

Islamic Consumer Model, Fairness Behavior and Asymptotic Utility

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Abstract

Islamic faith and the ethical dimensions of the individual and the community play a

significant role in guiding economic behavior by connecting the worldly life to the hereafter.

The Shariah-compliant faith and ethical values generate specific behavior that requires Halal

earning, fairness in spending and Halal utility leading to materialistic satisfaction and

metaphysic reward. To analyze the Muslim consumer utility, in addition to the Islamic

economics heritage, we rely on the instruments and prevailing assumptions in economics.

Shaibani's (750-805 AD) analysis of earning/spending/utility is based on three successive

layers of earning/spending/utility; namely, the imperative, recommended, and the permissible.

In this paper, we firstly contribute to developing a measure of the overspending and

underspending. Secondly, based on the social solidarity, we show that the marginal earning

has an effect on the macro MPC and depends mostly on the first differences between the MPC

of the lower and upper social groups. Thirdly, according to the social welfare function, the

permissible marginal utility is related to the faith interaction driving to an efficient transfer of

purchasing capabilities to the targeted group. The optimal faithful behavior of affluent group

leads, in the worldly life, to an elasticity of marginal utility less than or equal to one. The

belief holding produces a hidden support in the worldly life but also engenders hereafter

rewards through a steady eternal utility function, which generates an optimum of the marginal

utility with elasticity greater than one.

Keywords:

Belief, Faith, Ethics, Consumption spending, Halal utility, Halal earning, Shaibani, Fairness.

JEL codes: A13, B41, D11, D6, H3, I3, K4, N45, P46, Z12

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1. Introduction

We cannot develop ethical dimension and metaphysical faith of human being in economic analysis without considering what is related to the faith and connects the worldly life to the hereafter life (Nixon 2007). Generally, in the Western economy, the rational consumer behavior is ethical when: (i) his spending is fairly done even through borrowing,² (ii) his spending is justified albeit for the appetence desires, (iii) he is not encouraged to borrow even if the bank interest rate is not high, and (iv) he adheres to not spending money in illegal products and services although his spiritual emptiness pushes him/her to acquire the forbidden. The fairness in consumption spending could be analyzed through the ethical behavior by determining the extent of the over and under spending so that the moderate standard living would be between the middle of ranges. Based on the income criterion, the society can be divided into three groups in order to analyze their consumption efforts by comparing their distinct marginal propensity to consume (hereafter MPC). According to Shaibani's (750-805 AD) analysis of the earning, we can model the ethical behavior of the consumer using the Halal utility theory and the layers of earning. Smith's invisible hand, with some unclear paradigm (Oslington 2012), and the relative validity of the rational expectations hypothesis require expanding more the ethics in the economic analysis. Mainly, the morality related to religious faith could explain and understand the variability happening in the consumption behavior. Previously, the economic theory of Keynes (1936) involves the animal instincts to explain the individual economic behaviors that are related to the extent of the optimism, pessimism and overconfidence (Pirosca 2011). Also, the ethical utility theory needs to be developed knowing that the Western concept of the utility does not adhere to religious teachings (Maydani 1999).

The ethical utility theory is more relevant to explain the economic behavior of Muslims, but could analyze other economic and financial comportments (Khan 2013; Schneider and Krieger and Bayraktar 2011). It might imply a fair economic and social system (Chapra 2000). The modern Western economic theory has accumulated a considerable theoretical knowledge on markets and economic organizations, but it suffers from inner thinking crisis

² There is a knowledge stream that not neglects the role of religion in the economic behavior, but remains limited due to the dominance of the materialist philosophy in the Western societies for centuries. Such theory focuses on the materialistic satisfaction and worldly pleasures through all possible income.

and largely from a cognitive crisis. Since, it doesn't succeed in understanding and rationalizing the economic behaviors in the society (Frydman and Goldberg 2007). There are now several academic institutions, such as the Institute for New Economic Thinking (INET 2011)³, that renew the economic paradigms to understand more the economic and financial behaviors of the individual and groups in the community.

Other recent works appeared in top marketing and psychological journals and organized in a handbook edited by Ng and Lee (2015). They analyze in details some topics like the cross-cultural consumer behavior and the consumer impulsivity but recognize that there are substantial gaps in the related literature. Such gaps include consumer and faith, consumer and overspending, ethical consumption, and materialism and compensatory consumption that warrant more investigation as traditional topics but with new approaches and renewed concepts. This paper attempts to fill some gaps by analyzing the effects of ethics and Islamic belief holding on the consumer behavior.

Hasan (2005) indicates that Khan (1984) and Iqbal (1985) papers have Keynes theoretical framework in common. They attempt to modify this structure, but relying on a simple Keynesian model and analyze the macro propensity to consume. He also considers that the macro consumption analysis of Siddiqi (1992) and Chapra (2000) needs to be re-examined because Siddiqi's analysis supports the resources scarcity hypothesis that affects their Islamic consumption function. Chapra's approach sets in the same layer the ordinal layer of imperatives, recommended and permissible needs, instead of multiple layers. This multiplicity is due to the variability of the types of needs depending on individual, time of spending, faith degree and ethics in economic behaviors. For example, the consumerism that guides to satisfy the excessive desires generates selfishness and often leads in fine to frustration and futility of material services and goods, because it does not achieve self-welfare.

Dounia's book (1998) addressed in a descriptive manner Shaibani's economics contribution using modern economic concepts, especially his analysis of earning, consumption and social spending. Mustafa's paper (2011) started with the economic analysis of Shaibani and displayed superficial implicit functions of spending. Mustafa (2011) did not consider deeply the multi-layers analysis of earning and spending through Islamic economic concepts even if he took into account the material, devotional, social, ethical, and Shariah

³ http://ineteconomics.org/about

dimensions. Despite that the Western economics model attempts to moralize the economic and financial life (Sauer 2003; Sen 1987; Harsanyi 1955). The Western paradigm did only address the materialistic consumer satisfaction subjected to the budget spending constraint, even if the consumer finances his expenses through private banks borrowing.

It is not appropriate, methodologically, to limit the analysis of Muslim consumption spending, by using the tools and hypotheses of the Western economics only. We have to appealing to Islamic economics paradigm and its conceptual analysis by using both English references as Kahf (1981), Khan (1984 and 1992), Iqbal (1985), Zarqa (1992), Zaman (1992), Hasan (2005), as well as Arabic references as Zarqa (1980), Ben Jilali and Taher (1989), Mahboub (1991), Ben Jilali and Azzamil (1992). Advanced and innovative technology does not characterize most of the Islamic economies realities, but the facts that the Islamic faith is there will qualify them to compete with the other economies and societies through the ethical advantages. In this perspective, it is surprised that some Islamic economics papers, as Khan (1984 and 1992) and Iqbal (1985), focus on comparing the macro MPC of Islamic economies to Western economies. We have to highlight the main features of the Islamic economics which are based empirically on the Muslim's commitments by following the Quran and the Sunnah. For instance, Kahf (1981) included the Zakat rate in the usual utility function. He considered implicitly that the Muslim looks up to maximize his/her worldly life utility and his/her expected hereafter utility functions. Also, Zarqa (1992) suggested a partial implicit model but non-testable; he focuses on comparing the hereafter recompense of the Muslim utility function and its worldly life outcome. He conducted an analysis based on three levels of consumption from necessities to luxury. Zaman (1992) considered a Muslim consumer behavior model largely similar to the prevailing Western consumer model.

This paper is organized as follows; Section 2 exhibits the relationship between ethics and the Islamic faith using the Islamic cognitive model based on the concept of Halal utility established through legal objectives (Shariah Maqasid). Section 3 shows distinguished behaviors of Muslim individuals and families through its fairness and equilibrium. By considering Shaibani's approach along with the Zakat transfer, the spending model is detailed in Section 4 by analyzing the outcomes of the marginal propensity to spend and the marginal propensity to earn. We also discuss the utility layers depending on the imperative, recommended and the permissible earnings in Section 5, and we conclude in Section 6.

2. Ethics and Halal Utility relationship

The ethics have an excellent standing among all people. For both the ends and means, the ethics emprise of a number of good attributes such as: honesty, clemency, forbearance, kindness, bravery, chastity (continence), commitment, redemption, reliance, charity, generosity, patience, longanimity, leniency, mildness, intelligence, tranquility, quietness, serenity, loyalty, admonition, complacency, modesty, shyness, altruism, goodness, generosity, and so on. These qualities are supported and stimulated by the Islamic Shariah to generate positive wisdom within the human being. Simultaneously, the Shariah was designed to abandon the malicious attributes such as: lying, cruelty, hatred, harshness, lewdness, corruption, cowardice, treason, perfidy, hypocrisy, theft, fraud, avarice, fury, wrath, folly, recklessness, stupidity, anxiety, lightness, cheating, greed, pride, dissoluteness, heartburning, evil, avarice, and so on. The good (malicious) attributes that inspired the human being for good (malicious) behavior are crucial for controlling his/her conducts, so the human soul data determine them and instilling inside each person.

The final divine law was the Islamic Shariah, which brings forth the human being from darkness to light and refines their instincts and psychological natures. These instincts grow inside their souls the good and innate values made by the Almighty Allah, and to fade the malicious instincts that testing of each human being. Accordingly, Allah said in the Quran within Surat 70 Almiaraj (Ways of ascent) in verses 19 to 25: "Man was created restless; touched by adversity, he is fretful; touched by good, he is ungenerous; except, the prayerful; those who are constant at their prayers; and those in whose wealth is a rightful share; for the beggar and the deprived." (Itani, Translation 2012). But, the adherence to the Shariah will be weakened when the malicious and non-virtuous values grew, dominated and driven the human heart that influence all the human system. Differently, the compliance to the Shariah will be strengthened when the good and virtuous values grew and purified the human heart (Ghazali 1058-1111 AD i.e. 450-505 AH, Amin 1931, AlMaydani 1999, AlAdoui 1999).

Following the dominance of the previous attributes and their repercussions, each act and opinion would be considered fair or unfair for each attitude, and then the human being will

http://www.al-islam.com/DetailedSearch.aspx?pageid=575&Tab=1&SubjectID=19917

⁴ For more details on these attributes in Arabic language:

submit it or drop it. Therefore, the actions and statements of the humankind represent and exhibit the resultants of what is enrolled in his self-soul from what laudable ethics he is endowed with and from what no laudable ethics he renounces. If there are reconciliation and pious process in his heart and soul, then his doing will be fair; and if there are depravation and irreverent process in his heart and soul, then his doing will be depraved. It cannot be possible that the human doings can be independent of what it is within his soul, but his doings depend on and stem on it such as the branches of a tree and its fruits are attached to their origin even through the roots layers in the soil.

The good ethical values generate the bright attributes of the human psyche and are affected by the faith values that are strongly related to the double revelations i.e. Quran and Sunnah. The ethical values interact with the faith values and evolve inside them through the compliance with the Shariah instructions. These instructions lead to the straight way that makes the individual behavior more wise and successful in his/her worldly life and mostly in the Hereafter. Meanwhile, if the ethics are there without the faith values, then the ethics will be like a body without its spirit or like the tree without its roots. Therefore, the Islamic values include dynamically the faith as the basis of the belief holding, and the ethics as the basis of all humankind relationships and transactions connected to the society, economy or the policy. The Prophet Mohammed, Peace Be Upon Him (PBUH), has been sent by the Almighty Allah to complete the honorable ethics, as though the ethics were incomplete before the Islamic legislation. For that, the real belief in the message of Mohammed PBUH leads up to more honorable and completed ethics. Some of the morality values prevailing in the Western countries do not have a positive effect on their ethics dynamic. Such ethics are based on strict materialistic tasks and not associated with virtuous belief holding, but only appear as a reflection of the worldly objectives without any faith dimensions or any religious commitments. If we assume that there is no ethics without religion and that there is no human being without ethics, then at best the human being, who follows the Western culture only, lives with a half of his/her social abilities.

For that reasons, the consumer behavior of the individual and the family is firstly related to the ethics values stemming from the faith values. Because the consumption, as an essential mechanism, helps the human being to perform what he/she is created for, which consists of complying a religion worship system as determined by the Almighty Allah. In the framework

of this worship system, the individual has to achieve his/her economic objectives. Together the faith and ethics reveal who obeys to an Islamic economic behavior among the Muslim individuals (Almaydani, 1999). The Islamic faith values consist of the fundamental concepts and the Shariah statements that govern a Muslim's individual relationship with the Almighty Allah and determine his belief holding. As for the ethical values, they correspond to the positive attributes that govern the individual relationship with the people through the fundamental principles and human law statements. Subsequently, these latter live up the ethical values that could interact positively with the faith dimension to produce habits and natures that make the individual fair with his/her community and inspire the community to be fair with its individuals.

The Almighty Allah describes the moderate mankind spending in the Holy Quran within Surat 25 AlFurqan (The criterion) in verse 67: "And those who, when they spend, are neither wasteful nor stingy, but choose a middle course between that.", as well as in Surat 17 Alisraa (The night journey) in verse 29: "And do not keep your hand tied to your neck, nor spread it out fully, lest you end up liable and regretful." From the two Quranic verses appear the importance of the subsistence economy (Bnu Kathir 1373 AD). It means that there is a level of fairness spending for the individual and the family that represents the moderation between two vilified limits the overspending and the underspending. Such level of fairness spending includes the idea of the equilibrium in the individual and family spending behavior. The optimal consumption spending could rationally consist to maximize the spending utility subjects to the earning constraint and the common welfare. Then, it is clear that the excessiveness or the niggardliness behavior in spending deviates from the equilibrium and then the individual or family economy would be in permanence perturbed.

The second verse compares the niggardliness as a human hand tied to its neck meaning the hand that almost does not spend anything. Also, it describes the spendthrift or the overspending as a fully spread human hand that almost cannot hold anything. The unfair behavior implies that the spendthrift will become a sorrowful i.e. regretful due to his/her inability to spend again (Attabari 923 AD). His excessiveness results in a sudden stop of the spending. Also, the niggard prevents the welfare from himself and others. Such behavior leads him/her sooner or later to more of the anguish, disability and the weakness as a result of his/her stinginess and miserliness.

Firstly, the Halal utility is a legal Islamic principle, because it brings the usefulness and averts the damage or the corrupting either in the ethical sense or the material sense. According to the Shariah, such utility expresses a great achieved success (Falah) in the worldly life through materialistic and spiritual satisfaction. Also, there will be in the hereafter happiness via the reward by what no eye has seen, no ear has heard and what did not occur in the human mind. This utility has many faces; it includes the self material spending (first self utility), spending for his family (his wife and children) and relatives particularly his parents (second self utility), and the spending for his community (social utility). This latter spending means that the wealthy consumer does not neglect the changes that happen in the utilities of the under-middle group and mostly the poor group. He/she would pursue the sacrifice of part or all of his/her permissible marginal utility so that the poor and needy group could satisfy their urgent necessities. It is probable that the marginal increase in the income of the wealthy group does not necessarily lead to his/her rush upon the permissible utilities i.e. any desirable and embellished G&S. The legitimate pursuit of a Muslim individual or an Islamic family is based on his/her righteous belief holding and not on his/her passion or self unlawfully desires. The task is also to amplify the Shariah permissible utilities and to reduce the wrong and prejudice in the Islamic society and largely in world societies. The Muslim individual pursuits of realizing his/her material satisfaction of the reasonable wants without sacrificing the faith and the ethical dimensions. Because when he/she satisfies his/her vital human body needs of eating and drinking; and due to the conviction from his/her belief holding, he/she gets a selfrecompense in the worldly life and retribution in the hereafter.

In this framework, he/she will consent and agree for his earning layer, because during the resurrection day there will be no questioning about his/her income level (considered predetermined in the Islamic paradigm). But he/she will be asked as to how this income has been earned because of the importance of the Halal earning i.e. if his/her job is done in compliance to the Shariah. Also, he/she will be asked about how his/her income has been used due to the importance of the fairness in the living behavior. These tests consist of testing if his/her consumption is fair through the Halal utility, if the saving is run according to his/her family economic projects and if the Zakat and other social giving are operated as requested by the Shariah. As well as the Muslim consumer has to enjoy the smart, instinctive mind and the abundant natural goods that the Almighty Allah makes available for all humankind from the

Messenger Adam (PBUH) to the last human being in the worldly life. Obviously the Muslim consumer has to avoid what the Almighty prohibited for him as explained in the Quran and the Sunnah. It is noticeable that the number of the prohibitions is very few compared to the innumerable legislated things that make your life pleasant. This latter requires that the spending behavior should be in between underspending and overspending in the Shariah sense. The discipline in this averageness could be only happening, when the individual behaves as a consumer or a saver or a Zakat giver by considering his/her Islamic faith holding and the worship system. The deviation from the previous averageness signifies a pursuit of the waywardness and what the heart desires. Such deviation drives ultimately to the severe economic harm and expands the sins that weaken the faith values of the individual and the entire society.

The explained religious texts from the Quran and Sunnah, the rules of the Islamic law and the purposes or legal objectives of Shariah (Maqasid) are of the most significant incentives that make the Muslim consumer more close to the Islamic commitments. Through his/her observance of the faith and ethical values when he/she behaves as consumer and in particular during economic shocks and sudden changes that happen in the economic and social conditions. These incentives are intended to illustrate the ruling of the Almighty Allah in what the human being can do and decide in his/her behavior process, to clarify the Halal road, prohibited (Haram) ways (Ghazali 1058-1111 AD, AlEzz 1181-1262 AD) and identify the Islamic paradigm. All this process leads to making the rationale decisions or corrects the wrong decisions.

3. The fairness in spending

From the Shariah rules of the Muslim behavior and on the base that all Halal is useful, and all Haram is harmful, the consumer spends only in what it is Shariah permissible. The Muslim actions should be in conformity to what the Almighty Allah instructs in the Quran and the Sunnah through His Messenger Muhammad (PBUH). The human being expenses for G&S are considered as worship and obedience to the Almighty Allah, implying then a reward system in the worldly life and the Hereafter. The Shariah rule consists of all things that are admissible, except inconsistent things with the text of the Quran and the Sunnah. Then, the human being has to prevent the Haram spending to not lose his/her money because there is no Halal utility.

Besides, the Haram spending could cause an individual economic and social corruption and spread the corruption in all the layers of the society. The Shariah rule about spending on good things requires the fairness and self-control away from any positive deviation (overspending or wasteful) and any negative deviation (underspending or avarice).⁵ Here, the Shariah rule states that all expenses are licit except when it falls at the two tails of the spending.

Accordingly, the consumption system in the Islamic economics contains a large number of consumption spending models between two thresholds. These latter indicate a minimum of the spending that does not descend below the avarice threshold and a maximum of the spending that does not exceed the excessiveness threshold. This multiplicity of spending models will be reflected in the elasticities of the consumption spending by the disposable income or the budget spending. The diversity of spending will be detailed in the next section to address the Islamic consumer model. There is an interval of admissible consumption corresponding to many consumption behaviors according to the layers of earning as indicated by Shaibani in the AlKassb book (The Earning Book) on page 9: "There are many layers of earning, the amount that must be available for each one i.e. the subsistence level of living allowing to perform the religious duties. It is supposed that this level is expressed in a real amount, and what is needed to do the religious duties becomes a duty, if the individual will not earn more of that a real amount he is in that capacity."

After the Halal spending avoiding all Shariah illicit G&S, it is required from the righteous consumer to arrange his/her spending according to his/her priorities scale and respecting the rationale conditions. Such conditions include the earning constraint, and the extent of his/her belief holding and the completed ethics. This rationale behavior supports to achieve the self-utilities for him/her self and his/her family in first order and the social utilities to reach a common welfare in second order. The priorities in spending i.e. *imperative* spending consist of getting the lowest necessities or the living subsistence that cover the

⁵ The wasteful is the worst form of overspending or excess spending; because the waster spends his money based on his/her passion by causing many sins. It also implies a loss of money that not brings a Shariah acceptable utility. The wasting is a form of an extravagant consumption that leads to economic harm by causing a probable decrease in the future earnings.

⁶ http://www.islamicbook.ws/asol%5Chanafi/alksb.pdf

eating, drinking, health, safety and housing, learning, marriage firstly. As for the spending in needs i.e. recommended spending, to make life easier, consists of expanding rationally the necessities without exceeding the threshold of the overspending. This rational expansion is implemented respecting his/her belief holding and ethical behavior. If it were otherwise, the unconstrained spending on needs leads inevitably to the inflation process and then to the borrowing that affects the social, economic and health environments of the present and the future generations negatively. As for the spending in bettered needs i.e. permissible spending consists of expanding the quantity and the quality of needs to enjoy the good things of the worldly life without exceeding the threshold of the overspending. This latter, during the spending time, depends on the current income of the wealthy group layer and the expected income when the spending priorities are planned. According to the cognitive model of the Islamic economics, the positive relationship between the income and the consumption spending should not set free to increase the consumption level. But, the individual or his/her family must control each marginal increase by checking if the new consumption level falls within an interval of the ethical consumption, bounded by a threshold of the underconsumption and a threshold of the over-consumption.

The Sunnah of the Prophet Mohammed (PBUH) has warned about the spending on excessive pleasures which reflect the vainglory and lordliness leading to a loss in this worldly life and the hereafter. The Messenger of the Almighty Allah said in a traceable Hadith, i.e. Saying of the Prophet Mohammed (PBUH), narrated by Anas ibn Malik and legally effective by Alalbani in the Hadith 950⁸ "Who the worldly life is his/her main concern, the Almighty makes his/her poverty in his/her heart and disperses his/her matter and he/she will receive in the worldly life only what it is scripted for him/her; and who the hereafter is his/her main concern, the Almighty makes his/her richness in his/her heart and gathers his/her matter and he/she will get in an acquiescent worldly life." Considering Shaibani's model of consumption, the earning for the imperative livelihood faced the spending on necessities (Shaibani, 750-805). Here also, the fairness and the ethical behavior are essential for all groups in the society.

⁷ The housing need could be reached from an ownership or the leasehold. The house lease option is required because the individual cannot contract the loans through non-Islamic banks due to the prohibition of banking interest.

⁸ A series of legally effective Hadiths by Sheikh Alalbani, available in Arabic at: www.alalbany.net/4263

Because it is probable that the consumption spending of the middle-income group falls outside the interval of the ethical consumption i.e. the individual or his/her family attains the unethical level of spending. Therefore, there is a great guidance in the Quran within Surat 65 Attalaq (The divorce) in verse 7: "The wealthy shall spend according to his means; and he whose resources are restricted shall spend according to what God has given him. God never burdens a soul beyond what He has given it. God will bring ease after hardship." Also, in Surat 42 Ashura (The consultation) in verse 27: "If God were to increase the provision to His servants, they would transgress on earth; but He sends down in precise measure whatever He wills. Surely, regarding His servants, He is Expert and Observant." This indicates that the enlarged individual livelihood does not occur at once, but it arises gradually to test the human being behavior. This gradation is a clemency to the mankind unto that he/she doesn't transgress with his/her money and not distracted by the desires. He/she has been created for worship the Almighty the Only One and the Absolute Eternal. This economic explanation permits to clarify more the inter-temporal model of the consumption theoretically. This model theorizes the dynamic consumption efforts in between the current and future time based on his/her earnings from the beginning of his/her economic time to the long-run future.

The wasteful avoidance helps either to expand the basis of the Zakat and the other donations, either to enlarge the level of saving. This level is related positively to the investment and also assists the individual and his/her family during the unexpected shocks in his/her earnings. It also expands the level of Zakat through the economic growth and leading toward more social justice. The abstention from the overspending, by preserving the feelings of the poor, needy, orphans, widows, sick and others, makes available a certain social resources composed of the Zakat, dole, testament, endowment and other goodness and ethical flows. It becomes clear from the divine guidance that the size of the spending is basically related to the spending budget. This budget depends on the available income for him/her self and his/her family spending after respecting all the social giving (Kolm and Ythier 2006). According to his/her Islamic faith holding and the worship system, the Muslim does not exceed what he/she can spend. But sometimes, the Muslim may be forced to borrow and to achieve some of the imperative or needy spending purposes. For such reasons, it is required for each pietist and ethical person to equilibrate between his/her livelihood and his/her spend. The saving effort is required to avoid both the licit and the illicit borrowing when he/she

needs the liquidity. Also, the legal necessity of the Zakat and the dole, to specific groups⁹ in the society, leads indeed to remedy the disparity between the incomes of different groups of the society. This transfer makes the poor and needy groups capable of spending on necessities. Such Zakat will bring to the individual and the family of these previous groups a decent livelihood in the Muslim society.

Hasan (2005) pointed out in the Islamic economics literature that there is no correct estimation of the overspending threshold and the underspending threshold despite the effort of Ben Jilali and Azzamil (1992). The estimation of these thresholds is essential in both the theoretical and empirical sides because it allows analyzing the Muslim consumer behavior in depth. Many of the empirical research, which seeks to understand the ethical dimension in the consumer behavior, are based on the questionnaires and survey of consumers (Fukukawa and Ennew 2010). By using specific instrumental variables, we suggest the measures of the ethicalness of the consumer behavior; we find the appropriate index-variable indicating the ethical consumption and the unethical consumption. Using the average and the standard deviation of the consumption as follows, we define the overconsumption in the second condition of (1a) and the under-consumption in the second condition of (1b):

(1a)
$$\begin{cases} C_{eth+,t} & \text{if } C_{t-1} - (\bar{C} + k\sigma_{+}) < 0 \\ C_{neth+,t} & \text{if } C_{t-1} - (\bar{C} + k\sigma_{+}) \ge 0 \end{cases}$$

$$\begin{cases} C_{eth-,t} & \text{if } C_{t-1} - (\bar{C} - k\sigma_{-}) > 0 \\ C_{neth-,t} & \text{if } C_{t-1} - (\bar{C} - k\sigma_{-}) \le 0 \end{cases}$$

(1b)
$$\begin{cases} C_{eth-,t} & \text{if } C_{t-1} - (\bar{C} - k\sigma_{-}) > 0 \\ C_{neth-,t} & \text{if } C_{t-1} - (\bar{C} - k\sigma_{-}) \le 0 \end{cases}$$

where $C_{eth\pm,t}$ and $C_{neth\pm,t}$ represent the ethical consumption without wasteful or avarice and the unethical consumption with wasteful or avarice in time t, respectively. \bar{C} stands for the average or the median of the observed consumption. The $\sigma_+(\sigma_-)$ is the semi-standard deviation of the consumption when the observed consumption is greater (smaller) than its

⁹ The individual or family income of these groups does not reach the prescribed minimum amount liable to Zakah i.e. the threshold of income or assets.

¹⁰ They don't define any thresholds about the overspending or the underspending. They only suppose their existence and use the residuals of an equation of the consumption to identify, from the least square method, the positive residue as wasteful and the negative residue as avarice. The theoretical value is considered as the ethical consumption.

average, and σ is the total standard deviation. The parameter k is deduced from Chebyshev inequality (applicable to all distribution) and assumed greater than one. This parameter helps to estimate the threshold of the fairness interval of spending without wasteful and avarice behaviors. It consists to consider that the probability of the absence of overconsumption and under-consumption is at least equal to the average of $\left(1 - \frac{1}{k^2} \cdot \frac{\sigma_+^2}{\sigma^2}\right)$ and $\left(1 - \frac{1}{k^2} \cdot \frac{\sigma_-^2}{\sigma^2}\right)$ i.e. the ratio of the observed values that fall in the interval: $|\bar{C} - k\sigma_-|$; $\bar{C} + k\sigma_+|$.

The first variable $C_{eth+,t}$ in (1a) reflects that the Muslim consumer, who behaves ethically, overdoes not in consumption spending, but sizes and edifies it. Then, he/she doesn't behave close to the wasteful or the avarice threshold. He/she edifies by adjusting and correcting the previous positive consumption deviations. For that, we assume that when the expected consumption (or lagged consumption) is lower than the average of the consumption plus an extent of positive deviations, the consumption becomes with an ethical feature. While when the consumer behaves unethically, he/she over-does in consumption spending and unleash his/her desires, then he/she exceeds the thresholds of the *wastefulness* and the *niggardliness*. This tendency to the consumption solicitude occurs when the expected consumption exceeds the average of the consumption \bar{C} plus an extent of positive deviations. Then, the consumption becomes unethical, because it exceeds its average as in the second definition of (1a).

Also, the first variable $C_{eth-,t}$ in (1b) reflects that the Muslim consumer does not forget his share of the enjoyment and pleasure of the worldly life. So that he/she behaves away from the niggardliness threshold. This latter consists of that the expected consumption would be equivalent to the mean of the consumption minus an extent of negative deviations. Also, the niggardliness will be intensified whenever the expected consumption is lower than the average of the consumption minus an extent of negative deviations as in the second definition of (1b).

4. Modeling Shaibani's Concepts of the Spending

4.1 Concepts of Earning and Spending

Firstly, we display a brief summary about Imam Muhammad ibn Hassan Shaibani (750-805 AD, 131-189 AH) to understand the historical environment in which he produced the

concepts of earning and spending. He was born between Kufa and Basra in 131 AH after his father came from the east of Damascus. He has evolved in Kufa, which was an environment of science and scientist. He was a genius and a talented person from his young age. At the age of fourteen years, he joined in a scientific circle of Imam Abu Hanifa (699-767 AD, 80-150 AH). He completed the Figh conferences by judge Abu Yusuf (731-798 AD, 113-182 AH). During his era, he acquired the religious knowledge from many reputed imams of Shariah science in Kufa, Mecca, Medina and Damascus. He was an early scholar (Faqih) of the Iraq, and a young Imam in the Quran, the Sunnah, the Figh, the Arabic, the Algebra science and others. He was the teacher of the imams such as Imam Shafii (767-820 AD, 150-204 AH). Also, he was a judge of Arraqa in the period of Abbasid Caliph Harun Alrrashid (763-809) AD, 146-193 AH). He had realized the codification of Islamic jurisprudence and classified this latter using a new approach. He produced the statements in discreetly and clarity manner and addressed the most complicated subjects in the Shariah that mattered to detect the legislation secrets (Nadawi 1994). Shaibani has dealt with the financial and economic issues and mainly in unprecedented depth the topics related to earning, saving and spending. He is the pioneer that analyzed the Islamic economics issues with a new approach (Dounia 1998, Eldasoqi 1987). Shaibani was among those precursors who addressed the legal objectives of the Shariah (Shariah Maqasid) early before the work of Jouini (1028-1085 AD, 419-478 AH).

If the theoretical economic works of Shaibani are not yet explored (Khassawneh 2010, Mustafa 2011), we can explore the Shaibani model of spending associated with three levels of earning. The earning includes all Halal sources of income from all Shariah-compliant activities such as the leasing, trade, agriculture and the industry. The previous papers did not advance a new theory of consumption because they remained confined to the conventional economic approach. Shaibani's concept of the earning net of the Zakat is much more meaningful than the usual concept of the available income. The Muslim earner may increase his/her attempt in an ethical and worship sense to achieve more self and family expenses and moreover the social welfare. This tendency, in earning, tasks to achieve an increase of the income and the reward in the hereafter. This behavior distinguishes the function of the Muslim consumer for being dynamic in its earning processes and connecting the worldly life to the hereafter. Besides, Shaibani explained the importance of saving through the permissible abstinence as mentioned in his Kitab AlKassb (The Book of Earning) on page 10: "The drop

in spending on the relatives —or blood relationship- leads to his rupture of relations, then the earning is recommended for him to spend for his relatives, after that he can expand his earning and save more money or he can decides that his earn is enough, because among the predecessors -mercy of the Almighty Allah on them- whom saved money and some of them did not save money; then both behaviors are permissible."

According to Shaibani's definition, the concept of earning indicates the acquiring of income through legitimate ways. The earning is one of the most important determinants of spending, as well as the spending on self and family consumption requires self-abstention from the wasteful and the niggardliness to accomplish an accepted spending by the Almighty All-Provider. Also, the social spending of a fraction of the Halal earning is required to maximize the utility in the worldly life and the hereafter. The economic analysis of Shaibani relates dynamically the spending to the earn to get the imperative, recommended and the permissible utilities; he makes this relationship a multi-dimensional devotional, material, ethical, social, Shariah-compliant. He explains that the attempt in earning to increase its earnlayer is motivated similarly as when the individual strives more in his/her required worship and voluntary adoration. For that reason, there are three layers of earning the imperative, recommended and the permissible. Furthermore, Shaibani details the self-spending in enlarged meaning which includes the personal spending and the spending for all members of his/her family and his/her parents. Here in Islamic economics, the consumption theory makes progress in the social dimension of the human being compared to the conventional economics analysis in Western cognitive paradigm, which focuses on the individual selfishness i.e. the egocentricity. According to Shaibani, the recommended and permissible earnings of the individual support the implementing of a social spending which improves his/her belief holding or ethical returns. The social spending includes all of the worshipful expenses as Zakat and others social giving that are allowed and given to the relatives and the other families of the Islamic community.

According to Shaibani (750-805), the layers of earning are arranged from imperative earning, recommended earning and the permissible earning, respectively. The imperative earning concerns what meet the basic needs of the individual him/her self, his/her familial dependents and his/her parents through the kindest expenditure. These needs are related to food, clothing, housing, remedy, education and transportation means. The necessary earn

helps to settle the previous licit debt, if any, and to make a possible saving effort by deferring a fraction of his/her consumption spending for the coming days.

By requesting the reward from the Almighty Allah and through the recommended learning, the person aspires, in addition to realizing the needs of the individual and his/her dependents, to meet the needs of others members of his/her enlarged family. The marginal income through the recommended earning will be the main financial support of the relatives and the needy of friends whose couldn't reach their imperative needs. In Shaibani's Kitab AlKassb (The Book of Earning) on page 10: "As for non-parents among blood relationship or Unmarriageable relatives, it is not suggested that the individual increases his/her earning to spend for them. Because their imperative spend is not due on his/her earning except if the wealth of the earner allows such social spending. But, he/she is encouraged to earn more and to spend for them since this behavior fortifies the blood relationship, and the Shariah recommended that." This marginal earning or earning for goodness, serving to spend on the poor and needy groups, is linked to the initial earning that should be basically above the threshold of the Zakat (Nissab). Besides, it should serve to spend for the needy Muslim community to spread the ethics of the social solidarity i.e. organic cohesion of the individual and the family. This solidarity consists of instilling the cooperation and collaboration spirit between the individuals and the families of the Muslim society.

The permissible earning is what expands the earning scope for enlarged spending for him/her self, his/her family and other members of the society. It states the increasing economic responsibility of the individual and his/her family vis-à-vis the Muslim society. Shaibani shows that the expansion of the earning stands to be a legitimate request as long as it expands the livelihood of people and leads to the public welfare that develops the community wellbeing. Also, the expansion of the livelihoods through economic investment may shift over time the earning of some needy families to an upper layer of income (second layer). This new income may reach the Zakat threshold, or to earn more to become an affluent family among the families of the third layer of revenue.

The marginal earning, either from recommended or permissible learning, was born from the social solidarity and transferred to the poor and needy group. It is not necessary that it leads to a decline in the MPC of the wealthy group, but may increase even in tiny manner. Assuming that the poor group does not yet cover the essentials needs for a decent living. The

transfer of a significant part of the marginal earning to the needy group leads to increase the size of their expenses. Such spending covers the durable and non-durable G&S both for eating or therapy or teaching their children or rent housing befitting the number of the family members. If the attempt of marginal earning leads to a marginal increase in the economic growth, it could achieve a better standard life, particularly for the poor group. This attempt is due to the request of hereafter reward by the middle and affluent groups of the society. The income transfer to the needy group is equivalent to the sacrifice size by diminishing the recommended utility of the above middle group or/and the permissible utility of the wealthy group. This point will be detailed in section 3.4. Therefore, the recommended earning or permissible earning distinguishes the growth system in the Islamic economics and reveals the importance of these variables in explaining the change in the volume of the consumption spending to the economy. I believe that these concepts, especially earning layers, need more analysis that make them statistically exploitable and then could be testable in the empirical analysis. The renewal in the definition of earning would make a significant contribution to the Islamic economics literature through the classification of data depending on the Islamic economics model.

Since the earning is running to face the needs that are necessary for a decent life, the expected spending represents the first dimension of the attempt of earning which is the second dimension. Therefore, the spending force is the dynamic response to the necessities, needs and extra-needs through imperative, recommended and permissible utilities of the individual and his/her family, respectively. The marginal earning force is also a dynamic response to satisfy the necessities of the poor and needy groups. It consists of shifting some purchasing capacity from a specific group to a particular lower group to achieve more social justice.

4.2 Augmented marginal propensity to consume

Many previous papers, such Khan 1984, Ben Jilali and Taher 1989, Ben Jilali and Azzamil 1992, Mahboub 1991, Khan 1992, Iqbal, 1985, analyzed the impact of Zakat on aggregate consumption function of the Muslim economy. From such models, we can compare the marginal propensity to consumption spending for each earning group in the community. But according to Shaibani's model, the attempt to the recommended and particularly permissible earnings has a direct impact on the groups, whose income is below the threshold of Zakat

principally in the poor group. We show that the nominal increase in the gross domestic product ΔY_t increase the value of the MPC. As through the social solidarity and the righteous acts, it contributes to improving the share of the needy group from the MPC.

From the original work of Shaibani on the consumer behavior, it appears that the Islamic economics is a pioneer in integrating the ethical dimension in the consumption function. The relevant ethical variables, explaining the consumption, could be summarized successively by the net earning of Zakat, fairness in the consumption efforts leading to a blessing in the earning, marginal earning for getting from the Almighty Allah a reward in this worldly life and hereafter, and the Zakat on both the individual earning and its assets. We can formulate the implicit equation of consumption by $C_t = C(Y_t, \Delta Y_t, A_t, Z_t(Y_t, \Delta Y_t, A_{t-1}))$, subjected to the conditions (1a) and (1b) of the ethical consumption, where C_t stands for the private consumption of the families in Islamic community, Y_t represents the disposable domestic earning (DDE), ΔY_t is the marginal domestic earning of wealthy groups in favor of the needy groups, $Z_t(\cdot)$ indicates the Zakat function, A_t symbolizes the assets value to the end of the current year t. All the variables are expressed in constant prices. As a theoretical basis for the spending in the Islamic economy, this implicit consumption function indicates its intrinsic dynamic system over the time. It measures the marginal propensity to reduce the disparity in the gross domestic earning distribution not only through the conventional Zakat mechanism, but also through the marginal earning mechanism which increases directly the purchasing power of the poor and needy groups. We expect that this model of consumption affects not only the Muslim consumption behavior but mostly the government behavior. The government implements new economic and social policies giving to the economy its ethical dimension by encouraging the belief holding and the worship system. Such which has been omitted and lost for centuries, in particular since the rapid global interaction in the consumption modes.

According to Shaibani's analysis, we assume that the society can be divided into three heterogeneous groups. The third is the richest group; the second is the middle group. The first is the first group that gets the Zakat and the social giving from the other groups in the community. Hence, when we don't consider the savings and assets of the wealthy group, the macro consumption function in the long-run can be as follows:

(2a)
$$C_t = cste + \beta_1[(1 - \mu_2 - \mu_3)Y_t + z_1\mu_2Y_t + z_1\mu_3Y_t] + \beta_2(1 - z_1)\mu_2Y_t + \beta_3(1 - z_1)\mu_3Y_t + \varepsilon_t$$

where the parameter β_i represents the MPC for each group i=1,2,3. The parameter μ_2 stands for the share of the second group in the domestic income, and μ_3 is the proportion of the wealthy group in the domestic income. z_1 is the Zakat rate on the income that exceeds the legal threshold of the Zakat. The unobserved variable ε_t indicates the other factors that affect the consumption behavior. By using the macro consumption function, we can determine the MPC in the long-run:

(2b)
$$\frac{dC_t}{dY_t} = \beta_1[(1 - \mu_2 - \mu_3) + z_1\mu_2 + z_1\mu_3] + \beta_2(1 - z_1)\mu_2 + \beta_3(1 - z_1)\mu_3 := MPC$$

Whereas and depending on Shaibani's approach, if we assume that the marginal earning for the social solidarity, done by the affluent group, is expressed by $\Delta Y_t = (1 - \alpha)Y_t$ with $0 < \alpha < 1$, where $(1 - \alpha) := g_Y$ indicates the output growth motivated by the righteous work, then the function of the MPC (2b) is enlarged by the following:

(2c)
$$\frac{dC_t^*}{dY_t} = MPC + \beta_1(1-\alpha)[(1-\theta_3) + \theta_3 z_1]\mu_3 + \beta_3\theta_3(1-\alpha)(1-z_1)\mu_3 := MPC^*$$

where θ_3 is the share of the benefactors of the marginal increase in the output. Also, we assume that the Zakat is applicable to this marginal income. Then, a significant part of this earning i.e. $(1-\theta_3)$ is transferred to the targeted group. Besides, this group benefits from the Zakat on the marginal income. After that, the marginal net income of the Zakat of the wealthy group is $\theta_3(1-z_1)\mu_3\Delta Y_t$ and the marginal income to the needy group is $[(1-\theta_3)+\theta 3z1\mu 3\Delta Yt]$. It is natural that the effort of the affluent group, to get an earning more highest than the previous earning, would increase their happiness in this worldly life and improve their reward in the Hereafter. We expect that this ethical dimension, engendering the benign effects on the community members, will lead to competition among the members of the wealthy group. Thus, when this competition is activated, there would be a dynamic convergence in the marginal elasticities of the consumption of the earning groups in the Islamic economy.

From the MPC function, we define a full integration relationship between the marginal propensities for each group:

(3a)
$$\frac{\partial MPC}{\partial \beta_1} = 1 - \frac{\partial MPC}{\partial \beta_2} - \frac{\partial MPC}{\partial \beta_3}$$

(3b)
$$\frac{\partial MPC^*}{\partial \beta_1} = 1 - \frac{\partial MPC^*}{\partial \beta_2} - \gamma \frac{\partial MPC^*}{\partial \beta_3}$$

With $\frac{\partial MPC}{\partial \beta_i} > 0$ and $\gamma \frac{\partial MPC^*}{\beta_3} = \frac{\partial MPC^*}{\partial \beta_3} - g_{\gamma}\mu_3$. From the result (3b) in comparison to (3a), we deduce that the marginal income of the rich group leads to an increase in the livelihood of the poor group. So that their contribution is rising in the macro MPC:

(3c)
$$\frac{\partial MPC}{\partial z_1} = (\beta_1 - \beta_2)\mu_2 + (\beta_1 - \beta_3)\mu_3$$

(3d)
$$\frac{\partial MPC}{\partial z_1} = (\beta_1 - \beta_2)\mu_2 + (\beta_1 - \beta_3)(\mu_3 + \theta_3 g_Y \mu_3)$$

The effect of Zakat on the macro marginal propensity is mainly associated with the first differences between the marginal propensities of the first group and the other group. Also, the activation of the marginal earning, to get more reward from righteous works and goodness, expands the effect of Zakat on the macro MPC by $(\beta_1 - \beta_3)\theta_3 g_Y \mu_3$. In principle, the income of the poor and needy group may not cover the necessities for decent living. Therefore, when this group gets the Zakat, their members can satisfy to some extent the farthermost necessities of eating and drinking, housing, clothing; they can reach the subsistence level. After that, the marginal propensity of the first group β_1 could converge to one. For the second group, we assume that it has already an earning reaching the Zakat threshold, which makes this group able to satisfy the full basic needs and have a decent livelihood. Then, it could attain the sufficiency boundary. 11 On this basis, it can be assumed that $\beta_1 > \beta_2 \ge \beta_3$. Then, for each increase in the rate of Zakat, even a tiny one, it will lead to a rise in the macro MPC. While, if the previous hypothesis is not true i.e. $\beta_1 < \beta_2 \le \beta_3$, then any increase in the Zakat will not necessarily conduct to a rise in the macro MPC, but could lead to its decline. The first case has a considerable impact on the economic growth because the third group has a greater ability to save. When this group has a lower MPC comparing to the other groups, their members tend more towards the saving effort and therefore to the investment effort. Such behavior of the wealthy group exhibits their significant contribution to the economic growth.

If we consider that the parameter β_1 is a reflection of the parameters β_3 and β_2 through the determinant variables of the macro consumption, savings and assets that are Zakatable. The MPC cannot be dissociated from the Zakat process because it is influenced by the

¹¹ The sufficiency boundary is considered as an approximate level of decent living because it depends on the custom and convention of the community and the orientation of the Shariah scholars. It varies across time and social environment.

economic behaviors whether the productive system or consumption system. The conventional theory of consumption has been recently expanded to integrate the impact of the assets, especially after the apparition of new financial products. The analyses of the consumer utility and its effects on the consumer behavior have been done only in the late of the twentieth century and continued to be improved. Also, the contemporary analysis inserts the precautionary saving to beware of surprise in the future (Nocetti & Smith 2011, Kimball & Weill 2009, Carroll 2009, Romer 2006, Campbell & Cochrane 1999, Kimball 1990). While in the Islamic economics, the consumption function primarily takes into account the effect of the assets on the macro consumption. Due to that the Zakat process is applicable to both flows and assets when those attain the Zakat threshold. The financial and non-financial assets implying returns are liable to Zakat system. On the other hand, the consumer behavior of the wealthy group, which has an economic responsibility to conduct the investment effort, attempts to face the expected demand for consumption. The members of this group are cautious by adopting saving decisions during a normal environment and in particular for a precautionary purpose. The important issue of the future papers will depend firstly on the impact of the assets Zakat and savings Zakat on the consumption behavior of the group that receives Zakat. Secondly, through the appropriate MPC, how the saving efforts are running in a comparison between the Zakat giving group and Zakat receiving group.

5. Ethical permissible utility and asymptotic elasticity

The classification initiated by Chaibani considers three earning processes. Each process of earning would generate a corresponding layer of utility. The layer of spending that achieves a specific utility is defined according to the layer of earning. In this framework, the imperative utility corresponds to the required G&S for a decent livelihood for each layer in the society and mostly the first group. The IU differs between earning layers; the imperative of the wealthy group is related to its social and economic position. But, the recommended utility will be possible through a recommended earning, which allows to achieve some self and family needs of the second group. The ethical and belief holding behavior of the second group helps to avoid the keeping up with the Joneses i.e. neighbors. This phenomenon is largely observed in many societies around the world (Luttmer 2005, and Stutzer 2004). Stutzer (2004) finds evidence that the neighbors materialistic aspirations might be shaped by spending models of

those around them. Besides, the permissible utility is realizable through the permissible earning. Due to the ethics and belief holding, the wealthy group does not spend for luxury G&S and mostly when there are people in the society who cannot meet the necessities. Also, even if there is no poor person in the society which is a very weak hypothesis, the wealthy group has to behave following the Shariah, which encourages the fair and equilibrated spending.

5.1 Ethical Permissible marginal utility

We can analyze Shaibani's model on the basis of the utility or usefulness by defining the *imperative utility* (IU), *recommended utility* (RU) and the *permissible utility* (PU). There are three groups of families in the community, depending on the layer of earning and the satisfaction levels that are related to also to three layers of the utility. On this basis, the families respond both gradually and successively to necessary utility i.e. IU, needed utility i.e. RU and extra needed utility i.e. PU. ¹² The wealthy group can satisfy all layer of utilities, but the poor group tries to meet the first layer of utilities i.e. IU. It is obvious that the first and second layers of utilities depend on the bundles of goods and services (hereafter, G&S). This dependence means that the second (third) group would have different G&S comparing to the first (second) group to satisfy the same layer of utilities IU (RU). Also, there is a negative utility, which is more specifically a form of damage that can be divided into two types: the illicit, i.e. not accepted by the Shariah and the hateful disapproved by the Shariah. We observe that the need is regulated and organized according to the legitimate determinants starting from the imperative to the recommended and, lastly, the permissible. It also depends on if this need is Shariah-compliant and respecting the fairness in all the spending process.

If we focus on the third group, we can discuss the impact of their behavior, through the consumer utility U_3 , on the consumption utility of the other groups. Mainly, that the wealthy group can satisfy all the layers of the utility from the vector x of G&S: the imperative across x_1 , recommended through x_2 and the permissible across x_3 . Assuming that the believer third group members will seek to meet the permissible utility totally or partially, if they know that

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¹² The proposed model includes the initial analysis of Shaibani by using the traditional terminology, but appears more sophisticated by its modern cognitive content. Also, the economic analysis is operated deeply using tools of the mathematical economic analysis.

the first group assured their imperative utilities and that the second group covered their recommended utilities. As stated in Shaibani's Kitab AlKassb (The Book of Earning) on page 6: "What was recognized as generalized utility is better, from the saying of the Prophet Mohammed (PBUH)¹³ "The better of the people who gives utilities to people."." Also, he showed the importance of the righteous work on page 12: "That the earning without donations does not have the preference." This makes the rich's utility a function of the utility layers of the other groups, and thus the utility program of the wealthy believer is as follows: 14

(4)
$$\begin{cases} U_3(x_3) = U_3(x_{31}, x_{32}, y_{33}) \\ \text{s. t.} \\ y_{33} = f(x_{33}, \Delta U_1(x_{11}, 0, 0), \Delta U_2(x_{21}, x_{22}, 0)), 0 < y_{33} < x_{33} \\ p_1 x_{31} + p_2 x_{32} + p_3 \alpha x_{33} \le B_3(\alpha, p, Y_3), 0 < \alpha < 1 \end{cases}$$

where p_i indicates the price index of the G&S of type i i.e. the imperative, recommended and the permissible. B_3 refers to the budget allocated to the consumption spending of the wealthy group. This budget is related to Y_3 the disposable income net of the due Zakat and ready for the consumption expenses. Our focus is on the spending behavior knowing that $B_3 < Y_3$. It is evident from this model that the utility of permissible G&S is connected to the imperative utility i.e. necessities of the first group and recommended utility i.e. needs of the second group. Also, the social welfare utility function $f(\cdot)$, which depends on the self and social usefulness, expresses that the permissible utility, through $f(\cdot)$, which depends on the self and social usefulness he learns that most of the first group families successfully managed to meet the marginal necessities i.e. imperatives $f(\cdot)$. And, that most of the second group families succeeded to satisfy the marginal needs $f(\cdot)$. Thus, the coefficient $f(\cdot)$ measuring the belief holding of the wealthy group, indicates the partial activation of the permissible spending, and $f(\cdot)$ must often be less than one: $f(\cdot)$ the first group of the permissible spending, and $f(\cdot)$ must often be less than one: $f(\cdot)$ the first group of the permissible spending, and

¹³ This prophetic saying is a traceable Hadith to son of Omar with a good reference and legally effective by Alalbani (www.alalbany.net/).

¹⁴ We suppose that the utility function is a continuous and increasing, but subjected to the law of diminishing marginal utility when the satisfaction is increased. The utility function is completely almost concave in \mathbb{R}^n_+ .

¹⁵ This social welfare utility function is close to the meaning of Harsanyi's social welfare function (1955) which represents the un-weighted mean of the utilities of the individual social environment with an objective quantity. But, if Harsanyi (1955) insisted on individualistic ethics, the system (4) is based on social ethics. Also, in our case, the comparison between utilities or satisfactions is based on the belief holding and the ethics dimension of the members of the wealthy group.

In a formulation due to Karl Weierstrass, the extreme value theorem affirms that a continuous utility function from a compact non-empty space to a subset of the real numbers attains a maximum and a minimum. Moreover, if the $U_3(\cdot)$ is completely quasiconcave, the solution is unique. Assuming the differentiability of $U_3(\cdot)$, we can distinguish the solution y_3^* by the first order conditions of derivative. Hence, there is a Lagrange multiplier $0 \le \lambda_3$, which allows it to obtain the following partial derivation (Bertsekas 1999, 1982):

(5)
$$\frac{\partial U_3}{\partial x_{33}} = U_3'(y_{33}) \cdot \frac{\partial f}{\partial x_{33}} - \lambda_3 \alpha p_3$$

In particular, we can reduce the first order conditions of derivation as follows, where j represents the imperative or the recommended G&S of the wealthy group:

$$MRS_{j,3} \equiv \frac{\partial U_3(x_3^*)/\partial x_{3j}}{(\partial U_3(y_{33}^*)/\partial y_{33})(\partial f(\cdot)/\alpha \partial x_{33})} = \frac{p_j}{p_3}$$

where $MRS_{j,3}$ indicates the marginal rate of substitution of the good or service j to get the permissible good or service 3. It means that the wealthy consumer renounces to a particular size of his good or service 3 to get one additional unit of j. The solution y_{33}^* and $(x_{31}^*, x_{32}^*) = x_3^*$ maximize the utility function of a wealthy Muslim. By considering the faith dimension, the affluent consumer does not behave like Quaroon (a very fortunate person that lived during the period of the Prophet Moses PBUH), but wishes the approbation of the Almighty Allah (Montasser 1989). In principle, the attempt, towards the highest satisfaction of the utilities from the consumption of permissible G&S, leads to the following:

$$U_{33}^{'} \cdot \frac{\partial f}{\partial x_{33}} = \lambda_3 \alpha p_3$$

This indicates that the permissible marginal utility is correlated to the extent of the interaction of the belief holding of the wealthy consumer with the change in the utilities satisfaction of the other groups or of his social environment through the element $\frac{\partial f}{\partial x_{33}}$. This element is determined by the explicit form of the utility function $f(\cdot)$. By using the theory of the consumer equilibrium, we find an estimation of this element at an equilibrium point that represents the consumer preference:

(6)
$$\frac{\partial f}{\alpha \partial x_{33}} = \frac{p_3}{p_2} \cdot \frac{U'_{32}}{U'_{33}} = \frac{p_3}{p_1} \cdot \frac{U'_{31}}{U'_{33}}$$

If the affluent consumer knows the relative prices of the imperative, recommended and permissible G&S, and he can determine the marginal utilities of the imperative and recommended utilities relative to the permissible utility, then his/her belief holding interaction with the social environment carries him/her to a particular sacrifice by renouncing to a part of its PU. Such behavior contributes to a positive change, particularly in the imperative utility of the first group and in the recommended utility of the second group. Assuming that the average price of the permissible G&S exceeds the average price of the recommended and imperative G&S; and if the imperative and recommended marginal utility is greater than the permissible marginal utility; then the faith or the belief holding interaction element is:

$$\frac{\partial f}{\alpha \partial x_{33}} > 1$$

Consequently, when the effective willpower of the wealthy Muslim consumer's faith is activated, then an overall positive change will occur in the imperative utility of the first group and recommended utility of the second group. This positive change is measured at least by the quantity $\left(\frac{\partial f}{\partial a \partial x_{33}} - 1\right)$, which can be converted into purchasing capabilities towards the targeted group through social and economic security tools. Explicitly, such transfer to the needy group is operated either directly or institutionally organized by specific social associations to manage the distribution of the social fund to targeted families efficiently.

After the activation of social welfare, we expect that the increase in the permissible spends will not lead to depriving the low-income group to achieve a decent livelihood and satisfy the necessary utilities. Further, in case of the highest and deepest belief holding in the society and when the middle group succeeds to self-achieve most of their needs of a decent life, it could be possible that the poor group would fully benefit from the purchasing capabilities transfer. Then, the permissible spending would not adversely affect the process of the economic behavior of the other groups in the community.

5.2 Asymptotic elasticity

In principle, when we use concave functions, i.e. curving in, we face the problem of homogeneity loss of these concave functions. Thus, we turn to the Δ_2 condition in the Orlicz spaces theory (Krasnosel'skii and Rutickii 1961, Rao and Ren 1991). Such condition replaces the homogeneity property with a minimum limit that allows for determining the limit of the

asymptotic elasticity when the permissible spending y_{33} tends to infinity. It can be assumed that the utility function of the wealthy group is subjected to the condition of the reasonable asymptotic elasticity (Kramkov and Scachermayer 1997). We have the following Lemma 1.

Lemma 1: Considering that the utility function U_3 in the system (4) is strictly concave, increasing and having real number values by the variables y_{33} . Then the asymptotic elasticity AE(U) is defined clearly and with $U_3(\infty) = \infty$, we have

(8)
$$0 \le \lim_{y_{33} \to \infty} \sup \frac{y_{33} U_3'(x, y_{33})}{U_3(x_{31}, x_{32}, y_{33})} \le 1$$

Proof: Using that U_3' is a monotone and decreasing positive function for all $y_{33} \ge 1$, we have

$$0 \le y_{33}U_{3}^{'}(x,y_{33}) \le (y_{33} - 1)U_{3}^{'}(x,c) + U_{3}^{'}(x,c)$$

Considering that there exists some c in an open interval $c \in (1, y_{33})$ and by the mean value theorem, we obtain

$$U_3(x, y_{33}) - U_3(x, 1) = (y_{33} - 1)U'_3(x, c)$$

Then,

$$0 \le y_{33}U_{3}^{'}(x,y_{33}) \le (y_{33}-1)U_{3}^{'}(x,c) + U_{3}^{'}(x,c) \le [U_{3}(x,y_{33}) - U_{3}(x,1)] + U_{3}^{'}(x,1)$$

Therefore, with $\lim_{y_{33} \to \infty} U_{3}(x,y_{33}) = \infty$ or $U_{3}(\infty) = \infty$,

$$0 \le \lim_{y_{33} \to \infty} \sup \frac{y_{33}U_3'(x, y_{33})}{U_3(x, y_{33})} \le \lim_{y_{33} \to \infty} \sup \left(1 + \frac{U_3'(x, 1) - U_3(x, 1)}{U_3(x, y_{33})}\right) = 1 \quad \blacksquare$$

The inequality (8) is similar to the condition Δ_2 in the theory of Orlicz spaces (Biagini and Frittelli 2008). The result (8) of Lemma 1 is deduced from the elasticity of the wealthy group utility to y_{33} i.e. $E(U_3, y_{33})$. Also, the variable y_3 reflects the benefit from the permissible G&S by taking into account the positive change in the imperative utility or lowest necessities of the poor group and recommended utility or highest necessities of the middle group. The asymptotic elasticity includes that when y_{33} tends towards values increasingly to infinity, then the faith dimension of the wealthy group means that this group gets a unitary elasticity as a maximum limit of their utility. It is obvious that the explicit form of the utility function U_3 and the partial utility function $f(\cdot)$ have a significant role in assimilating the meaning of the condition (8).

By the result (8) of Lemma 1 where the wealthy consumer does not neglect the changes in the utilities of the middle and poor groups, it is expected that the relative increase in the income of the wealthy group does not necessarily lead to a rise in its enthusiasm for the permissible and desirable G&S. This outcome differs from what is prevailing in the Western economic analysis, where the increase in the income of the wealthy people inevitably leads to a substantial increase in obtaining luxury G&S. This widespread idea includes the point that the elasticity of the utility could be greater than the unity i.e. the opposite of what we obtain when belief holding and ethical behavior are jointly activated.

By assuming that the composite utility function $f(\cdot)$ consists of a social welfare function $SU(\cdot)$, which is positive and defined from \mathbb{R}^n_+ to \mathbb{R}_+ and where the coefficient $(1-\alpha)$ measures the extent of the social altruism (Kolm and Ythier 2006) and the Shariah abstaining of the wealthy consumer and his/her family. It also shows the range of the thankfulness of the Almighty Allah for the blessing, the beneficence and the renewed kindness. This latter expresses the transfer of a part of the self-permissible utility value to the first and second groups, respectively. So that the social welfare function is related implicitly to the imperative G&S of the poor group and recommended G&S of the needy group.

(9)
$$y_{33} = \alpha x_{33} - (1 - \alpha) h(\Delta SU(x_{11}, x_{22})), \quad 0 < \alpha < 1$$

Where $h(\cdot)$ defines the inverted social utility function. We assume that a social welfare function leads to positive change in the imperative utilities of the poor group and recommended utilities of the needy group of people to lift their difficulties and expand their materialistic needs. If the legitimate social altruism disappears after that the Shariah obliged Zakat is performed, then we have $\alpha = 1$. And thus, the wealthy consumer spends on him/her self and his/her family without keeping anything for the poor and the needy people i.e. that $y_{33} = x_{33}$. On the basis that the marginal increase in the imperative G&S acts, even partially, to redress the poverty of the first group and thus to increase their imperative materialistic utilities, we assume from the equation (9) that:

(10)
$$\frac{\partial y_{33}}{\partial x_{33}} = \alpha > 0, \qquad \frac{\partial y_{33}}{\partial x_{ii}} = -(1 - \alpha) \cdot \frac{\partial h(\cdot)}{\partial x_{ii}} < 0, \qquad \frac{\partial h(\cdot)}{\partial x_{ii}} > 0, \qquad i = 1, 2$$

Through the belief holding and ethical behavior of the wealthy group by improving the situation of the poor and needy people and based on the hereafter dimension, a new variable y_{34} can be generated to expand the reward that the Muslim expect to get in particular in the hereafter (Zarqa 1980, Zarqa 1992). In such cases, the members of the wealthy group can enjoy a part of the reward in this worldly life through their thanksgiving, from the evidence mentioned by the Almighty Allah in Surat 14 Ibrahim (Abraham) in verse 7 "And when your

Lord proclaimed: "If you give thanks, I will grant you increase; but if you are ungrateful, My punishment is severe."." This increase occurs before the afterlife in a form of *hidden support*. But, their signs are tangible and perceptible such as the affliction pushing, kindness of the predestination, benediction in spending, benediction in earnings, longevity, and healthy wellness, righteous progeny and others. As well as the psychological satisfaction that is achieved when the social welfare function is activated. Then, many marginal utilities are generated from sacrificing a part of the permissible utility. And then, the utility function is expanded with an otherworldly dimension, it can be termed by a *steady eternal utility* function that can be formulated as follows:

(11)
$$\begin{cases} \widetilde{U}_{3}(x_{3}) = U_{3}(x_{31}, x_{32}, y_{33}, y_{34}) \\ \text{s. t.} \\ y_{33} = f(x_{33}, \Delta U_{1}, \Delta U_{2}) \\ y_{34} = g(\alpha, \Delta S U(x_{11}, x_{22}), B_{3}, Y_{3}) \end{cases}$$

Also, the otherworldly utility is greater and eternal than the constrained worldly life utility according to the Almighty Allah in Surat 9 Attawbah (The repentance) in verse 38: "O you who believe! What is the matter with you, when it is said to you, "Mobilize in the cause of God," you cling heavily to the earth? Do you prefer the present life to the Hereafter? The enjoyment of the present life, compared to the Hereafter, is only a little."

Furthermore, the worldly life utilities are subject to the arithmetic and logic rules, while the utility in the Hereafter exceeds the mathematical arithmetic and logic. The otherworldly utility is infinite in terms of the enjoying time and the multiple colors and tastes of the good and pure things. Principally, in case of the attempt for righteous works and connecting to the Halal i.e. Shariah-compliant utilities to their otherworldly dimension as the righteous ancestor was doing goodness, it will be more advantageous to use convex utility functions i.e. curving out. We can prove that the elasticity of the utility to the spending in the cause of the Almighty Allah is more than one. By using that $U'(\cdot, y_{34})$ is positive and strictly increasing function, meaning that $U'(\cdot,t) < U'(\cdot,y_{34})$, then with U(0) = 0 and $0 < t < y_{34}$, we have

$$U(x, y_{33}, y_{34}) = \int_{0}^{y_{34}} \frac{\partial U(x, y_{33}, t)}{\partial t} dt < \frac{\partial U(x, y_{33}, y_{34})}{\partial t} \int_{0}^{y_{34}} dt = \frac{\partial U(x, y_{33}, y_{34})}{\partial t} y_{34}$$

which implies that

$$\frac{y_{34}U_t'(x, y_{33}, y_{34})}{U(x, y_{33}, y_{34})} > 1$$

When y_{34} the spending in the cause of the Almighty Allah tends to infinity, we can determine the limit of the asymptotic elasticity. It can be assumed that a *steady eternal utility* function of the wealthy group indicates an improved condition of the asymptotic elasticity, according to the following lemma 2.

Lemma 2: Considering that the utility function U_3 in the system (11) is strictly convex, increasing and having real number values by the variables y_{33} , then the asymptotic elasticity AE(U) is defined explicitly by

(12)
$$\lim_{y_{34}\to\infty} \sup \frac{y_{34}U_3'(x,y_{33},y_{34})}{U_3(x_{31},x_{32},y_{33},y_{34})} > 1$$

Proof: Using that U_3' is a monotone, positive and strictly increasing function for all $y_{34} > 1$. Considering that there exists some c in an open interval $c \in (1, y_{34})$ and by the mean value theorem, we have

$$0 \le y_{34}U_{3}'(x, y_{33}, y_{34}) > (y_{34} - 1)U_{3}'(x, y_{33}, c) + U_{3}'(x, y_{33}, c)$$

> $[U_{3}(x, y_{33}, y_{34}) - U_{3}(x, y_{33}, 1)] + U_{3}'(x, y_{33}, 1)$

and therefore, with $U_3(\infty) = \infty$,

$$0 \le \lim_{y_{34} \to \infty} \sup \frac{y_{34} U_3'(x, y_{33}, y_{34})}{U_3(x, y_{33}, y_{34})}$$

$$> \lim_{y_{34} \to \infty} \sup \frac{[U_3(x, y_{33}, y_{34}) - U_3(x, y_{33}, 1)] + U_3'(x, y_{33}, 1)}{U_3(x, y_{33}, y_{34})} = 1$$

Also, the result (12) of lemma 2 is deduced by using the elasticity of the wealthy group utility to y_{34} i.e. $E(U_3, y_{34})$. When the sacrifice of a rich group is greater, then the social utility will be improved through a marginal increase in the social welfare in particular for the poor and needy groups. Also, a reward for this sacrifice is raised in the worldly life and in the Hereafter by Δy_{34} through any marginal increase of the hidden returns of such sacrifice in the earthly life. Such sacrifice is positively reflected on the *marginal steady eternal utility* through an elastic utility, depending on the promise of the Almighty Allah, stating that "the greater is the thankfulness, surely the greater I will increase you."

5.3 Discussion

The classification of Shaibani is not equivalent to the Western classification of necessities, normal and luxury G&S, but it is deduced from Islamic principles. With pure materialistic

behavior, the good luxury spending will be increased if the earning is increased leading to an earning elasticity of spending (EES) greater than one. However, if the earning of the Muslim wealthy group is increased, the permissible spending will be increased leading to an EES lesser than one. Because of the ethical and belief holding incite to transfer a fraction of the change in earning to the needy people. So there is a positive externality on the other group's well-being because the wealthy group members transfer real purchasing power to the poor and needy groups. Hence, these members are willing to augment the imperative and recommended marginal utilities of the needy families. These outcomes are in contradiction with the findings of Luttmer (2005). Luttmer suggests that an increase in the individual income leads to a negative externality on neighbor's well-being that is of the same order of magnitude as the positive effects on individual well-being.

According to the Quran of the Almighty Allah in Surat 17 Alisraa (The night journey) in verse 21: "See how we have favored some of them over others; yet the Hereafter is greater in ranks and greater in favors." Thus, it is clear that the rich man/women in his/her earning needs the poor earners to achieve the otherworldly reward while the opposite is not true. Also, even if the consumption effort of the wealthy Muslim is considered a worship in its broad meaning, then he/she gets a reward from his/her materialistic imperative and recommended utilities. But, he/she will be rewarded more when he/she reduces his/her permissible utilities to achieve some of the imperative and recommended utilities of the poor and the needy groups, respectively. Also, we will address in a future paper the utility functions to highlight the interaction in the changes of the utility determinants. We will use the decomposition method in Slutsky equation (1880-1948) to analyze more fully the impact of the ethics and the belief holding on the utility.

The Almighty Allah has ordered that a Muslim and his/her family have to avoid, from the tradition, heresy, habits and lifestyle, all that is contrary to the Shariah and the legal objectives of the Islamic principles (Shariah Maqasid). The Prophet Muhammad (PBUH) warned in an authentic Hadith by Alboukhari, ¹⁷ narrated by Abu Saeed Alkhudri "You will follow the ways of those nations who were before you, span by span and cubit by cubit so much so that even if

¹⁶ The Muslim praises the Almighty Allah when he/she takes the G&S because his intention is to get more energy to achieve its legal objectives i.e. work and worship.

¹⁷ http://sunnah.com/bukhari/96/50

they entered a hole of a mastigure, you would follow them." We said, "O Allah's Messenger, the Jews and the Christians?" He said, "Whom else?" In another Hadith narrated by Attabaraani with a good reference attributed to Abdul Rahman bin Auf, that the Messenger (PBUH) of the Almighty Allah said: "the archenemy, May Allah damn him, said: I will tempt the rich/money owners in three ways: to gain money in prohibited ways, to spend it using wrong methods and prevent them giving to the poor."

Also, the Prophet Mohammed (PBUH) advised all Muslims to follow him and the rightly guided caliphs, because that brings them the protection from the consumption models that are in contradiction to the quietude of the human psyche. These models are strongly supported by cultural factors, specific media and the internet (for more details, Ng and Lee 2015). Such an information system could excite the desires and pleasures of the human being, and could decay his/her honorable ethics values and causing a dynamic weakness in his/her faith. Many consumers tend to adopt imported consumer behaviors or the behavior of the hypocrites of the Muslim communities. This imitation affects the economic and social reality of Muslims. Therefore, the members of the Islamic community need to establish and install ethical and faith values in the new generation in all aspects of worldly life such as home, school, and market. Such a strategy could protect the individual and his/her family from the evils of all consumption behaviors that cause deviation in his/her appropriate and fair spending behavior. This latter is based on Halal earning, prioritizing Halal spending on good and pure things without lavishness or wastefulness and miserliness or avariciousness. The legitimate controls of the legal objectives of Shariah (Maqasid) are explained in several pioneer contributions about such purposes (Jouini 1028-1085 AD, Ghazali 1058-1111 AD, Shatiby 1320-1388 AD). They are extended and clarified in some recent papers (Raissouni 1992, Alkhadmi 2001, Almassri 2001). These Shariah controls lead to saving the religion, human being, mind, progeny and money.

6. Conclusions

The consideration of ethical and faith dimension in the economic analysis makes the Islamic principles of great importance in connecting the worldly life to the Hereafter. The ethics are activated to achieve them respecting many good attributes that are encouraged by the Islamic Shariah and warned of the malicious attributes to refine the human being instincts and its

psychological natures. The ethical values cannot be dissociated from the faith values, but interact together and evolve within the Islamic principles to make the individual righteous with his/her community and the community virtuous with its members. In principle, there is a position, which represents the balance in which occurs the fairness in the spending behavior and achieves the usefulness of both the individual and his/her society. This fairness requires the absence of the wastefulness to avoid a sudden stop of the spending; also the absence of the niggardliness leads sooner or later to the anguish and inability.

The utility, arising from the fair consumption of Halal G&S and requiring Halal earning, brings the legitimate usefulness and drives back the damage. Also, the attempt to legitimate livelihood leads to the prosperity i.e. Shariah success in the worldly life through both the materialistic satisfaction and the Hereafter by the Almighty reward. This great reward is a one of the most significant incentives that regulate and control the individual and the Muslim community behaviors. Such behaviors are based on their Shariah-compliant faith and moral values according to the legitimated and authentic explanation of the Qur'an and the Sunnah, which help to make the rationale decisions and straighten wrong decisions.

This paper treats Shaibani's (750-805 AD, 131-189 AH) analysis of earnings, consumer utility and social spending by using mathematical modeling. According to Shaibani's model, the imperative earning face the spending on necessities, the recommended consists of enlarging some needs and the permissible expands the *spending scope* to the self, family or the social needs. Shaibani considers that the earning is related to the economic activities in every era and that the spending size depends basically on the spending budget that cannot be dissociated from the available income for the expenditure. He considers that the earning and the spending are multi-dimensionally related at devotional, material, ethical, social and Shariah-compliant levels. Also, he conceives that the attempt in earning is similar to the effort in the required worship and the voluntary adoration. For that reason, there are three layers of earning the imperative, recommended and the permissible. It appears that the fair and upright Muslim consumer has to prioritize his/her spending according to the needs of him/her self and his/her family. Such priorities consist on the imperative spending to get the necessary utility, followed by recommended spending to reach the recommended utility, after that the permissible spending to achieve the permissible utility. This latter spending consists of

expanding the extent of needs to enjoy the G&S of the worldly life without exceeding the overspending threshold.

The most significant contributions of this paper are firstly the use of instrumental variables to find an indicative variable that approximates the ethical and non-ethical consumption levels through the wastefulness and the niggardliness thresholds. These latter are determined by the average or the median of the observed consumption and the semi-standard deviations from the long-run trend of the consumption. Secondly, it appears that the impact of Zakat on the MPC is mainly related to the first differences in the marginal propensity of the first group and the marginal propensity of the other group. In principle, the Zakat system is reliable on both the flows and the accumulation such as the financial and non-financial assets that lead to potential returns. So the Islamic consumption function integrates the impact of the assets on the macro consumption. While the consideration of the assets effects on the macro consumption function appeared recently in the Western consumption theory (Kimball 1990, Romer 2006). Thirdly, we focus on the third group due to its ability to get every layer of utility from the imperative to the permissible. Considering that the believer third group members do not seek to meet the permissible utility completely, but only partially. Because the wealthy utility function is a function of the utility layers of the other groups through a coefficient that measures the extent of the altruism and the Shariah abstaining. This latter shows the range of the thankfulness of the Almighty Allah for His blessing, beneficence, and renewed kindness. The social welfare function renders the affluent consumer's permissible marginal utility connected to the extent of the interaction of his/her belief holding with the change in the utility satisfaction of the other groups. Such interaction drives to the transfer of purchasing capabilities towards the targeted group. We find that the faith dimension of wealthy group means that this group gets a unitary elasticity as a maximum limit of their utility. Also, this belief holding generates new variables related to the Hereafter world consisting of the bestowed reward and hidden support as worldly life reward. Other rewards will be created in the hereafter implying to a steady eternal utility function and conducting to an optimum of the marginal utility with the elasticity greater than one.

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