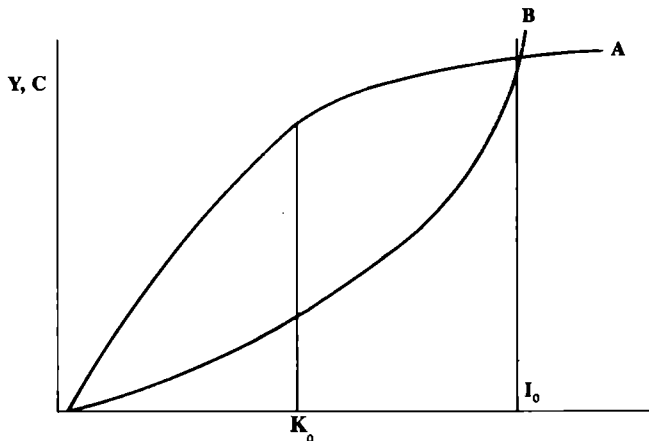


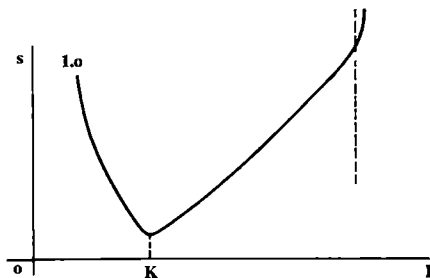
Fig. (3)

Curve A represents the production function as shown by equation (7). Curve B represents the capital supply schedule of the capital owner as shown by equation (10).

The profit-maximizing investor will demand I where the distance between curve A and curve B is reflecting the maximum profit left with the *muḍārīb* after paying the income-sharing portion of the capital owner.

Once again this proves that the demand for *muḍārabah* capital will not be infinite when $F''(I) < 0$ and $g''(I) > 0$.

Keeping in view the conclusion of figures 1 and 2, we can define a relationship between I (the effectively demanded level of investment) and k (the profit-sharing ratio) as below:



Between the zero and I_0 level of investment for this project, the effective relationship between I and k is negative. Beyond I_0 , the portion of the curve is irrelevant from the point of view of demand for investment, as the investor would have no reason to demand any investment beyond K_0 .

Within the range of 0 to I_0 , we observe $I = I(k)$ with $I' < 0$.

Market Demand for Investment

One more dimension needs to be added when discussing market demand for investment, and that is the riskiness of the enterprises where investments are intended. Coming back to figure 2, the position of the supply schedule B will depend on how risky the project is. The more uncertain the productivity/profitability of the project (curve A), the higher will be the B curve to compensate for the higher risk bearing.

The following diagram explains the point:

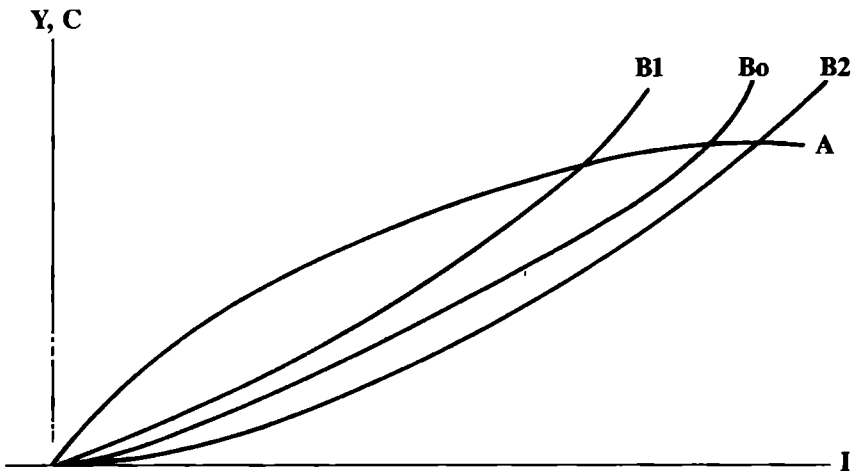


Fig. (2)

B_0 is the supply schedule of the funds owner referring to a certain project riskiness involved in curve A . The supply schedule of the funds owner would have been higher than B_0 (say, at B_1) if the project were more risky, and the supply schedule would have been lower than B_0 (say, at B_2) if the project were less risky. (The schedules B_0 , B_1 , and B_2 may not be referring to the same person.) The economy may also have projects of varying riskiness, or funds owners with varying degrees of risk aversion.

We assume that there are n' sets of projects having different levels of riskiness $6_1, 6_2, 6_3, \dots, 6_4$. The demand from these sets of projects and the supply of funds available for each set of project determines the respective equilibrium level of s' for each set of project. In the economy, thus there will be n' sets of s' . Let us see the market demand for the i th set of projects that corresponds to the level of riskiness.

The k value in the market of a particular set of projects will determine the market demand for investment in that set of projects. The market demand will decline as the " s " in the market of a particular set of projects goes up, and the market demand will go up as the k value goes down. Suppose a marginal project is yielding a return Co and hence yielding kC as a share of the funds owner's return. If k increases, the marginal project would be compelled to reduce its demand for investment [as explained in figures 2 and 3] because it would mean raising the supply schedule (curve B). If s goes down, not only the existing projects may increase their demand for investment (because a decline in s means a downward shifting of the supply schedule) but other projects which were not previously feasible may become feasible from the investor's point of view.

We thus draw the conclusion that the market demand for investible funds will be negatively related to the profit-sharing ratio s' . This relationship may be expressed as:

$$I = I(k) \quad I < 0 \quad (11)$$

This will be referred to as the investment demand function.

Properties of k

k varies between 0 and 1.

It is possible for k to become zero.

$k = 0$ implies that the owner of funds supplies his/her funds to the investor with no share in any resulting profit. This also implies that the owner will not share or bear any loss and that the investor is obliged to return the full amount at some time in the future. It is thus possible that the owners of funds may supply their funds at $k = 0$. This may occur due to several reasons:

- (1) Expected profits are too low and the risk of loss is considered too high to be compensated for by the share in the expected profits.
- (2) The spirit of helping a poor investor and allowing him/her to keep all the profits till the enterprise is developed to the extent that it can afford to pay a sizable share of the profit.

These two factors become particularly important when there is also an in-

centive of avoiding the penalty (z) on money balances (*zakāh* at the rate of 2.5 percent), and there is also religious encouragement to help the needy.

It is possible that there may be a lower limit on k , which may be referred to as s , below which k may not decline except to become zero. This will happen when the equilibrium value of k happens to be the value that generates such a low expected return for the owner of the funds will no longer be interested in investing due to the larger risks involved. In such a situation, the owner of the funds prefers rather to advance his/her funds at $k = 0$ for reasons already explained.

It is not possible for k to become unity or more than unity, though it may approach unity. This is because $k = 1$ implies that the owner of the funds will take all the profits that the investor makes, which will not be a rational situation from the investor's point of view. Hence, he/she may cease to effectively demand any amount of investible funds. k may approach unity if the profitability of investment or productivity of capital is very large and/or if the supply of investible funds is very scarce.

A Bank's Demand for Investment Funds: A Case for Infinitely Elastic Demand

It may be instructive to consider a bank as an investor that demands investible funds from its depositors.

A bank has the ability to diversify its portfolios and hence ensure a certain return R on its investment with a negligible risk. The diversification of investments in a large (and/or open) economy can enable a bank to reduce risks (to almost though not exactly zero) and still earn a substantial return R on its investment. This ability creates an opportunity for such owners of funds who do not want to take a substantial risk but who want to earn a return on their funds.

These features can enable a bank or a financial intermediary to have an infinitely elastic demand for the investible funds of small savers. This may occur because:

- a. The risks associated with investment do not increase with the increased investment.
- b. There are large numbers of suppliers of capital, meaning that no one holds a significant portion of the total supply of capital. Hence, no single investor is able to influence the profit-sharing ratio.
- c. The investor (the bank) has access to and has credibility with a large number of available suppliers.
- d. There are a large number of feasible projects available to the investor (the bank).

- e. The bank is able to adequately diversify its investment over such a large number of projects that the risk is reduced to an almost negligible level.

Based on the past track record, banks can offer a profit-sharing ratio to attract sufficient funds from the suppliers. They will not have to change the profit-sharing ratio as long as they are attracting deposits from a large number of small savers. They will thus have an infinitely elastic demand for deposits on a fixed and predetermined profit-sharing ratio as long as the capital is scarce in the economy and the bank faces no dearth of viable projects.

Discounting for the Time Value of Money

Discounting for the time value of money for the purpose of the investment decision-making process poses no special problem in a PLS system. The appropriate discount rate will still remain the opportunity cost of capital, which is the expected rate of return on capital which the investor expects before supplying capital on a PLS basis in projects of similar riskiness. This is the conclusion that has been drawn by Zarqa as well.⁶ Thus, the expected rate of return on capital in the marginal project in each class of projects of similar riskiness will serve as a discount rate for the respective class of projects. There is nothing new about using the expected rate of return on capital as a discount rate in investment decision making. The actual practice, in fact, uses R_o rather than the interest rate as the discount rate.⁷

The discount rate R_o contains two elements of the opportunity cost of capital:

- a. A compensation for the pure time value of money or the pure time preference reflecting uncertainties associated with time alone.
- b. A compensation for bearing the risks other than those attributable to time alone.

In public sector projects, the consideration for type b risk might be negligible as the distribution of risk over a large number of taxpayers maximizes these considerations. These projects are, therefore, required to be discounted for the pure time preference alone. The most representative discount rate reflecting pure time preference alone will be the expected rate of return on the banks' non-time deposits. The average rate of return on such deposits paid in the past would be a close estimation of the expected rate of return and hence of the discount rate.⁷

⁶ See M. Anas Zarqa (31).

⁷ For more arguments on this, see M. Anas Zarqa (31).

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Equity Capital, Profitability and Investment: An Islamic Perspective

by

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Abstract

The potential effect of financial variables on the level of investment is among the key issues in contemporary financial economics. Some researchers have claimed that there is an inherent risk in the Islamic profit-and-loss sharing scheme that replaces the Western fixed-interest rate system. This paper argues that such concerns are baseless. In an Islamic framework, equity capital (i.e., a strong financial position) and the degree of the firm's profitability are the primary determinants of investment. It is shown that both equity capital and profitability could enhance the firm's business reputation and mitigate the level of risk facing it.

The paper, in so doing, constructs a two-period equilibrium model of a profit-and-loss sharing contract. An optimal solution for the investment function is derived for the firm. Besides equity capital and profitability, other relevant determinants of investment will also be considered, including depreciation and expected inflation. Moreover, unlike most previous research in this area, the resultant investment function will be subjected to empirical testing using data from an Islamic investment firm.

Introduction

The emergence of interest-free financial institutions in the last two decades has raised the concerns of some observers about the ability of the new system to mobilize enough savings and investment funds to maintain economic growth

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[see, Pryor (1985) and Nienhaus (1983), among others]. However, several researchers [i.e., Haque and Mirakhor (1986) and Darrat and Suliman (1990)] have recently demonstrated that such concerns are not warranted and showed that investment does not necessarily decline under an interest-free financial system. This view is also supported by the vigorous theoretical analysis of Khan (1986), who showed that interest-free banks exhibit a much higher degree of stability than interest-based banks. Empirical support for Khan's theoretical proposition has been provided by Darrat (1988).

Since the essence of the Islamic economic system is to abolish fixed interest payments, financial institutions operating under an Islamic system use profit-and-loss-sharing (PLS) arrangements to attract and allocate funds. However, the fact that PLS contracts are characterized by relatively high risk and variable returns stresses the importance of many financial variables in the determination of investment. These financial variables include the total equity and/or total liabilities of the institution, as well as its profitability. The importance of such financial variables in the investment process is emphasized in a number of recent models of applied macroeconomics [see Bernanke and Gertler (1987)]. Deposits in Islamic financial institutions are considered as shares (i.e., equity participation), and thus entitled to dividends if the invested deposits generate profits. Consequently, the total liabilities of the institution in question indicate its financial position. A strong financial position enables the institution to diversify its portfolio of investment projects, increases its profits, and minimizes the inherent risk. This would enhance the institution's reputation as a relatively safe depository intermediary, and thus attract more depositors, in turn, generating more funds and expanding investment.

In this paper, we present a two-period general equilibrium model of investment under uncertainty and symmetric information. Our objective is to highlight the determinants of investment under PLS contracts and examine the effect of equity capital and profits on the level of investment. Our model bears some relationship with many previous models in the literature, particularly that of Haque and Mirakhor's (1986), though differs from it by assuming perfect information. Furthermore, our theoretical model is subjected to an empirical test using quarterly data whereas their model was not.

The paper is organized as follows. Section 2 develops the theoretical model and section 3 distills its optimal solution. Section 4 presents some empirical results, while section 5 concludes the paper.

The Model

Consider an economy with many financial institutions (banks) and with

many entrepreneurs (firms), where the number of firms is larger than the number of banks. Banks generate their capital through selling equity shares and/or accepting deposits from the general public. Depositors in these banks are not guaranteed fixed returns, but are entitled to a given share of the generated profit. Firms have no capital, but have investment projects for which they seek bank financing. For simplicity, we have limited our analysis to one bank and one firm. We assume that both the firm and the bank are risk-averse and have the same information about the uncertainty regarding the project's return.¹ Let there be two periods; an investment period and a consumption period. In the first period, the bank is endowed with Y units of capital.² No endowment in the second period exists, but the bank lives off the proceeds of the invested capital.

Banks are interested in financing investment projects on the basis of profit-and-loss-sharing contracts. When the firm applies for a loan to undertake a project, the bank must evaluate the project. Only those projects which pass the evaluation process are funded. Once a project is rejected in the evaluation process, it will not be replaced. Without loss of generality, assume that the projects are indivisible, i.e., a project can only be financed by one bank. The firm, if successful in its loan application, is assumed to have the capability to transform the units of capital acquired into consumption goods (profits) in the second period. The economy is characterized by the absence of a fixed rate of returns, with no time preference, and with no or limited hoarding.³ The firm's production technology depends on the amount of capital invested and a random state of nature. To be precise, if the amount of capital is K , then the firm's output is X :

$$(1) \quad X = F(K, \alpha)$$

α is a random state of nature, introduced to allow for uncertainty in production. α is assumed to have a known distribution with unitary mean, $E(\alpha) = 1$, and a constant variance. F is an increasing function with $F(0,0) = 0$ (i.e., no output without input), $F_K > 0$, $F_{KK} < 0$, and both F and F_K are monotonically increasing in α .

Since interest payments on capital is not allowed, the firm views the rate of return on capital as the cost of acquired capital. Define:

$$(2) \quad k = \lambda\theta$$

as the rate of return per unit of investment, where θ is the "normal" rate of profit

¹ The assumption of risk-aversion is introduced to allow for risk-sharing, while the assumption of symmetric information is introduced to eliminate the adverse effect of moral hazard.

² Y is the total liabilities of the bank, which includes equity and/or net worth plus total deposits.

³ The uninvested capital is subject to *zakāh*, a wealth tax particularly on idle balances.

in the economy⁴, and λ is the profit-sharing ratio, $0 < \lambda < 1$. The anticipated user's cost of capital is then given by $(k + \delta - \pi)$, where δ is depreciation, and π is the inflation rate.⁵ The profit-maximization of the firm is then given by:

$$(3) \quad \max_k [F(K, \alpha) - (1 + k + \delta - \pi)K]$$

Note that in calculating its profit, the firm has to subtract the principal K . When optimizing, the firm assumes θ (and hence k) as given. Also, depreciation and the inflation rate are taken as given. Given the risk-averse assumption, the bank's objective is to maximize its two-period utility function given its initial holdings (endowment). In the first period, it consumes $Y-K$, and invests K units in the firm. In the second period, the bank is entitled to a share of the firm's profit plus its principal. Explicitly, its second period income will be:

$$(4) \quad \lambda F(K, \alpha) - (1 + k + \delta - \pi)K + K$$

The firm will then end up with:

$$(5) \quad (1-\lambda) F(K, \alpha) - (1 + k + \delta - \pi)K$$

Note that both the firm and the bank (the borrower and the lender) are residual income earners, i.e., their earnings are calculated after the initial costs are deducted.

The investor's expected utility is now:

$$(6) \quad U(K, \lambda, \alpha, K, \pi, \alpha) = EU[Y-K, \lambda F(K, \alpha) - (1 + k + \delta - \pi)K + K]$$

where the expectation is taken over the distribution of a .⁶ Likewise, the firm's expected utility is given by:

$$(7) \quad V(K, \lambda, \alpha, \pi, K, \alpha) = EV [(1 - \lambda)(F(K, \alpha) - (1 + k + \delta - \pi)K)]$$

EU and EV are assumed to be continuously differentiable, concave, and strictly increasing in their arguments. Under such a framework, the bank moves first (after evaluating the project) by choosing the amount of capital to be invested. The sharing ratio will then be agreed upon by negotiation with the firm. Since it is hard to replace rejected projects, the bank must attempt to convince the firm with its sharing ratio terms. In other words, for the contract to be optimal, it has to offer incentives to the firm by guaranteeing at least a minimum level of utility. The bank's problem is then to design a sharing contract that maximizes

⁴ θ is defined as the total profit of the firm divided by the total capital invested. For explicit formulation, see M. Anwar (1987). Also see Haque and Mirakhor (1986) for a similar treatment.

⁵ See Anwar (1987) for a similar assumption.

⁶ Although a is unknown, its distribution is assumed to be common knowledge.

its expected utility, taking into account the rational behavior of the firm. Thus, the bank must choose the values of K and λ to solve the following optimization problem:

$$(6) \quad \max_{K, \lambda} EU [Y - K, \lambda \quad F(K, \alpha) - (1 + k + \delta - \pi)K + K]$$

subject to:

$$(8) \quad EV [(1 - \lambda) \quad F(K, \alpha) - (1 - (1 + k + \delta - \pi)K)] \geq \bar{V}$$

where $\bar{V} \geq 0$ is the reservation level of utility needed to induce the firm to participate in the arrangement. Equation (8) is a voluntary participation constraint necessary for the characterization of the optimal contract. Note that since the model is a general equilibrium model, the optimal capital K obtained as a solution to the constrained maximization is the same K that solves the firm's problem, equation (3) above.

Characterization Of The Optimal Solution

We now solve the bank's optimization problem, that is, maximizing equation (6) subject to the constraint (8). Suppose that the optimization problem is sufficiently regular, so that the first order necessary conditions are satisfied. Then, given K and λ :

$$(9) \quad -EU_1 + EU_2 [1 + \lambda \quad F_K - (1 + k + \delta - \pi)] + \nu EV' (1 - \lambda) [F_K - (1 + k + \delta - \pi)] = 0$$

where EU_1 , EU_2 , and EV' are the partial derivatives of EU and EV with respect to K , and ν is the Lagrange multiplier of (8). F_K is the firm's marginal product of capital for all α . Differentiating with respect to λ , we have:

$$(10) \quad (EU_2 - \nu EV') (F(K, \alpha) - (1 + k + \delta - \pi)K) = 0$$

Given the presence of many banks and many firms in the financial market, the optimal level of investment is attained when the marginal product of capital equals the user's cost of capital. That is, the firm would invest up to the point where the marginal productivity of investment equals the cost of investing. This implies:

$$(11) \quad F_K - (1 + k + \delta - \pi) = 0$$

Substituting equation (11) in equations (9) and (10), the first-order necessary conditions will reduce to:

$$(12) \quad EU_1/EU_2 = 1$$

$$(13) \quad EU_2/EU' = \nu$$

Equation (13) is the necessary condition for the optimal risk-sharing.⁷ This condition is particularly important, since risk-sharing is a required feature of profit-and-loss-sharing contracts. Equation (12) indicates that given the sharing ratio λ , the investor will choose an optimal investment (K^*) that equates expected marginal utilities over the two periods. That is, the marginal rate of time preference, implicitly derived by the marginal rate of substitution between the two periods, is equal to 1. The solution for these two equations would generate the optimal (equilibrium) values of investment K^* and the sharing ratio λ^* .

Since our objective is to investigate the effects of equity capital and profits of the bank on the level of investment undertaken, special regularity conditions could be imposed on the production and the utility functions to generate a unique optimal solution. One way is to consider the model when particular functional forms are assumed. This technique is often used in the theory of contracts, as in Green and Kahn (1983). As shown in Appendix A, specific forms of utility and production functions are constructed. For simplicity, we assume that our model satisfies the required regularity conditions, and that the optimal solution is unique. Given the assumptions on α , we further assume that the optimal solution (contract) is state-independent. This is a sufficient condition, since both the bank and the firm have similar information about the state of nature α . If the two parties have different information about the distribution of α , the contract would be contingent upon the private information concerning α , having adverse effects on the level of investment.

Solving simultaneously equations (12) and (13) would produce the optimal investment K^* and the profit-sharing ratio λ^* , which can implicitly be written as:

$$(14) \quad K^* = K(Y, \lambda, k, \delta, \pi)$$

$$(15) \quad \lambda^* = \lambda(K^*, Y, k, \delta, \pi)$$

These two equations indicate that if the contracting parties agreed first on the sharing ratio λ , then K^* can be uniquely determined endogenously by the model. On the other hand, if K is instead determined ex-ante, then λ^* can be uniquely determined endogenously by the model.

Equation (14) is the main focus of our study, and thus some key policy issues are highlighted. First, K^* , the level of investment supplied by the bank, is expected to be increasing in Y , the total equity capital. The intuition is that a bank with a large equity capital will tend to finance more projects to diversify its investment opportunities and minimize the risk of loss. Another objective could

⁷ The optimal risk-sharing condition equation (12) still holds if the investor is assumed to be risk-neutral.

be to generate more profits for its depositors to keep them. Also, since hoarding is discouraged, the bank will tend to invest as long as the expected rate of return from investment exceeds the opportunity cost of hoarding.⁸ Higher profits and therefore a higher sharing ratio λ should also induce more investment. These positive effects on the level of investment that our theory predicts for equity capital and profitability (Y and λ) represent the key implications of our theoretical model which will be tested empirically in the next section. As for depreciation, δ is expected to have a positive effect on the level of investment as the theory predicts [see Appendix A for a proof]. The rate of return on investment, k , has similar effects on investment as does λ , since k is simply a linear function of λ (see equation 2 above). The inflation rate has a priori an ambiguous effect on investment. On the one hand, during periods of inflation it would cost the bank more to invest. So only a few projects might get funded, and the level of investment may consequently decline. However, if the bank expects higher future inflation it may want to invest most of its capital before higher inflation occurs. This will increase current investment. These theoretical implications will be empirically tested in the next section using quarterly data from an Islamic investment bank.

Empirical Results

The preceding theoretical analysis suggests that the optimal investment function of an Islamic bank takes the following form:

$$(16) \quad I = I(Y, \lambda, k, \delta, \pi)$$

where, for convenience, the variables are re-defined as follows:

I = the level of optimal investment of the Islamic bank (equal to K^* in equation (15) above,

Y = the bank's total equity capital,

λ = the profit-sharing ratio,

k = the rate of return on investment,

δ = depreciation, and

π = the expected rate of inflation.

Our theory developed in the preceding section predicts the following signs of the partial derivatives:

⁸ The *zakāh* paid on idle balances could be interpreted as the opportunity cost of hoarding.

$$\frac{\partial I}{\partial Y} > 0 ; \frac{\partial I}{\partial \lambda} > 0 ; \frac{\partial I}{\partial k} > 0 ;$$

$$\frac{\partial I}{\partial \delta} > 0 \text{ and } ; \frac{\partial I}{\partial \pi} > 0$$

In order to examine the validity of the theoretical model and its sign restrictions, the above model is estimated using actual data from an Islamic investment bank, namely, the Kuwaiti Finance House. However, consistent data on all required variables is available only on an annual basis over the period 1978-1988. It is well-known that such a small sample of only 11 observations (half of which will be used up in the estimation) will be insufficient to produce reliable estimates. Therefore, the corresponding quarterly figures were interpolated from the annual data using the interpolation procedure available in the Regression Analysis of Time Series (RATS), Version 3.1.⁹

Equation (16) can be rewritten in the following estimatable form:

$$(17) \quad \text{Ln } I_t = a_0 + a_1 \text{Ln } Y_t + a_2 \text{Ln } \lambda_t + a_3 \text{Ln } k_t \\ + a_4 \text{Ln } \delta_t + a_5 \text{Ln } \pi_t$$

where Ln indicates natural logarithm, t indicates time, and the a_i 's ($i = 1, 2, \dots, 6$) are the estimated parameters. The logarithmic form is used for convenience since the estimated parameters will be direct measures of elasticities. Moreover, imposing the logarithmic form on the equation can correct for possible heteroscedasticity in the error term.

Three analytical and technical comments about the above investment specification are important. The first comment relates to the adjustment process and the incorporation of short-run dynamics. A popular procedure is the Koyck scheme, whereby a lagged dependent variable (I_{t-1}) is included among the regressors.¹⁰ However, this Koyck adjustment mechanism has come under severe attack for its several shortcomings.¹¹ As an alternative, Hendry, Pagan, and Sargan (1984) have recently proposed the inclusion of lagged values for each of the regressors along with the lagged dependent variable. They demonstrated that such a modified dynamic process is quite rich and general compared with the naive Koyck scheme, as it comprises at least nine different types of dynamic specifications. In addition, these researchers have also argued that any theoretical

⁹ Because such time series data is rather difficult to compile, Appendix B provides the annual and the corresponding quarterly figures for all variables used in the empirical analysis. It is hoped that these time series data would generate some future research in this area.

¹⁰ For a mathematical proof, see any econometric textbook, e.g., Koutsoyiannis (1977).

¹¹ On this, see Gould (1968), and Darrat (1982).

model must be tested against the general dynamic version to avoid any serious misspecifications. It should also be noted that with the inclusion of lagged values of the inflation rate (in addition to the lagged dependent variable), the inflation variable π in the equation would then measure the effect of expected inflation by virtue of the adaptive expectations scheme.

Secondly, preliminary results showed the presence of a high degree of collinearity between k and λ in equation (17), with a correlation coefficient of about 0.90. This finding supports our earlier theoretical postulate that k and λ are simply linear combinations of each other, and thus one of them is empirically redundant in equation (17). Since λ , the profit-sharing ratio, is a key aspect in this paper, we have decided to maintain λ and drop k from the estimation.

Thirdly, one of the most significant events in Kuwaiti financial history was the stock market crash that took place during the third quarter of 1982 and lasted through the third quarter of 1984.¹² In view of the potential effect of such events on the stability of the estimated investment function, a dummy variable (DUM) is included in the equation, taking the value unity for 1982:Q3 to 1984:Q3, and the value zero otherwise.

Based on the foregoing discussion, the estimated investment function takes the following final form:

$$(18) \quad \text{Ln } I_t = \beta_0 + \beta_1 \text{Ln } Y_t + \beta_2 \text{Ln } Y_{t-1} + \beta_3 \text{Ln } \lambda_t + \beta_4 \text{Ln } \lambda_{t-1} + \beta_5 \text{Ln } \delta_t \\ + \beta_6 \text{Ln } \delta_{t-1} + \beta_7 \text{Ln } \pi_t + \beta_8 \text{Ln } \pi_{t-1} + \beta_9 \text{Ln } I_{t-1} + \beta_{10} \text{DUM} + e_t$$

where the variables are defined as before, and e_t is the error term which, in the usual fashion, is assumed to be serially uncorrelated and normally distributed with zero mean and constant variance.

Equation (18) represents our basic investment model estimated for the Kuwaiti Finance House using the quarterly data 1978:Q1-1988:Q4. Table I provides the empirical results. As shown in the table, the proposed model fits the data quite well, as evidenced by the high value of adjusted R-squared. Another evidence for a good fit is the absence of significant autocorrelation according to both the Geary and the Breusch-Godfrey tests.¹³ As Johnston (1984) argued, the Breusch-Godfrey procedure is a robust test against autoregressive and moving-average processes of the error term. Note also that the ROBUSTSE routine in the Time Series Processor (TSP) was employed to estimate equation (17), resulting in heteroscedastic-consistent estimates of the coefficients' stan-

¹² See various annual budgetary reports of the Kuwaiti Finance House, particularly those for 1982 and 1984.

¹³ The common Durbin-Watson (D.W.) test is not reported since it is known to be biased in the presence of a lagged dependent variable among the regressors.

dard errors. Consequently, the obtained values of the t-statistics may be viewed as reliable measures of the statistical significance of the various regressors.

The results indicate that all (summed) coefficients have the correct signs as predicted by the underlying theory. Moreover, the majority of the individual variables, and certainly their summed coefficients, are statistically significant. Interestingly, the coefficient on the dummy variable representing the stock market crash of 1982-1984 is also significant with a positive sign. This indicates that the financial panic and the resultant possible distrust in the stock market appears to have shifted more depositors towards the Kuwaiti Finance House, leading in turn to higher levels of investment during the estimation period.

Table II displays the estimates of the normalized short- and long-run elasticities of investment with respect to the various independent variables (see notes to Table II for definitions of these elasticities). Normalized (beta) estimates of the elasticities are employed instead of direct elasticity estimates in order to make comparable examination of the relative strengths of the various exploratory variables in influencing investment behavior. As clear from the table, all of the proposed variables exhibit positive and sizable elasticities, particularly with respect to equity capital (the bank's financial position). The results suggest that a ten percent increase in equity capital in any given quarter would enhance the level of investment by more than three percent within two quarters (the current and one lagged quarters). Over the long-run, however, investment would have increased by more than seven percent for every ten percent increase in equity capital. Although much smaller in size, profitability (or the profit-sharing ratio) also exhibits significant short- and long-run elasticities, as do the remaining explanatory variables proposed by the theory.

In sum, the empirical results from the investment model are in accordance with the underlying theoretical considerations. These results clearly indicate that the financial position of the Islamic bank under study (the Kuwaiti Finance House) and its profitability have indeed exerted positive and significant effects upon the level of investment undertaken by the Islamic bank.

Concluding Remarks

This paper constructs a two-period equilibrium model of investment under the profit-and-loss sharing arrangement. An optimal solution for the investment model is also derived for a representative firm. It is shown that equity capital (or the financial position of the firm) and the profit-sharing ratio are among the primary determinants of investment, each of which exerts a positive effect on investment. Besides these two factors, potential effects from deprecia-

tion and the rate of inflation on the level of investment are also considered in the theoretical analysis.

The theoretical model is empirically tested against actual data for a representative Islamic bank (the Kuwaiti Finance House) over the quarterly period 1978-1988. The empirical results are quite consistent with the implications of the proposed model. In particular, these results indicate that equity capital and the profit-sharing ratio have exerted significant effects upon the level of investment undertaken by the Kuwaiti Finance House. Therefore, contrary to the view of some critics, a strong financial position and the degree of the Islamic bank's profitability do enhance the bank's business reputation and its investment activities.

TABLE I

Regression Results From Estimating the Investment Model (17)

Coefficient	Estimate	(t-statistic)
β_0	2.240	(10.87)
β_1	0.762	(11.79)
β_2	-0.367	(6.08)
β_3	-0.001	(0.49)
β_4	0.003	(1.91)
β_5	0.007	(3.45)
β_6	-0.005	(2.17)
β_7	0.004	(0.44)
β_8	0.011	(1.55)
β_9	0.518	(33.82)
β_{10}	0.143	(5.99)

$$\bar{R}^2 = 0.99$$

$$\text{S.E.} = 0.04648$$

$$\text{Tau} = 14$$

$$\text{BG} = 5.34$$

Notes: The numbers in parentheses are the absolute values of the t-statistics. Tau is the Geary non-parametric statistic to test for general (unspecified) serial correlation. BG is the Breusch-Godfrey chi-squared statistic (with 4 d.f.) to test for autoregressive and moving-average processes of the error term.

TABLE II

Regression Estimates of Normalized Short- and Long-Run Investment Elasticities

With Respect To	Normalized Short-Run Elasticity	Normalized Long-Run Elasticity
Equity Capital	0.339	0.704
Profit-Sharing Ratio	0.005	0.010
Depreciation	0.009	0.019
Inflation	0.016	0.034

Notes: The short-run elasticity of any variable is defined as the sum of the coefficients on the current and lagged variable. The long-run elasticity is calculated as the ratio of the short-run elasticity over the speed of adjustment, where the latter is defined as one minus the coefficient on the lagged dependent variable. In the above case, the speed of adjustment = $1 - 0.518 = 0.482$. To obtain the normalized values of these elasticities, each is multiplied by the ratio of the standard deviation of the explanatory variable over the standard deviation of the dependent variable.

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Appendix A

Assuming particular functions for the model derived in the text, let:

$$EU = E C_1^{1/2} C_2^{1/2} \quad (A1)$$

Let the firm's production function be:

$$f(k,a) = \lambda \ln K \quad (A2)$$

Then substituting for the first and second period consumptions (C_1 and C_2) in equation (A1) and optimizing with respect to K , we have:

$$\begin{aligned} & -1/2 E (Y - K)^{-1/2} [\lambda F(K,a) + (1 - \lambda (1 + k + \delta - \pi))K]^{1/2} \\ & + 1/2 E (Y - K)^{1/2} \lambda F(K,a) + (1 - \lambda (1 + k + \delta - \pi))K^{-1/2} \\ & [\lambda F_K + 1 - \lambda (1 + k + \delta - \pi)] = 0 \end{aligned} \quad (A3)$$

Using equation (11) and (12) in the text, we have

$$(Y-K)^{-1/2} E[\lambda F(K,a) + (1 - \lambda (1 + k + \delta - \pi))K]^{1/2} \quad (A4)$$

which will simplify to:

$$(Y-K) = E[\lambda F(K,a) + (1 - \lambda (1 + k + \delta - \pi))K] \quad (A5)$$

substituting $F(K,a) = \lambda \ln K$ in (A5) and using the assumption $E(a) = 1$;

$$(Y-K) = \lambda \ln K + (1 - \lambda (1 + k + \delta - \pi))K \quad (A6)$$

The optimal value of investment K^* will be the solution of:

$$\lambda \ln K + (2 - \lambda (1 + k + \delta - \pi))K - Y = 0 \quad (A7)$$

Using total derivatives, the effect of Y , λ , k , δ and π on K can be derived. The total differential of (A7) will be:

$$\ln K d\lambda + \lambda/K dK + (2 - \lambda(1 + k + \delta - \pi))dK - (1 + k + \delta - \pi)Kd\lambda - \lambda K dk - \lambda K d\delta + \lambda K d\pi - dY + 0 \quad (A8)$$

The partial derivatives will then be obtained by setting all differentials, other than the ones we need equal to zero. To get the partial derivative of K with respect to Y , assume the other differentials are zeros. This will give:

$$dK/dY = 1/(\lambda/K + 2 - \lambda(1 + k + \delta - \pi)) \quad (A9)$$

Using equation (11), the right-hand term of equation (A9) reduces to $1/2$, which is positive. The partial derivative of K with respect to λ is given by:

$$dK/d\lambda = K(1 + K + \delta - \pi) - \ln K / 2 > 0 \quad (A10)$$

The rest of the comparative statistics are derived similarly.

$$dK/dk = \lambda K/2 > 0 \quad (A11)$$

$$dK/d\delta = \lambda K/2 > 0 \quad (A12)$$

$$dK/d\pi = \lambda K/2 < 0 \quad (A13)$$

For further details of the above proofs, see Henderson and Quandt (1980).

Appendix B

Time Series Data for the Kuwaiti Finance House

TABLE I: Annual Data

Year	I (Continuous Time Deposits, 90% Invested) Kuwaiti Dinars	Y (Total Equity Capital) Kuwaiti Dinars	λ (Profit-Sharing Ratio) %	k (Rate of Return on Investment) %	δ (Depreciation Kuwaiti Dinars	P (Consumer Price Index; the inflation rate, π , is the percentage change in P)
1978	4, 607,100	2,810,000	9.00	8.75	0	0.646
1979	22,954,500	3,250,000	9.125	19.25	188,375	0.702
1980	33,826,948	5,264,491	10.125	11.25	188,375	0.752
1981	100,522,528	18,089,383	13.00	15.00	181,862	0.804
1982	189,078,968	35,628,178	12.00	13.33	336,404	0.863
1983	252,973,244	35,185,047	7.50	8.33	391,233	0.930
1984	231,912,158	34,774,786	0.00	0.00	564,383	0.974
1985	170,749,187	35,899,109	4.00	4.44	545,806	0.985
1986	176,875,465	38,138,804	5.25	5.83	849,584	1.010
1987	215,459,098	42,609,555	5.40	6.00	922,525	1.016
1988	239,612,701	47,128,801	5.55	6.17	1,104,742	1.031

Source: Various issues of the *Annual Budgetary Reports*, the Kuwaiti Finance House. Data on P is compiled from various issues of the IMF, *Inter national Financial Statistics*.

TABLE II: Interpolated Quarterly Data

Year Quarter	I (Continuous Time Deposits, 90 % Invested)		Y (Total Equity Capital) Kuwaiti Dinars	λ (Profit-Sharing Ratio) %	k (Rate of Return on Investment) %	δ (Depreciation Kuwaiti Dinars)	P (Consumer Price Index; the inflation rate, π , is the percentage change in P)
	Kuwaiti Dinars						
1978:1	216,661		2,936,660	9.76277	6.24636	0.00100	0.63400
1978:2	1,951,590		2,756,320	9.02747	6.96463	0.00200	0.63500
1978:3	5,464,810		2,719,930	8.63344	9.10320	0.00100	0.64900
1978:4	10,795,300		2,827,090	8.57682	12.68580	0.00200	0.66700
1979:1	18,002,400		2,078,990	8.85547	17.75229	135,233	0.69400
1979:2	22,841,800		3,247,310	9.07379	20.36609	184,609	0.69100
1979:3	25,367,200		3,333,920	9.23372	20.55640	212,984	0.70500
1979:4	25,606,700		3,339,790	9.33702	18.32520	220,675	0.71700
1980:1	23,562,900		3,264,970	9.38486	13.64770	207,765	0.74300
1980:2	26,827,000		4,029,660	9.69801	10.83120	194,917	0.74700
1980:3	35,435,100		5,642,360	10.28000	9.84451	181,987	0.75500
1980:4	49,482,900		8,120,970	11.13720	10.67660	168,831	0.76100
1981:1	69,126,400		11,493,000	12.27920	13.33660	155,304	0.78200
1981:2	89,428,500		15,457,700	13.02060	15.05750	160,467	0.79800
1981:3	110,615,000		20,058,900	13.36980	15.85820	184,377	0.80700
1981:4	132,920,000		25,347,900	13.33050	15.74770	227,301	0.82700
1982:1	156,593,000		31,383,400	12.90230	14.72490	289,715	0.84300
1982:2	178,934,000		35,474,900	12.37320	13.76300	333,135	0.86200

TABLE II: Interpolated Quarterly Data (continued)

Year Quarter	I (Continuous Time Deposits, 90 % Invested)		Y (Total Equity Capital)		λ (Profit-Sharing Ratio)		k (Rate of Return on Investment)		δ (Depreciation Kuwaiti Dinars)		P (Consumer Price Index; the inflation rate, π , is the percentage change in P)	
	Kuwaiti Dinars		Kuwaiti Dinars		%		%		Kuwaiti Dinars		the inflation rate, π , is the percentage change in P)	
1982:3	200,190,000		37,667,800		11.73720		12.85160		358,045		0.86500	
1982:4	220,598,000		37,986,700		10.98730		11.98050		364,721		0.88200	
1983:1	240,385,000		36,434,900		10.11510		11.13990		353,237		0.89800	
1983:2	253,271,000		35,320,000		8.72847		9.68846		363,759		0.92800	
1983:3	259,399,000		34,639,500		6.81201		7.61006		396,403		0.94000	
1983:4	258,838,000		34,355,800		4.34443		4.88159		451,533		0.95400	
1984:1	251,580,000		34,495,900		0.00100		0.00100		529,762		0.96900	
1984:2	240,873,000		34,662,500		0.00200		0.00200		574,688		0.97200	
1984:3	226,598,000		34,857,600		0.00100		0.00100		586,813		0.97600	
1984:4	208,597,000		35,083,100		0.00200		0.00200		566,269		0.97900	
1985:1	186,668,000		35,431,800		2.15892		2.35562		512,830		0.98100	
1985:2	171,606,000		35,666,300		3.75203		4.11918		504,640		0.98500	
1985:3	163,241,000		36,060,300		4.79366		5.27856		541,608		0.98700	
1985:4	161,482,000		36,528,100		5.29538		5.84664		624,145		0.98800	
1986:1	166,309,000		37,075,100		5.26277		5.82975		753,168		1.01000	
1986:2	172,431,000		37,715,700		5.24470		5.82312		842,888		1.00900	
1986:3	179,916,000		38,457,000		5.24098		5.82667		894,301		1.01100	
1986:4	188,847,000		39,307,400		5.25155		5.84046		907,980		1.00800	

TABLE II: Interpolated Quarterly Data (continued)

Year Quarter	I (Continuous Time Deposits, 90% Invested) Kuwaiti Dinars	Y (Total Equity Capital) Kuwaiti Dinars	λ (Profit-Sharing Ratio) %	k (Rate of Return on Investment) %	δ (Depreciation Kuwaiti Dinars)	P (Consumer Price Index; the inflation rate, π , is the percentage change in P)
1987:1	199,324,000	40,276,300	5.27655	5.86463	884,075	1.01500
1987:2	209,910,000	41,589,400	5.33556	5.92805	889,828	1.01800
1987:3	220,722,000	43,261,500	5.42925	6.03142	925,303	1.02000
1987:4	231,880,000	45,311,000	5.55864	6.17589	990,893	1.01100
1988:1	243,509,000	47,760,800	5.72518	6.36307	1,087,330	1.02100
1988:2	246,594,000	48,485,800	5.72193	6.36094	1,132,670	1.03400
1988:3	241,170,000	47,494,100	5.54886	6.16946	1,127,430	1.03200
1988:4	227,177,000	44,774,600	5.20403	5.78653	1,071,540	1.03700

A Dynamic Investment Model with Profit-Sharing in an Interest-Free Economy: Methodological Issues

*Zaidi Sattar**

The present paper is a contribution to the building blocks of an investment model within the framework of an integrated macroeconomic model of an Islamic economy. Investment behavior in the model is guided by an Islamic-ethical value system and profit-sharing financial contracts. The typical firm's investment decision is believed to emerge from a dynamic inter-temporal maximization exercise within an infinite time horizon. The method of Calculus of Variations is applied to arrive at the optimal investment and employment criteria for the firm. The result is then incorporated into a macroeconomic model to study the behavior of key endogenous variables like national income and the rate of profit-share. Comparative statics exercised within a general equilibrium framework reveal the potency of monetary policy but the neutrality of fiscal policy with respect to output and employment.

Introduction

The past decade has witnessed a tremendous outpouring of interest as well as effort in the formalization of economic models based on profit-sharing financial arrangements as an Islamic alternative to the conventional interest-based economic system. Several macroeconomic models for interest-free economies have been proposed (Anwar 1987; Habibi 1987; Metwally 1981 & 1983). The rigor of an integrated approach to such macroeconomic modelling depends on the rigor of the component models, namely, the consumption, investment, monetary, and fiscal relationships. Economists have written

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extensively on different aspects of consumer behavior in Islamic societies. Kahf (1978) and Khan (1984), among others, have contributed to the conceptual and analytical formulation of the consumption function under the rubric of Islamic rationality. Considerable work is also evident in the discussion of the fiscal and monetary economics of Islam (Arif 1982; Ziauddin 1983). For practical reasons, the most rigorous treatment we have seen deals with the precepts and practices of interest-free banking (Siddiqi 1983; Khan and Mirakhor 1987), as researchers have sought to grapple with the conceptual and practical aspects of this model of an Islamic financial system to which several Islamic countries have pledged their commitment.

A critical component of macroeconomic models of the Islamic economy that has hitherto not received the rigorous analytical treatment it deserves is the behavioral relation governing investment in physical capital. The exercise at hand is an attempt to contribute to the building blocks of an investment model within the framework of an integrated macroeconomic model. In particular, the paper recognizes investment as a dynamic rather than a static behavior of the firm, thus making it necessary to invoke dynamic optimization procedures to derive the investment model.

Throughout, the assumption is that of an efficient capital market such that firms are able to maintain the desired level of capital stock via transactions in the capital market. A wide array of Islamic financial instruments¹ effectively helps mediate between savers and investors. Finally, it is apt to note that the conceptual basis of the ensuing model owes much to the work of Tobin in his Dynamic Aggregative Model (Tobin 1955) with a methodological approach following Sargent's (1987) recent interpretation of Tobin. Most importantly, the model rests on the foundations of an Islamic-ethical value system based on the Qur'an and the Sunnah.

Ethico-Economic Institutional Framework

At the outset, it is necessary to characterize the Islamic environment in which a firm is to pursue its production, investment, and profit-seeking activity. As is customary, we will regard the Islamic economy as a "theoretical construct" in which individuals, firms, institutions, and the state are all governed by the laws of the Islamic Shari'ah while subscribing to the ethical-spiritual value system stemming from the Qur'an and the Sunnah. Moreover, individual behavior is tempered by the pursuit of *falāḥ* – a term involving the maximization

¹Examples of Islamic financial instruments are: *muḍārabah*, *murābahah*, *muqāraḍah*, *mushārakah*, *ijārah*, *bay' al salam*, and so on.

of well-being not merely in the present but in the hereafter as well. *Falāh*, therefore, serves as the basis for “Islamic rationality,” as opposed to the Smithian notion of individual self-interest.

In addition to the above general principles, the following specific features of an Islamic economic system will be assumed to obtain:

- (a) The institution of interest in borrowing and lending ceases to exist.
- (b) Zakah is imposed at a fixed rate on all Muslims owning property above a specified minimum level. This rate is called *niṣāb*. Zakah revenues are distributed among the poor who live below the level of *niṣāb*.
- (c) Private enterprise and private ownership of the means of production exist alongside possibly significant public sector activities.
- (d) Wages and prices are generally determined by free market forces, albeit under the watchful eyes of *ḥisbah* that may regulate these variables to ensure equity and harmony in society. The principle of a just wage is upheld.
- (e) Since savers, investors, and entrepreneurs are different entities, their pursuit of positive returns on their financial undertakings gives rise to an efficient market for financial instruments (i.e., *muḍārabah*, *mushāarakah*, *muqāraḍah*).
- (f) The government intervenes in the market only when private endeavors fail to achieve the desired social goals.

It is in the light of the foregoing ethico-economic environment that we shall investigate a given firm’s investment behavior in an Islamic economy.

A Firm’s Equilibrium Capital Stock

In keeping with the idea of an aggregate production function, it will be assumed that there exists a single aggregate commodity that is sold at a standardized price, p , which will serve as the numeraire for the valuation of the portion of output that is consumed and that which is invested (physical capital). The assumption is that capital stock in the ownership of a typical firm will be regarded as a fungible resource that can be bought or sold in a perfectly competitive and efficient capital market. In other words, capital market equilibrium implies that each firm’s holding of capital stock corresponds

to the desired level. Any discrepancies between the desired and the actual levels of capital stock will prompt transactions in the capital market and a consequent adjustment towards equilibrium.² Under these conditions of equilibrium, it will be shown that the firm equates the marginal productivity of capital to the rental or user cost of capital. The adjustment process envisaged in the proposed model differs from the one proposed by Tobin in his formulation of the Keynesian investment schedule (Tobin 1969). There, the crucial variable driving investments was Tobin's q , the ratio of the nominal value of the firm's equities to the current replacement cost of capital.³ Positive investments would be forthcoming for $q > 1$, but the adjustment to equilibrium is not instantaneous, for it only takes place at some finite rate per unit of time.

A Firm's Investment Behavior under Profit-Sharing

The typical loanable funds market in an Islamic financial system would operate on an interest-free basis but permit the pursuit of profits, albeit under certain ethical constraints⁴ as ordained in the Qur'anic principle: "God has permitted trade but forbidden *ribā*" (2:275).

The upshot of these principles is the emergence of a market for financial instruments that recognize some form of profit-sharing arrangements between financier and entrepreneur. The most relevant of these instruments for the investment demand function are *muḍārabah*, *mushārah*, and *muqārah*.

Muḍārabah involves interest-free loans from commercial banks under an arrangement whereby the banks share in the profits of the enterprise at a predetermined ratio, say, $(1 - k):k$, where k is the share of profits accruing to the financier. An alternative source of funds arises from equity participation (*mushārah*) with the bank, where both equity capital and perhaps management is shared. The banks, in turn, might float equity bonds (*muqārah*) to attract investors. The consequence is the emergence of a stock market comprised of transferrable instruments whose "price and rate of return are determined by market forces" (Khan and Mirakhor 1986). The critical variable in the loanable funds market that determines the rates of return in all of the various financial instruments is the profit-sharing ratio k . More important for the purpose at hand, it serves as the critical component

²For the sake of simplicity, the assumption here is that of zero cost of adjustment. However, it is possible to incorporate a cost of adjustment function into the model as Lucas (1967) and Treadway (1969) have done.

³See Tobin and Brainard (1977) for more details on q .

⁴See Sattar (1988) for a discussion on ethical constraints on profits.

of the user cost of capital. Note that unlike the interest cost of capital, which is a constant, the user cost based on the profit-sharing ratio and the profit rate is subject to variability in response to changes in the profit-rate. Thus, investment decisions must be based on some expected profit-rate, which might be arrived at in the following manner:

Let the expected rate of business profits in time t be given by:

$$\bar{\phi} = E_t(\phi_{t+1}) = \sum_{i=0}^n w_i \phi_{t-i} \quad (1)$$

where $E_t(\phi_{t+1})$ is the expected value of profits in the next period and w_i are weights that follow a geometrically declining lag function, such that:

$$\sum_{i=0}^n w_i = \lambda \sum_{i=0}^n (1-\lambda)^i = 1 \text{ as } n \Rightarrow \infty \text{ and } 0 < \lambda < 1.$$

The specification (1) implies that the expected profit-rate, $\bar{\phi}$, is a weighted average of past such profit-rates with declining weights accorded to rates in the more distant past. Thus, the expected user cost of capital is given by $\alpha = k\bar{\phi}$ (the product of the profit-sharing ratio and the expected profit-rate). Ex post values of α might diverge from ex ante values as actual ϕ_t differs from $\bar{\phi}$. It has been shown by Siddiqi (1983) and others that k , the profit-sharing ratio, is determined by the demand for and supply of savings in the loanable funds market. For an entrepreneur, however, k is an agreed pre-determined rate. The ex post value of α might diverge from its ex ante value if the actual profit rate, ϕ , differs from its expected rate, $\bar{\phi}$. Hence the uncertainty in the financier's rate of return in an interest-free economy.⁵

Prices and Wages

The existence of ethical constraints on profit-making suggest certain upper bounds for prices in relation to unit or marginal costs. Profit-optimization is therefore subject to such exogenous constraints on prices. Similarly, the notion of a just wage on the grounds of equity in Islamic societies is analogous

⁵Note that α , the expected rate of return for the financier, is a combination of the profit-sharing ratio and the expected profit rate.

to the idea of a wage-floor, thus introducing an element of Keynesian downward wage-rigidity into the labor market of an Islamic economy. Further, the absence of money illusion ensures that the real wages of workers are protected by the proportionate adjustment of wages to price changes.

Discounting Future Values

Discounting future values is necessitated by considerations of inter-temporal economic efficiency as well as the pursuit of the Islamic objective of avoiding waste in consumption or production (the principle of *isrāf*). The fact that current investments yield a positive return makes it necessary to discount the future yields by an appropriate factor. Zarqa (1981) furnishes a rigorous argument for considering the expected rate of return on equities (*mushārah*) as the appropriate discount factor. Since, in equilibrium, this rate covers the rate of profit-share, α , this latter coefficient serves to replace the interest rate as the discounting factor in an Islamic economy.

The Investment Model

In this section, we set out to lay the microfoundations of the given firm's investment behavior over time. It is hypothesized that the typical firm's investment decisions are brought about by an inter-temporal maximization problem within an infinite time horizon. The firm employs capital and labor, and its output at any instant in time is given by a linear homogeneous production function:

$$(2) \quad Y(t) = F(K(t), L(t)) \quad t \in [0, \alpha)$$

with all the standard marginal productivity conditions, including the Euler theorem, duly satisfied. We also assume a one-sector model such that output⁶ and capital are both evaluated at the price of the homogeneous good, Y .

The firm's objective is to maximize its present value subject to the condition that it will have to share its net cash flow with the financier in accord with

⁶Introducing additional goods and making a distinction between output and capital goods does not alter the outcome of the optimization exercise, but rather adds unnecessary complexity. Hence it is avoided.

a pre-agreed profit-sharing ratio, k . Thus, the firm's net cash flow at time t is given by:

$$(3) \quad (1-k)CF(t) = (1-k)[p(t)Y(t) - w(t)L(t) - p(t)\dot{K}(t)]$$

where: $p(t)Y(t)$ is the firm's revenue,
 $w(t)L(t)$ is its wage bill, and
 $p(t)\dot{K}(t)$ is its current expenditures on capital goods, i.e., its financial costs of adding to existing capital stock at the rate of $K(t)$ per unit of time.⁷ Thus, the firm's present value at time t_0 is given by:

$$(4) \quad PV = \int_0^\alpha e^{-\int_0^\alpha \alpha(s)ds} (1-k)CF(t)dt$$

In specification (4), α is expected to vary over time, thus introducing a complexity to the computation of present values with a variable discounting factor. For the sake of simplicity and mathematical tractability, we therefore use the expected rate of profit share ($\alpha = k\phi$) as a constant discounting factor. Then, the firm's maximization problem is reduced to:

$$(5) \quad \text{MAX}_{L(t), K(t)} \int_0^\alpha e^{-\alpha t} (1-k)CF(t)dt$$

or:

$$(5') \quad \text{MAX}_{L(t), K(t)} \int_0^\alpha e^{-\alpha t} (1-k)[p(t)F(K(t), L(t)) - w(t)L(t) - p(t)\dot{K}(t)]dt$$

Further, we will assume that given the economy's anticipated rate of inflation, π , prices are adjusted along the path: $p(t) = p e^{\pi t}$. Ensuring a just wage in periods of inflation requires that wages are also adjusted along the path: $w(t) = w e^{\pi t}$.

⁷Although the depreciation term is ignored, it may be noted that the standard assumption of a constant rate of depreciation has no effect on the optimal criteria for investment.

Incorporating these adjustments into (5') yields^a:

$$(6) \quad \text{MAX}_{L(t), K(t)} \int_0^{\alpha} e^{-(\alpha-\pi)t} (1-k)[pF(K(t), L(t)) - wL(t) - p\dot{K}(t)]dt$$

Addressing the above maximization problem by way of Calculus of Variations yields the first order conditions summarized by the following set of Euler equations:

$$(A) \quad \partial I / \partial L = 0, \quad d/dt(\partial I / \partial \dot{L}) = 0 \quad t \in [0, \alpha)$$

The above condition applied to the objective functional gives the result:

$$e^{-(\alpha-\pi)t}(1-k) [p(\partial F / \partial L - w)] = 0$$

which then yields the optimal criteria for the employment of labor:

$$(7) \quad (A) \quad \partial F / \partial L = F_L = w/p$$

Thus, the requirements for dynamic optimality with respect to the firm's hiring decisions are identical with the static condition that firms equate the marginal productivity of labor to the real wage.

The second Euler equation, related to the capital stock, is given by:

$$(B) \quad \partial I / \partial K - d/dt(\partial I / \partial \dot{K}) = 0, \quad t \in [0, \alpha)$$

$$\partial I / \partial K = e^{-(\alpha-\pi)t} (1-k)pF_K$$

$$d/dt(\partial I / \partial \dot{K}) = p(\alpha-\pi)(1-k)e^{-(\alpha-\pi)t}$$

Thus:

$$pe^{-(\alpha-\pi)t}(1-k)F_K - p(\alpha-\pi)(1-k)e^{-(\alpha-\pi)t} = 0$$

^aThe objective functional in this maximization or control problem corresponds to an intermediate function of the form:

$$I(K, \dot{K}, L, t)$$

lending the maximization problem to be addressed by way of Calculus of Variations in order to obtain the extremum solutions. For more details, see Intrilligator (1971, chapter 12).

Therefore:

$$p(1-k)e^{-(\alpha-\pi)t}[F_K - \alpha + \pi] = 0$$

which yields the optimal investment criteria:

$$(8) \quad F_K = \alpha - \pi$$

The above criteria indicates that in an interest-free economy with an equilibrating capital market, firms will attain their desired capital stock by borrowing from the capital market and investing up to the point where the marginal productivity of capital is equalized with the user cost of capital⁹: $(\alpha - \pi)$.

The rationale for such investment behavior is simple. Firms will find it profitable to borrow and invest as long as the marginal product of capital exceeds the user cost, i.e., $K(t) > 0$ if $F_K > \alpha - \pi$. Firms will decumulate their capital stock when $F_K < \alpha - \pi$. Thus, the more fundamental relationship takes the form:

$$(9) \quad I(t) = I\left(\frac{F_K}{\alpha - \pi}\right) \quad I' > 0$$

showing that investment is an increasing function of the marginal productivity of capital and a decreasing function of the user cost of capital.¹⁰ In practical terms, the marginal productivity of capital is difficult to estimate. So, to obtain an estimable investment function, this argument needs to be replaced. Given the linear homogeneity of the production function $Y = F(K, L)$, we have $F_1 > 0$, $F_2 > 0$, and $F_{12} > 0$. The last inequality implies that the marginal productivity of capital is positively related to L , so that when L is high, so is F_K . But L , the employment of labor, is high precisely when output Y is high. Thus, the functional relationship (9) implies that investment is an increasing function of Y and a decreasing function of $(\alpha - \pi)$. The structural equation for the investment function may be written thus:

⁹Following the work of Metwally (1983), an additional source of rigidity needs to be borne in mind—a minimum floor for α . Metwally has shown that for investments to continue, the rate of profit share must exceed the rate of zakah on idle balances (i.e., $\alpha > .025$).

¹⁰Alternatively, the investment function may be specified as $I(t) = I(F_K, \alpha - \pi)$, $I_1 > 0$, $I_2 < 0$.

$$I = aY + b (\alpha - \pi)$$

Incorporating a constant and a stochastic term, we obtain the econometric formulation of the investment equation:

$$(10) \quad I = a_0 + a_1 Y + a_2 (\alpha - \pi) + \epsilon$$

$$a_0, a_1 > 0, a_2 > 0, \quad \epsilon \simeq N(0, \sigma_\epsilon^2)$$

The following points about the preceding exercise on the derivation of an investment function in an interest-free economy are noteworthy:

- (a) The marginal conditions for optimality are identical regardless of whether the firm seeks to maximize total cash flow or its own share of the cash flow. The term $(1-k)$ in the objective functional leaves no impact on the optimality criteria, as is evident from the Euler equations (A) and (B) and the subsequent derivation of the optimality criteria for employing labor or capital.
- (b) It is possible to demonstrate the equivalence of maximizing the firm's present value and maximizing profits at each point in time. Indeed, they lead to the same optimality conditions, as is shown below. Central to this issue is the imputation of the cost of capital (Anwar 1987, 31) which, in an interest-free economy, must involve the use of the expected real user cost of capital, $(\alpha - \pi)$. Thus the firm's profit maximization problem at time t is given by:

$$(11) \quad \begin{aligned} \text{MAX } \Pi(t) = & p(t)F(K(t), L(t)) - w(t)L(t) - (\alpha - \pi)p(t)K(t) \\ & L(t) \\ & K(t) \end{aligned}$$

The first order conditions are:

$$\Pi_L = p(t)F_L - w(t) = 0$$

which yields $F_L = w(t)/p(t)$ [same as (7)]

Again,

$$\Pi_K = p(t)F_K - (\alpha - \pi)p(t) = 0$$

so that $F_K = \alpha - \pi$

[same as (8)]

- (c) The real return on new capital, $\alpha - \pi$, will vary over time if the actual profit rate itself diverges from the long-run expected rate of profit. However, where $\alpha (=k\phi)$ is treated by financiers as the long-run expected rate of return on investible funds, the distinction between $(\alpha - \pi)$ in the interest-free economy and $(r - \pi)$ in an interest-based economy is given by the fact that r guarantees a certain positive return on financial capital while α does not. Given that $\phi = E(\phi(t))$, i.e., ϕ is the expected rate of profit at time t , it is possible that $\phi(t) \neq \phi$. Then $\alpha(t) \neq \alpha$. However, $r(t)$ involves a guaranteed nominal rate of return on capital such that $r(t) = E(r(t)) = r$.
- (d) Regardless of the differences between α and r , it is important to note that since α substitutes for r in an interest-free economy, it appears as the substitute argument in investment as well as in money demand functions.

The Macroeconomic Model

We now incorporate the optimality conditions (7) and (8) derived from the preceding profit-maximization exercise into a macroeconomic model following a methodology attributable to Sargent (1987):

- (i) Consumption: $C = c(Y^d, \alpha)$ $0 < c_1 < 1$; $c_2 < 0$; $Y^d = Y - T$
- (ii) Income Identity: $Y = C + I + G$
- (iii) Production Function: $Y = F(K, L)$
- (iv) Equilibrium condition for employment: $F_L = w/p$, $w = \bar{w}$
- (v) Equilibrium condition for investment: $F_K = \alpha - \pi$
- (vi) Money Market Equilibrium: $M/p = m(\alpha, Y)$, $m_1 < 0$, $m_2 > 0$

Endogenous variables: C, I, Y, L, α, p

Exogenous variables: G, T, M, w, π, K

Equations (i), (ii), and (iii) represent conventional specifications of the consumption function, national income identity, and the production function, except that consumption is made responsive to changes in the rate of profit-share (a rise in such a rate increases the incentive to save and to reduce consumption).

Equation (iv) incorporates the optimal employment criteria (7), but introduces the condition of wage rigidity in view of the requirement that a “just” minimum wage must be ensured through an equitable wage policy in an Islamic economy. This condition (given by $w = \bar{w}$) introduces a notion of disequilibrium in the labor market that is typically Keynesian. Equation (v) is the capital market equilibrium condition following from the optimal investment criteria (8). Equation (vi) postulates money market equilibrium with α replacing the interest rate in a conventional money demand function [following al Jarhi (1981)].

Linearizing the system of equations and presenting the endogenous variables on the left-hand side and exogenous variables on the right-hand side, we get:

$$(i') \quad dC - c_1 dY - c_2 d\alpha = -c_1 dT$$

$$(ii') \quad dY - dC - dI = dG$$

$$(iii') \quad dY - F_L dL = 0$$

$$(iv') \quad F_{LL} dL + (w/p^2) dp = dw/p$$

$$(v') \quad F_{KL} dL = d\alpha - d\pi$$

$$(vi') \quad m_\alpha d\alpha + m_Y dY + (M/p^2) dp = dM/p$$

[See Appendix A for a compact presentation of the above system and its solution].

To study the behavior of the system and analyze the impact of policies, we depict the model graphically, first, to study the effect of fiscal policies and, next, to analyze the effects of monetary policies. This will be done, first, in a partial equilibrium framework followed by a general equilibrium analysis to enable a comparison of results.

First, capital market equilibrium is analyzed as follows: Using the investment function:

$$(12) \quad I = I(F_K, \alpha - \pi), \quad I_1 > 0, \quad I_2 > 0$$

and taking total derivatives, we obtain:

$$(13) \quad dI = I_1 F_{KL} dL + I_2 d\alpha - I_2 d\pi$$

Using the condition $dI = 0$ for capital market equilibrium (CME), and equation (iii'):

$$(14) \quad 0 = I_1 (F_{KL}/F_L) dY + I_2 d\alpha - I_2 d\pi$$

which yields:

$$(15) \quad \left. \frac{d\alpha}{dY} \right|_{CME} = \frac{-I_1}{I_2} (F_{KL}/F_L) > 0$$

Using equations (i') and (ii') coupled with (13) yields the result for goods market equilibrium (GME) [see Appendix B for details]:

$$(16) \quad d\alpha = 1/\eta [1 - c_1 - I_1 (F_{KL}/F_L)] dY + 1/\eta [c_1 dT + I_2 d\pi - dG]; \quad \eta = c_2 + I_2$$

$$(17) \quad \left. \frac{d\alpha}{dY} \right|_{GME} = 1/\eta [1 - c_1 - I_1 (F_{KL}/F_L)] < 0$$

Figure 1 describes the interaction of the goods and the capital market.¹¹

¹¹Detailed comparative statics results within a general equilibrium framework may be obtained from the reduced form equations for key endogenous variables. This has been done subsequently.

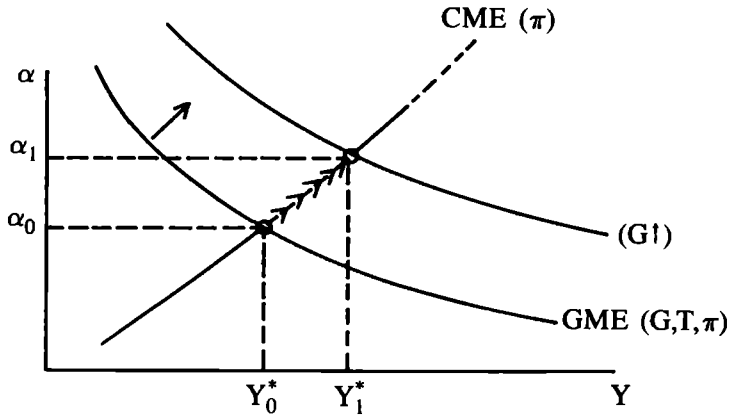


Figure (I)

Thus, in a partial equilibrium analysis of the goods and capital markets, fiscal policies appear to have the conventional impact on output, while expansionary fiscal policies help to raise the rate of profit-share in the economy and contractionary policies have the opposite effect. This result is not difficult to imagine if we do not consider the money market: expansionary fiscal policies create excess demands in the goods market raising the profitability of investments. Any disequilibrium in the capital market is then resolved through a rise in the rate of profit-share, α .

To study the behavior in the money market, we postulate money market equilibrium (MME) through appropriate substitutions in equations (iii') – (vi'). We obtain these results [see Mathematical Appendix C for details]:

$$(18) \quad d\alpha = 1/m_\alpha [dM/p - \frac{M}{p} \frac{dw}{w} + (\frac{M}{p} \frac{F_{LL}}{F_L^2} - m_Y) dY]$$

Hence:

$$(19) \quad \left. \frac{d\alpha}{dY} \right|_{MME} = 1/m_\alpha \left(\frac{M}{p} \frac{F_{LL}}{F_L^2} - m_Y \right) > 0$$

$$m_\alpha < 0, m_Y > 0, F_{LL} < 0$$

Figure 2 describes the interaction of the money and capital markets:

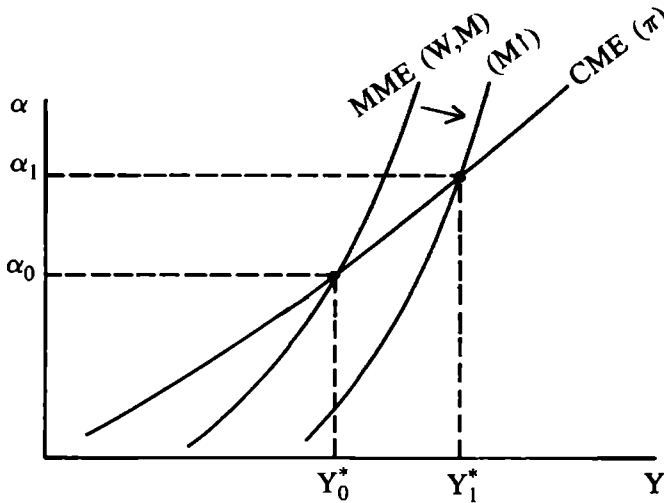


Figure (2)

Since the slope of the CME and MME curves are both positive, a necessary condition for the stability of equilibrium requires that MME have a steeper slope than CME. It is demonstrated that monetary expansion, just as fiscal expansion, has output effects but that capital market equilibrium is maintained at a higher level of profit-share. Thus, the separate treatment of the interaction between the goods and the money markets with the capital market generate the outcome that fiscal and monetary expansion both raise the rate of profit-share by raising the profitability of investments as aggregate demand and output both rise.

A general equilibrium analysis would be difficult to present graphically. Therefore, the comparative statics results will be derived from the reduced form solutions for the key endogenous variables, namely, Y and α .

Thus, substitution of (18) and (iii') into (v') yields reduced form for Y :

$$(20) \quad \left[\frac{F_{KL}}{F_L} - \frac{M}{p} \cdot \frac{F_{LL}}{F_L^2} \cdot \frac{1}{m_\alpha} + \frac{m_Y}{m_\alpha} \right] dY = \frac{1}{m_\alpha} \left[\frac{dM}{p} - \frac{M}{p} \cdot \frac{dw}{w} \right] - \pi$$

and:

$$(21) \quad dY = \frac{1}{Sm_\alpha} \left[\frac{dM}{p} - \frac{M}{p} \cdot \frac{dw}{w} \right] - \frac{d\pi}{S}$$

$$S = \left[\frac{F_{KL}}{F} - \frac{M}{p} \cdot \frac{F_{LL}}{F_L^2} \cdot \frac{1}{m_\alpha} + \frac{m_Y}{m_\alpha} \right] \quad \text{and } S < 0$$

The above produces the following comparative statics results:

$$dY/dM > 0$$

$$dY/dw < 0$$

$$dY/d\pi > 0$$

Notice that dY/dG , $dY/dT = 0$ implying that output changes are not responsive to fiscal policy. Only monetary shocks have output effects.

Substituting (21) into (18) yields the reduced form for $d\alpha$:

$$d\alpha = \frac{1}{m_\alpha} \left[\frac{dM}{p} - \frac{M}{p} \cdot \frac{dw}{w} \right] + \frac{1}{m_\alpha} \left(\frac{M}{p} \cdot \frac{F_{LL}}{F_L^2} - m_Y \right)$$

$$\left\{ \frac{1}{Sm_\alpha} \left[\frac{dM}{p} - \frac{M}{p} \cdot \frac{dw}{w} \right] - \frac{d\pi}{S} \right\}$$

The comparative statics are:

$$d\alpha/dM \text{ ambiguous}$$

$$d\alpha/dw < 0$$

$$d\alpha/d\pi > 0$$

$$\text{and } d\alpha/dG, d\alpha/dT = 0$$

Again the neutrality of fiscal policy with respect to α is established, although the impact of monetary shocks on α appears ambiguous. In sum, it appears that the general equilibrium framework presents a comparative statics outcome that contrasts with the previous partial equilibrium analysis. The interesting result that emerges here is that of fiscal neutrality with respect

to output and the rate of profit-share. On the contrary, the non-neutrality of monetary shocks has been demonstrated. We conclude, therefore, that in an Islamic economy based on profit-sharing financial arrangements, monetary policy would be a more potent instrument of stabilization than fiscal policy, provided that the assumptions of an efficient capital market hold.

The above result makes ample sense in view of the unique constraints faced in the area of fiscal management in an Islamic economy due to the absence of bond-financing. The choice for the fiscal authority, therefore, lies between balanced budgets or monetary financing of the deficit. The latter, clearly, is indistinguishable from pure monetary expansion. Thus, inflationary consequences notwithstanding, monetary policy remains the only potent instrument of stabilization. In the prevailing circumstances, pursuing a policy of noninflationary growth would require observing a monetary rule in the Friedmanian tradition while calling for strict limits on discretionary policy.

Conclusion

The present paper has presented an initial framework for an investment model—a key building block in an integrated macroeconomic model of an Islamic economic system. The key variable introduced in investment analysis is the rate of profit-share, which turns out to be a critical variable determining investment criteria. Moreover, as investment behavior is governed by expected profitability and demand growth over the long term, the dynamic optimization exercise adopted here appears to be a more realistic basis for studying the microfoundations of investment behavior. An econometric formulation of the investment model has also been proposed that could lend itself to an estimation of the availability of an adequate amount of cross-section or time-series data.

The macroeconomic model proposed has both classical and Keynesian attributes. Therefore, the indications regarding the effectiveness of activist stabilization policies are mixed. The main policy implications of the present exercise are essentially twofold: first, the neutrality of fiscal policy with respect to output, investment, and the rate of profit-share has been demonstrated, as has the greater potency of monetary policy as an instrument of economic stabilization. However, the pursuit of noninflationary growth would call for strict limits on the scope for discretionary policy. Second, the impact of fiscal or monetary policies on the rate of profit-share is either neutral or ambiguous. Prudence, therefore, dictates the need to avoid using the rate of profit-share either as an instrument or as a target variable for stabilization policies, since

such a strategy might contribute to the volatility of investments without the benefit of higher output or productivity.

A related but critical issue that emerges is whether stabilization policies should be actively used in an Islamic economic system. The answer to this question can only be obtained after further investigation of the long-term relations between real and nominal variables in the system, the nature of interdependence between the component markets, formation of profit and other expectations in response to monetary and fiscal policies, and the desirability, for instance, of fulfilling one goal (employment) at the expense of another (investment stability). The present study attempts to provide only the preliminary answers to these broader questions.

Mathematical Appendices

Appendix A

The linearized system of equations can be presented compactly in matrix form:

$$\begin{pmatrix} 1 & 0 & -c_1 & 0 & -c_2 & 0 \\ -1 & -1 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & -F_L & 0 & 0 \\ 0 & 0 & 0 & F_{LL} & 0 & w/p^2 \\ 0 & 0 & 0 & F_{KL} & -1 & 0 \\ 0 & 0 & m_Y & 0 & m_\alpha & M/p^2 \end{pmatrix} \begin{pmatrix} dC \\ dI \\ dY \\ dL \\ d\alpha \\ dp \end{pmatrix} = \begin{pmatrix} -c_1 dT \\ dG \\ 0 \\ dw/p \\ -d\pi \\ dM/p \end{pmatrix}$$

Inspection of the 6x6 matrix above shows the presence of a 4x2 null matrix in the bottom left-hand corner implying the characteristic of “block recursivity” of the model (a typically classical attribute). By implication, the subset of equations (iii) - (vi) can then independently determine the values of Y, L, α , and p. Substituting the value of Y in (i) solves C. I is then determined in (ii).

Appendix B

Derivation of goods market equilibrium is as follows:

Given:

$$(i') \quad dC - c_1 dY - c_2 d\alpha = -c'dT$$

$$(ii') \quad dY - dC - dI = dG$$

Substituting (i') into (ii'):

$$dY - c_1 dY + c_1 dT - c_2 d\alpha - dI = dG$$

Using (iii') and (13), and substituting for dI:

$$dY - c_1 dY - c_2 d\alpha + c_1 dT - I_1 \frac{F_K}{F_L} dY - I_2 d\alpha + I_2 d\pi = dG$$

$$[1 - c_1 - I_1 \frac{F_{KL}}{F_L}] dY + c_1 dT + I_2 d\pi - dG = I_2 d\alpha + c_2 d\alpha$$

$$d\alpha = \frac{1}{\eta} [1 - c_1 - I_1 \frac{F_{KL}}{F_L}] dY + \frac{1}{\eta} [c_1 dT + I_2 d\pi - dG];$$

$$\eta = c_2 + I_2$$

$$\text{Thus: } \frac{d\alpha}{dY} \text{ GME} = \frac{1}{\eta} [1 - c_1 - I_1 \frac{F_{KL}}{F_L}] < 0$$

Appendix C

To obtain money market equilibrium, first collapse equations (iii') to (vi') into a system of two equations in $d\alpha$ and dY . Equations (iii') and (iv') then yield:

$$(w/p^2) dp = dw/p - F_{LL} dL$$

$$dp/p = dw/w - (p/w) F_{LL} dL$$

$$= dw/w - \frac{F_{LL}}{F_L} dL \quad (F_L = w/p)$$

$$dp/p = dw/w - \frac{F_{LL}}{F_L^2} dY$$

Substituting into (vi'):

$$m_{\alpha}d\alpha + m_Y dY + \frac{M}{p} \left(\frac{dw}{w} - \frac{F_{LL}}{F_L^2} dY \right) = \frac{dM}{p}$$

$$d\alpha = \frac{1}{m_{\alpha}} \left[\frac{dM}{p} - \frac{M}{p} \cdot \frac{dw}{w} + \left(\frac{M}{p} \cdot \frac{F_{LL}}{F_L^2} - m_Y \right) dY \right]$$

$$\frac{d\alpha}{dY} \text{ MME} = \frac{1}{m_{\alpha}} \left(\frac{M}{p} \cdot \frac{F_{LL}}{F_L^2} - m_Y \right) > 0$$

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Zakah Contributions and Resource Allocation – An Optimal Control Approach

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Introduction

The emergence of Islamic economic literature in several Muslim countries and elsewhere in the world during the last decade should be viewed not in isolation but in the perspective of the applicability as well as the flexibility of the Islamic economic system. This system has given detailed regulations for the conduct of Muslims' socioeconomic life which concerns mainly the earning and use of wealth.¹

The economic principles of Islam strive at constructing a just society wherein every individual will behave responsibly and honestly. The Islamic economic system is concerned not only with the satisfaction of the material needs of individuals who seek to maximize their own utilities but also with the fulfillment of the legitimate basic needs of human beings, even if some of them are economically underprivileged. Thus it is the responsibility of the Muslim individuals, community, and state to provide the less fortunate with their basic needs.² This responsibility should be looked at as social and moral as well as a religious obligations.

Taxation measures and transfer payments are tools designed to deal with the problems of socioeconomic justice and the equitable distribution of income

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¹ For more information on the subject, see Faruqi (1980).

² Islamic state is defined as one in which Islamic jurisprudence inspired from Quran, Sunnah and Ijtihad tools remains the sole practical legislation in all matters of the state.

and wealth. Within this setting, compulsory payment of *zakāh* remains the cornerstone of the taxation and transfer payment programs of an Islamic economy.³ To guarantee its efficiency, *zakāh* has been placed out of the discretionary power of the political system by listing it as one of the five decreed pillars of Islam. Denying its obligation is tantamount to denying Islam.⁴

The *zakāh* system is endowed with an incentive structure that provides a positive stimulus to economic growth. The incentive structure emanates from the formation, practice, and maintenance of attitudes and behavior that can be practiced in institutional arrangements. Because of the attitude and behavior of the Muslim economic agent which springs from the Islamic ideology, this study enhances the conventional approach to economic growth by portraying the altruistic behavior that a Muslim individual manifests through his/her *zakāh* payment.⁵ In doing so, this paper develops an optimal economic growth model by explicitly incorporating *zakāh* into the utility index. This framework stipulates that a Muslim individual derives his/her felicity from his/her own consumption of goods and services as well as from contributions to others through fulfilling his/her *zakāh* obligations. Underlying analysis are three main assumptions:

1. The existence of a fully operating *zakāh* institution to administer the *zakāh* fund.
2. Only Muslims acquiring *zakāh niṣāb* are portrayed in the model.⁶
3. *Zakāh* is imposed on nonproductive capital as well as on the return of productive capital.⁷

The results of the model indicate that the incorporation of *zakāh* yields multiple stationary solutions. One interpretation tends to set specific planning priorities under which the wealth and income distribution issues are of primordial stature. Under reasonable assumptions, however, we find that the optimal

³ For further elaboration on the subject of *zakāh* see Yusuf El-Qardawi, Siddiqui (1981) and Choudhury (1980) among others.

⁴ *Zakāh* in Quranic terminology means a compulsory payment by the wealthy to the economically under-privileged. It should be noted here that *zakāh* is not a charity and cannot be treated as a tax in the modern sense of the term because first, it is institutionalized by the state. Secondly, it is earmarked to be distributed on specific groups (Quran 9:60). Third, it is a compulsory payment on Muslim members of the state only and there is no quid pro quo attached to it.

⁵ We maintain that altruistic man rather than self-interested economic man is the fundamental assumption in Islamic economics.

⁶ Nisab is the minimum level of income or wealth below which no *zakāh* is due.

⁷ Since *zakāh* is imposed on idle assets, it can be put to productive use. Therefore, economic rationality will call for a depletion of all idle assets to make room for investment flows and hence a rise in income through a multiplier effect (see Choudhury, 1980).

economic growth path at the stationary state corresponds to that of the golden rule of capital accumulation, which implies an efficient allocation of resources through the process of institutionalizing *zakāh* contributions.

1. The Model

We shall first set up the problem using the following notations:

Y_t = GNP produced at time t

Y_t = Per capita output at time t

L_t = Total labor force at time t

K_t = Capital stock at time t

c_t = Per capita consumption at time t

z_t = Per capita *zakāh* payment at time t

Before we proceed with our model we should state the basic properties of the variable z_t . The basic characteristics of z_t that are relevant to our model are:

- (1) It is a mandatory disbursement on the holding of capital, provided that such capital exceeds a minimum threshold level.
- (2) There is no mandatory disbursement on the productive part of capital.
- (3) Mandatory disbursements are imposed on the returns of productive capital as well as on nonproductive capital.

The basic premise of the model can be described by a single homogeneous output (Y_t) produced with the use of two homogeneous factors, labor (L_t) and capital (K_t). The aggregate production function can be written as:

$$Y_t = F(K_t, L_t) \quad (1)$$

The production function exhibits constant returns to scale, i.e., positive marginal productivity but at decreasing rates. The production function in per capita terms can thus be written as:

$$Y_t = f(K_t) \quad (2)$$

where k_t is the capital labor ratio and:

$$f'(k_t) > 0, \quad f''(k_t) < 0$$

$$\lim_{k \rightarrow 0} f'(k) = \infty \text{ and } \lim_{k \rightarrow \infty} f'(k) = 0$$

for all positive k , thus satisfying the Inada (1963) conditions.

Let L_t grow at constant rate $n > 0$, thus $L_t = e^{nt}$ normalizing the initial labor force at unity.

Since the *zakāh* payment is on nonproductive capital as well as on the increase in assets due to investment and production then,

$$Z_t = [a_1(1 - B) + a_2rB]K_t \quad (3)$$

where a_1 is the disbursement rate on nonproductive capital, a_2 is the rate imposed on the return of productive capital, r is the rate of return on the productive capital, and B is the proportion of productive capital to total capital. In per capita terms, equation (3) can be written as:

$$z_t = [a_1(1 - B) + a_2rB] k \quad (4)$$

The national accounting identity in the economy is given by:

$$F[k_t, L_t] = C_t + \dot{K}_t + Z_t \quad (5)$$

where $\dot{K}_t = \frac{dK_t}{dt} = I_t$ is investment. Therefore, according to the identity which

states that output (Gross National Product) is composed of consumption, investment, and *zakāh* payments, equation (5), in per capita terms, can be written as:

$$c_t = f(k_t) - \frac{\dot{K}_t}{K_t} \cdot k_t - z_t$$

Since $\dot{k} = \frac{d(K/L)}{dt}$, then the equation of motion which is the fundamental

differential equation in our economy is given by:

$$\dot{k}_t = f(k_t) - c_t - [n + a_1(1 - B) + a_2rB]k_t \quad (6)$$

Equation (6) is an expression tracing the increase in per capita capital by taking into consideration the necessary capital stock per capita needed to maintain a constant (k) in the face of rising population as well as the necessary k needed to surmount the idle proportion of capital envisaged by the *zakāh* payment, and also as the payments on the return of productive capital.

Next we assume that society's task is to maximize the welfare of its citizens. Within this context, an individual derives his/her own felicity from his/her own private consumption of goods and services as well as from his/her contribution to others through his/her *zakāh* disbursement. We postulate the existence of a social welfare function:

$$U = U(c_t, z_t) \quad (7)$$

This social utility function is assumed to be strictly concave with continuous first and second order derivatives.

The above assumption in particular implies that:

$$\frac{\partial U}{\partial c} = U_c > 0, \frac{\partial^2 U}{\partial c^2} = U_{cc} < 0$$

$$\frac{\partial U}{\partial z} = U_z > 0, \frac{\partial^2 U}{\partial z^2} = U_{zz} < 0$$

$$\text{and } U_{cc} \cdot U_{zz} - U_{cz}^2 > 0$$

To insure that no optimal path will entail a zero level of per capita consumption, we postulate that the slope of the welfare function is infinity as c approaches zero:

$$\lim_{c \rightarrow 0} U_c \rightarrow +\infty \text{ for all } c > 0, \lim_{z \rightarrow 0} U_z \rightarrow \infty$$

$$\lim_{c \rightarrow \infty} U_c = 0 \text{ and } \lim_{z \rightarrow \infty} U_z = 0$$

we also make the assumption that $\frac{\partial^2 U}{\partial c \partial z} > 0$ implying that as

consumption rises, utility from *zakāh* contributions will also rise.

A necessary condition for the existence of the optimal solution requires that the social discount rate (φ) be equal to or greater than the population growth rate (n). Otherwise, the economy will be unable to support the population even at the subsistence level.⁸

Now, having all the components of the problem at hand, we can state the following optimization problem:

$$\text{maximize } \int_0^T e^{(n-\varphi)t} \cdot U(c_t, z_t) dt$$

$$\text{subject to } \dot{k}_t = f(k_t) - c_t - nk_t - [a_1(1-B) + a_1rB] k_t$$

$$\text{where } k(0) = k_0, k(T) \geq k_t \text{ and } (c_t, z_t) > 0$$

Carrying out the maximization process, we form the Hamiltonian function:

$$H(t) = e^{(n-\varphi)t} \cdot U(c_t, z_t) + \lambda e^{(n-\varphi)t} [f(k_t) - c_t - nk_t - a_1(1-B) + a_2rB] k_t \quad (8)$$

Therefore the problem could be expressed as what are the rules a policy maker

⁸ For more information in this subject see Intriligator (1971).

should follow to guarantee the maximum discounted value of the stream of future utilities accruing from per capita consumption and per capita zakah. A possible answer is set within this narrow frame where a policy planner possesses one state variable $k(t)$, and two control variables, $c(t)$ and $z(t)$. However, to avoid cumbersome parameter treatment, there is neither technical progress nor capital depreciation.⁹

The necessary conditions of the Hamiltonian are:

$$\frac{\partial H}{\partial c} = U_c(c, z) = \lambda \quad (9)$$

$$\frac{\partial H}{\partial \lambda} = \dot{k} = f(k_t) - c_t - nk_t - [a_1(1 - B) + a_2rB] k_t \quad (10)$$

$$\text{and } -\frac{\partial H}{\partial k} = \dot{\lambda} = -[(a_1(1 - B) + a_2rB) \frac{U_z}{U_c} + f'(k_t) - a_1(1 - B) - a_2rB] - \sigma\lambda \quad (11)$$

where λ is the opportunity cost of investment, U_c is the marginal utility of consumption, and U_z is the marginal utility of the *zakāh* contribution.

The above set of differential equations describe the movement of the system which has three variables, namely k_t , c_t , and λ . In this model the examination of stationary points are carried in (c, k) plans.¹⁰ It requires the reduction of the above set of three equations (9, 10, and 11) to a system of two equations. Thus, totally differentiating (9) yields:

$$U_{cc}C + U_{cz} [a_1(1 - B) + a_2rB] k = \dot{\lambda} \quad (12)$$

Dividing both sides of equation (12) by λ and rearranging the terms of equation (11) yields:

$$\dot{c} = \frac{c}{\sigma} \left[\frac{U_z}{U_c} (a_1(1 - B) + a_2rB) + f'(k_t) - a_1(1 - B) - a_2rB - \varphi \right] + (a_1(1 - B) + a_2r) \theta \frac{\dot{k}}{k} \quad (13)$$

where $\sigma = -\frac{U_{cc}\dot{c}}{U_c}$ is the elasticity of marginal utility with respect to consumption and $\Theta = \frac{U_{cz}\dot{k}}{U_c}$ is the elasticity of marginal utility with respect to *zakāh*.

⁹ The omission of the technical progress in exogenous setting and capital depreciation has no impact on the main results of our model.

¹⁰ The same procedure could be carried out in the (λ, k) plane.

The system of three equations has been reduced to a system of two differential equations, namely (10) and (13), which may give rise to the following cases.

2. Multiple Stationary Solution

The c -isokine which depends on U_c , U_z , and Θ is of a complex form.¹¹ Grosso Modo, the shape of the c -isokine in the presence of *zakāh* contributions, yields multiple stationary points. The result is shown in Figure 1.

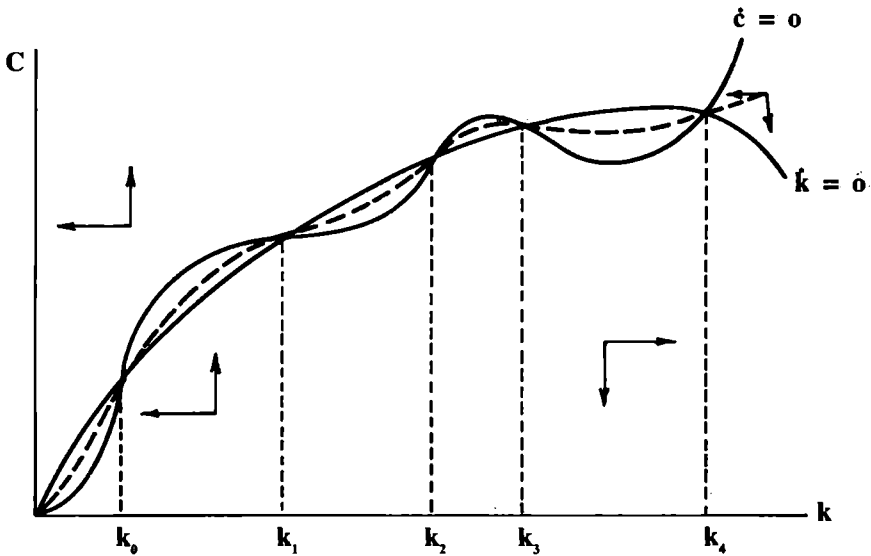


Figure 1

Due to the multiplicity of stationary points implied by the introduction of *zakāh*, and also assuming a possible detection of these points by the policy maker, one should aim at very specific issues in the realm of Islamic economic development programs. Therefore, the issue of distribution should be given priority in any optimal strategy of economic planning.

¹¹ The complexity of the behavior of c -isokine is tackled through the terms which define it. This can be quickly detected through the equation of the c -isokine which depends on U_c , U_z , and θ . The slope of the c -isokine depends on U_{czz} and U_{czc} . However, the signs as well as valid economic interpretation of these derivatives seem to be out of hand.

3. Capital Stock and Rule of Accumulation

In this case, let us assume that private per capita consumption (c) and per capita *zakāh* payment (z) are independent, i.e., $U_{cz} = 0$. Furthermore, we shall retain the assumption that $U_z > 0$ and $U_{zz} < 0$.¹² Recalling equations (9) and (11) and substituting $U_c = \lambda$ in (11), we get:

$$\frac{U_{cc}}{U_c} = - [f'(k) + (a_1(1-B) + a_2rB) \frac{U_z}{U_c} - \varphi] \quad (14)$$

Since $\frac{U_{cc}}{U_c} = -\sigma \frac{\dot{c}}{c}$ thus equation (13) becomes:

$$\frac{\dot{c}}{c} \sigma + \varphi - [a_1(1-B) - (a_2rB)] \frac{U_z}{U_c} - 1 = f'(k) \quad (15)$$

This is the equation for the optimal path of the capital accumulation rule. It asserts that along such a path the rate of consumption at each moment must be chosen so that the marginal productivity of capital is composed of the following three components:

- (1) the percentage rate at which the psychic cost of saving declines over time,
- (2) the social discount rate, and
- (3) the distributional factor of the *zakāh* contribution.

In other words, along the optimal path of capital accumulation, the marginal productivity of capital (profit rate) must be sufficient to cover the three components on the left-hand side of equation (15).¹³ However, within the framework of this model, the necessary and sufficient conditions for the golden rule to occur requires that the marginal rate of substitution between c and z should be equal to one, which implies that $\frac{\dot{c}}{c} \sigma + \varphi = f'(k)$ provided that $\varphi = n$.

¹² The assumption that $U_{cz} = 0$ implies that as c increases, utility from *zakāh* is zero. For $U_{zz} < 0$, it can be argued that $Z(t)$ in nature, is considered the same as $c(t)$, thus it has a positive marginal utility at a decreasing rate.

¹³ The optimality condition of the profit rate requires that the marginal rate of substitution between *zakāh* and consumption should be less than the sum of the rate of change in consumption, the social discount rate and the *zakāh* distribution parameter, i.e.,

$$\frac{\frac{\dot{c}}{c} \sigma + \varphi + a_1(1-B) + a_2rB}{a_1(1-B) + a_2rB} > \frac{U_z}{U_c}$$

This optimality condition produces a unique result, under which excessive altruistic behavior is bounded by certain conditions in order to prevent excessive *zakāh* contributions that may divert the productive aspect of capital into nonproductive use.

On the other hand, if $B = 1$, the modified golden rule emerges from equation (15) as:

$$\frac{\dot{c}}{c} \sigma + \varphi + r a_2 \frac{(U_z - 1)}{U_c} = f'(k)$$

The modification in the golden rule level is that the capital stock is reduced below the golden rule.

4. The Dynamic Analysis

To examine the nature of possible stationary points, we recall:

$$\dot{k} = f(k_t) - c_t - n k_t - [a_1(1 - B) + a_2 r B] k_t \quad (15)$$

$$\dot{c} = \frac{c}{\sigma} [a_1(1 - B) + a_2 r B] \frac{(U_z - 1)}{U_c} + f'(k_t) - \varphi] \quad (16)$$

To track the dynamic analysis of this system of differential equations, we define:

$$\Phi_1(c, z) = f(k) - c - n k - [a_1(1 - B) + a_2 r B] k \quad (17)$$

$$\Phi_2(c, z) = [a_1(1 - B) + a_2 r B] \frac{(U_z - 1)}{U_c} + f'(k) - \varphi] \quad (18)$$

Totally differentiating equation (15) and setting $d\Phi_1 = 0$, we get:

$$\left. \frac{dc}{dk} \right|_{\Phi_1 = 0} = f'(k) - n - [(a_1(1 - B) + (a_2 r B))] \quad (19)$$

Similarly, totally differentiating equation (17) and setting $\Phi_2 = 0$, we get:

$$\left. \frac{dc}{dk} \right|_{\Phi_2 = 0} = \frac{[a_1(1 - B) + (a_2 r B)]^2 U_{zz} U_c + U_c^2 f''(k)}{[a_1(1 - B) + (a_2 r B)] U_{cc} U_z} \quad (20)$$

Therefore, if we consider a point (k^*, c^*) as a stationary point, then such a point is a saddle point if the following necessary condition is fulfilled:

$$P(k^*, c^*) = \left. \frac{dc}{dk} \right|_{\Phi_2(k^*, c^*) = 0} - \left. \frac{dc}{dk} \right|_{\Phi_1(k^*, c^*) = 0} > 0 \quad (21)$$

Since we derived the slope expressions of both locii, we next check whether the above condition is satisfied at k^* and c^* :

$$P(k,c) = \frac{[a_1(1-B) + a_2rB]^2 + U_c^2 f''(k) - (f' - n - a_1(1-B) - a_2rB)}{[a_1(1-B) + a_2rB] U_{cc} U_z} \quad (22)$$

At this supposed saddle point, $p(k^*, c^*)$, along Φ_2 we get:

$$\frac{U_z}{U_c} = \frac{a_1(1-B) + a_2rB + \varphi - f'(k^*)}{a_1(1-B) - a_2rB} > 0 \quad (23)$$

Since the assumption $\varphi \geq n$, the expression does not imply that $n + a_1(1-B) + a_2rB - f'(k^*)$ is positive. Thus, because of the ambiguity of the sign of the term $f'(k^*) - n - a_1(1-B) - a_2rB$ in expression (23), we cannot conclude that $P(k^*, c^*) > 0$. However, only if $\varphi = n$, then expression (22) is positive and point $P(k^*, c^*)$ is a saddle point.

Considering *zakāh* contributions as a good, along with the independence assumption, the presence of *zakāh* yields an optimal path with a stationary point. Such a stationary point is a saddle point provided that the labor growth rate (n) equals the social discount factor (φ). Also, the golden rule of capital accumulation is modified by being reduced.

Conclusion

The compulsory payment of *zakāh* is one of the main principles of an Islamic economy. Every Muslim who owns wealth more than the *niṣāb* must pay the fixed rate of *zakāh* to the Islamic state. This paper, while utilizing the neoclassical growth model, goes far beyond that work. It introduces a benevolent act (*zakāh*) into the analysis by explicitly incorporating *zakāh* into the optimality criterion. Our analysis underlines the assumption of a fully operating environment in which Muslims fulfill their *zakāh* obligations on nonproductive capital as well as on the return of productive capital. The results of the model indicate that the incorporation of *zakāh* within its institutional framework yields multiple stationary solutions. This tends to bring about a point toward which the optimal path may converge. The model also shows that under reasonable assumptions the optimal growth path at the stationary state corresponds to the golden rule of capital accumulation, which implies that *zakāh* can produce a dynamic equilibrium system yielding a level of economic growth that is also associated with the maximum national well-being.

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Resource Mobilization and Investment In An Islamic Framework

by
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Introduction

The availability of resources and their mobilization and utilization are very important for achieving the multidimensional spectrum of development in any country, be it economic or noneconomic, spiritual or material. Their relevance for economic development, in particular, has been heavily emphasized in economic literature.¹ Economic development in Islam is value-laden, as it incorporates Islamic moral values within the system due to its insistence that economic achievements alone cannot guarantee human welfare if the society suffers from moral degradation. The concept of economic development in Islam should therefore involve three elements: economic growth, distributive equity, and Islamic values.²

There are a number of factors which contribute to economic growth, such as natural resources, investible resources, human resources (skilled labor force), entrepreneurship, appropriate technology, and a favorable environment facilitated by political stability. Among these, the present paper concentrates on the investible resources, their mobilization, and investment.

Two major questions arise in this regard. First, does Islam provide a framework which is favorable for the mobilization of investible resources? Second, what is the potentiality of investing these resources fully and efficiently?

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¹ For conventional models on the need and sources of investible resources, see A. P. Thirlwall, *Financing Economic Development* (New York: MacMillan, 1973). A related work is the present author's "Mobilization of Resources for Development," *The American Journal of Islamic Social Sciences* 6, no. 2 (December 1989): 239-56.

² For elaborations on this, see the present author's "Economic Development in Islam," *Journal of Islamic Economics* 1, no. 1 (1987): 1987.

The present paper proposes to address these questions.³ The first part deals with mobilization of resources, while the matters concerning investment are discussed in the second part, which is then followed by some concluding remarks.

Part One

Mobilization of Resources

The mobilization of resources involves three elements: demand, supply, and a favorable institutional framework. Demand for investible resources provides the pull factor and relates to entrepreneurship, while their supply presents the push factor and involves incentives for parting with resources instead of luxurious consumption and hoarding. The institutional setting provides a bridge between the two.

Entrepreneurship development has been encouraged in the Islamic code of life. People have been asked to go into the world after obligatory ritual (*ṣalāh*) in order to search for whatever Allah has provided,⁴ and a very high status has been accorded to business entrepreneurs, provided they abide by Islamic business norms.⁵ Entrepreneurship needs, among other things, financial capital and resources. This provides the demand side of resource mobilization.⁶

There are two sources of investible resources: domestic and external. Mobilizing resources from these sources will require an appropriate institutional setting. We shall begin with the domestic source and the relevant institutional framework.

Mobilization of Resources from Domestic Sources

In principle, there are three major ways of financing development from domestic sources: money creation, deficit financing, and savings. It has been

³ This paper draws from the author's earlier works and, in particular, from his *Economic Development in Islam*, (Kuala Lumpur: Pelanduk Publications, 1990), and "Mobilization of Resources for Development," *The American Journal of Islamic Social Sciences* 6, no. 2 (December 1989): 239-56.

⁴ Qur'an 62:10.

⁵ The Prophet said, "A faithful and trustworthy trader (businessman) will be with the Prophets, the *Ṣādiqūri*, who have achieved the highest degree of truthfulness), and martyrs on the Day of Judgment." Tirmizi, *al Sunan*, Bāb Mā Jā'a fi al Tijārah.

⁶ If there is no attractive demand for investible resources, the question of their mobilization becomes irrelevant, and hence the suppliers do not feel motivated to part with their resources. Demand for investible resources should be high in an Islamic society, since entrepreneurship development has highly been emphasized in Islam.

argued elsewhere that the strategies of money creation and deficit financing are not preferred for an Islamic society, except in special circumstances.⁷ Therefore, an Islamic society will have to depend on the generation and mobilization of savings as far as domestic sources are concerned.

The savings potentiality of an Islamic economy is expected to be encouraging, for consumption behavior of Muslims is based on moderation, rather than on miserliness or extravagance. Such behavior is applicable to both individual and family life, and also to social and state occasions. Besides, saving is encouraged in Islam. The Prophet advised Muslims not to spend everything even in the way of Allah⁸, which is a clear incentive to save for the future. Following this advice should lead to higher savings.⁹ The elimination of interest should not reduce savings, since empirical evidence does not suggest any systematic correlation between savings and interest.¹⁰ If savings behavior is positively related to monetary gain, Islam provides suitable alternative profit-earning arrangements.¹¹

Thus, given the income level and resource endowments of the country concerned, the supply potential of savings (investible resources) seems to be quite encouraging.¹² Now the question arises: is there anything in the Islamic value system to motivate the materialization of this potential? The response to this question is that there is such a motivation. Islam provides three kinds of incentives to materialize this potential: moral incentives, the profit motive, and penalties for hoarding.

First, the moral incentive for resource mobilization comes from encouraging resource use and discouraging hoarding and keeping such resources idle. This provides a built-in preference for resource mobilization at the very micro-

⁷ Money creation and deficit financing refer to the Quantity Theory and Keynesian approaches respectively, both of which involve inflation, causing inter-group transfer of resources with the poor hard hit. Financing development for the rich at the cost of the poor is not really suitable, since the fruits of inflationary economic growth are normally confined to the business elites and industrialists, making the fixed income earners worse.

⁸ Once Ka'b, a companion of the Prophet, asked his permission to spend all that he had in the way of Allah (SWT). The Prophet (SAW) replied, "Keep some of your property for yourself, because this is better for you." (Bukhārī, *al Şaḥīḥ*.)

⁹ For further elaboration, interested readers may refer to the relevant chapters of the present author's book *Economic Development in Islam* (Kuala Lumpur: Pelanduk Publications, 1990).

¹⁰ See M. Omar Chapra, *Towards a Just Monetary System*, (Leicester, UK: Islamic Foundation, 1985), 141-1.

¹¹ This will be discussed later.

¹² Resource endowment is beyond human control. Humanity can only improve the nature of its utilization by technological progress or its spatial transfer. These are, however, beyond the scope of this paper.

foundation of the system. Islam encourages the use of resources. 'Umar ibn al Khattāb is reported to have said that if one has money it should be developed, and if one has land it should be cultivated. No piece of cultivable land resource can be kept idle, otherwise it will be given to those who can cultivate it.¹³ A severe punishment on the Day of Judgment has been declared in the Qur'an for those who hoard resources in gold, silver, and other forms.¹⁴ There are three options for the utilization of resources: consumption,¹⁵ spending in the way of Allah,¹⁶ and using them for investment, as is revealed by 'Umar ibn al Khattāb's above-mentioned statement.

In the moral system of Islam, there is no place for hoarding. This, among other reasons, is because hoarding diverts resources from the production process, results in recession, and thus produces many adverse effects in the economy as well as hardship for the people. Thus, the surplus after a modest consumption expenditure should either be spent in the way of Allah or be invested for further production.

Second, there is a profit motive for utilizing resources. Islam provides such a business framework under which a person can invest resources even as a sleeping partner. In the *muḍārabah* form of business, a person can supply capital to the entrepreneur(s) for running business and/or establishing industrial enterprises. The potential profits act as an economic incentive to channelize the investible resources to the production process.

Third, the Islamic system penalizes hoarding by the institution of *zakāh*, which is an indirect economic incentive to mobilize resources for the purpose of productive utilization. *Zakāh* imposes a penalty on keeping sayings idle. This is because those who have 'zakatable' funds will have to pay 2.5% at the end of every year, and thus gradually the entire amount will be eaten up if it is not invested. This is an economic disincentive to keep investible resources unused.

Thus as far as the supply side of resource mobilization is concerned, there is a good potential supply of savings if one follows the Islamic way of living. There is also a strong urge to materialize this potential due to the moral and economic incentives for its utilization and the penalty for its non-utilization. These will facilitate resource mobilization for use by entrepreneurs, whose growth is also highly encouraged in Islam. This completes the presence of both the demand and supply elements in the mobilization of resources in an Islamic society.

¹³ See Abū 'Ubayd, *Kitāb al Amwāl*. (Egypt: Dar al Fikr, 1975), 367-8.

¹⁴ Qur'an 9:34.

¹⁵ Qur'an 7:31.

¹⁶ Qur'an 2:3; 28:77; 61:11.

Institutional Setting for Mobilizing of Resources

As is well known, savers and entrepreneurs are not necessarily the same people, and hence there is a need to have an institutional setting which will mobilize all of the scattered investible resources and channelize them to entrepreneurs. This requires an efficient financial system. In addition, the institution of *khilāfah* (the Islamic Political System) should also play an important role in maintaining a favorable environment for resource mobilization and investment.

An Islamic Financial System

An Islamic financial system and, in particular, Islamic banks provide a bridge between savers and investors. Islamic banks do not act only as financial intermediaries, but rather are partners in the economic activities. It is natural, therefore, to expect Islamic banks' active interest in the efficient mobilization of resources and productive utilization.

On the other hand, the supply-side urge of savers will motivate them to get their savings invested. It is not necessary for them to identify investors willing to share investible resources with them. Islamic banks facilitate this for them. Savers can invest their resources through Islamic banks and then share in the earned profits as sleeping partners in economic activities.

There are a number of arrangements which can be used by an Islamic banking system to channelize investible resources to investment opportunities, such as *muḍārabah*, *mushārah*, and *murābaḥah*. In addition, there will be an adequate supply of genuine shares in an equity-based Islamic society. Savers may buy shares on the stock exchange for sharing profits and not for speculative purposes. This will provide a healthy share market for genuine investment. It is not true, therefore, that the elimination of interest affects institutional mobilization and the utilization of investible resources. Instead, Islam provides a favorable institutional setting for the purposes.¹⁷

Islamic banking is no longer only a concept; it is a reality. It is encouraging to note that Islamic banks have proven to be viable and successful even in a non-Islamic financial environment. The financial sector in most of the Muslim countries of the world is based on interest. Islamic banks have been successfully operating in many of them. Interestingly enough, Islamic banks have been doing well in even some non-Muslim countries.

Muslim minorities in non-Muslim countries may try to establish an Islamic

¹⁷ For further details on the institutional setting of an Islamic financial system, see M. Umer Chapra, *Towards a Just Monetary System*, op. cit., 102-3.

bank in order to mobilize, in particular, the savings of the Muslim community for profitable investment. Alternatively, the Muslim community may make cooperative arrangements in the form of an investment trust to mobilize its savings for profitable investment. Such an institutional setting will help mobilize their investible resources for the community's development and for protecting itself from interest-based financial arrangements.

The Institution of *Khilāfah*

The institution of *khilāfah* (the Islamic Political System) is important in an Islamic society, for it is responsible for enforcing Islamic norms and values in all areas of life, including economic matters. Its functions include the propagation of Islam, ensuring the nation's external defense, running the civil administration, maintaining law and order, and providing basic needs to its people.

All of these require the mobilization of a sizable amount of resources. In addition, the institution of *khilāfah* is obliged to maintain a favorable environment for productive economic activities by the efficient and full utilization of its resources. This will facilitate the mobilization and utilization of the investible resources of the private sector. Thus, the *khilāfah* has two important roles to play: (1) mobilizing resources for performing their functions, and (2) facilitating resource mobilization at the private level, creating an investment climate, and supporting socially desirable economic activities.

Resource mobilization for the *khilāfah's* functions is of two kinds: raising funds for a compulsory social security system based on the institution of *zakāh*, and mobilizing revenues for general functions.

Resource Mobilization for Social Security: Islam has provisions for a compulsory social security system designed to help the disadvantaged population of the community. This fund is the result of the obligatory and fixed yearly contribution (*zakāh*) of the wealthier segments of the population. The state is responsible for both mobilizing this fund and for distributing it among the poor and the needy. The size of this fund is not insignificant. For example, the estimated potential *zakāh* amounts to M\$365.45 million in Malaysia, an amount which can significantly help provide the basic needs to those who receive it.¹⁸ The *zakāh* distributed to the poor may be considered as a productive investment, for it will uplift their economic conditions and thus their productivity.

The Mobilization of General Revenues: Any state needs to mobilize a large amount of resources to finance its various operations and activities. In an Islamic

¹⁸ For further details on the institutional setting of the Islamic financial system, see M. Umer Chapra, *Towards a Just Monetary System*, op. cit., 102-3.

economy, the sources of public revenue include taxes, public sector enterprises, voluntary contributions to government funds, and external finance.

Taxes are a major source of public finance in modern times. There is a consensus among the *ulema* that income taxes may be imposed when *zakāh* revenues and other incomes are not adequate to meet the obligations of the state. Except for those countries which have a large public sector or possess a substantial income from natural resources, *zakāh* revenues would normally not be large enough to cover all of the state's public expenditures. An obvious reason for this is that the number of people who pay *zakāh* is fixed, and therefore cannot be extended to cover the government's general expenditures.

Thus *zakāh* and taxes are two sources of forced mobilization of resources by the government. The other sources are voluntary, although their sizes are quite substantial in the contemporary world, and these are also permissible in an Islamic economy.

Mobilization of Resources From External Sources

An Islamic economy may need to mobilize resources on at least two occasions: when there is a shortage of domestic resources, and if there is a shortage of foreign exchange to finance imports, (even if domestic resources are adequate).

There is nothing in Islam to prohibit foreign assistance, provided its nature or its conditions do not involve something unacceptable from the Shari'ah point of view or harmful to the ummah's interest. Donor countries naturally have their own motivations when providing assistance, and some of these might be opposed to the interests of the receiving countries as well as of the ummah at large. Adverse effects include the political and economic dominance of the donor countries and ideological pollution. Moreover, *ribā* is involved in most of the cases, even if at concessional rates, which is not acceptable in the Shari'ah. Besides, the negative effects of conditional aid are also documented.

These factors limit the acceptable access of Muslim countries to foreign resources. There is, however, a potential way out. A number of Muslim countries possess appreciable surpluses of investible resources while others possess sizable surpluses of different resources. Investible financial resources and human resources provide good examples of this. Some Muslim countries have tremendous surpluses of financial resources, while others, lacking these, have abundant human resources.¹⁹

¹⁹ For example Bangladesh and Indonesia have surplus human resources, while oil-rich Arab countries possess surplus financial resources.

Muslim countries may cooperate with each other in the mobilization of resources. The capital-rich countries may help others by giving financial help in exchange for human resources. This cooperation is highly encouraged in Islam,²⁰ and will also help fill up the resource gaps and achieve allocative efficiency in resource use.

To see the truth of this claim, let us consider an example of cooperation between the two countries, A and B. Assume that country A is a capital-rich but labor-scarce country, so that capital can move to country B without affecting its industries. On the other hand, country B is a labor-rich, but capital-scarce country, so that labor movement to country A does not affect its industries.

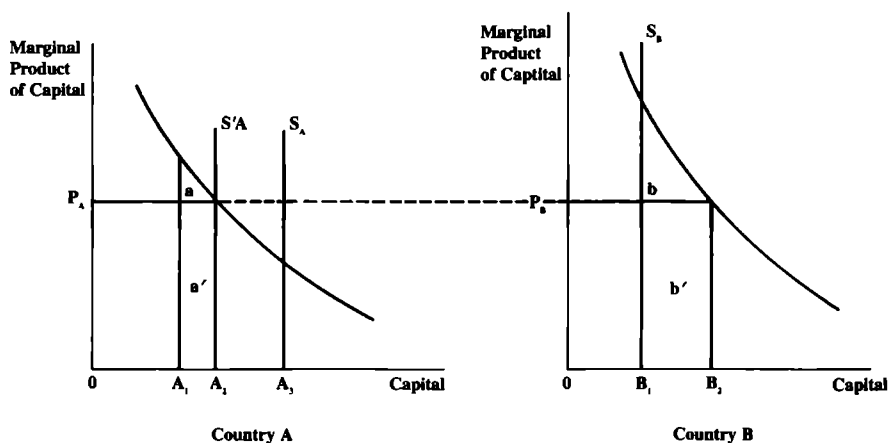


Figure 1

In Figure 1, the supply curves of capital in country A and country B are S_A and S_B respectively. Country B employs its entire capital supply OB_1 , but country A employs only a part (OA_1) of its total capital supply (OA_3), leaving A_1A_3 unused, because complementary factors are lacking. Therefore, the transfer of A_1A_3 from country A to country B does not affect country A's industries. As is evident, marginal products of capital are different in these two countries.

Let us assume that country B obtains capital resources from country A

²⁰ Al-Qur'an 5:3.

while country A gets human resources from country B. For instance, $A_2 A_3$ moves from country A to country B so that country B increases its use of capital by $B_1 B_2$. On the other hand, the movement of labor from country B to country A increases the use of capital in country A by $A_1 A_2$. The marginal products of capital in both countries are thus equalized ($OP_A = OP_B$), a development which helps achieve allocative efficiency in the two countries. This mobilization of capital and human resources from each country increases employment and output in both. The increase in output in country A is $(a + a')$ and that in country B is $(b + b')$.

Thus, Muslim countries will be able to solve the problem of resource gaps if they help each other in mobilizing resources through cooperative arrangements among themselves. Such cooperation may originate from individual initiatives among a few countries, or it may be institutionalized in the form of regional and/or international economic integration among various Muslim countries.

Part Two

Investment in an Islamic Framework

As mentioned earlier, there is a built-in preference for resource mobilization and investment at the very microfoundation of the Islamic belief and economic system. Three motives work toward this end: spiritual incentive, the profit motive, and the penalization of hoarding. These facilitate resource mobilization and provide a tremendous urge for investment. The question remains: does an Islamic system provide a favorable framework for the full investment of resources? In an interest-free system, is it possible to achieve allocative efficiency? These questions are addressed below.

Potentiality of Investment

The interest-based conventional system and, in particular, the Keynesian apparatus, may be used as a point of reference to investigate and compare investment potentiality in an Islamic framework. In the Keynesian system, investment can be carried out until the marginal efficiency of capital (MEC) is equal to the rate of interest. It cannot be carried out beyond this, since further investment will add more to costs than to profits.

In Figure 2, AB depicts the MEC curve. If the interest rate is OR_2 , investment can be carried out up to OI_1 . It cannot exceed OI_1 , since the interest cost will then be higher than any additional profit. For example, the interest cost for the marginal unit of investment at OI_2 is still OR_2 , while the marginal profit

is only OR_1 , implying a loss of R_1R_2 for the marginal investment. Thus, investment is limited to OI_1 in the Keynesian case.

An Islamic economic system, however, is free of interest, and investment is ideally based on profit-and-loss sharing (PLS) arrangements. For example, in case of *muḍārabah* arrangements, profits will be distributed between the contributor of capital (investible resources) and the entrepreneur on the basis of a previous agreed ratio. It can be shown in Figure 2 as:

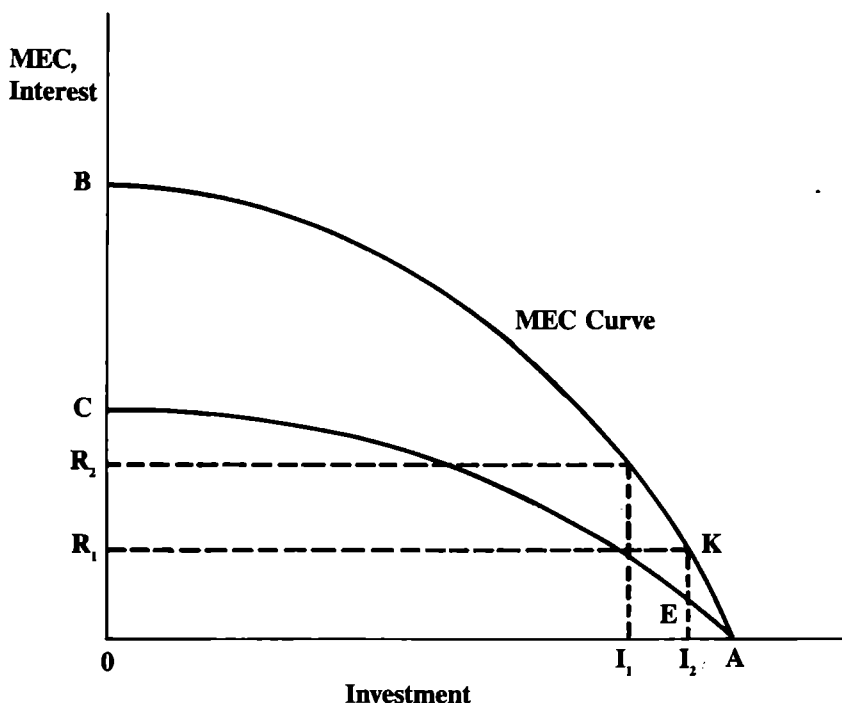


Figure 2

Let us assume that the ratio for the distribution of profits has been agreed upon in such a way that the distribution curve takes the shape of AC_3 . The vertical distance between AC and AB belongs to the contributor of capital, and that between OA and AC belongs to the entrepreneurs.

As is obvious from the diagram, investment can be carried out beyond OI_1 in the PLS system. For example, when investment is OI_2 , the entrepreneurs make a positive marginal profit of EI_2 , and the contributors of capital get the

amount represented by KE. If investment increases further, both parties realize a profit until it reaches the level where the size is zero.

For a comparison, investment can be carried out up to OI_1 in the above case under an interest-based economy, whereas it can profitably be increased to the full potential (OA) in an Islamic system. Thus the Islamic economic system provides a framework which is favorable for the full potential utilization of investible resources, *ceteris paribus*.²¹

Allocative Efficiency

It is conventionally believed that the interest rate leads to the efficient allocation of investible resources. More productive industries or projects can attract more investible resources by offering higher interest rates, thereby causing more and more resources to be invested in them. This will continue until the marginal productivities are equalized across the industries and the projects, leading to an efficient allocation of resources in the economy. Now, how will the allocation of investible resources in an Islamic economy (where interest does not exist) be achieved?

In this context, it is important to see how financing decisions are made in a banking system, both conventional and Islamic, since resource allocation is materialized through the banking system. In conventional banking, the notion of project-wise variations in interest rates is based on the assumption of auctioneer-type perfect competition, even though this rarely prevails in reality. In this type of banking practice, standard interest rates are generally followed for financing projects. Given these standard interest rates, financing decisions are made on the basis of the credit-worthiness criterion determined by the size and quality of collateral. The productivity of projects is irrelevant for financing decisions, since the interest rates are fixed and, as a result, higher productivity does not benefit the financiers. Instead, the collateral is considered more relevant, since it helps recover the principal with interest in the case of project failure.

On the other hand, an Islamic bank's financing decision ideally depends on the PLS basis and hence the project's productivity is more relevant than its credit-worthiness. This is because the bank's expected rate of return is positively related to productivity and vice versa. This does not, however, mean that Islamic banks ignore credit-worthiness criterion. In fact, they do consider it as well, but do not solely depend on it. Instead, they finance the most productive pro-

²¹ The ideal investment arrangement in an Islamic economy is the PLS system. There are other modes of investment as well which may not be as efficient in realizing investment potential.

jects subject to a minimally acceptable credit-worthiness, while conventional banks go for the most credit-worthy projects, ignoring productivity.

Let us consider a hypothetical example of the financing decision-making process of a conventional bank and an Islamic bank. Assume that each bank will choose for financing three out of five projects which vary in productivity and credit-worthiness, and that all of them satisfy a minimum standard of credit-worthiness. This is presented in Table 1.

As Table 1 shows, the conventional bank chooses projects P_1 , P_2 and P_3 for financing, since these are the most credit-worthy projects. On the other hand, the Islamic bank selects projects P_5 , P_4 and P_2 for financing, since in this way it can earn the most. The least productive project stands first in the conventional banking financial ranking, while the most productive projects stands first in Islamic banking financing ordering. This shows that the allocation of resources is likely to be more efficient in an Islamic framework.

Table 1
Proposed Projects with Different
Credit-Worthiness & Expected Rates of Return

Proposed projects	Credit-worthiness ordering (or conventional bank's ranking)	Rate of return as % of invested capital	Islamic Bank's ranking for finance
P_1	1	10	4
P_2	2	30	3
P_3	3	25	4
P_4	4	35	2
P_5	5	40	1

Let us consider those marginal conditions of efficiency which require equimarginal productivities across the projects. It is expected, as argued above, that the size of an Islamic bank's financing will be positively related to productivity, so that more funds will be invested in the more productive projects than the less productive ones.²² Thus, more funds will continue to be channelized to more productive projects, and hence their marginal products will continue to fall²³ until their marginal products are equal to those of other projects, which

²² This is because the expected rate of return is higher in more productive projects.

²³ The law of diminishing marginal productivity prevails.

will lead to equimarginal productivities across projects. Marginal efficiency conditions are thus expected to be satisfied by Islamic bank financing. On the other hand, this is impossible to achieve in conventional bank financing, since it does not take productivity into consideration.

The satisfaction of these marginal conditions is not, however, a sufficient condition for allocative efficiency. It is also necessary, from the social point of view, that investible resources are invested in socially desirable projects or, at least, not in socially undesirable projects. Islamic banks will not finance any socially undesirable project—for example, a project to produce alcoholic beverages, as these are prohibited by Islam.

This is totally absent in the project appraisal for a conventional bank's financing decisions. Such a bank will finance any project that is highly credit-worthy, since the return along with the principal is guaranteed, without any consideration for its social desirability or undesirability.

Thus it is clear that the allocation of mobilized resources is expected to be more efficient in an Islamic framework than a conventional system as regards both economic efficiency and social desirability.

Summary and Concluding Remarks

The foregoing discussion leads us to the following summary and concluding remarks:

1. The paper addresses the issues of resource mobilization and investment in an Islamic framework.
2. Resource mobilization involves three elements: demand, supply, and a favorable institutional setting. Islam's emphasis on the development of entrepreneurship takes care of the demand side, which creates a demand for resources.
3. There are two elements on the supply side: (1) The potential supply of savings, and (2) an urge to invest resources, instead of keeping them idle. Islam's demand for a modest life-style and its incentive to save indicates a large amount of potential savings, subject to income level and resource endowments. Three incentives create an urge to utilize resources, which also facilitate mobilization of resources. These are: moral incentive, the profit motive, and a penalty for hoarding.
4. Islam provides a favorable institutional setting for the mobilization of resources. Scattered savings may be mobilized by an Islamic banking network, and savers may earn profits by investing their resources, even as sleeping partners. This helps mobilize resources.

5. The institution of *khilāfah* mobilizes funds for a compulsory social security system through *zakāh*, and also general revenues for other functions from taxes, public enterprises, voluntary contributions, and so on.
6. There may be a need for external finance due to domestic resource gaps and foreign exchange gaps. Although there is nothing in Islam to prevent Muslim countries from mobilizing resources from external sources, the politico-economic and ideological implications of foreign assistance are often undesirable. An alternative source of external resources is found in the cooperation among Muslim countries in the use of their surplus resources. This will reduce their resource gaps and increase local employment and output.
7. Islam provides a framework favorable for the full potential investment of investible resources. The interest rate in the conventional system limits investment, while the PLS system allows continuation of investment until the marginal product of investment is zero, that is, to its full potential.
8. The allocation of resources is expected to be efficient in an Islamic framework in terms of both economic efficiency conditions and social desirability. Contrary to conventional belief, on the other hand, the interest-based system lacks marginal efficiency conditions, while the social desirability is not considered at all.
9. The analysis of this paper assumes an ideal Islamic society. If the behavior of individuals and the society falls short of expectations, the changes in the implications in terms of resource mobilization and investment will only be in degree, not in direction.

Financing the Public Sector in an Islamic Perspective

by
Monzer Kahf*

Introduction

This paper deals with the public sector's financing from an Islamic perspective. It consists of two sections. In the first section, I will discuss the financing of the public sector in general. The thesis of this section is twofold: 1) the Shari'ah assigns substantial resources to the state in order to finance its administrative activities as well as to fulfill its economic objectives, and 2) the size of the public sector, both economic and noneconomic, is envisaged to be moderate in an Islamic society. In other words, Islam seems to be in favor of a small state.

The conclusion of the first section is that more resources should be devoted for a smaller role. This may negate the need for deficit financing. Yet in section two, I will argue that there are circumstances under which an Islamic state needs more financial resources than those normally available. This section will therefore deal with the needs for deficit financing in an Islamic state. It will also elaborate on the modes of financing such as a deficit in Islam. Those modes shall be classified into debt-based modes, participatory modes, and contributory modes.

Section One

Financing Public Sector in Islam

For the purpose of this paper, the public sector will be said to cover all the activities of an Islamic state including its security and administrative functions as well as its economic enterprises.

This section shall explore the sources of revenues in an Islamic state and the functions of an Islamic state in comparison with those of the national welfare

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state. For this purpose, I shall begin with a historical introduction related to the types of revenues which existed in the early Islamic state of the Prophet Muhammad.

Historical Background

Upon his arrival in Madinah, the Prophet started laying the foundation of an Islamic state. With regard to this paper, three events deserve our attention. The first was the enactment of a constitutional document by the Prophet to organize relationships between Jews and Muslims as well as those among different Muslim tribes. This document anticipated certain public expenditures for purposes like defense, security, and social care. The important thing about it is that in spite of such anticipation, the Prophet never prepared any tax resources for them, thus leaving the financing of such anticipated expenditures to voluntary contributions on a case by case basis.¹

Secondly, when the Prophet established a new market in Madinah, he did not impose any fees or taxes on traders or transactors, despite the fact that he needed resources and that the old market, which was in the hands of the Jews, had taxes and fees.²

Thirdly, the construction of the first mosque in Madinah and the purchase of its lot were done by voluntary labor, materials, and cash *without imposing any taxes*. Even *hijrah* itself was financed by a voluntary contribution from Abū Bakr.³

A study by this author on the financial resources of the state in the early years of Islam (the time of the Prophet and his four immediate successors), resulted in the following conclusions:⁴

1. *Zakāh* was the only obligation on wealth and income. No other financial duties were imposed on the Muslims' assets or incomes. *Zakāh* itself cannot be used to finance government expenditures, since it has its own specified usages and recipients.
2. Voluntary contributions remained the main source of finance for government activities during the time of the Prophet. This source of revenue was not tapped during the period of the first four *khulafā'*.

¹ Monzer Kahf, "Public Financial Resources of the Early Islamic State" unpublished paper, IRTI, Jeddah, 1987.

² 'Abd al Ḥayy al Kattānī, *Al Tarātib al Idāriyah*, vol. 2, 153.

³ Monzer Kahf, *op. cit.*

⁴ *Ibid.*

3. Since the conquest of the agricultural land of Khaybar in 7 A.H. and later the conquest of Iraq, Syria, and Egypt (during 'Umar's rule), conquered lands were kept as public property. The return from this public property (*kharāj*) was huge and more than sufficient to finance all the activities of the state.
4. Beginning from the victory in the battle of Badr in 2 A.H., war booty and later *jizyah* (head tax on non-Muslims) became major sources of revenue for the government as well as major sources of income for soldiers, their families, and tribal members. With time, this source of revenue became so enormous that it was able to provide the treasury with surplus funds for direct distribution to people.
5. History tells us about a few occasions when the Prophet had pressing needs for public revenues. In such a time, he resorted to borrowing from individuals and collecting *zakāh* in advance. Such needs, however, disappeared during the period of the following four *khulafā'*.
6. Regular items of public expenditures appeared during the later part of the Prophet's life. These included salaries of public employees, purchase of weaponry, and so on. Those expenses were financed from the revenues of public land (*kharāj*) as well as from war booty. During the time of 'Umar, regular expenditure items increased tremendously, but the increase of *kharāj* was also manifold.
7. The practice of assigning certain public properties for public use began with the establishment of the mosque in Madinah. Such assignments included devoting grazing land for horses used in war, livestock taken as *zakāh* payment, and for the livestock kept by the poor. This practice is called *himā* which literally means protection. The state appointed public employees to manage and guard *himā* land.
8. Finally, except for the tax on foreign traders coming to Muslim lands, which was based on the principle of reciprocity, the state levied no taxes during the whole era of the Prophet and his four immediate successors.

Financial Resources of an Islamic State

Consequently, public revenues of an Islamic state may be classified in the following categories:

- a) revenues from public property,
- b) fees or prices for goods and services produced by the government,
- c) public borrowing,

- d) taxes, and
- e) voluntary contributions.

I will now elaborate on these categories.

a) *Revenues from Public Property*

Observing the experience of the early Islamic state, one may notice that a large segment of available land was left to the state as a source of revenue. To this land one may add minerals, whether found on or under its surface, as well as energy derived from waterfalls, since Muslim scholars also consider these as public property.⁵

It seems that the concept of public property has its origin in the basic foundation of Islamic economics, where it is always argued that an Islamic system calls for the coexistence of two types of ownership, i.e., public and private. This is based on the principle that Allah is the real and ultimate owner of all creatures, living and nonliving alike. He therefore assigned part of the things on earth to people as individuals in the form of private property and left another part to be owned collectively by the society.

In fact, Shari'ah scholars divide public property into two kinds: public property is left to people to use and benefit by their own means such as taking water from a river or grazing cattle on land which is not privately owned (hereinafter called community public property) and that which is left to the state to manage and control for the benefit of the general public. Individuals cannot use this type of land, and so we will call it state public property. State public property is considered by Muslim scholars and economists to be a major source of revenue for the treasury. The state, in the Islamic perspective, is required to administer this kind of public property so as to achieve the best interest of the society and to spend its revenue exclusively in the best interest of the whole community.⁶

In addition to conquered land and land not privately owned, state public property includes mineral, ores, oil, gas, precious stones and other materials extracted from ground, as well as springs, rivers, canals, and energy waterfalls. Thus, extractive industries represent the backbone of the economic public

⁵ See 'Abd al Salām al Abbādī, *Al Milkīyah*, vol. 1, 345-8 and Bāqir al Ṣadr, *Iqtisādunā*, 443.

⁶ *Awqāf* is not included in this kind of public property as it is a special form of ownership whereby real estate would be owned by God and devoted to serve certain charitable objectives. The judiciary supervises the fulfillment of the *awqāf*'s objectives.

sector in an Islamic economy. Additionally, public sector property may increase by the reinvestment of public sector surpluses.⁷

However, it seems that Islamic scholars throughout history have always thought that state public property should grow to an extent sufficient to generate all, or at least most, of the financial resources needed by an Islamic state. Consequently, the levying of taxes was only discussed as an assumptive intellectual exercise.

b) *Revenues from Sale of Goods and Services (Fee and Prices)*

Many government enterprises produce marketable goods and services which may be sold. These include water, electricity, education, and bridges, for example (although many of them may be subjected to the principle of market exclusion and therefore be privatized). However, the Islamic principles regulating the pricing of such services by the state are basically the following:

1. The provision and prices of such services must be set in a way that does not discriminate against the poor.⁸ In fact, Muslim countries today are full of incidents of governmental services which discriminate against the poor. For example, most urban services, including street paving and lighting, schools, universities, and other benefits are biased towards the urban population and away from the rural people, who are mostly poor.
2. Moreover, the rich must not be given an advantage by the pricing of such services. This may rule out using the price of a service as a means of taxing agricultural areas for the benefit of industrialization. As regards *himā* (state reservation and protection of land for certain objectives), the *fuqahā'* have repeatedly stipulated that land must not be reserved for interests of the rich, whereas it may be exclusively reserved for the poor.⁹
3. Since people have a right to use common public property such as rivers and

⁷ Monzer Kahf, "Economic Public Sector and Its Role in Mobilizing Resources for Development," in *Financial Resources of Modern State from Islamic Perspective* (Jeddah: IRTI, 1989), 113-50.

⁸ This is an analogy with the case of land reserved for use of general public (*himā*). Al Māwardī says that it must not be made exclusive for the rich whereas it may be exclusive for the poor on the basis of the action of 'Umar ibn al Khattāb with the *himā* of al Ribdhah. See al Māwardī, *Al Ahkām al Sultāniyah* (Cairo: Al Bābī al Halabī publishers, 1973), 186. See also my paper on public sector resources in *al Mawārid al Mālīyah li al Dawlah al Islāmīyah*, IRTI, 1989.

⁹ See footnote 8.

forests, the prices of services based on the use of common public properties should not incorporate a hidden tax which aims at mobilizing financial resources for objectives beyond the provision of the services paid for.¹⁰ In other words, the prices of services should be guided by costs and not by the desire to create a surplus.

c) *Public Borrowing*

Borrowing from the private sector seems to be the third source of finance for government activities. This source may take the form of advance payments of some public revenues such as rent on public land (*kharāj*) or *zakāh*. It may also be by means of bonds issued and purchased on the basis of religious or patriotic feelings and sentiments. Alternatively, public loans may take the form of forced borrowing from the rich. External borrowing may also be resorted to under certain circumstances.

It should be noted, however, that public borrowing is sanctioned under the following conditions:¹¹

1. An Islamic state cannot borrow on the basis of *ribā*, as such a practice is prohibited in Islam. The prohibition of *ribā* also excludes any loan which is attached to any form of benefit accruing to the lender from the borrower.
2. Public loans are only permitted when the state anticipates future resources sufficient to cover these loans. Otherwise, taxes should be imposed.
3. Public loans must not endanger the internal or external security of the country.
4. Public loans can only be taken from the rich.

d) *Taxes*

It is a known fact that there are several sayings of the Prophet against imposing taxes, and that the Islamic state under the leadership of the Prophet and his successors did not impose any taxes.

However, assuming that all the resources from state public property, though

¹⁰ For details on this point, please see Rabī' al Rubī's comments on my paper in *al Mawārid al Mālīyah*.

¹¹ For details on these conditions, refer to al Māwardī's *al Aḥkām al Sulṭānīyah*, and my two papers: "Taxation Policy in an Islamic Economy" and "Toward a Theory of Taxation in Islamic Economics."

wisely used, are insufficient to finance the indispensable functions of an Islamic state and that public borrowing and voluntary contributions were either unfeasible or insufficient, would taxes become a necessary evil? The Shari'ah's answer to this question is affirmative but with certain conditions, which are:¹²

1. It is not permitted to impose a tax on the rich simply because they are rich; i.e., there should be sufficient justification for the need for tax revenue before it can be levied. The presence of wealth alone, regardless of its form, is not a valid reason. This position is almost unanimous among Muslim scholars and it is based on the repeated condemnation of taxes by the Prophet and the principle of protecting individuals' wealth even against the state. This may suggest that taxes designed to reduce wealth and/or income in order to reduce aggregate demand may not be permissible.
2. Taxes are really a last resort which can be used only after exhausting all other sources of public finance.
3. Taxes can be imposed for generating revenues needed for *necessary* state functions.
4. Taxes may be imposed after subjecting state expenditures to strict rationalization so that all waste and misuse are eliminated.
5. Taxes may only be imposed on the rich in accordance with their wealth.
6. Taxes may only be imposed through the use of *shūrā*.

e) *Voluntary Contributions*

We have seen that voluntary contributions made up the main source of state revenues during the time of the Prophet in Madinah. It may also be noted that they are invoked in many pressing circumstances by modern states especially at the local and municipal levels. Voluntary contributions may be internal or external and they are mostly used for relief or beautification objectives. Some incentives may be used for encouraging contributors, such as recognizing their names in public or giving them certain honors.

¹² For more details on these conditions, see Yūsuf al Qarḍāwī, *Fiqh al Zakāh*, and Monzer Kahf, "Financial Resources of the Early Islamic State" *op. cit.*

Scope of the Functions of an Islamic State

a) *Notion and Priorities of an Islamic State*

The objective of an Islamic state is “to continue the function of prophethood in safeguarding religion and managing the worldly affairs” as al Māwardī put it more than a thousand years ago.¹³

The relationship between the management of worldly affairs and religion is explained by Ibn Khaldūn. He said, “From the point of view of the Shari’ah, worldly affairs are all considered with reference to their effect in the hereafter.”¹⁴ Consequently, Ibn Khaldūn defines the broad function of an Islamic state as “getting all and everybody to follow the intent of the position of the Shari’ah in pursuing their interests in the hereafter and in this world.”¹⁵

The above objective and broad function of an Islamic state imply the following points:

1. The functions of an Islamic state reach out to the interests of human beings in the hereafter, i.e., beyond life in this world.
2. The concern of an Islamic state in the hereafter extends to all human beings, even those outside the boundaries of the Muslim ummah. Its concern about their worldly welfare also stretches beyond its own borders, especially in the areas of justice and respect for human life and dignity.
3. The system of rationalization in an Islamic state depends upon divine revelation sent through the Prophet. This revelation itself requires utilizing observation and reasoning to maximum capacity.¹⁶

From the above, it becomes clear that the first priority of an Islamic state is to safeguard and promote religion so that, to use the common Islamic jargon, the word of Allah becomes supreme on earth. It may even be argued that because of the huge magnitude of this task, Islam assigns to the state huge resources in the form of state public property. In spite of their importance, other tasks, whether economic, social, or political, are all of secondary rank, and most of

¹³ al Māwardī, *Al Ahkām al Sultānīyah*, (Cairo: Maktabat al Bābī al Halabī, 1973), 5.

¹⁴ Ibn Khaldūn, *Al Muqaddimah*, (Cairo: Dār al Sha’b), 169.

¹⁵ *Ibid.* See also Monzer Kahf, “The Islamic State and the Welfare State,” in *Islamic Movement Challenges*, Tariq Quraishi, ed. (Indianapolis, IN: American Trust Publications, 1986).

¹⁶ Compare with the objectives of the “national state” which are to safeguard and promote the internal and external interests of its own people in accordance with human rationale and judgment.

them are in fact related to this first and most essential task. Imām al Shāṭibī argues that religion is always and absolutely given priority over and above worldly benefits.¹⁷

This notion of an Islamic state imposes its stamp on all of its activities, as it is the essential feature which distinguishes an Islamic state from other forms of political association such as monarchy, democracy, dictatorship, or anarchy. This concept is also the point of reference in determining the social and economic functions of an Islamic state and its scope.

b) *Functions of an Islamic State*

1. As stated above, the principal role of an Islamic state is to safeguard and promote religion. This implies the following:
 - a. Acquiring military and political power sufficient to protect the religion, its land, and its people.
 - b. The implementation of Islamic law in the society, such as enforcing the Islamic inheritance system and prohibiting what is forbidden, such as interest.
 - c. Whenever private means fail, teaching Muslim citizens the basics of their religion and encouraging some of them to acquire advanced Islamic knowledge.
 - d. Making knowledge about Islam and what it stands for available to as many non-Muslims as possible.
2. Management of public affairs such as security, a judicial system, public administration, and other social requirements.
3. Management and promotion of public property in accordance with the best interests of the whole society.
4. Guaranteeing a subsistence level of satisfaction of basic needs for all citizens whenever other obligatory and voluntary means of social solidarity and insurance fail to do so.
5. Encouraging, helping, and supporting the private sector in its initiative to provide income and production sufficient for all members of the society and promoting the welfare of all citizens.

¹⁷ Al Shālihi, *Al Muwāfaqāt fi Uṣūl al Shari'ah*, vol. 2, 370.

6. Ordaining what is good and forbidding what is evil, in general, and supervising the observance of moral and ethical values by all individuals in their social and economic relationships.

c) *Scope of the Functions of an Islamic State*

It must be noted that the functions of an Islamic state cannot be defined in isolation from its sources of finance, i.e., the scope of the above-mentioned tasks depends on the kind and size of its financial resources in addition to several other demographical, social, economic, political, and geographical circumstances. Hence, we have to look at both the state functions and its financial resources in order to understand an Islamic state's scope of activities.

Categories of Revenues

For this purpose, let us first classify state revenues into three categories:

1. Revenues which can be used for any state activity in accordance with the priority set within the Islamic framework discussed earlier. This category consists of revenue from public property.¹⁸ It should be noted however, that the use of this and other categories of resources are subject to the general regulatory principles of state activities which include the observance of justice, especially between poor and rich, men and women, present and future generations, compliance with Shari'ah requirements regarding lawfulness and unlawfulness, fulfillment of *shūrā* as a process of decision making, and so on.
2. Revenues assigned by the Shari'ah for special objectives. *Zakāh* is the main example of this category. The Shari'ah specifies that *zakāh* proceeds should be used exclusively for the benefit of the eight categories of recipients mentioned in the Qur'an. Therefore, *zakāh* may not be spent on general governmental activities such as salaries for judges and police, or the construction and maintenance of mosques and administrative buildings. For these reasons, we see that since the early days of Islam a special treasury account, separate from other revenues, has been used for *zakāh* receipts and expenditures.

However, the eight areas of expenditure for *zakāh* funds are normally included in the expenditure's headings of state budgets because they are generally considered to be within the function of guaranteeing the fulfillment of the basic

¹⁸ It also includes *jizyah* and the share of state of *ghanimah* and *fai*.'

needs of the poor and the destitute. In other words, the assignment of *zakāh* to these headings frees other state revenues which would have otherwise been utilized for spending on the poor and the needy.

Charitable *awqāf* is another item in this category.¹⁹ Any return on *awqāf* property must only be spent on those charitable objectives outlined by the person who donated the *waqf*. Such objectives may be education, health, social work, or religious places of ownership. *Awqaf* revenues cannot be treated as general revenues for the state budget but, like *zakāh*, they also fulfill some of the functions which would otherwise have to be undertaken by the state.²⁰

3. The third category consists of those revenues which are necessitated or called for by circumstances such as public borrowing, taxes, and voluntary contributions. It also includes proceeds from the sale of services. These revenues should also be used in accordance with the objectives for which they were solicited or paid.

Expansion of State Functions

Granted that in addition to the financial limitations discussed above there are other constraints on the state functions caused by historical, cultural, climatic, landscaping, demographic, economic, and many other factors, from the point of view of the present paper and for the sake of argument let us assume that it is possible for the state to increase its public revenues to a large extent. If this is done, can the state likewise expand its functions and activities?

In a case like this, state functions may be expanded to absorb any amount of financial resources, and we have just seen that the Shari'ah does not impose any limit on the use of revenues from public property other than the general guidelines mentioned above. Consequently, if the financial resources of this category are available in abundance, the state may provide free education, health, housing, or transportation, for example, as long as there are more than enough

¹⁹ *Awqāf* (singular *waqf*) are properties taken out of private ownership and devoted to certain objectives, mostly charitable. A *waqf* is generally real estate, but it may be a mobile asset whose usufruct may be extracted without exhausting the asset itself, such as books or money used for secured lending. *Awqāf* are of two kinds: charitable and descendents'. Descendents' *awqāf* are devoted to one's offspring, whereas charitable *awqāf* are devoted to charity. The latter may be for general charity or for a specific charitable objective such as maintenance of a given orphanage or mosque, spending on teachers of a certain school, students of certain subject, or areas of the country, and so on.

²⁰ In the classical writings, one may find in this category the share of *fai'* and *gharūmah* assigned to the poor, needy, and the wayfarer.

resources to fulfill the essential duties of the state. In fact, the historical example we have in this regard is the action of ‘Umar ibn al Khattāb, who used to distribute such surplus to all people, thus providing them with enough income so that many of them did not need to work and earn their livelihood.

On the other hand, if these resources are insufficient, the state will have to reduce its spending and trim its activities to a minimum determined in accordance with the priorities mentioned above. Here also we have an example from the early Islamic state where the Prophet did not pay the debts of the deceased, nor give charity to a person who only had two dihras worth of assets used to fulfill basic consumption needs (instead, he taught him how even one dirham could be used for productive purposes). In this case as well as in many other examples, the Prophet did not impose taxes or borrow from the rich.

In other words, one should search the sources of the Shari’ah to find those state activities which have to be done regardless of the category and among of revenues. In this regard, the following points may help:

1. Individuals are responsible to work and earn their own livelihood. They are also responsible for their families. There is a whole list of obligatory family transfers in Islam.
2. The education of children, including teaching them the Qur’an, prayers, and basic skills which prepare them to earn their livelihood when they become adults, are the responsibility of the *father and not the state*.²¹ The same applies to health care, housing, and the fulfillment of other needs to a level of living equal to that of the father or permitted by the father’s wealth and income.
3. For those persons who fail to secure a decent level of living for themselves and their families, Islam has created several institutional supports. These may be called the systems of redistribution and they include: obligatory extended family transfers, local community or neighborhood solidarity and mutual responsibility, *zakāh* expenditures, charitable *awqāf*, and voluntary charity. Before such a case comes to the attention of the state it should pass through these systems. The likelihood that the needs will be satisfied before the state is involved is usually high.
4. A minimum level of state activities is necessary, especially in areas where it is its duty to do so, such as establishing religion, implementing the Shari’ah, defending religion along with its people and land, maintaining human life and dignity, and others. In those and similar areas, and up to a necessary

²¹ See Muḥammad Abū al Ajfān, “Al Waqf ‘alā al Masjid,” a paper presented in the second International Conference on Islamic Economics, Islamabad, (Pakistan) 19-23 March, 1983.

level, the state must provide its services regardless of the category of revenue. On the other hand, expanding state activities even in the above-mentioned areas can only be done if the state taps resources from public property, the sale of services, or voluntary contributions. To clarify this matter, al Māwardī mentions an example: if a fort on the border is ruined and that fort was not essential for the defense of the country, the state is not allowed to impose taxes in order to reconstruct the fort. But if it is indispensable, then taxes may be imposed.²²

5. Economic enterprises of the state should not be financed by taxes. They may, however, be financed by revenues from public property, sales of their own products, borrowing, and voluntary contributions. This includes economic enterprises, as development itself is not a necessity according to Shari'ah, unless it is related to defense, the establishment of religion, or the provision of basic and indispensable needs for people.²³

²² al Māwardī, *op. cit.*, 245.

²³ The issue of development is outside the scope of this paper, and it deserves study of its own to determine its position in Islamic economics and how it is treated from the point of view of Shari'ah. However, a few words are worth mentioning in order to avoid any undesired implication the reader may derive. The Islamic Shari'ah as a way of life prescribed by Allah aims at the preservation and promotion of five basic objectives, usually called by Muslim scholars the five basics (*al uṣūl al khamsah*). These are: religion, life, mind, posterity, and material assets. All provisions of the Shari'ah are made in order to protect, preserve, promote, and improve these five basics. Matters related to the existence or survival of any of these basics are called necessities (*dārūrīyat*). Provisions which are not indispensable for any of these basics but are at the same time very useful in adding essential characteristics or in avoiding difficulties and harm are called needs (*ḥājīyāt*). And those provisions and measures which add improvement and prosperity to any of these basics without being necessary or needed are called refinements (*kamaliyāt*). Developmental efforts which deal with the necessities are by implication necessary, and they must be done even at the expense of individual privacy. This includes levying taxes and imposing other duties on individuals. Examples of these necessary developmental efforts are those related to defense of the country, its people and its land, the establishment of religion (including implementation of the Shari'ah's rules), the provision of basic needs fulfillment and so on). Developmental efforts which deal with needs as defined above are very desirable, and the state should make all possible efforts to undertake them without infringing upon individual wealth, privacy, freedom, etc. Examples of these needed developmental efforts may be urban transportation, elimination of illiteracy, and other features of modern life. The developmental efforts which deal with improvement of people's living conditions, promotion of religious and moral values, for example, fall under the category of refinements. They are also desirable but to a lesser extent than the needs. Lastly, there are developmental activities that may not be desirable from the point of view of the Shari'ah such as the production and distribution of tobacco, alcoholic beverages, and certain aspects of tourist industries that are incompatible with the Shari'ah. Such developmental activities may be either undesirable or prohibited.

Section Two

Financing the Public Sector's Deficit

An Islamic state, past or present, may face many needs for deficit financing. In anticipation of such deficits, Abū Ḥanīfah suggested that any surplus in the treasury should be saved for use when faced with a deficit, while al Shāfi'ī believed that a surplus must not be allowed to occur, i.e., it should be spent and any deficit, when it occurs, should be financed by new measures, including imposing taxes on the rich.²⁴

There are three types of deficit financing which can be seen in our history. The first type is the need for military equipment and expenses. Such an incident took place during the time of the Prophet, and he borrowed money as well as mail (armored clothes). The second type is reducing the amount of precious metal in the metallic money at the time of al Maqrizī in Egypt. Apparently, this was done for certain expenses by the ruler, as al Maqrizī does not mention what expenses were financed by this method. The third type of deficit financing happens when a Muslim country is defeated by its enemies and has to pay heavy war reparations to the victor. This happened in many areas during the Moghul era, the time of the Crusaders, as well as in Spain. Such duties used to be met by collecting funds from individuals in accordance with their financial ability. In this regard, Ibn Taymīyah argues that one should not evade this tax if the evasion would place one's burden on a fellow citizen, i.e., if the total amount needed to be collected was already fixed. Otherwise, evasion of this kind of tax is permissible.

In present-day Muslim countries, there are many examples of deficit financing for any combination of three objectives: developmental, facing calamities, and running an ever-growing government apparatus.

Borrowing has always been the simplest form of bridging the gap between resources and expenditures. It is, therefore, worthwhile to take note of a few remarks related to public borrowing from the Islamic point of view before I proceed to discuss modes of financing a public deficit according to the Islamic perspective.

1. Regardless of the reasons for public borrowing, the payment of any return whatsoever on debts creates a situation of injustice. By its nature, a debt is an interpersonal abstract relationship which does not generate any flow of material production. In other words, although it is an asset on one's balance sheet, a debt is neither a productive asset nor a factor of production. There-

²⁴ Al Māwardī, *op. cit.*, 215.

fore, the owner of debt should not be given any part of the production although he has done something good and deserves our thanks. In addition, the prohibition of *ribā* (interest) in the Shari'ah is consistent with rationality, the mechanism of production, and the fairness of distribution. This prohibition applies to individual loans as well as to public borrowing.

2. Negotiability of debts poses another problem, since this encourages the holding of debts by increasing their liquidity. A debt-ridden economy is more susceptible to sharp fluctuations than an economy with a light debt burden because the amount not debts a person likes to hold depends to a great extent on volatile expectations and speculations. On the other hand, the Shari'ah virtually imposes a total ban on debt negotiability, because it stipulates that debts can only change hands at their face value. This eliminates the profit incentive of negotiability.
3. Living beyond one's means is bad for an individual, because eventually one has to face the consequences. It is also bad for the state to do this for exactly the same reason. Therefore, public borrowing is not advisable. The argument that beneficiaries of public projects which will blossom in the future should pay for their cost is falsified by the mere fact that as we have inherited from our ancestors a lot of productive capital, why should we ask our children to pay for the capital which they will inherit from us? This is applicable to the macrolevel as much as it is to the microlevel. We like to leave our heirs rich, and Islam advises us to do so.²⁵ Building capital for future generations gives us personal satisfaction, self-esteem, and a feeling of performance. On the other hand, living at the expense of others, be they past or future generations, is a symptom of social decadence, demoralization, and a lack of self-respect.
4. Moreover, the distinction between current and developmental expenditures is very often misleading and usually abused. Every saving in current expenditures liberates resources and makes them available for developmental uses, and every increase in current expenditures taxes such resources. Additionally, borrowing for developmental projects relieves current decision makers of the need for strict accountability of their actions, as the burden is shifted to future generations.
5. The argument of fairness in distributing the huge expenditures associated with the early years of economic development among generations, based on the belief that letting those expenditures be shouldered by one generation

²⁵ In a well-known al Bukhārī-reported saying of the Prophet.

along unjustly overburdens it, is valid provided it is not abused by permitting current savings to fall below a reasonable level or by mortgaging more than a fraction of the saving capacity of future generations.

6. Finally, calamities, natural or man-made, should be dealt with by reverting to the Islamic principle of solidarity. Thus, individuals should share in meeting expenditure requirements in accordance with their financial abilities, even if doing so would exhaust all of their financial resources.

However, besides borrowing, an Islamic state may use other deficit financing modes, such as those mentioned below.

Islamic Modes of Deficit Financing:

It should be noted that in accordance with Islamic teachings, a financier may deserve a return on his/her financing only if he/she owns the asset which generates that return. Hence, loans do not entitle the lender to any return since the moment borrowed assets are handed to the borrower the lender no longer owns them, as he/she then the owner of a debt. Consequently, he/she does not deserve a return even if the borrowed assets were used by the borrower for productive purposes and generated a profit.

On the other hand, in trade, assets (i.e., money) are used to buy goods which the trader sells for profit. A return is deserved by the owner of assets used in buying these goods (i.e., the financier) only if he/she is the owner of goods sold. By the same token, a lessor deserves rent only if he/she owns the leased assets, and a partner or shareholder deserves profit or dividend if he/she owns part of the company's assets.

Ownership is characterized by risk and uncertainty. Risk comes from the fact that property is always exposed to natural and market conditions, and uncertainty comes from the fact that the rate of return cannot be known with certainty in advance.²⁶ This means that financing in Islam is always characterized by risking the principal and an uncertainty about a return, because a financier is an owner. Any financing which fails to pass the test of ownership does not deserve a return.

Taking the above considerations into account, there are three techniques for mobilizing financial resources in order to bridge the gap in a government's budget: i) debt-based modes, ii) participatory modes, and iii) contributory modes

²⁶ This also applies to leasing, since the owner still carries risk in addition to major maintenance which cannot be known with certainty in advance. This perhaps is what distinguishes Islamic leasing from financial leasing.

of financing. Both debt-based and participatory financing are derived from Islamic practices at the microlevel, while contributory financing is a macrolevel practice.

Debt-based Deficit Financing Modes²⁷

Debt-based public financing is that kind of financing which results in a definite debt on the state. The state may become a debtor of a fixed amount of funds (in money terms) or of a predetermined and well-specified good or service. This indebtedness entitles the holder of the debt certificate to receive the face value of the security in money or in kind on the certificate's maturity date.

There are several Islamically permissible modes of debt-based financing which the state can use to bridge the gap between its revenues and expenditures:

a) *Public Borrowing*

Borrowing without any fringe benefits or return paid to the lender. The government may borrow from a central bank, commercial banks, or private persons provided that such borrowing does not cause distortions in the value of money, real assets, and real income.

Borrowing from the private sector may also take the form of issuing return-free bonds which may be made transferable at face value. These bonds may be in foreign exchange which some people like to hold because they provide protection against domestic inflation.

b) *Murābahah*

The state may purchase goods on the basis off *murābahah* with deferred payment. This *murābahah* creates debts on the state to the benefit of the seller-cum-financier. *Murābahah* debts are practically non-negotiable, since a debt can only be sold at its face value according to the Shari'ah.

However, the seller-cum-financier may issue negotiable *muḍārabah* certificates to finance *murābahah* debts with the state if he/she maintains a flow of contractual relationships such that the total of cash and debts does not make

²⁷ This and next subsections are heavily based on a paper by M. Fahim Khan and Monzer Kahf entitled "Financing Government Deficit through Borrowing from the Private Sector." It was presented at the Seminar on Islamic Financial Market organized in Bahrain, May 1990, by Faisal Islamic Bank, Bahrain.

up the majority of his/her assets (according to the OIC Fiqh Academy resolution No. 5 in its 4th session, Jeddah, 18-23/6/1408 H).

This mode of financing can be contracted between the state and a private party such as an Islamic bank. Alternatively, a branch of the government may issue non-negotiable *murābahah* certificates to finance supplying goods to the government. Such a government branch may also issue negotiable *muḍārabah* certificates to finance the acquisition of goods and supplies, provided the above-mentioned condition is met.

c) *Ijārah and Istiṣnā'*

Public services such as education, public constructing, city cleaning, airport maintenance and so on may be financed by *ijārah/istiṣnā'* bonds due at a future date.

The Shari'ah basis for these bonds is *jārah* or *istiṣnā'* with deferred payment. However, those *ijārah* and *istiṣnā'* payment bonds cannot be transferred to a third party except at face value. But the negative effect of non-negotiability may be reduced by issuing bonds at different maturity dates so that holder may have bonds with short and long maturity according to his/her liquidity requirements.

Bonds may be issued by a government branch or a private contractor, and they may cover one project or a group of projects.

d) *Real Goods/Service Bonds*

The state may also obtain financing from the private sector by selling future goods and services with advance payment. Small denomination real goods/services bonds may be issued against advance installments on the purchase of future goods and services from the state. Well specified houses, higher education, and *hajj* trips are examples of such goods and services.

Certificates of installments of future services may be made negotiable at market prices without difficulty since the Shari'ah permits the transfer of *ijārah*. Negotiability of certificates representing debts of future goods may require further analysis by Shari'ah experts.

Finally, it should be noted that all debt-based financing may be backed by a government guarantee whether certificates/bonds are issued by a private party or by a government branch.

Participatory Deficit Financing Modes

Participatory public financing gives the provider of financing the right to

an income-producing asset either wholly or partially. Participatory certificates may be amortized for a certain number of years, or they may be subject to settlement at the end of the financing period. Once real assets are purchased with the financing money, certificates become negotiable at market prices.

Additionally, according to the OIC High Fiqh Academy resolution No. 5 in its fourth session, Jeddah 18-23/6/1408 H, a third party may, under certain conditions, guarantee any losses which may occur with regard to participatory certificates.

Participatory deficit financing may only be used for income-generating state enterprises. However, many government projects may be recognized to become income-generating projects. These include highways, bridges, government administrative buildings, school buildings, and so on. Participatory modes of deficit financing are:

a) *Equity or Mushārahkah Certificates*

Holders of *mushārahkah* certificates become full partners in the public projects in which they participate, a status which gives them the right to vote and share in the management process. Those certificates are used to finance income-generating projects and can be issued directly by the projects needing the financing or by a private corporation building or running public sector projects.

b) *Mudārabah Certificates*

This type of certificate resembles *mushārahkah* certificates except for the right of management. In addition to income-generating projects, *mudārabah* certificates may also suit sections of projects divided so that a subdivision generates some net income. This may then be appropriated to the *mudārabah* without having the financier share in the whole project.

c) *Ijārah Shares*

Property leased to the government may be divided into rent-earning shares which can be exchanged at market prices. These shares represent ownership and entitle their owners the right of receiving rent at periodical intervals. They are fully negotiable.

Lastly, it should be noted that while Islam considers public borrowing to be unsuitable for long-term deficit financing, *murābahah* can be used for the sort and/or the long term. *Ijārah*, *istiṣnā'*, real goods/services certificates, and participatory modes can serve the objective of long-term financing, although

ijārah and *istiṣnāʿ* can also be designed for medium and probably short terms.

On the other hand, *mushārah* and *muḍārabah* certificates can only serve income-generating public enterprises, whereas borrowing, *murābahah*, *ijārah*, *istiṣnāʿ*, and real good/services certificates may serve income-generating as well as non-income-generating or mute state undertakings.

Contributory Public Financing

Financing public projects on a contributory basis refers to cases where financing is provided on the basis of community solidarity among the members of the Muslim society. Such conditions arose many times during the life of the Prophet. The Prophet used to call for voluntary contributions to meet many of the public expenditures as they arose.

Voluntary contributions are used to finance many public expenditures today in both Muslim and non-Muslim countries. They are resorted to in such cases as city beautification and the establishment of public recreation areas. They are also called for under emergency circumstances such as natural calamities, wars, and the disruption of public order.

In addition to voluntary contributions, the principle of community solidarity may be enforced by law in accordance with the *farḍ al kifāyah* concept. The application of this concept requires that if the state does not anticipate future resources to cover its present deficit, the deficit should be met by taxes levied on the rich in accordance with their taxable capacity. However, if the state anticipates sufficient future revenues, it must borrow from the rich instead of taxing them. This borrowing can also be obligatory.

Security Pricing, Capital Budgeting, Time-State, Preference Model, and Interest-Free Economy

by
Abdul Aziz
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Introduction

Pakistan, Iran, Sudan, and some other countries have taken practical steps to Islamize their economies. It has provided an impetus to develop economic concepts in economies and finance. However, the main areas in which research work has been done is the collection and disbursement of Zakat, and the elimination of interest. Islamic banking has also attracted considerable attention. Particularly in Pakistan, government agencies have tried to run their affairs to avoid the involvement of interest. For example, instead of charging interest on home loans rental arrangements leading to ownership by renters are set up. Commercial banks are being encouraged to lend some of their assets on an interest free basis. Even particularly sticky problems such as short term loans for carrying seasonal inventories, and accounts receivables are being investigated and trust certificates have been developed. All these instances augur well for the commercial and industrial development of the the Islamic world based on Islamic principles. This is likely to accelerate in the years to come because a large part of the Ummah firm believes in the universal application of the Quranic laws for enhancement of the general welfare of the human race. However, it is just a beginning and most of the banks in Islamic countries still operate as interest bearing, credit granting institutions.

The current research in "Resource Mobilization in Islamic Environment" has been mainly restricted to interest free banking. Mangla, Uppal, and Krishna Swamy [14] provide a summary of work done in this area. Whereas banking helps channel resources through the intermediation process, it is the business firm which generates the demand for the funds through investment in projects. Firms issue various types of securities to provide an investment vehicle. In an interest bearing economy scores of classes of securities have been created with

¹ This paper draws heavily upon Banz and Miller [1].

the objective of providing appropriate investment instruments for different categories of investors as well as firms. This topic forms a part of financial engineering. A good discussion on this subject is found in Finnerty [8]. At present there is no known work done to link the two sectors—the supply and the demand of funds, in an interest free environment. For equilibrium in the financial markets through the interaction of supply and demand, it is essential that the securities be fairly priced. As to which individual securities will be sold in an Islamic environment begs further discussion. The question: are options, futures, risky debt, and preferred stocks valid financial instruments? will require to be investigated. However, one security, i.e., the common stock should definitely be an acceptable security according to Islamic jurisprudence: none of the two types of return on it, i.e., the dividend return and the capital gains are risk-free. Further a firm will only invest if new projects provide non-negative net present values.

Objectives of the Paper

The objective of this paper is to investigate the extant literature and identify analytical techniques which can be used to make optimal financial decisions in the areas of (common stock) security pricing and capital budgeting in Islamic environment. A brief discussion of these topics in Islamic environment is also provided.

Security pricing

Securities are articles of commerce and are commodities. Their prices based on the principle of demand and supply are determined in open securities instantaneously and fully reflect all relevant available information. At present, the capital markets of the western and Japanese economies are considered to be at least in weak- and semistrong-form efficient.

Theoretically the current price of a security, in an informationally efficient securities market, may be estimated using the Gordon formula:

$$P_0 = D_1 / (k_s - g)$$

where

D_1 is expected dividend in time period 1, k_s is the required rate of return on the security j , and g is the expected growth rate in the dividends.

k_s is commonly computed using the Capital Asset Pricing Model (CAPM):

$$E(k_s) = k_{rf} + [E(k_m) - k_{rf}]b_s$$

where k_{rf} is the risk free rate, b_s is the market related risk of the security, and k_m is the required rate of return on the market portfolio.

In an interest free economy, a risk free asset (an asset that has constant returns in every state of the economy) is not available. Theoretically this problem can be solved using Black's [3] zero beta portfolio argument, whereby the CAPM is restated as

$$E(k_s) = E(k_z) + [E(k_m) - E(k_z)]b_s$$

where $E(k_z)$ is the expected return on the minimum variance – zero beta portfolio.

However, Ross [18] has shown that it is virtually impossible to construct a zero beta portfolio unless there are no constraints on short sales. If short selling requires the borrowing of an asset² on which some sort of interest will be assessed, it is doubtful that short selling will be permitted in Islamic environment. Therefore the problem of security pricing cannot be solved by using CAPM in its original form or as modified by Black.

Another possible venue to solve this problem is offered by the State Preference theory propounded by Hirshleifer [10]. Assuming perfect and complete markets, any market security's pay-off vector in different states of nature can be exactly replicated by a portfolio of pure securities. The value of pure securities can be estimated using expected pay-offs from available equity securities in the market. Given the prices of the pure securities, the price of any security can be calculated. None of the quantities involved in the calculations (See [5]) are based on a risk free or risky debt security. Hence state preference model can be used for security valuation in an interest free environment.

Security Pricing and State Preference Model

In a perfect and complete market the implicit price of a pure security can be derived from the prices of existing market securities. The prices of other securities can then be developed from the implicit prices of pure securities. The procedure to estimate the implicit prices of pure securities is briefly described below.

² It is a common practice that short sellers borrow assets from their brokers to sell them short. The brokers charge interest on this borrowing. However, if short selling is done in the futures markets no borrowing is required. We thank Dr. Monzer Kahf for drawing our attention to this point.

Pure Security Prices

Let P_s = price of pure securities

P_j = price of market securities

π_s = state probabilities

Q_s = number of pure securities

Suppose Table 1 gives the payoff for securities j and k

Table 1

Payoff Table for Securities j and k

Security	State 1	State 2	Price
j	\$ 5	10	6
k	\$20	8	10

$$P_j = 5P_1 + 10P_2 = 6$$

$$P_k = 20P_1 + 8P_2 = 10$$

which gives $P_1 = .32$

$$P_2 = .44$$

For pure security 1 a \$.32 payment is required for a promise of payoff of \$1 if state 1 occurs and nothing if any other state occurs. Similarly for a pure security 2 a \$.44 payment is required for a promise of payoff of \$1 if state 2 occurs and nothing if any other state occurs.

Market security prices

The prices of the pure securities derived above can be used to find the initial price of a third security, a market security "m". The information needed on this security is its payoff in different states. Restricting the analysis to two states of nature, if the payoff in state 1 is \$8 and the payoff in state 2 is \$11, then the price of security "m" is computed as follows:

$$8(.32) + 11(.44) = 2.56 + 4.84 = \underline{\underline{\$7.40}}$$

Thus without the use of discount rates, which involves the application of a risk-free rate, the price of any market security can be developed.

Securities Trading in Islamic Environment

In an Islamic society for the pricing and trading of securities the existence and development of the financial markets is required. Open markets provide an efficient mechanism of establishing fair prices and allocation of any commodity. This is in the light of the Prophet's advice. According to a hadith,³ " . . . people used to buy from the caravans in the lifetime of Prophet. The Prophet used to forbid them to sell it at the very place where they had purchased it (but they were to wait) till they carried it to the market where foodstuff was sold."

Equity securities are instruments of ownership of real assets. They are by implication commodities. In accordance with the Prophet's above stated advice, market mechanism is the most desirable and efficient method of establishing fair prices and trading of the securities.

Current practices in the western world prove the truth of the Islamic teachings. Various types of markets, such as commodities markets and capital markets are well developed and the allocational efficiency of these markets is soundly proven. Their existence results in the scarce savings to be optimally invested to the benefit of everyone.⁴ They minimize the liquidity and productivity risks. In the presence of capital markets investors are encouraged to hold diversified portfolios. In addition it can be proved that capital markets stimulate human capital production and growth [13].

An empirical evidence of the efficiency of market economies and corresponding inefficiency of non-market economies is the continuity of the market economies over thousands of years and the collapse of the non-market economies (communism) in a short period of about seventy years. Thus teachings of Islam with regard to market based pricing system is overwhelmingly supported by theoretical and empirical considerations.

For practical and religious reasons Muslim nations must create and develop financial markets. The supply and demand for the equity securities of firms, based on the desirability of firms' ownership will result into fair prices. However, a problem of confidence exists. Recently a number of securities frauds have been reported all over the world, particularly in Japan [20] and the United States [21]. Similarly, the element of speculation, an activity discouraged by Islamic economics has created volatility in both the real estate as well as capital markets [6] in the past. To keep the operations of these markets in line with the require-

³ See Sahih Al-Bukhari (Arabic-English) Vol III translation by Mohsin Khan, Al Maktabat al Salafiat, page 189.

⁴ See Fama and Miller [7], Chapter 1, Sec 2 for a theoretical discussion on the importance of capital markets.

ments of Islam some regulations⁵ will have to be undertaken. Trades⁶ which are of purely speculative nature and involve a high degree of risk and uncertainty will not be permitted. The prophet forbade such trades. In the current capital markets there are a number of practices which must be prohibited while others could be adopted as such or with some modifications.

First we take the example of option trading. Option buyers have a choice: to exercise or not to exercise the options. This right has value only when there is uncertainty. However, the prophet forbade the sale with uncertainty in it. An example extremely akin to option trading is given by Imam Malik ibn Anas [12]. "One type of uncertain transaction and risk is that a man postulates the price of a stray animal or escaped slave to be fifty dinars. A man says, 'I will take him from you for twenty dinars.' If the buyer finds him, the seller loses thirty dinars, and if he does not find him, the seller takes twenty dinars from the buyer." A stock option has an underlying asset, like a stray animal. If its value goes up it is like the animal found and the buyer exercises the option. This results in the seller of the option suffering a loss and the buyer pocketing a profit equal to the difference between the prevailing market price of the underlying security and the agreed upon exercise price. If its value goes down it is like not finding the animal and the option goes unexercised. This time the buyer suffers a loss equal to the option premium paid and the seller pockets the premium. The risk of option trading is indicated by the fact that more than 90 percent of options are not exercised and the buyers, in trading in these securities, subject themselves to a preponderantly large probability of loss. It is very similar to gambling or playing lottery where the chances of winning are minimal. In fact option trading is a zero sum game. What a seller gains is a loss to the buyer and vice versa. It does not contribute to the productive function of a firm or society. Thus the non-productiveness, risk and uncertainty inherent in option trading demands that it not be permitted in accordance with the Islamic teachings.

Another practice which influences the stock prices is margin trading. By regulating the margin on purchases, the central bank of a nation or the stock exchanges can increase or decrease the volume of trading in shares. This influences the demand for securities in the market. The practice involves lending money by the investment bankers to investors at a specified interest rate. Apart from this the trading is highly risky and in many cases the investors suffer 100 percent loss of their investment over very short periods.

⁵ For an example of such regulations being created in Muslim nations, see [17].

⁶ In our opinion, transactions such as option trading, short selling, index trading, insider trading and blue sky offerings, which we have mentioned in this section, are against the Islamic principles. However, we do not claim universal acceptance of this opinion or assumption.

Yet another example is trading in market indices. This trade does not entitle an investor to become a part owner in a firm. It simply is a technique designed by investment bankers to permit their clients speculate in markets. Islam does not approve of speculation and hence such trading is undesirable. also speculators most often have some information which is available to them but not to others. Their practice can create efficiency in the markets and hence is generally not viewed with respect even in western societies: "One's friends are investors, one's enemies speculators [19].

Apart from such practices in the currently existing markets there are many activities and regulations which an Islamic society can simply adopt with minor modifications. For instance, Security and Exchange Commission of the United States has developed a large number of rules to protect the interests of investors. Ban on insider trading⁷ is one example. This activity helps investors who possess proprietary information about a firm make profits at the cost of common, less informed investors and is prohibited. For example, based on privileged information, General Motor executives [22] sold millions of dollars worth of G.M. stock they owned one day prior to a sharp drop in the price of G.M. stock. This trading (based on privileged information helped them transfer a huge loss to common, less informed investors. Another example is "blue sky laws" which protect unsophisticated investors from speculative schemes. They outlaw frauds in security transactions and require registration of dealers and brokers. Such laws are appropriately applicable in a financial market operating in an Islamic nation.

Optimal Investment Decision. Capital Budgeting

Capital budgeting is divided into parts: one deals with the qualitative factors and is called the qualitative analysis. The other deals with the quantitative factors and is called the quantitative analysis. In the former are considered factors which affect the workers, the society, the consumers, etc. while the latter considers the projects' impact on profitability, rate of return to stockholders, et. In the western societies quantitative analysis plays a disproportionately greater role in deciding on the acceptance or rejection of the project. However, in the Islamic environment, the qualitative analysis of projects will play a very significant role. One important factor is the level of risk management wants to undertake. They may accept highly risky projects to earn high rates of return, or zero risk projects for low rate of return, or moderate risk to earn moderate rate of return.

⁷ Insider trading is a security transaction that takes advantage of "inside" corporate information unavailable to the other person(s) involved in the trade.

Islam encourages moderation. Moderate risk projects which would result into moderate rate of return for the shareholders. Being less risky theses projects are likely to provide steady employment to workers for a long time and be a boon to society at large.

Capital Budgeting and State Preference Theory

Quantitative analysis of a capital budgeting problem is based on the concept of discounted cash flows/net present value. It requires the use of cost of capital. Computation of cost of capital involves the application of risk free rate as a bench mark of return on any risky project. The use of this rate in Islamic environment can be avoided by using 'state price' estimates as provided in Banz and Miller [1]. Though the estimates are based on 'Implied Annual Real Riskless Rate' under various states of economy, yet these rates are so small that their values may be approximated to zero. Thus the capital budgeting problem may be solved without the involvement of risk free rate.

In an interest-free environment, individuals are assured to save by purchasing firm securities. For undertaking new projects firms obtain funds by issuing securities. The objective of the firm in any investment is to maximize the share price which can be shown to be equivalent to maximizing current shareholder's expected utility. Under conditions of perfect and complete markets, the prices of a full set of securities can be obtained from the prices of the market securities, and vice versa. The only requirement is that the state-contingent payoff sectors of the market securities be given. The net present value of a project can be computed as:

$$NPV = \sum_s P_s Q_{js} - I_j$$

where P_s is the price of pure security

Q_{js} is the payoff on firm j 's existing securities, and

I_j is the investment required at time zero by firm j

The following example illustrates the procedure:

Firm A: stock price = \$58

initial investment cost of its project = \$9

Stock and Investment Project Payoffs

State-Contingent

State of Nature

Payoffs

	on Firm A's Stock	on Firm A's Proposed Investment Project
State 1	80	8
State 2	25	10

Firm B: stock price = \$46

initial investment cost of its project = \$8

Stock and Investment Project Payoffs

State of Nature	State-Contingent Payoffs
-----------------	-----------------------------

	on Firm B's Stock	on Firm B's Proposed Investment Project
State 1	30	1
State 2	70	7

First we find the prices of the pure securities

$$80 P_1 + 25 P_2 = 58$$

$$30 P_1 + 70 P_2 = 46$$

$$P_1 = .6, P_2 = .4$$

$$NPV_A = 8P_1 + 10P_2 - 9 = .2 \text{ and } NPV_B = 10P_1 + 7P_2 - 8 = .8$$

Using the rule: Accept a project if its NPV > 0 else reject it. Firm A's project will be rejected and that of B will be accepted.

Multi-period Capital Budgeting Problem

The above example relates to a single period problem. The following section shows how the approach can be extended to the multi-period case.

The gross present value of a project, P, may be stated as

$$G = \sum_{j=1}^n v_j X_j$$

where

X_j = expected value of the payoff of the project in each of the states

$j = 1, 2, \dots, n$

v_j = known current prices of a set of securities that call for the payment of \$1.00 if state j occurs and zero otherwise, and

n = mutually exclusive and exhaustive states into which the possible future outcomes for the economy as a whole next period can be partitioned.

If G is greater than the initial investment, the project is accepted; otherwise it is rejected.

In this formula, the values of V 's sometimes called, the state prices, are crucial. There are two methods available in literature to obtain the values of state prices. One is due to Bierman and Smidt [2, Chapter 22 and 23]. They identify the states with ranges of rates of return on the market portfolio. Next, they apply the capital Asset Pricing Model to compute the V_j s. Banz and Miller [1] argues against this procedure for two reasons. First it requires the assumption of normality of annual rates of return which Miller and Scholes [15] have shown to be incorrect. Secondly, the procedure is useful only in single period cases where, the most interesting capital budgeting applications are multi-period in nature. Banz and Miller themselves suggest a method of estimating state prices based on the use of Black-Scholes option pricing model. This however, requires that both the riskless rate of interest and the variance rate to be used in option pricing formula be stationary over time. These assumptions are hard to justify. However, we feel that in an Islamic environment riskless interest rates will be reduced to zero, and the variance, a major cause of which is fluctuations in market interest rates, will be minimal, thus the state prices could be determined using the option pricing methodology.

Using simulated data generated by Ibbotson and Sinquefeld [11] Banz and Miller have developed state prices for three alternative state patterns (3, 5, and 20 states).⁸ Computation of the gross present values of any project, G_k , with elements $g_k(i)$ is given by the following equation:

$$G_k = \sum_{t=1}^p V^t X_k(t)$$

⁸ An alternative set of state prices can be obtained using Breeden and Litzenberger methodology [4].

where $X_k(t)$ is a sequence of $n \times 1$ vectors,

whose elements $X_k(i,t)$ represents the expected real cash flows of project k , in year t , the economy being in state i .

V is an $n \times n$ matrix of state prices whose elements are state contingent prices, and

p is the last period during which the project provides nonzero cash flows.

If a project has X_i as expected cash flow in year i which obtains a steady state in year 4, then the vector of gross present values is given as follows:

$$G_k = V \cdot X_1 + V^2 X_2 + V^3 X_3 + V^4 (V * (I-V)^{-1}) X_4$$

A simple example based on the illustration in Miller and Banz [1] is given below:

XYZ Corporation is analyzing an investment project whose real cash flows are presented in table below:

State of the economy	Cash flows before competition enter, X_m	Steady-state Cash flows after competition enters, X_e
Depression	200	-10
Normal	300	20
Boom	400	30

Suppose the estimate of cumulative probability of competitive entry are zero in the year of introduction, .3 one year later, .6 two years later, and 1 three years later.

The gross present value vector will be

$$G_k = V X_m + V^2 (.7X_m + .3X_e) + V^3 (.4X_m + .6X_e) + V^4 [V(I-V)^{-1}] X_e$$

Using steady state prices, i.e. values of V , V^2 , V^3 , V^4 , and $V(I-V)$,

$$G_k = \begin{matrix} g_D \\ g_N \\ g_B \end{matrix} = \begin{matrix} .5251 & .2935 & .1735 & 200 \\ .5398 & .2912 & .1672 & 300 \\ .5544 & .2888 & .1612 & 400 \end{matrix} + \begin{matrix} .5304 & .2897 & .1681 & 137 \\ .5333 & .2915 & .1693 & 204 \\ .5364 & .2934 & .1705 & 289 \end{matrix}$$

resulted into the maiming and deaths of a number of citizens. For example, the use of skate boards and roller blades have killed many youths. Production of many videos and audios with subliminal messages, have prompted many young men and women to commit suicides. Wines, beers, and cigarettes are other obvious examples of the production of injurious products. In Islamic societies project evaluation will be based on stricter criteria of social costs and benefits. There is no doubt that such criteria can be and in some cases is being applied currently in many non-Islamic societies. However, its application will be far more easier in Islamic societies because the managers, stockholders, consumers, legislators, and employees will be acting enthusiastically to please God. Furthermore the application of stringent project evaluation techniques will result in the acceptance of less highh-risk projects. More investment funds will flow towards the production of goods which are safe to operate and consume. Less funds will be directed to the production of goods which are means of satisfying the hedonistic desires of rich people. Through the application of properly designed evaluation criteria, according to Islamic moral values, investments in the projects meant for the production of socially less desirable/undesirable goods will be eliminated. The funds released will be available for the production of socially desirable goods. The overall outcome will be a society having abundance of essential goods but less of unnecessary and luxurious goods. The standard of living of people is likely to be less disparate. A large percentage of citizens of an Islamic state will belong to middle class and less to highly rich and poor classes. Such a homogeneous society is likely to have minimal political problems and internecine divisions.

Here we must emphasize that the additional constraints placed upon firms will not result in a centrally planned economy or an economic system akin to communism. Whereas the latter systems lack the market pricing mechanism and the element of profit as a motivation for entrepreneurs the Islamic economic system encourages market pricing and reasonable profit making on trading activities.

Conclusion

The extant finance literature is based upon the existence of a risk free security. Islamic environment requires that no such security be available to investors. This poses problems in almost all areas of corporate finance. The objective of this paper was to identify techniques available in current literature to apply to security pricing and capital budgeting problems. We feel that time-state preference model can be used to solve these two problems in an interest free economy. Further, a simple logic indicates that the application of Islamic moral

values to these two areas of corporate finance will result in the enhancement of welfare of masses at large.

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Interest Rates and Usury in South Asia: A Cross-Cultural and Historical Perspective

by
Akbar Ali Khan*

The absolute ban on interest is one of the fundamental tenets in the canonical interpretation of the Islamic economic framework. However, historically the concept and practice of interest differed not only between Muslim and non-Muslim societies but also among the Muslim societies themselves. A comparative analysis of actual practices relating to interest in different societies would indicate how and why the mechanism for intertemporal resource allocation varied. From the perspective of cross-cultural comparison, the evolution of the concept and practice of interest in South Asia deserves special attention for two reasons. First, prior to the advent of Islam, South Asia witnessed the flowering of Hinduism and Buddhism – two Aryan religions which were significantly different from Semitic religions like Judaism and Christianity which preceded Islam. The widespread practice of money-lending in ancient South Asia stands in striking contrast to its condemnation by Judaism, Christianity, and Islam. Secondly, South Asia was ruled by Muslim rulers for more than six hundred years, from the thirteenth to the nineteenth century A.D. In terms of population, South Asia contained the largest Muslim society in the world. Nevertheless, the economic system of Muslim South Asia was not shaped by the pristine ideals of Islam; it rather turned out to be a convenient amalgam of pre-Islamic and Islamic practices.

This paper seeks to survey and analyze the evolution of the perception and practice of interest in South Asia from ancient times until the establishment of British rule in the eighteenth century. It is divided into three sections. The first section summarizes the regulations regarding credit and interest rates in ancient South Asia and compares them with those of other ancient civilizations. The second section outlines the practice and perception of interest in South Asia during Muslim rule. The final section summarizes the main findings of this study and tries to account for the unique practices relating to interest in both ancient and medieval South Asia.

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I. Regulations on Credit and Interest Rates in Ancient South Asia

The emergence of economic thought, whether in a fragmentary form (i.e., law and regulation) or in a systematic form (i.e., commentaries on economic matters), is dependent on two conditions: (i) the development of the art of writing, and (ii) a sufficiency of division of labor and exchange. While the fulfillment of the second condition can be traced back to the Indus Valley civilization which flourished between 2300 and 1700 B.C., it is difficult to determine when the art of writing began in South Asia. The Indus civilization had a script; however, it has not yet been deciphered. No written material prior to the third century B.C. has survived in South Asia. The main streams of South Asian economic thought seem to have crystallized not later than second century A.D. and most likely before the birth of Christ.

Economic thought in ancient South Asia had two principal overlapping traditions—the works of the writers on *Arthashastra* and the literature on *Dharmasastras*. The authorship of *Arthashastra* is attributed to Kautilya, who helped Chandragupta Maurya come to power in Maghadha (circa 324-313 B.C.). According to Basham, the available text of *Arthashastra* is certainly not the work of Kautilya. As Basham points out,

“The text refers to people and places (notably China) which do not seem to have been known to Indians in the fourth century B.C. It does not use much of the official terminology employed in the Ashokan inscriptions or in the Pali scriptures, but it contains many governmental terms which did not become popular until post-Mauryan times. Yet it is certainly pre-Guptan and is, we believe, the elaboration of a Mauryan original which was perhaps the work of Kautilya” (Basham, 79).

It has been suggested that the *Arthashastra* contains the work of at least three hands, one of whom was Kautilya (Spengler 1980). Trautmann concluded that it is “representative of the best generations of thinkers” and contains “ancient Indian beliefs about the state with an authority which no individual creation could possess” (1976, 187). It was probably compiled in its present form during the period of 324 B.C. - 320 A.D.

The *Dharmasastras* (Instructions in the Sacred Law) are versified texts of the *Dharmasutras* which were probably composed between the sixth and second centuries B.C. The *Dharmasastras* were compiled in their final form in the second and third century A.D. (Basham 1954, 112). The most celebrated version of the *Dharmasastras* is known as the *Code of Manu*, and Manu is described as the ancestor of Manava tribe (or school) of Brahmins near Delhi.

According to legends, he was the son of a god and received his laws from Brahma himself. This code of 2,685 verses is claimed to have been composed in 1200 B.C. It is more likely to have been composed after the death of Christ.

Both the *Arthasastra* and the *Dharmasastras* were compiled in their present form around the same time. They, however, represent two distinct streams of ancient South Asian life. The *Dharmasastras* expound “duties or practices sanctified by custom from the standpoint not of a lawgiver but of a moral perceptor who lays down duties and regards deviations from them as sins to be expiated by the individual himself rather than crimes to be punished by the state” (Spengler 1980, 46). Underlying the *Dharmasastras* was a vision of the cosmic order corresponding to Western natural law and Chinese *tao*. By contrast, the *Arthasastra* was primarily concerned with rulership, and therefore discusses questions of administration including the enforcement of law and the punishment of criminals. It was in essence a code of a predominantly rural, bureaucratic, and centralized state.

Both the *Arthasastras* and *Dharmasastras* recognized money-lending as a lawful occupation. The *Dharmasastras*, however, does not recognize the legality of money-lending by all castes. Manu says that the king should order each man of the mercantile class to practice trade or money-lending, agriculture or attendance on cattle (Manu 1982, vol. III, 285). The caste status of the Brahmins is, however, affected by money-lending. Manu says that great families are sunk to a low state “by practicing manual arts, by lending at interest and other pecuniary transactions, by begetting children on Sudras only” (vol. III, 69). According to Manu “neither a priest nor a military man, though distressed, must receive interest on loans, but each of them if he pleases may pay the small interest permitted by law on borrowing for some pious use, to the sinful man who demands it” (vol. IV, 358). For the Brahmins, money-lending is characterized as *sat-yanrita*, which is permissible only in exceptional cases (vol. III, 103). To sum up, money-lending was discouraged for upper castes; it was fully legal for lower castes only.

Both the *Arthasastras* and *Dharmasastras* recognized the principle that debt did not cease with the death of a debtor; the responsibility for the repayment of the deceased’s debts devolved on his sons and heirs. Husbands are responsible for their wife’s debts; but not wives for their husbands. Debtors might be enslaved by their creditors until they had worked off their debts. This regulation was not, however, applicable in the case of debtors from the higher castes. As Manu prescribes: “Even by personal labor shall the debtor pay what is adjudged, if he be of the same class with the creditor or of a lower, but a debtor of a higher class must pay it according to his income by little and little”

(vol. IV, 249). Literary sources in ancient South Asia refer to debtors dogged everywhere by their creditors and at last committing suicide in desperation (Basham 1954). Elaborate regulations have also been laid down regarding mortgages and pawns.

The *Arthasastras* identified six types of interest: compound interest, periodical interest, stipulated interest, corporeal interest, daily interest, and the use of a pledged article. However, the definition of each type is not clear. The *Arthasastras* recognized that the rate of interest would vary according to risk, uncertainty, and the circumstances surrounding loans. Kautilya prescribed 1.25 percent monthly interest for ordinary loans, 5 percent for trading, 10 percent for trading in forest products, and 20 percent for maritime trade (1967, 200). In the *Dharmasastras*, the interest rate is determined by three factors: pledge (act of delivering goods, property, etc. to another for security), proportion of risk, and direct order of classes (Manu 1982, vol. IV, 243). The monthly rate of interest is equivalent to ordinary rate specified in the *Arthasastras* (i.e., 1.25 percent per month) where a pledge is provided. In the case of unsecured loans, the lowest rate of interest was 2 percent per month.

Interest rates in the *Dharmasastras* also vary according to the order of castes. A priest can be charged interest at the rate two percent per month; a soldier, three percent; a merchant, four percent; and a mechanic or servile man, five percent. These rates refer to unpledged loans. These were prescribed maxima and could be lowered according to the proportion of risk. Unlike the *Arthasastras*, the *Dharmasastras* did not prescribe rates for risky ventures like maritime trade or trade in forest products. However, it laid down that in risky trades interest rates above the prescribed maxima could be fixed through negotiations. Interest in this case “shall be settled between the parties, by men well-acquainted with sea voyages or journeys by land” (vol. IV, 246). Debtors were subjected to a 5 percent penalty for nonpayment when due.

An interest ceiling was prescribed in both the *Arthasastras* and the *Dharmasastras*. According to the *Arthasastras*, interest payments should cease when the total interest paid equals the principal. In the *Dharmasastras*, a distinction is made between accumulated interest and interest payment in installments. Accumulated interest must “never be more than enough to double the debt, that is more than the amount of the principal paid at the same time.” However, interest paid on installments must not be “more than enough to make the debt quintuple” (vol. IV, 245). The *Dharmasastras* also distinguish between cash loans and loans in kind. In the case of cash loans, interest and principal were paid in cash. In the case of commodity loans, repayment had to be made in kind.

Money-lending was practiced in nearly all of the ancient world. It was not,

however, totally prohibited anywhere. Nevertheless, the practice of money-lending was assailed almost everywhere from the moral point of view. Most of the borrowings and lendings in ancient civilizations took place not for working and fixed capital but for consumption loans to meet urgent personal needs. "In such circumstances, interest," Galbraith rightly points out, "is not viewed as a production cost but rather as something the more favored charge the less fortunate or the less wise. So like slavery, it raises a problem in ethics – what is right, just and decent in relations between those who are amply supplied with money and the feckless or needy" (1987, 12). Aristotle (384-322 B.C.), who equated interest to usury in all cases, strongly condemned it in the following manner: "The most hated sort (of moneymaking), and with the greatest reason, is usury. . . . For money was intended to be used in exchange, but not to increase at interest." In ancient Rome, Cato described money-lenders as "worse than thieves" (Homer, 1977). In Judaism, money-lending among the Jews themselves was prohibited. Exodus 22:25 laid down: "If thou lend money to any of my people that is poor by thee, thou shall not be to him as an usurer" (Johnson 1987, 173). The Jews were, however, permitted to lend at interest to strangers. In ancient South Asia also, reservations were expressed about interest rates. Usury was classified by Manu as a minor sin comparable to "defiling a damsel, want of perfect chastity in a student, selling a holy pool or garden, a wife, or a child" (Manu 1982, vol. IV, 371). Usury is not, however, legal; interest is. Manu defined usury in the following way: "Stipulated interest beyond the legal rate and different from the preceding rule is invalid and the wise call it a usurious way of lending: the lender is entitled at most to five in the hundred" (vol. IV, 245). Lending at prescribed interest in South Asia was not banned, it was merely discouraged for the upper castes.

These restrictions on money-lending by the upper castes may be interpreted in two ways. First, it may be hypothesized that Manu discouraged money-lending by the upper castes because it was morally reprehensible. Secondly, it may be argued that these restrictions were proposed to ensure that each caste restricted its activities to its allotted occupation. Money-lending was the hereditary profession of the mercantile classes and the upper castes would, therefore, naturally be discouraged to intrude into the occupation of another caste. This second hypothesis seems more likely because neither the *Arthasastras* nor the *Dharmasastras* denounced interest per se. Ancient South Asia, therefore, provided a more congenial environment for money-lending than all other ancient civilizations.

Apart from ethical denunciations, all major ancient civilizations except Greece enacted caps on interest rates. Keynes attributed these restrictions to

the constant tendency of the market interest rate to rise too high and “much above the level best suited to the social advantage.” As Keynes notes:

The destruction of the inducement to invest by an excessive liquidity-preference was the outstanding evil, the prime impediment to the growth of wealth, in the ancient and medieval worlds. And naturally so, since certain of the risks and hazards of economic life diminish the marginal efficiency of capital whilst others serve to increase the preference for liquidity. In a world, therefore, which no one reckoned to be safe, it was almost inevitable that the rate of interest, unless it was curbed by every instrument at the disposal of society, would rise too high to permit of an adequate inducement to invest (1964, p. 35).

There are, however, two weaknesses in the Keynesian analysis of ancient usury laws. First, interest rates in the ancient world were not always high, they fluctuated from time to time and at times were lower than the legal maxima (see Table I). Secondly, the determinant of interest rate in the ancient world was not “excessive liquidity preference” as claimed by Keynes. Markets for capital in the ancient world were highly segmented. Because of high information costs on potential clients, money-lenders did not usually expand operations beyond a small base. Each money-lender became a virtual monopolist in his locality and dictated interest rates at his discretion. Legal maxima had, therefore, to be prescribed to save the debtors.

There are three distinct features of the formal legal limits placed on interest rates in ancient South Asia. First, interest rate caps in South Asia were much higher than those in Sumeria, Babylon, Greece, Egypt, or Rome. In South Asia, interest on unsecured loans for the Sudras (who constituted the majority of the population) was as high as 60 percent per annum. For similar loans, the legal maxima was 20 percent per annum in Sumer and Babylon, and 8.33 percent to 12 percent per annum in Rome (see Table I). Though there was no formal legal limit for interest rates in Greece, the temple of Delos charged 10% on all loans made during the period 400-100 B.C. (Homer 1977, 40). Legally, interest rates connected with maritime trade in South Asia could be as high as 240 percent. This rate was much higher than usurious interest rates in most other ancient civilizations. However, actual interest rates in South Asia were sometimes much lower than the prescribed legal limits. For example, during the period 300-700 A.D., the average rate of interests for overseas trade in South Asia was only 20 percent per annum (Thapar 1974, 148). Moreover, in most cases interest was seldom permitted to exceed the principal (100 percent) in total amount. This implies that risky loans where interest rates were high were usually provided only for short periods.

TABLE 1
Annual Interest Rates in Ancient Times.

Century	Sumer and Babylonia		Greece				Egypt	Rome		Roman Asia		Roman Africa	South Asia	
	Normal	Legal	Normal	Real Estate	To Cities	Trusts		Normal	Legal	Normal	Trusts		Trusts	Legal secure loans
B.C. 3000-1900														
20-25		20												
1900-700		20												
Seventh		20												
Sixth	10-20	20												
Fifth	40		16-18	8-12	8½-12	6-10		8½+ 8½+ 8½	8½+ 4½-8½ 8½	8-12			15	24-60
Fourth			10-12	8-12	8½-12	6-10	24	8½+ 8½	8½	8-12			15	24-60
Third			6-12	6-9	7-10	6-10	5-10	6-8½	8½	Below 12			15	24-60
Second			6-12	6-9	8-12	10	12	4-12+	8½-12	Below 12	5-9		15	24-60
First			8-9				12	6-12	12	Below 12	5-12		15	24-60
Second							12	12-?	12				15	24-60
Third							12	12½+?	12-12½				15	24-60
Fourth									Byzantine 12½					
Fifth									Byzantine Empire 6-8				15	24-60
Sixth									6-8				15	24-60
Seventh									6-8				15	24-60
Ninth									8½-11½				15	24-60
Tenth									8½-11½				15	24-60

Source: (1) For all rates except South Asia, see Sidney Homer, *A History of Interest Rates* New Brunswick: Rutgers's University Press, 1977, 61.

(II) For South Asia, see Joseph 3. Spengler, *Origins of Economic Thought and Justice* (Carbondale: Southern Illinois University Press, 1990), 39-48.

Secondly, the maximum legal limits on interest rates in South Asia did not change appreciably for a period of two thousand years. In Rome, the legal maximum of interest varied between 4.33 percent and 8.33 percent before the birth of Christ. It increased to 12 percent during the first to fourth century A.D. It again fell to 6-8 percent in the Byzantine Empire. In Greece, interest rates fell from 16-18 percent in the sixth century B.C. to 8-9 percent in first century A.D.

Thirdly, interest rates in ancient South Asia varied in accordance with the caste status of the borrowers. The Sudras, who were economically worse off, had to pay the highest interest rate (5 percent per month). The prime rate was reserved for the upper castes. This preferential treatment for the upper castes may be explained in two ways. First, the credit risks of lending to members of the lower castes were very high because they were economically not well-off and might have a poor repayment record. Secondly, the upper castes were given loans on lower rates so that they would not be encouraged to take up money-lending as an occupation. The second hypothesis seems to be more plausible. Apart from the prime interest rate, the upper castes were also exempted from physical labor if they defaulted on their debt; they were allowed to repay in installments.

II. Perceptions and Practices Relating to Interest in South Asia under Muslim Rule (1206-1857 A.D.)

South Asia's first political contact with Muslim rule began as early as 712 A.D., when the Muslim Arabs conquered the province of Sind. Muslim rule in Sind was, however, confined to South Asia's periphery; it did not extend to the Indian midlands which were the center of South Asia's political and cultural life. Muslim rule in the Indian midlands lasted from 1206 to 1857 A.D.—for more than 650 years. During this long period, a large number of Muslim rulers with differing views on the relationship between the state and religion reigned. Some of them were devout Muslims who treated non-Muslims as *dhimmis* and levied the *jizyah* tax. None of them, however, ever attempted to prohibit usury in South Asia. Even an orthodox emperor like Aurangzeb (1659-1707), whose commitment to Islamic fundamentalism was unquestionable, assured good treatment to professional money-lenders. It was mentioned in a dispatch from Aurangzeb's court that the emperor asked for an interest-free loan (*garḍ ḥasan*) of a half million rupees from the "Sahukars" (professional money-lenders) of the imperial camp to pay the backsalaries of his troops. The money-lenders turned down his request on the grounds that if an interest-free loan were given to the emperor, similar concessions would be demanded by the provincial gover-

nors which “will mean the banishment of all Sahus” (Habib 1964). This incident clearly illustrates two points. First, even a pious emperor like Aurangzeb had to allow money-lenders in his imperial camp. Secondly, the money-lenders realized that their continued financial support was essential for the political survival of the Mughal empire; otherwise, they would not have dared to reject the emperor’s request. The Muslim polity in India always protected the interests of money-lenders. Imperial orders for the recovery of debts were routinely issued whenever petitions against defaulters were filed. Historical sources indicate that Aurangzeb knew that in his empire a debtor’s children were kept as security for the loans and were seized by the creditors if the debts were not repaid. He did not interfere with these age-old practices.

A comparison of the available evidence on usury in ancient and medieval South Asia suggests that usury was widespread under the Muslim rule. In ancient India, usury was primarily limited to private sector; in medieval India lending at interest also became widespread in the public sector. The Muslim nobles used to borrow from professional money-lenders, mortgaging revenues due from their *jagirs* or revenue assignments. The royal princes also borrowed from professional money-lenders. The Muslim nobles also used to lend to each other. Shaista Khan, Governor of Bengal, is reported to have lent Rs. 300,000 to his subordinate governor at Hugli at 25 percent per annum.

Muslim rulers in South Asia introduced two kinds of loans: *Musāʿadāt* and *taqāwī*. *Musāʿadāt* literally implies “favor” or “assistance.” It was advanced to holders of territorial revenue assignments (*jagirs*) and the recipients of a monthly salary from the state. The cost of *musāʿadāt* varied between 25 percent and 7 percent per annum. The interest rate of *musāʿadāt* was obviously lower than the market rate of interest. The amount of *musāʿadāt* once advanced formed a part of the state’s total claim against the officers concerned, and was realized from the proceeds of revenue assignment. *Musāʿadāt* loans were usually sanctioned during military expeditions and campaigns, when the nobles had to incur exceptionally large expenditures and faced difficulties in borrowing from private sources.

Taqāwī literally implies strengthening. These loans were advanced to peasants to tide them over during natural disasters or to invest in essential irrigation. Similar loans were advanced by Hindu rulers in ancient India. A Mahasthangarh inscription in Bengal, issued around the third century B.C., indicates that the ruler gave loans of seeds and grains to the farmers to tide them over the distress prevailing in the wake of a natural calamity (Ray 1976, 200). During Muslim rule, there were two types of *taqāwī* loans: loans given by the state and loans advanced by revenue officials. Usually no interest was collected

for *taqāwī* loans given by the state. The principal of a *taqāwī* loan was realized either in one installment at the time of the first harvest or in two installments at the time of the first two harvests. Though no interest was charged on *taqāwī* loans, the state benefitted from increased revenue when the expansion of cultivation resulted from the digging of wells and other improvements.

A controversy arose during the reign of Muḥammad bin Tuglug (1325-51) whether *taqāwī* loans constituted an usurious gain to the state. Muslim rulers overlooked the controversy, however, and *taqāwī* loans became a routine practice in South Asia. Interest was, however, charged on *taqāwī* loans advanced by the revenue functionaries. In such loans, the peasants had to pay two *annas* in a rupee (12.5 percent) as profit. It is not, however, clear whether the rate was monthly or for each harvest period. In the case of sugarcane, the charge for *taqāwī* was Rs. 2 per bigha.

A comparison of interest rates in South Asia and Europe during the period 1200-1850 A.D. suggests that interest rates in South Asia were always much higher than their counterparts in Europe. In Europe, interest rates on the average varied between 2 percent to 7 percent during the period 1300-1850 A.D. In the sixteenth century, South Asian-interest on *musāḍādāt*—concessional credit given by the state—varied between 6.25 percent to 7 percent. Obviously, the market rate or interest was over 7 percent during this period. In the corresponding period in Europe, the average annual interest rates varied between 4 percent to 5.5 percent. In the eighteenth century, interest rates in Europe varied between 2 percent to 2.5 percent. In the same period, interest rates for agricultural loans in Bengal stood at 150 percent.

TABLE II

Annual Interest Rates in South Asia and Europe, 1200-1850.

Period	Europe	South Asia
1200-1300 A.D.	7.5% to 10%	—
1300-1400 A.D.	5.6% to 6%	—
1400-1500 A.D.	5%	—
1500-1600 A.D.	4% to 5.5%	<i>Musa'adāt</i> — 6.25% to 7%.
1600-1700 A.D.		Commercial loan in Surat: 6% to 15% Commercial loan in Agra: 9% to 30% Commercial loan in Ahmadabad: 6% to 25% Commercial loan in Deccan: 18% to 36%
1700-1800 A.D.	2% to 2.5%	Agriculture loan in Bengal: 150%
1800-1850 A.D.	2% to 3%	—

Source: (i) For Europe: Homer Sydney, *A History of Interest Rates 2000 B.C. to the present*, (New Brunswick: Rutgers University Press, 1977).

(ii) For South Asia: Irfan Habib, "Usury in Medieval," *In India, Comparative Studies in Society and History* VI, 393-419.

Table 2 also suggests that interest rates for agricultural loans in South Asia were much higher than those for commercial loans. The rates of commercial loans also varied from region to region. Rates of interest on commercial loans in the seventeenth century were low in Surat and Ahmedabad, and were much higher in the Deccan and Agra regions.

A comparison of interest rates in ancient and medieval South Asia indicates that interest rates on agricultural loans went up significantly during the medieval period. In ancient South Asia, the highest permissible rate of interest for an agricultural loan was 60 percent per annum; it increased to 150 percent in eighteenth-century Bengal. However, the rate of interest for commercial activities in medieval South Asia remained within permissible limits. A comparison of Tables I and II indicates that there was in fact a fall in the commercial rate of interest in Muslim India. Another significant difference in the rate of interest between ancient and medieval South Asia is that in ancient period interest

rates varied according to the caste status of the debtor; in the Muslim period caste status ceased to be a determinant of interest rates.

The prevalence of widespread money-lending in South Asia under Muslim rule posed a challenge to Muslim theologians. Some of them unequivocally condemned usury. For example, Amīr Khusraū, the Indo-Persian poet of the thirteenth century, expressed his disgust at a Muslim financier who earned his living from usury and observed that “in no religion, under any circumstances, is the gain of the usurer and gambler regarded as legitimate.” All theologians in Muslim India stressed the harmful effects of usury. None of them, however, recommended its outright prohibition.

The writing of Shāh Wālī Allāh of Delhi (1703–62) on interest rate is a case in point. He justified Islam’s prohibition of interest on three grounds. First, usury is not voluntary. A poor debtor is compelled to accept harsh terms. In most cases the debtors cannot repay the debt and they ultimately become paupers. Secondly, usury is socially harmful because it leads to disputes and conflicts among the people. Finally, usury encourages unproductive activities. Shāh Wālī Allāh was of the opinion that people would abandon farming and crafts altogether if one could increase wealth by lending money without undertaking any physical activity. In spite of these shortcomings, he did not prescribe outright prohibition of interest. He maintained that the temporal authorities had the freedom to decide whether usury should be prohibited altogether or “limits should be set within which they may be permitted” (Habib 1964).

Similarly, Ziaal Dīn Barānī, the fourteenth century historian and political philosopher, denounced usury but did not recommend its prohibition. Implicitly, Muslim theologians in medieval South Asia considered interest to be a necessary evil. On the other hand, popular religious movements of medieval Hinduism viewed usury as a part of the natural order. Kabir, the medieval Hindu mystic, justified God’s claim on man on the ground that “God is a usurer who has lent man his life.” In similar vein, Arjan the fifth Guru of Sikhism sang:

“The Shahu gives countless (capital) of his own to man.

(Man) eats, drinks, and uses it with pleasure and joy.

(But) when the Shahu takes back some of the amount

He has entrusted him with,

The fool becomes angry” (Habib 1964, 419).

III. Conclusion

No other civilization had ever endorsed the practice of money-lending so enthusiastically as did South Asian civilization. No moral stigma was attached

to interest and money-lending; usury in South Asia was considered a part of the natural order. A survey of the concept and practices of interest in South Asia raises several interesting questions. First, why was South Asian civilization so lenient towards the practice of money-lending? Secondly, why were interest rates higher in South Asia than in Europe during ancient and medieval times? Finally, why did Muslim rulers and theologians in South Asia condone the practice of money-lending despite the unequivocal and firm Qur'anic injunction against any gain obtained by the creditor? Available historical sources are silent on these issues. Nevertheless, some conjectures may be in order.

To understand the attitude of a civilization towards interest rates, it is necessary to understand the origins of the concept of interest. Broadly speaking, there were two major concepts of this practice: (i) the biological concept of interest, and (ii) the compensatory concept of interest. The first concept originated in those Near Eastern societies which regarded credit as alive like plants, animals, and people, and therefore capable of reproducing itself (Johnson 1987). This concept arose from loans of seeds and animals. The seeds yielded much larger harvests. Domestic animals multiplied; some part or all of the animal's progeny could be returned for the animal. Since loans could be used for productive purposes, interest was considered legitimate. This concept was later developed by Frank Knight in his instructive image of real capital as a "Crusonia Plant" which grows continuously and autonomously at some over-all proportionate rate — except as portions are excised for current consumption (Hirshleifer 1970, 159). A similar biological image of real capital as a phased collection of maturing consumables was invoked by Bohm-Bawerk. The doctrine of usury in the Middle Age was a revolt against this biological concept. The Latin *usura* means the use of anything, in this case the use of borrowed capital. Hence, usury referred to the price paid for the use of money (Homer 1977, 73). The proponents of this doctrine maintained that loans do not necessarily lead to an increase in production. There was, therefore, no justification for paying more than what is given.

The compensatory concept of interest claims that interest is not a net gain, but rather a compensation due to a creditor because of a loss which he was likely to incur through lending. Literally, the Latin verb *intereo* means to be lost, and the modern term "interest" was a derivative of this verb. Hicks is of the opinion that compensation for default risk is the most important reason for interest in a primitive society. As Hicks points out, "It is easy to see that if there is any doubt about repayment there must be interest, for no one will voluntarily part with money, as a commercial transaction, in return for anything less than a 100 percent probability of the principal being repaid" (1969, 73). The compensatory

concept of interest was enshrined in Roman law, where interest was considered as the difference between the lender's or other injured party's present position and that in which he would have stood if he had not loaned (Homer 1977).

Though the rationale for interest was not clearly spelled out in South Asia, an analysis of Manu's code and Kautilya's *Arthashastra* clearly suggests that the biological concept of interest was unknown in South Asia, and that default risk was the most important determinant of any given interest rate. The *Arthashastra* prescribed higher interest rates for risky loans. Manu says that a lender of money may "take interest in proportion to the risk" (1982 vol. IV, 243). Manu described interest as the price of risk in the following verse: "Whatever interest or price of the risk shall be settled between the parties, by men well-acquainted with sea-voyages or journeys by land with time and with places, such interest shall have legal force (1982, vol. IV, 246). The societies where the compensatory concept of interest was predominant did not condemn interest as reprehensible. On the other hand, interest was prohibited in societies where the biological concept of interest prevailed. This may explain the divergence of views on interest between Judaism, with its biological concept of interest, and Hinduism, with its compensatory concept of interest. In medieval Europe, interest was defended by those who believed that it was not profit but rather compensation for loss (Homer, 1977, 72-3).

The level of interest in a society may be determined by a number of factors such as rate of time-preference, marginal efficiency of capital, psychological factors, risk, demand for and supply of credit, and so on. In South Asia, interest rates were always higher than those in Europe at the same time. Since credit in South Asia was primarily used in subsistence activities, it is unlikely that the marginal efficiency of capital would be higher in South Asia than in Europe. However, one of the major determinants of the rate of interest is the security of property rights (Clark 1988), which were much more well-defined in Europe than in South Asia (Chand 1961). This might have contributed to higher interest rates in South Asia. High rates of interest were not, in the long run, blessings for South Asia; they perpetuated a low-level equilibrium trap where surplus was attracted to money-lending and not to productive investments.

Three hypotheses may be put forward to account for the leniency of the Muslim rulers in South Asia towards money-lending. First, it may be argued that Muslim rulers in South Asia tolerated money-lending because they did not want to antagonize the Hindus – the overwhelming majority of their subjects – by interfering with the time-honored customs on money-lending. There are two weaknesses in this hypotheses. First, orthodox Muslim rulers in South Asia did not hesitate to impose the *jizyah* (poll-tax) on Hindu subjects though it was

intensely disliked by them. If they were so afraid of adverse Hindu public reaction, they would not have imposed this tax at all. Secondly, money-lending was not confined to the Hindus alone, it was widely practiced by Muslims also. Muslim rulers themselves borrowed and lent on interest. Thus, the fear of a Hindu backlash is not the likely cause for the leniency of Muslim rulers in South Asia as regards money-lending.

It may be hypothesized that Muslim rulers in South Asia were indifferent to money-lending because they believed in the separation of the state and religion (Chand 1961, 128-9). This could be true about some Muslim rulers who ran their administration on secular principles, but it cannot explain why orthodox Muslim rulers also acquiesced in money-lending. In fact, usury was so deeply entrenched among the Muslims in South Asia that even the local Muslim theologians implicitly compromised on money-lending.

The real reason for indulgence of Muslim rulers towards money-lending in South Asia is that owing to a chronic deficiency of tax revenues, Muslim rulers frequently had to borrow from indigenous banking firms and money-lenders to conduct military campaigns, trade, construction, *karkhanah* (workshop) production, and personal loans (Leonard 1979). This on-going fiscal crisis was not limited to medieval South Asia alone. As Hicks aptly puts it, "If there is one thing about kings (it is the regular kings and emperors of the history books who are chiefly in our middle phase, in question) — if there is one general thing about them which we seem to learn from the history books, it is that more often than not they were hard up" (1969, 81). Most of the rulers had to borrow from money-lenders or indigenous bankers to survive politically, and their political authority declined as soon as the sources of credit dried up. Since profit-loss sharing is not practicable in the case of government borrowing, Muslim rulers in South Asia had to condone money-lending and usury. Muslim theologians in South Asia seem to have failed in providing a workable solution for government borrowing in an interest-free economy. This continues to be the weakest point of an Islamic economic framework even today. As Khan and Mirakhor (1990) rightly pointed out,

"One problem which both the Islamic Republic of Iran and Pakistan share in common, and which has significantly influenced the performance of Islamic banking so far, is the intractable question of financing government deficits through the financial system. Because government policies in Iran and Pakistan strongly influence the asset acquisition behavior of the banking system, it is far more difficult to judge the efficiency of Islamic banking in allocating the mobilized resources based on the performance thus far of the systems operating

in these two countries. How the system would work in the absence of government intervention is still an open question and one would argue that as yet one has not seen a fair demonstration of Islamic banking (p. 374).”

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THE ASSOCIATION OF MUSLIM SOCIAL SCIENTISTS

The Association of Muslim Social Scientists (AMSS) is a non-profit, professional academic organization. It was founded towards the end of the fourteenth *hijrī* century (1391/1972) for the express purpose of providing a forum for both Muslim and non-Muslim social scientists interested in pursuing Islamically-oriented research and scholarship in the social sciences.

In order to help scholars with their activities, AMSS organizes specialized seminars and an annual conference to help its members keep current on those developments and people who are relevant to their particular fields, and identifies other social scientists who share similar interests. The AMSS then encourages them, through seminars, conferences, and annual convention to discover the many ways in which Islam is relevant to their disciplines.

Membership in AMSS entitles one to receive *The American Journal of Islamic Social Sciences* (AJISS) at no extra cost. This journal deals with the new and exciting field of the Islamization of Knowledge, the relevancy of Islam to modern life, be it personal or professional, and provides guidelines for the re-ordering of the Ummah's priorities away from the current dominant Western secular paradigm and towards an Islamic *tawhīdī* paradigm.

AMSS cooperates in a variety of ways with other research and Islamic organizations with similar goals. In addition, AMSS introduces its members to placement opportunities and explores possibilities of initiation and participation in research projects through active contact with universities and research centers interested in Islam its role in the modern world.

THE INTERNATIONAL INSTITUTE OF ISLAMIC THOUGHT

The International Institute of Islamic Thought (IIIT) is a cultural and intellectual foundation. It was established and registered in the United States of America at the beginning of the fifteenth *hijrī* century (1401/1981) with the following objectives:

- To provide a comprehensive Islamic outlook through elucidating the principles of Islam and relating them to relevant issues of contemporary thought.

- To regain the intellectual, cultural, and civilizational identity of the ummah through the Islamization of the humanities and the social sciences.

- To rectify the methodology of contemporary Islamic thought in order to enable it to resume its contribution to the progress of human civilization and give it meaning and direction in line with the values and objectives of Islam.

The Institute seeks to achieve its objectives by:

- Holding specialized academic conferences and seminars.

- Supporting and selectively publishing works of scholars and researchers in universities and academic research centers in the Muslim world and the West.

- Directing higher university studies toward furthering work on issues of Islamic thought and the Islamization of Knowledge.

The Institute has a number of overseas offices and academic advisors for the purpose of coordinating and promoting its various activities. It has also entered into joint academic agreements with several universities and research centers to implement its objectives.