

**TOWARDS DIVINE ECONOMICS:  
Some Testable Propositions**

By:

Syed Nisar Hussain Hamdani  
Assistant Professor of Economics  
University of Azad Jammu & Kashmir

and

Dr. Eatzaz Ahmad  
Professor & Chairman, Department of Economics,  
Quaid e Azam University Islamabad

December 2002

Submitted to:

Pakistan Society of Development Economists  
PIDE, ISLAMABAD, PAKISTAN

## TOWARDS DIVINE ECONOMICS: SOME TESTABLE PROPOSITIONS

By:

Syed Nisar Hussain Hamdani and Dr, Eatzaz Ahmad\*

### 1.1 Introduction

Throughout the human history, the religion has remained a fundamental feature of social construct and human behavior. Religious orientation plays important role in shaping human perceptions about economic and non-economic activities. With few exceptions, religion has remained an un-exploreable area in economics. For most economists, narrative and metaphor have no place in a rational choice theory, which is a wrong belief. In fact, any approach that considers behavioral laws satisfying the criteria of objectivity, reproducibility, and refutability is scientific and falls in purview of rational choice framework. A few studies, however, do exist on economics of religion under rational choice concerning to households, groups, and entire "religious markets". [Becker 1976; Iannaccone 1988, 1990, 1992, 1993; Mack & Liegland 1992].

Rosenberg (1985) presents discussion of the limitations of neoclassical economic theory due to its reliance on exogenous differences in taste and preference. It is argued that these limitations cannot be circumvented by findings and theories in other disciplines (e.g., psychology), because any measurement of preferences must begin with neoclassical assumptions about rationality. The alternative to taste-endogeneity advanced by Gary Becker, (1976) is found to only circumvent the usual difficulties if "stable preferences" notion is interpreted as needs. Bradley (1980) discussed the economic ideas of Henry George (1980) and their ethical implications. As he writes, "Religion is seen as inseparable from life, and basic for economics. He talks of a system for capitalism based on biblical morality. In the present age of continuing economic crisis, moral and religious principles must be infused into the economic system".

The dichotomy between religion and economics has resulted in reducing the scope of real understanding of human behavior. That is why despite the use of the robust econometric models like AIDS, Translog, Rotterdam, results of studies on consumer behavior were surprisingly away from the real world situation. It is because of the important heterogeneous variables, which have yet received little attention from economists. Such variables may be found in attitudes and values acquired by consumers in variety of social and religious environments.

---

\* The authors are Assistant Professor of Economics at the University of Azad Jammu & Kashmir and Professor & Chairman, Department of Economics, Quaid e Azam University Islamabad. The authors are grateful to anonymous contributors for their valuable comments on an earlier draft.

## 1.2 Objectives and organization of the paper

This paper has two main objectives;

- 1) to briefly highlight the emerging need to study religion and economics in each other's context,
- 2) to put forward economic propositions which may be considered for future empirical analysis.

The paper suggests an outline to model the consumer behavior, which evolves from divine revelations concerning the economic behavior of the mankind. Under the divine economics, the individual faces a planning horizon covering the present life and 'life after death'. Based on the suggested approach, the future research may determine the type and magnitude of effects of religiosity on, for example, time-intensive activities of individuals, groups and sects. Particularly, one may attempt to see variations in economic behavior such as earning, saving, occupational choice, educational preferences etc. across religions and religious sects or individuals with varying levels of religiosity.

The next section reviews existing work with reference to economics of religion or Islamic economics. Section 3 presents economic propositions emerging from faith in an afterlife. It discusses decision horizons of individuals, the Islamic concept of time and overlapping generations, and implications of differences in religiosity across different groups. Section 4 provides guidelines for future research. Section 5 presents summary and concluding remarks.

### 2.1. Economics of Religion

Economics of religion is gradually attracting economists' interest. Now some economists<sup>1</sup> are found to believe that religious activities are also based on economic rationality; otherwise they should have not been undertaken. These activities are chosen in the same way people choose other commodities of choice in order to gaining utility. Iannaccone (1990)<sup>2</sup> Summarize this discussion as under;

*"We hear and talk these days of "religious markets" and 'religious entrepreneurs'. 'Religious consumers' are said to 'shop' for churches much as they shop for cars: weighing costs and benefits, and seeking the highest return on their spiritual investment. 'Religious producers', the erstwhile clergy, struggle to provide a 'commodity' at least as attractive as their competitors. Religion is advertised and marketed, produced and consumed, demanded and supplied" (Iannaccone 1990" P- 297)*

He provides theoretical and empirical reply to those who may dismiss the above analogical statements and finds that economic theory is 'conceptually clean and empirically fruitful'. According to Iannaccone (1990), people alter their religious choices, identities and motivation levels as in any other markets. Religious commodities do have direct and indirect costs. Their demand and supply is also subject to environment at or state variables. There may exist "cheap" or "costly" religions depending on their demands (or required sacrifices) as compared

---

<sup>1</sup> For example Becker, Azzi and Ehrenberg, Greely, Iannaccone, Lancaster, Long and Satttle, Mack and Leigland referred at the end.

<sup>2</sup> Iannaccone (1990)

to promises, which they make to the followers. The religious markets can be monopolistic, competitive, regulated or free.

Some economists have used household production model (Becker 1965) to explain religious behaviors [Azzi and Ehrenberg 1975; Iannaccone 1986, 1988, 1990, 1992, 1993, 2000; Pollak and Watcher 1975]. The religious production is viewed as other productive process. Religious satisfaction (output) is determined by (1) purchased goods (2) household time (3) human capital in similar way as meals, health and recreation. However, like recreation, many of religious commodities are unobservable, but their inputs like own time can be measured.

During the past few decades, the level of religiosity has increased in both East and West. Some of the empirical observations have been placed in economic and other literature. Iannaccone provides the evidence on increase in rate of church membership in America in the past two centuries. Greeley (1989) finds that more than 40% of Americans claim attending church in a typical week, and this figure has remained largely unchanged since the advent of Gallup Polls in the late-1930's. Surveyed religious beliefs have proved nearly as stable as church attendance. The fraction of American's professing atheism remains well below 10%, and the fraction claiming belief in the Bible, heaven, and hell remains high and nearly constant (Greeley 1989).

Similarly, church contributions make up more than half of all charitable donations in the U.S. (approximately 60 billion dollars per year), and the majority of nonprofit institutions is or was religiously based. These are the empirically observable realities about which economic theory has yet to say much. These facts indicate that religion is not unimportant and therefore uninteresting. It has been a force in the personal, institutional, and political life all over the world in one form or the other in all times of the history.

## **2.2 Islamic Economics**

The main point of departure of consumer behavior in Islamic economics from conventional economics is the concept of two lives: life on earth and life after death (Nadvi, 1995). According to Islamic code of life, belief in life after death and the Day of Judgment should have significant influence on economic decision making process of which, for example, time allocation is the most important one. Under Islamic thinking, life on earth is only one (small) part of the whole life. An un-ending life starts after death. "The concept of two lives, in fact is like two phases. The first phase is transitional which begins with the present life on this earth. All of its material conveniences and pleasures will come to an end on an appointed day. From here starts the second phase, the life hereafter which is eternal and endless in terms of life and its pleasure and possessions. This concept of two lives is important to understand in order to explore economic teachings of the Quran" (Nadvi, 1995, p-19)

It is believed that people will be given life again and shall be held accountable for their decisions and deeds performed during the life on earth. There, they will be given reward (may be called highest utility) or Punishment (severe dis-utility) depending on how they acquired and used the resources during life on earth. This belief gives rise to an entirely different perception about planning horizon of a consumer i.e. the consumer considers that the life on earth is not the full life cycle but he/she also includes life after death in the cycle. Hence the lifetime utility becomes sum of utilities of life on earth and utility during the period after death. This aspect of human perception has yet received little attention from economists.

This paper puts forward some economic propositions, which evolve from faith in an 'afterlife'. These propositions need to be tested by economists to capture the time and resource allocation behavior of individuals under religiosity considerations yet in a rational choice framework. The current paper is confined to outline these proposition rather than testing any specific hypothesis.

### **3 Economic Propositions Emerging From Faith in Afterlife**

#### **3.1 Decision horizons of individuals and implications**

A consumer with high faith in afterlife<sup>3</sup> must have a different way of consuming and producing at the marketplace as compared to the consumer having no or little belief. It is the decision horizon of the consumers that shapes their economic behavior. Mack (1982) states, '...Decision horizons are too long, too short, too narrow, or too fixed to be realistic, even after allowing for constraints relevant to household's capability to think in terms of tomorrow [p-107].

The conventional economic theory uses a planning horizon from current period to time of death of individuals or, at the most, it can include the coming generations into the analysis of current economic behavior of individuals. If the individual can consider only current period, his saving (for future) will be zero. Considering a time horizon till death, he may save something during peak work years for old age requirements but his bequests will be equal to zero. If he is able to consider coming generations, his bequests and donations may be positive. This is enough proof that the perception of individual about his planning horizon affects his/her economic decisions.

**Proposition # 1:** *Change in perception about the planning horizon of an individual will alter his/her economic decision regarding present and future consumption, donations and bequests.*

Based on the assumption that the expected stream of benefits does not terminate at time of death because most religions including Islam, promise their followers some afterlife consumption which is viewed as related to allocation before death<sup>4</sup>. We propose to systematically incorporate the belief in 'afterlife' as a factor in economic decision making such as allocation of time and goods. This belief, in fact, changes the perception of individuals and their planning horizon extends so as to include their after death period, that is, period from death to the day of Judgment (*Barzakh*), the Day of Judgment (*Mah'shar*) and the eternal life in heaven or hell (*Jannah or Jahnnam*).

We derive the concept of time horizon from Qur'an (explained below), with which, a Muslim is usually familiar. We will discuss later that his/her economic as well as other activities are influenced (consciously or un-consciously) by belief in this type of time horizon. Figure-1 shows the time dimensions according to Islamic approach and Table-1 explains the precise time horizon in perspective of generations (A to N). It also differentiates between the time horizon of the conventional economics and that 'identified' and used for the present study.

#### **3.2 Islamic Concept of Time**

Time may be only a projection of our own minds in this world of relativity. However, for differentiation of ages, we find at least 3 dimensions of time in the Holly Qur'an. These are;

---

<sup>3</sup> *A Mo'min (true Muslim) sees the things with the light of Allah (Hadith).*

<sup>4</sup> See Azzi and Ehrenberg (1975).

- 1) *Waqt* that means a point time of such as microseconds or sum of many points of time defined as units of time like minutes, days, years, and decades.<sup>5</sup>
- 2) *As'ar* that means era i.e. sum of various times, decades, centuries (present era; stone era; pre-history era etc.)<sup>6</sup>
- 3) It is the time that extends to the time of non-existence of everything except Allah, the Almighty creator.<sup>7</sup> From *Da'hr* other categories of time have been evolved.

These dimensions of time are shown graphically in Figure-1 below. According to conventional economics, a consumer's current decision making can be influenced by only current generation or some future generation issues (Circle-1). Such a consumer is unable to visualize the effect of an era after the current era (Circle-2)<sup>8</sup>. He is also unable to conceive the time beyond all these eras (Circle-3)<sup>9</sup>. Hence his economic behavior cannot be influenced by these two dimensions of time as the consumer has no knowledge or belief about what may happen to him during any subsequent era.

---

<sup>5</sup> An example in Qur'an (2:189) is that "They ask thee concerning the new moons. Say: they are but signs to mark fixed periods of time in (the affairs of) men and for pilgrimage. Another example is (4:103) "When ye are free from danger set up regular prayers: for such prayers are enjoined on believers at stated times" (these are 5 time a day).

<sup>6</sup> The word *Asr* is used in the first verse of Sura Al-Asr, "*By (the Token of) time (through the Ages)*". Yousaf Ali (2002) explains that Al-Asr may mean time through the Ages, or long periods, in which case it comes near to the abstract idea of Time.

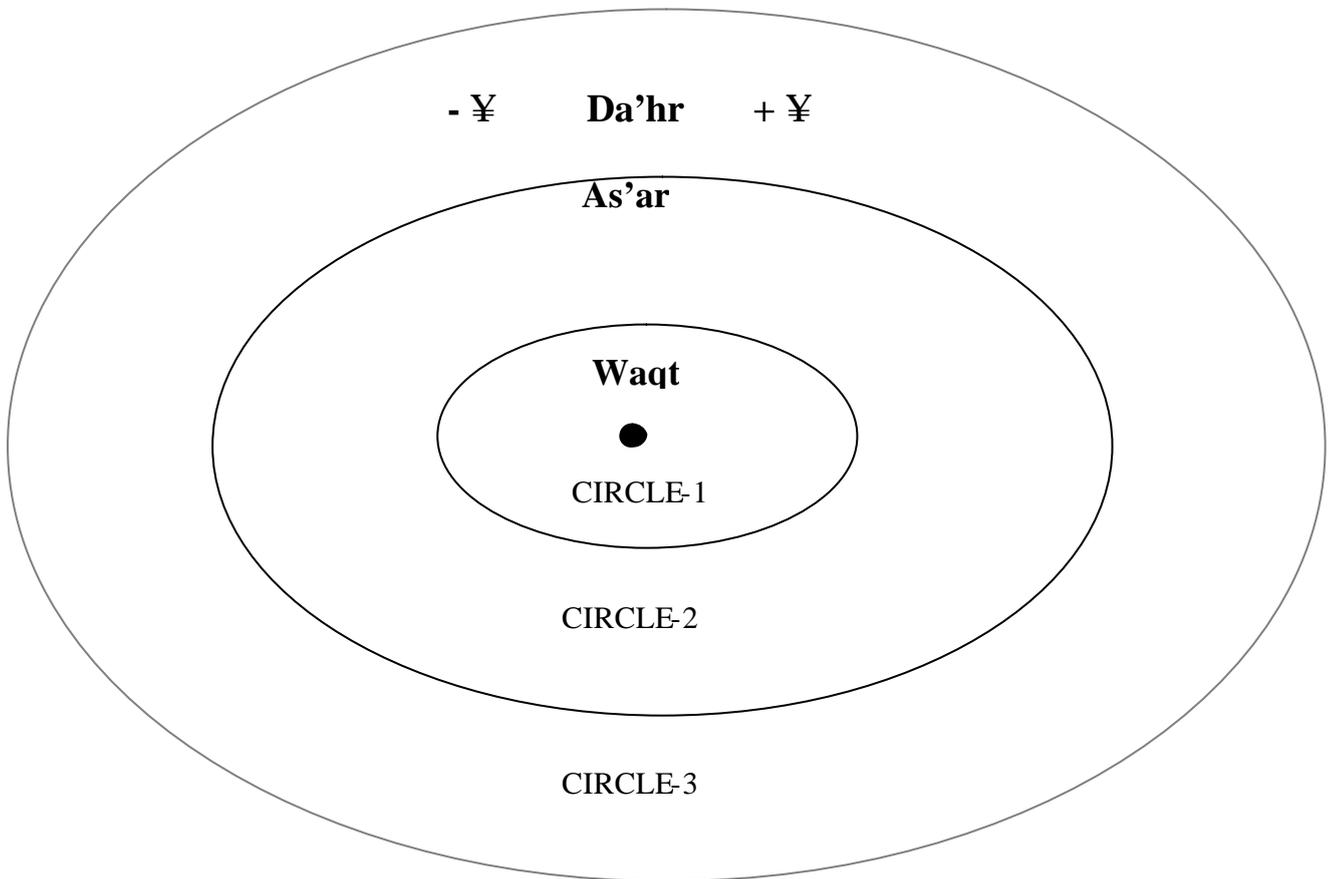
<sup>7</sup> "*Has there not been over Man a long period of Time when he was nothing--(not even) mentioned?*". All creatures are subject to Time, but the Creator is not; (Yusaf Ali (2002) Sura Al-Inam 6; Footnote 896).

<sup>8</sup> In Islamic and particularly in Shia literature, the future history of the globe is divided into 2 main eras; 1) Before appearance of Imam Mehdi (AS) 2) After his appearance till the day of resurrection. A casual observation of the author finds that the true believers of this faith have systematically different time and resource allocation patterns. This phenomenon is yet to be explored.

<sup>9</sup> It is beyond that period when this universe will face the 'big-crunch' in contrast to a believer who perceives that there is an eternal life in heaven or hell for the mankind.

## FIGURE-1: ISLAMIC CONCEPT OF TIME DIMENSIONS

(Derived from Qur'an)<sup>10</sup>



---

Source: Hamdani (2002b)

For simplicity, only 3 circles have been drawn; in fact, an infinite number of circles are implicit in each category of time (Waqt, As'ar and Da'hr). Da'hr extends to minus infinity. In some Islamic literature it is also considered as a 'time which was created' and the time before creation of such a time is called 'Azzal' which is beyond the capability of human conception (Muntaziri, 1987, p-215-17)

---

<sup>10</sup> Quran uses different words about these 3 dimensions of time such as *Heen or waqt* ((15:38, 4:103), *waqtal maloom* (15:38) *Lamhil basar*, *As'ar* (103:1), and *Da'hr* (76:1).

### 3.3 The Islamic Concept of Overlapping Generations and Time Horizon

The concept of overlapping generations is known in economics [Allis (1947), Samuelson (1958), and Diamond (1965)]. It is the basic model used in micro-based macroeconomics. The name implies the structure: at any one time individuals of different generations are alive and may be trading with one another, each generation trades with different generations in different periods of its life, and there are generations yet unborn whose preferences may not be registered in current market transactions. The model is widely used because it makes it possible to study the aggregate implication of life-cycle saving by individuals. The capital stock is generated by individuals who save during their working lives to finance their consumption during post retirement period. The determinants of the aggregate capital stock as well as effects of government policy on the capital stock and the welfare of different generations are easily studied. The model can be extended to allow for bequests, both intentional and unintentional.

The Islamic concept of overlapping generations is wide in scope and time horizon. Table-1 explains the simultaneous existence of various generations at a time as follows. Islam describes various stages of human life<sup>11</sup>. The stages of mankind have been shown horizontally from 0 to 7 and the time periods have been shown vertically from 0 to 7. In period 0, as the Muslims believe that man was in stage 0 i.e. 'non-existence stage. It was only in the will of Allah to create mankind. In period 1, the souls of the whole mankind were created. For simplicity, we assume that souls of A to N generations were created. In period 2, A was in stage 2 (child) and B, C, D, ..E..N were yet in stage 1 as soul. In period 3, A was young and B was child and C, D, E, ..N were still as souls. In period 4, A was old, B young and C a child. In period 5 A was died and living in a state known as '*Barzakh*'<sup>12</sup>, B was old C young and D child. Period 7 shows that A, B and C are died after old age, whereas D and E to N died without completing their full life cycle. In period T+1 (stage 6), every man/generation (A..N) will be given life again and will be made accountable about deeds during stages 3 and 4 (i.e. period of youth and old age). Based on the balance sheet of good and bad deeds, he will be placed in heaven or hell during the 7th stage (period T+2)<sup>13</sup>. The duration of stage 0 and 7 are non-conceivable by the available human perception or scientific capability. The simultaneous existence of many generations of man is explained in figure below:

---

<sup>11</sup> Some other religions also have similar theology.

<sup>12</sup> Called purgatory that means place of the dead.

<sup>13</sup> The science takes material to be indestructible. The human body made of material exists in one or the other form after death. All the divine religions believe in the existence of an element called spirit or soul which feels the pang of sorrow or waves of happiness. The soul is satisfied if man has achieved the life goal for which the man was created i.e., living a life in a manner ordained by Almighty Allah and earn His pleasure.

**TABLE-1: CONVENTIONAL VS. ISLAMIC TIME HORIZON OF A MAN**

(Derived from the Holly Quran)<sup>14</sup>

PERIOD	STAGES OF MAN							
	0	1	2	3	4	5	6	7
	Before life on earth		Life of earth			Life after death		
	None existence	SOUL	CHILD	YOUNG	OLD	DIED & LIVING IN BARZAKH	DAY OF JUDGEMENT	LIFE IN HEAVEN OR HELL
<b>0</b>	None							
<b>1</b>		ABCDE..N					A B C D E ...N	A B C D E ...N
<b>2</b>		BCDE..N	A					
<b>3</b>		CDE..N	B	A				
<b>4</b>		DE..N	C	B	A			
<b>5</b>		E..N	D	C	B	A		
<b>6</b>		..N	E	D	C	B		
<b>T</b>			..N	E	D	C, D, E..N		
<b>T+1</b>								
<b>T+2</b>								
			Infinite secular time horizon in conventional economic models			Infinite Islamic time horizon in the proposed model		

Source: Hamdani (2002b).

Note: A to N represents individuals/generations A to N. For elaboration it is assumed that individuals/generations A, B, and C complete the full life cycle on earth i.e. these are child, young and old before death whereas individuals/generations E..N represent those who die during childhood or young age. For discussion on the Islamic concept of the stages of mankind from none-existence to life in heaven or hell, please see Muntaziri (1987, p-97-105; 109, 126, 215-17)

<sup>14</sup> See concepts and references in Section 3.2 and footnotes above.

The Islamic concept of time horizon and existence of generations as explained above has several implications. A rational Muslim who accepts all the stages of Islamic time horizon, will take economic decisions keeping in view their pros and cons for the 'Barzakh' day of judgment and eternal life thereafter. It implies that economic decision making of Muslims consumers must be *systematically* different from others. Also a the economic behavior of a Muslim having high level of religiosity must be *systematically* different from that having low level of religiosity. However, the mainstream economics does not distinguish such consumers from each other<sup>15</sup>. So economist need to identify a new framework and an additional set of parameters to study real economic behavior of human being.

### 3.4 Individuals' Groups Regarding Religiosity Level

Present study observes that individuals having high, moderate and low religiosity exist every society including any Islamic society. The reason for their different levels of religiosity lies in their lack of Islamic knowledge or practice. This is quite obvious that every believer is not necessarily a truly practicing believer. A large majority of followers of all religions including Islam belong to those who practice their religion partially. Therefore, to analyze the economic behavior in religiosity context, one needs some qualitative and quantitative 'religiosity scales' in order to divide these followers of religion into 'more religious', 'moderate' and 'less religious' groups. These groups are explained below.

We know from our knowledge of history, sociology and Islamic literature that different individuals in every society may be grouped into 3 main or 5 sub groups as shown in Table-2.

**TABLE-2: TYPES OF INDIVIDUAL ACCORDING TO RELIGIOSITY LEVELS**

In all societies	In Muslim Society	
1- More Religious	1- <i>Muttaqi</i> 2- <i>Mo'min/saleh</i>	Explicitly & Implicitly more pious Good/pious
2- Moderately Religious	3- <i>Muslim</i>	Moderate
3- Less Religious	4- <i>Fasiq/aasi</i> 5- <i>Faajir</i>	Bad Explicitly & implicitly Bad <sup>16</sup>

*For more details on Arabic Terms and concepts used in this table, please see Qadri (1994)*

More religious people are known to have thoroughly positive attitude, good behavior, excellent religious practices, honest dealing and dependable personalities. Moderate are those who are known to be Muslims; they act upon many Islamic principles, observe many rules, but also disobey some other rules and are insensitive to teaching of Islam. Less religious are those who are known to be Muslims, casually or partially observe some of the Islamic principles, but are also corrupt, voluptuous ruling and shariha voilating.

<sup>15</sup> Although Charity and voluntary behaviors are prevalent among non-believers also but it is systematically different among believers. [See Iannacone 1990, 1993; NSGVP 2000]

<sup>16</sup> There is a sixth category, 'hypocrites' or opportunist i.e. *Munafiq* who is also a Muslim but can pose himself into any of the above five categories in accordance with the circumstances.

We also know that each type of person has distinct socioeconomic behavior although partial similarities would also exist. Moreover, religion certainly affects individuals' and their behaviors. Hence life outcomes in terms time and monetary inputs and resulting levels of satisfaction differ from one type of individuals to the other. Economist needs to identify and analyze the difference across these groups of people by using some yardstick of religiosity levels.

**Proposition # 2:** *A more religious person will have a wider planning horizon as compared to a less religious person and both will display a systematically different economic behavior when other things are constant.*

**Proposition # 3:** *Other things constant, the economic behavior of more religious can not be the same in all situations as that of less religious explicitly and implicitly bad people) because the former consider economic as well as normative aspects of goods and services to be produced, consumed and traded.*

### 3.5 Measuring Religiosity

Religiosity or religious orientation of a person is a subjective thing. There is no hard and fast rule to measure it. However, various quantitative and qualitative indicators may be used to measure relative religious strength of a person. For example, offering prayer is obligatory to every adult Muslim in every circumstance (without fail).<sup>17</sup> Therefore, the number of prayers offered in a month out of 150, is one such indicator. Reciting religious hymns/phrases known as *Kalima* and "*darood*" are fundamental to all Islamic acts<sup>18</sup>. A non-Muslim has to recite *Kalima* for converting into a Muslim. A Muslim is also required to keep on repeating this *kalima* as many times as possible to get more and more purified in faith. Similarly, it has been ordained that all supplications to Allah should start and end with '*darood*'. So reciting more *darood* is an indicator that the person has more religious interest. Similarly, the amount of resources spent in the way of Allah is another quantitative indicator.

However, a precaution is important here; doing these acts does not necessarily mean that the individual in question is truly more religious. Any single quantitative indicators may or may not reveal the true religiosity of a person. For example, there is a possibility that a regular performer of prayers may be a dishonest person also. To overcome this problem and construct a religiosity measurement scale of an individual, economists need a number of quantitative as well as qualitative indicators. These indicators may be derived on the basis of Islamic classification of activities given in Table-3 below.<sup>19</sup>

---

<sup>17</sup> If the person is not healthy enough to offer prayer in a normal way, he is advised to offers in sitting or lying positions or even by gestures only.

<sup>18</sup> '*Darood*' means repetition. It is related to sending '*salam*' or glory to the Holy Prophet (PBUHAF). It is different from '*Zikr*' and '*Wazaif*'. '*Zikr*' is remembrance of Allah the Almighty for the sake of salvation. *Wazaif* relate to repetition of passage of Holy Qur'an or prescribed words to gain something or to avert some misfortune.

<sup>19</sup> Any daily activity in Islamic (as well as secular) society falls under one of the 5 categories indicated in the table-3.

**TABLE-3: ISLAMIC CLASSIFICATION OF ACTIVITIES REFLECTING  
ONE'S RELIGIOSITY**

	<b>TYPE</b>	<b>MEANING</b>
1.	<i>Wajib</i>	obligatory
2.	<i>Mustahab</i>	not obligatory but liked
3.	<i>Mubah</i>	allowed; neither liked nor disliked
4.	<i>Makrooh</i>	not prohibited but disliked
5.	<i>Haraam</i>	prohibited

*See Hamdani (2002b) for more details of Arabic Terms.*

According to this classification, more religious persons will have higher rates of choosing to act upon all the obligatory activities and most of the *Mustahab* activities and lower rates of choosing prohibited and disliked activities in contrast to the less religious people who will act in reverse order. The moderately religious people may have a mix of all. The 'hypocrites' or opportunist can artistically pose to perform *Wajib* or *Mustahab* even when they don't actually like to do so<sup>20</sup>.

Examples of activities relating to consumption, donations, leisure, voluntary work and religious participation which fall under each of these 5 types from obligatory through prohibited, have been provided in the appendix 3. All these activities can be produced with the combination of purchased goods, own time and specific skills. However, their choice and extent would depend on the individual's current level of faith in afterlife or religiosity<sup>21</sup>.

Keeping in view these types of activities, we have formulated various methods of assessing one's religiosity level from different perspectives such as his economic choices, religious practices, social habits, personal thoughts, and conviction etc. We will call them 'religiosity scales'. We have prepared such religiosity scales using religious literature cited at the end as well as knowledge of human behavior and psychology. Based on these scales, we classify them in more religious, less religious or moderate groups.

**Proposition # 4:** *Religiosity is a subjective characteristic of people which can not be accurately measured. However, it can be proxied as 'religiosity scales' with the help of distinct and peculiar characteristics of explicitly and implicitly good, explicitly and implicitly bad and hypocrite people. In other words, religiosity can be proxied from the activities revealed to be preferred by the individual in a given setting.*

<sup>20</sup> This is the one reason why socioeconomic data with reference to religiosity of people is notoriously poor.

<sup>21</sup> Studies concerning church attendance also show similar patterns (Iannaccone, 1988,1990, 1993).

## Implication of Differences in Religiosity across different Groups

We know from the facts of human life (and other creatures) that it has a minimum and a maximum survival period<sup>22</sup>. One is unable to die earlier than a specific moment and unable to survive beyond that moment.<sup>23</sup> However, we know from the medical sciences<sup>24</sup> that one can prolong his survival period from the minimum survival time to the maximum possible survival time based on his/her health habits, hygiene practices and psychological behavior. In Qur'an, the minimum and maximum limits of life, fixed by divine in "Loh e mehfooz" which are beyond the control of human being, are known as 'Ajal' and limits attributable to human deeds are known as 'Ajal-e-musamma' (6:2; and 71:4). Both Qur'an and Hadith present a number of parameters, which can prolong one's life (other things being constant). For example' a nice and foregoing behavior with relatives (known as Sila e rehmi) and the act of volunteering are two such things which may prolong one's life (Najfi, 2001).<sup>25</sup>

The implication of this concept is clear: If the economist is interested in pleasure derived from goods or commodities themselves only, then the conventional value-free economic analysis is reasonable and internally consistent. But if the economist does not ignore the correlation of commodities with their immediate as well as ultimate impacts of consumption pattern on the length and quality of human life, then need arises to identify the religious and other values of individuals causing typical mindsets and typical socio economic behaviors. This would lead to formulation of a utility function representing not only the 'economic man' but also the 'real man'. Subsequently, the economic models will include religious variables that can systematically alter the whole economic analysis of more religious and less religious economic agents.

**Proposition # 5 :** *Since human pleasure is not only a function of goods and services consumed, but also of the overall quality of life which is interdependent with the nature of the goods and services consumed (prohibited or allowed; normatively good or bad), therefore, a more religious person's utility function must be viewed from the perspective of desirable (normatively good or bad) characteristics of such goods and services.*

Another implication of the Islamic time horizon is that it leads an individual to keep in mind the 'ultimate disposals of assets accumulated during the life cycle on earth. As stated in Islamic literature, these are two<sup>26</sup>:

- 1) Accidental losses
- 2) Legal or illegal heirs

Both these disposals indicate that the accumulator himself will retain nothing when he dies. Islam clearly guides the individual that he has to go empty handed from this world regardless of his volume of accumulated assets; therefore, he should remain contented while making economic decisions. This puts a moral constraint on his/her corruption or greed-oriented activities.

---

<sup>22</sup> No one was born out of his own timetable nor he could survive beyond a certain time if one does not want to die.

<sup>23</sup> See Qur'an for example 6:2; and 71:4.

<sup>24</sup> Spiritual science also claims the same.

<sup>25</sup> Probably because with these two habits, one may gain true happiness, respect and warm behavior of others.

<sup>26</sup> See Nehjul Bilagha p.910.

In Islam, Allah and the Hereafter are not merely postulates of morality. They determine very much the meaning and content of ethical concepts and values. Moreover, Islam despite introducing moral constraint on individuals lets them free to produce and consume what they want and to the extent they desire. Hence, it does not discourage initiatives. It just channelizes the individual towards a destiny-oriented economic activity blended with decent behavior at the marketplace and lawful efforts for increasing one's wealth<sup>27</sup>. Once the individual has accumulated some wealth, Islam guides and motivates him to invest at least part of it to achieve some altruistic intentions.

**Proposition # 6:** *A more religious person clearly knows what is obligatory (Wajib), prohibited (Haram) or allowed (Mubah). Hence, he will consume, produce and accumulate assets in an ordained manner. Therefore, he is likely to leave behind more 'intentional bequests' and 'donations' as compared to his counterpart (less religious person) who may or may not leave intentional bequests.*

These and other propositions <sup>28</sup> may be empirically tested for which an outline is presented below.

#### **4. Guidelines for Future Research**

To model the consumer behavior who is maximizing his lifetime utility through allocation of scarce time (24 hours a day), one may start even with a general Neo-classical model or the Home production function. However, as suggested in an earlier study (Hamdani, 2002) it can be extended in order to systematically incorporate the proposed planning horizon i.e. 'life after death' under relevant religious concepts. The model was called 'Faith Model'. The formulation of the 'faith model' is discussed below. The consumer problem under the faith model is to:

**choose:** {the amounts of time to devote to market activities, personal care and leisure, home activities, religious activities and societal activities }

**to maximize:** {the utility from accomplishments of goals relating to body and soul}<sup>29</sup>

**subject to:** {total household time resources; 24 hours a day }

A multi-stage budgeting process is suggested for this type of study. The figure below explains the proposed multi stage modeling required for such a study:

The individual of faith-model is rational in conventional sense. That is, he chooses activities or commodities (good or bad) which maximize his total satisfaction from alternative use of available time (24 hours). He may have some religious and normative characteristics<sup>30</sup> as it is required to succeed current life or life hereafter. Therefore, he is likely to substitute some part of personal consumption (C) to charitable donations (D) and part of his market time (M) and personal leisure time (P) to religious activities (R) and voluntary activities (V).

---

<sup>27</sup> Increasing wealth for self-satisfaction only, may lead to greed and corruption whereas increasing wealth for both self and others may lead to content. "Those who spend their wealth for increase in self-purification and have in their minds no favor from anyone for which a reward is expected in return, but only the desire to seek for the countenance of their lord most high --- soon will they attain complete satisfaction"(Sura Lay1 92; 18-21)

<sup>28</sup> see Hamdani 2002

<sup>29</sup> Or relating to 'person' and 'personality' where the former represents material and the later represents social or moral content of any individual.

<sup>30</sup> These are measured by a scale between zero and 100.

With this background, the utility function under of the proposed model appears to be of the form;

$$U_1 = f\{M, L, H, V, R\}$$

where

U = satisfaction from daily activities (working, sleeping, enjoying, volunteering or praying) of individual human resource.

M = time allocated to wage/market activities like job in government or private organization, running own enterprise or farm, working part time, managing household, working casually as commission agent, consultant etc.

L = time allocated to personal passive leisure like rest and sleep. It is net of total leisure minus the time allocated to collective/active leisure or home production (h) like sharing with wife, gardening and cooking, coaching to children, watching TV along with family etc.

V = time allocated to voluntary work for benefit of human being

If the money value of the market activities M is translated into commodities, we can write this utility function as

$$U_2 = f\{C, D, L, V, R\}$$

where C is vector of commodities used by the individual for his own/family needs and D is vector of commodities used for satisfying needs of other human being (D may be called charitable donations). If this utility function for period t is strictly quasi-concave, linear-homogeneous in non-committed quantities, quasi linear-homogeneous in gross quantities and multi-stage budget approach is followed, we can derive the following demand functions in three stages (detailed derivations of each stage may be obtained on request):

$$Z_j^* = C_j^\circ + F_j^C(W_j, W_j + P_j, W_j + Q_j) \left( \frac{1+r}{1+d} \right)^{j-t} \frac{H_t + A_t - H_t^\circ - A_{nt}^\circ}{\sum_{j=t}^n (1+d)^{t-j} + b + g}$$

where  $Z_j$  is demand for  $j$ th activities such as voluntary work, religious participation, leisure, consumption and donations which may be chosen from the available daily time.

The equation for religious activities under this formulation will look like;

$$R_j^* = R_j^\circ + F_j^R(W_j, W_j + P_j, W_j + Q_j) \left( \frac{1+r}{1+d} \right)^{j-t} \frac{H_t + A_t - H_t^\circ - A_{nt}^\circ}{\sum_{j=t}^n (1+d)^{t-j} + b + g}$$

The demand functions consumption, donation, leisure, voluntary work and religious activities as derived from this formulation give the relationship between time-allocation variables leisure (L= active leisure + passive leisure)<sup>31</sup>, voluntary work (V), and religious activities (R)

---

<sup>31</sup> Leisure has two forms; a) passive leisure that is rest and sleep and b) active leisure that is watching TV, sharing with wife, or gardening etc.

and a number of socio economic and demographic variables like age (A), wages (W), out of pocket expense on religious activities (P), out of pocket expense on voluntary activities (Q), rate of interest (r), subjective discount rate ( $\delta$ ), financial human capital of a human resource (H), present value of assets at time of death which may be divided into bequests and donations at the time of death.

## 5. Summary and Concluding Remarks

The present study attempted to put forward certain economic propositions, which originate from one's religious behavior. These propositions throw light on some heterogeneous variables affecting consumer behavior, which have yet received little attention from economists. The paper also provides some guidelines for future research on religiosity and economic behavior. The paper suggests an econometric procedure to model the consumer behavior, which evolves from divine revelations concerning the economic behavior of the mankind. Under the divine economics, the individual faces a planning horizon covering both the present life and 'life after death' in contrast to the conventional economics, which bears no significance for afterlife. Based on the propositions and approach outlined by the present paper, the future research may determine the type and magnitude of effects of religiosity on, for example, time-intensive activities of individuals, groups and sects. Particularly, one may attempt to see variations in economic behavior such as earning, saving, occupational choice, educational preferences etc. across religions and religious sects or individuals with varying levels of religiosity.

We conclude that to maximize total utility of current and afterlife from all the different activities, a consumer is likely to substitute some part of personal consumption to charitable donations and part of his market time, personal leisure time and home time to religious activities and voluntary activities<sup>32</sup>. Besides this substitution, he is also likely to proportionately divide time among all (not some) of these activities (market work, social or voluntary work, religious duties, personal leisure and home time because Islam ordains him/her to keep balance in all acts<sup>33</sup>. However, proportion may vary from person to person in accordance with the relative needs or normative settings of the people under study. Thus, with inclusion of such variables in the economic analysis, the scope of economic model expands further to cover the taste-differences in observed religious, charity and voluntary behavior.

As is may be noted from the preceding discussion that the proposed framework offers many advantages; i) it provides opportunity to analyze income, substitution, and cross effects for resource allocation between religious and other activities ii) it does not dichotomize Islamic economics and rational choice theory iii) it provides thought provoking propositions which may be focussed by economists for further empirical testing in future iv) the resource allocation pattern suggested by the faith model which addresses accomplishments of goals relating to both body and soul of mankind is general in the sense that it represents the fundamental principle of all divine religions and paves the way for emergence of a Divine economics.

---

<sup>32</sup> The complete econometric derivation of the proposed model that integrates the religious (particularly Islamic) behavior into traditional utility theory to determine the effects of standard economic variables on time allocation behavior under various religiosity conditions, is available in Hamdani (2002b, Chapter 5).

<sup>33</sup> See the author's paper Hamdani and Ahmad (2002) 'Optimizing Human Resources in Islamic Management', presented at 2nd Islamic Management Congress Tehran, May 2001.

## REFERENCES

- Ahmad, Khurshid, (1980) 'Studies in Islamic Economics' ICRIE, K. A. University, Jeddah.
- Al-Hadith (Si'ha-e-Sitta'h of Sunni sources and Kutub-e-Arba'h of Jaffaria sources)
- Ali A.S. , Nehjul Bilaghaha translated in Urdu by Syed Razi, published 1974
- Al-Qur'an (translations by Maoulana Maudoodi, Abdullah Yousaf Ali, Imdad Hussain Kazmi, Ahmad Raza Khan Brelvi, Nasir Makaram Shirazi)
- Azzi, Corry and Ronald Ehrenberg. 1975. "Household Allocation of Time and Church Attendance." *Journal of Political Economy* 84(3): 27-56.
- Becker, Gary S. 1976. *The Economic Approach to Human Behavior*. Chicago: University of Chicago Press.
- Bible (revised Urdu version 1993), Pakistan Bible Society, Lahore
- Bradley,-Preston, "Henry George, Biblical Morality and Economic Ethics: Some Conclusions from a Lifetime's Study of the Relation between Ethics and Economics" *American-Journal-of-Economics-and-Sociology*; 1980, 39, 3, July, 209-215.
- Brendt, E. R. (1991). *The Practice of Econometrics: Classic and Contemporary*. Reading: Addison. Wesley Publishing Company.
- Chapra,M.Umar (1992) *Islam and Islamic Challenges*, The Islamic Foundation, Leicester,U.K.
- Choudhury, M.A (1982) *The Principles of Political Economy: A methodology Inquiry*, McMillan Press Ltd. New York NY:St Martin's Press.
- Deaton, A. and J. Muellbauer (1980 b). *Economics and Consumer Behaviour*. Cambridge: Cambridge University Press.
- Ehrenberg, Ronald G. 1977. "Household Allocation of Time and Religiosity: Replication and Extension." *Journal of Political Economy* 85 (2): 415-423.  
February 1977,67,219-25.
- Finke, Roger and Stark, Rodney. 1988. "Religious Economies and Sacred Canopies: Religious Mobilization in American Cities, 1906." *American Sociological Review* 53(1): 41-49.
- Finke, Roger, and Stark, Rodney. 1992. *The Churching of America 1776-1990: Winners and Losers in our Religious Economy*. New Brunswick, NJ: Rutgers University Press.
- Gill, Anthony J. 1992. "Responses to Authoritarianism: Religious Competition and Church-State Relations in Latin America." Paper presented at the meetings of the Western Political Science Association, San Francisco, CA.
- Greeley, Andrew M., and Durkin, John T. Jr. 1991. "A Model of Religious Choice under Uncertainty." *Rationality and Society* 3(2), April: 178 - 196.
- Greeley, Andrew M., McCready, William C., and McCourt, Kathleen. 1976. *Catholic Schools in a Declining Church*. Kansas City: Sheed and Ward.
- Hamdani, Syed Nisar Hussain and Ahmad, Dr. Eatzaz, (2002), "Optimizing Human Resources in Islamic Management", paper presented at 2<sup>nd</sup> Congress on Islamic Management, IA University Tehran, May 2002.

- Hamdani, Syed Nisar Hussain (2002b), "Religious Orientation as a Factor in Time Allocation", Ph.D. Dissertation submitted to the Department of Economics, QAU, Islamabad.
- George, Henry Biblical Morality and Economic Ethics: Some Conclusions from a Lifetime's Study of the Relation between Ethics and Economics, *American Journal of Economics and Sociology*; 1980, 39, 3, July, 209-215.
- Hoge, Dean R. and David A. Roozen, eds. 1979. *Understanding Church Growth and Decline: 1950-1978*. New York: The Pilgrim Press.
- Hornik, -Jacob; Zakay, -Dan, Psychological Time: The Case of Time and Consumer Behavior, *Time and Society*; 1996, 5, 3, Oct, 385-397. 1996
- Iannaccone, Laurence R, (2000) "Household Production, Human Capital, and the Economics of Religion" Santa Clara University, Santa Clara, CA 95053, available on internet.
- Iannaccone, Laurence R, (2001) "Skewness Explained: A Rational Choice Model of Religious Giving" Santa Clara University, Santa Clara, CA 95053, available on internet.
- Iannaccone, Laurence R. 1988. "A Formal Model of Church and Sect." *American Journal of Sociology* 94 (supplement): s241-s268.
- Iannaccone, Laurence R. 1990. "Religious Participation: A Human Capital Approach." *Journal for the Scientific Study of Religion* 29(3):297 - 314.
- Iannaccone, Laurence R. 1991. "The Consequences of Religious Market Structure: Adam Smith and the Economics of Religion." *Rationality and Society* 3 (2): 156-177..33
- Iannaccone, Laurence R. 1992. "Sacrifice and Stigma: Reducing Free-Riding in Cults, Communes, and Other Collectives." *Journal of Political Economy* 100(2): 271-291.
- Laurence R. Iannaccone, 1993, *Rational Choice: Framework for the Scientific Study of Religion*, Santa Clara University, Santa Clara, CA 95053, available on internet.
- Iannaccone, Laurence R. 1995b. "Risk, Rationality, and Religious Portfolios." *Economic Inquiry* 33(2): 285-295.
- Kirman, Syed Mohammad Ghiasi, (1999), 'The Government of Imam Mehdi and the Last Era of the Universe', Intisharaat e Noorguster, Iran
- Klevmaren. N. Anders, (1998), *Microeconomic Analysis of time use data. Did we reach the promised land?* JEL 05-15.
- Long, Stephen H., and Russell F. Settle. 1977. "Household Allocation of Time and Church Attendance: Some Additional Evidence." *Journal of Political Economy* 85 (2): 409-413.
- Lancaster, Kelvin, 1966 "A new approach to Consumer Theory," *Journal of Political Economy*, 74,132-57.
- Mack, P. Ruth and T.J. Leigland, (1992) 'Optimizing' in Households, Towards a Behavioral Theory', *The American Economic Review, Papers & Proceedings*.
- Maudoodi (1978), *Tafheem-ul Qur'an*, vol. 1-6
- Menchik & Wiesbrod (1987), Volunteer Labor Supply, Journal of public Economics Vol 32, pp. 159-183*
- Michael, Robert T., and Becker, Gary S. 1973. "On the New Theory of Consumer Behavior." *The Swedish Journal of Economics* 75 (4): 378-396.

Moqaddima Ibn-e-Khuldoon

Naqvi, Syed Nawab Haider, "Ethics and Economics: an Islamic Synthesis", The Islamic Foundation. UK, 1981.

Najfi, (2001), Guftar e Dil Nasheen, Forty Sayings of the Fourteen Infallibles (Mohammad PBUHAA to Imam Mehdi AS), Translated in Urdu by Roshan Ali Najfi.

NSGVP (2000), National Survey of Giving, Volunteering and Participating, National Center for Philanthropy, Canada

Pencavel, (1986 ed.), Handbook of Labour Economics, Vol. I, Elsevier Science Publishing, BV.

Pollak & Watcher (1975), The Relevance of the Household Production Function and Its Implications for the Allocation of Time, JPE, vol. 83, no. 2.

Qadri, Tahir-ul, (1994) Tabqat-ul-Ibaad (Categories of Men), Minhaaj-ul-Qura'n Pakistan.

Rosenberg,-Alexander, "Prospects for the Elimination of Tastes from Economics and Ethics" Social-Philosophy-and-Policy; 1985, 2, 2, spring, 48-68.

Schwartz, Robert A. Personal Philanthropic Contribution, Journal of Political Economy (PP 1276-1291), (year unknown).

Sirianni,-Carmen-J., "Economies of Time in Social Theory: Three Approaches Compared" Current-Perspectives-in-Social-Theory; 1987, 8, 161-195.

T. P. Hughes, Dictionary of Islam.

Yousfi (1957) Kuliyaat e Iqtisad e Islami, Nashre Khurram, Iran . p-111

#### **Computer CDs**

Alim, (2002), The World's Most Useful Islamic Software, Version 4.51.. 4 in one.

Mufateeh ul Jinaan (2001), Islamic Multimedia Software (Urdu)

Al-Qur'an (2000) Qur'an Software

QF (2001) Islamic Resources, Qur'an Foundation, Karachi (Undated release in 2001)

SPSS Statistical Help Manual, in SPSS 10.0

E-Views Econometrics Help Manual in E-views 3.1 version.

Dr. Faiz Bilqees  
PIDE/PSDE  
Islamabad

**SUB: SUBMISSION OF PAPER**

Dear Madam,

Please find enclosed the copy of our paper “Towards Divine Economics: Some testable propositions”.

With best regards,

Syed Nisar Hussain Hamdani  
Assistant Professor Economics  
University of Azad Jammu and Kashmir  
Muzaffarabad

Copy To: Dr. Eatzaz Ahmad (co-author)

**Personal information**

Syed Nisar Hussain Hamdani  
Assistant Professor Economics  
University of Azad Jammu and Kashmir  
Muzaffarabad  
Phone: 058810-46523  
e-mail: nisar\_hamdani@hotmail.com

Dr. Eatzaz Ahmad  
Professor & Chairman  
Department of Economics  
QAU, Islamabad  
e-mail:  
eatzazahmad@hotmail.com