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A consumer and social welfare model based on the writings of Shibani (750-805 AD, 131-189 AH)

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Following the international financial crisis, several academic institutions, such as the Institute for New Economic Thinking (INET), have sought to renew the economic paradigms and highlight their ethical dimension to better understand the economic and financial behaviors of the individual and groups in the community.

Already the economic theory of Keynes, 1936, referred to the animal instincts of capitalists to explain individual economic behavior relating to optimism, pessimism, and overconfidence (Piroscă, 2011). However, despite the fact that mainstream economics models attempt to moralize the economic and financial life (Harsanyi, 1955; Sen, 1987; Sauer, 2003), the usual paradigms only addressed materialistic consumer satisfaction. Recently, the 'ethical utility theory' proved relevant to the explanation of some economic behaviors (Schneider et al., 2011; Khan, 2013). However, it also needs to be developed keeping in mind that the concept of utility does not adhere to religious teachings (Parada-Contzen, Parada-Daza, 2013). We cannot consider the ethical dimension and metaphysical faith of human beings within economic analysis without taking into account the religion which connects the worldly life to the afterlife (Barro, McCleary, 2006; Nixon, 2007). Ng, Lee, 2015, analyze in detail topics like cross-cultural consumer behavior and consumer impulsivity, but recognize that there are substantial gaps in pertaining literature. Such gaps include the relationships between

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consumption and faith, consumption 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 of these gaps by analyzing the effects of ethics and Islamic belief holding on consumer behaviour, inspired by the work of Imam Muhammad ibn Hassan Shibani (750-805 AD, 131-189 AH).

Shibani was born between Kufa and Basra in 131 AH after his father came from the east of Damascus. He grew up in Kufa, known at the time as a science hub. At the age of fourteen years, he joined the scientific circle of Imam Abu Hanifa (699-767 AD, 80-150 AH). He completed the Fiqh conferences by Judge Abu Yusuf (731-798 AD, 113-182 AH). During this time, he acquired 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 Fiqh, Arabic, Algebra science and others. He served as teacher of noted 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 worked on the codification of Islamic jurisprudence and classified this latter using a new approach. He produced the statements in a discreet and clear manner and addressed the most complicated subjects in the Shariah that mattered to detect the legislation secrets Nadawi, 1994). Shibani dealt with financial and economic issues and explored in unprecedented depth topics related to earnings, savings, and spending. He is the pioneer in the analysis of Islamic economics issues (Dounia, 1998; Eldasoqi, 1987). Shibani was among those precursors who addressed the legal objectives of the Shariah (Shariah Maqasid) before the work of Jouini (1028-1085 AD, 419-478 AH).

Following Shibani's (750-805 AD; 131-189 AH) analysis of earnings, we can model the ethical behavior of the consumer using a Halal utility theory[1] and the concept of 'layers of earnings'. Chapra's

[1] Halal utility corresponds to lawful utility versus unlawful (Haram), as defined by the Shariah.

approach (Chapra, 2000) sets, for all layers of income, an ordinal level of "imperative", "recommended" and "permissible" needs. A multilayer approach is more appropriate and depends on "income power" as defined by Shibani; in this case, the layer of needs corresponds to the layer of earning. But the variability in satisfying the layer of needs depends on individuals' layer of earning, time of spending, belief holding, and ethics in economic behavior. Due to possible confusion in belonging to a certain cluster of income, the consumerism that aims to satisfy excessive desires generates selfishness, and often leads to frustration and futility of material goods and services (G&S) because it does not achieve self-welfare.

Many theoretical papers analyze consumer behavior through the lens of the Islamic economics paradigm; notable examples include Kahf, 1980; Khan, 1984; 1992; Zarqa, 1980; 1992; Iqbal, 1985; Ben Jilali, Taher, 1989; Mahboub, 1991; Zaman, 1992; Ben Jilali, Azzamil, 1992; Hasan, 2005. For instance, Kahf, 1980, includes the Zakat[2] rate in the mainstream utility function, implicitly assuming that the Muslim looks up to maximize his/her worldly life utility and his/her expected afterlife utility functions. Zarqa, 1992, suggests an implicit partial explanation of consumer behaviour focusing on the comparison between worldly life outcome of the utility function and its afterlife recompense. Hasan, 2005, considers the utility function as an analytical tool to measure the expected satisfaction derived from respecting the legal and moral obligations.

By using Shibani's classification of earnings, we find that the Zakat may increase the aggregate marginal propensity to consume

[2] The Zakat is a mandatory form of worship in the financial domain and consists of a first re-distribution of wealth in the economy. Etymologically, the term Zakat means 'purification' in the religious sense. Such purification becomes effective when the income, saving and assets reach together a defined threshold, which is determined by the value of 85 grams of pure gold by the current price of the standard gold bar. It consists of transferring money, via government or associations (or directly if there are no channels), to those earning an income below a certain threshold. The Zakat is a soft Islamic-tax because its rate is low, varying from 0.025 to 0.10. For more basic analysis of Islamic economics, the reader is referred to Asutay, 2007; Hasan, 2015; Askari, Iqbal, Mirakhor, 2015.

(hereafter, MPC) since it transfers income from lower-MPC groups (i.e. 'rich' people) to higher-MPC groups (i.e. 'poor' people). Besides, considering the utility function of the wealthy group, we find that the social welfare function and the religious motivation make the affluent consumer's permissible marginal utility connected to the interaction of his/her belief holding with the change in the utility satisfaction of the poor and middle-income groups. We show that, through religious faith holding, the wealthy group gets not only a unitary value of the elasticity as a superior limit of their asymptotic elasticity of the utility in the worldly life, but also an optimum of the marginal utility with asymptotic elasticity greater than one in the afterlife.

The Zakat effect consists of a redistributive mechanism that increases the income of the lower layer of earners in the society. Such effect works continuously because it depends on the Zakat-period of each member of the wealthy group. The Zakat mechanism, particularly when monitored by government institutions, leads to ameliorate the life conditions of the needy and stimulate economic growth. The welfare assistance provided through the Zakat system and voluntary giving reduce earnings inequality and increase satisfaction in all layers of society, thus improving the quality of life. In an Islamic ethical sense, social solidarity means mutual support that could help face any economic or financial difficulties at the individual or family level. Such solidarity, alimented by emotional bonds, improves the social security system and it is a financial aspect of worship in Islam. According for example to Bjorvatn, Cappelen, 2003; 2006, the effects of globalization on people's disposable income make an increase in redistribution necessary. Globalization and its social implications, by leading to expanded modes of consumption and accelerated growth in credit, highlight the importance of re-distributional efforts of both the social community and government through specific programs to reduce the increased inequality mostly in wealth, education, and housing. Social solidarity is realized through a variety of mechanisms such as Zakat

funds, social spending funds (social Infaq), and Waqf[3] funds, in addition to other social connections that improve the fraternity between society members and foster individual and collective responsibility. These mechanisms are part of of the main principles of Islamic economics. Social solidarity is also subjected to trust in an Islamic government, which can intervene to enhance the poor's condition through education, health, and infrastructure without impeding economic growth and wealth creation. The institutionalization of Zakat is a State responsibility, while Sadakat and Waqf are run and managed mainly by social foundations and associations.[4]

The paper is organized as follows: by considering Shibani's approach along with the Zakat transfer, the spending model is detailed in section 1. I then discuss the utility layers depending on the imperative, recommended, and the permissible earnings in section 2, and conclude in section 3.

1. Modeling Shibani's concepts of spending

1.1 Concepts of earnings and spending

While the theoretical economic works by Shibani are not yet explored in detail (Khassawneh, 2010; Mustafa, 2011), we can here build on Shibani's model of spending associated with three levels of earnings. Earnings include all permissible (Halal) sources of income from Shariah-compliant activities such as leasing, trade, agriculture and industry. Shibani's concept of earnings net of the Zakat is much more accurate for our aims than the mainstream concept of available

[3] The Waqf is defined as a permanent transfer of property from personal ownership to ownership of the Almighty Allah. It is managed through a philanthropic sector.

[4] During Omar Ibn Abdulaziz's sovereign (682-720 AD), the collection of Zakat was effectively implemented by the government in line with prescribed Zakat rules, leading to full satiation of poor groups and an accumulation of Zakat in goods such as cereals, olive oil, dates, etc. (though not in money) which could not find poor recipients.

income as in the conventional theory of consumption. The Muslim earner may increase his/her efforts in an ethical and religious sense to achieve more self and family expenses. Such consumer behavior is dynamic and continuously connects the worldly life to the concept of the afterlife. Besides, Shibani explained the importance of saving, which is fundamental for accumulating capital and increasing wealth through "permissible abstinence" as mentioned in his *Kitab AlKassb* (*The Book of Earning*):

> "the decline in spending on one's relatives – or blood relationships – leads to a rupture of relations, thus it is recommended that he spends his earning for his relatives. After that, he can expand his earnings and save more money, or he can decide that his earning is enough, because among the predecessors – mercy of the Almighty Allah on them – some saved money and some of them did not; then both behaviors are permissible" (Shibani, 1997, p. 10, my translation).

The rationality of Islamic consumer behavior[5] is augmented by a religious dimension, which establishes faith-based relationships between worldly life and afterlife. There exists a materialistic logic that could lead to optimal satisfaction in the earthly life. But if this satisfaction is based on expectations for the afterlife, which is the case for the believers, it will generate augmented afterlife satisfaction too. Such double logic leads to a 'dual' utility, which is called *Falah* (success) by many Islamic economists. An 'eternal utility function' would apply for the afterlife.[6]

According to Shibani's definition, the concept of earnings indicates the acquisition of income in legitimate ways. Earnings are

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[5] The literature on Islamic economics-oriented behaviors is still in its first steps as a research program on "behavioral Islamic economics" (BIE). There are many complicated issues involving poverty, obesity, charitable giving, and increasing faith-holding among others.

[6] As suggested by a reviewer, it is relevant to distinguish utility from *Falah*, i.e. earthly and heavenly wellbeing, which depends on life, property, faith and intellect. I believe that these concepts, especially earnings layers, need more analysis that could make them exploitable statistically and then testable in empirical analyses. The renewal in the definition of earnings would make a significant contribution to the Islamic economics literature through the classification of data depending on the specific Islamic economics model.

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 a level of spending accepted by the Almighty All-Provider. Also, the spending of a fraction of the Halal earning for social purposes is required to maximize utility in the worldly life and the afterlife. The economic analysis of Shibani makes the consumer utility function a multi-dimensional devotional, material, ethical, social, Shariah-compliant function. There are three layers of earnings: (*i*) the imperative; (*ii*) the recommended; and (*iii*) the permissible, to be elaborated on in the following paragraph.

Shibani details spending for oneself in an enlarged sense, which includes personal spending as well as spending for all members of the family and parents. Here, the Islamic consumption theory makes progress in the social dimension of the human being compared to the analysis of conventional economics, which focuses on individual selfishness, i.e. egocentricity. According to Shibani, the recommended and permissible earnings of the individual support the implementation of a social spending network, which improves his/her belief holding or 'ethical returns'. The social spending includes all of the worshipful expenses such as Zakat and others social giving to the relatives and the other families of the Islamic community.

According to Shibani (750-805 AD), the layers of earnings are arranged from imperative earnings, recommended earnings and permissible earnings, respectively. Imperative earnings concern what meets the basic needs of the individual, his/her family dependents and his/her parents through the "kindest of expenditures". These needs are related to food, clothing, housing, remedy, education, and transportation. The necessary earnings helps to settle the previous licit debt, if any, and to make a possible saving effort by deferring a fraction of consumption spending for the future.

By requesting a reward from the Almighty Allah and through the recommended earnings, the person aspires, in addition to realizing individual needs and that of his/her dependents, to meet the needs of others members of his/her enlarged family. The marginal income

acquired through the recommended earnings provides the main financial support of the relatives and those needy among the friends, who cannot reach their imperative needs. Shibani's *Kitab AlKassb* explains this phenomenon:

> "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 spending is not due on his/her earnings 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 recommends that" (*ibid*., p. 10).

This marginal earnings, or earnings for goodness spent on the poor and needy, is linked to the initial earnings that should be basically above the threshold of the Zakat (*Nissab*). Besides, it should be spent for the needy members of the Muslim community to spread the ethics of social solidarity, i.e. organic cohesion of the individual and the family. This solidarity consists of instilling a cooperation and collaboration spirit among the individuals and the families of the Muslim society.

Permissible earnings are what expands the earnings scope for enlarged spending for the individual, his/her family, and other members of society. It implies an increased economic responsibility of the individual and his/her family vis-à-vis the Muslim society. Shibani shows that the expansion of earnings is a legitimate request as long as it leads to an increase in public welfare and community wellbeing. The expansion of the livelihoods through economic investment may shift over time the earnings of some needy families to an upper layer of income (the second layer). This new income may reach the Zakat threshold, which consists in earning enough to become an affluent family among the families of the third layer of incomes.

The concept of marginal earnings, considered as part of either the recommended or permissible earnings, descends from social solidarity. Marginal earnings are those transferred to the poor and needy groups. It is not necessary that they lead to a decline in the MPC of the wealthy group. Rather, assuming that the poor do not yet cover

the essentials needs for a decent living, the transfer of a significant part of the marginal earnings to the needy increases the size of their expenses. Such spending covers food, medical expences, education for children, or housing benefiting family members. If the attempt to earn a higher marginal earning leads to an increase in economic growth, it could lead to the achievement of a better standard of life, particularly for the poorest members of society. This attempt is motivated by the desire of the middle class and the affluent groups of society to gain an afterlife reward. The income transfer to the needy group is equivalent to the reduction of the recommended utility of the middle group or/and the permissible utility of the wealthy group. This point will be elaborated in the following section. Therefore, the recommended earnings or permissible earnings distinguish the growth system in Islamic economics and reveals the importance of these variables in explaining the volume change of consumption spending.

Since earning is motivated to face the necessities for a decent life it probably allows to achieve the imperative utilities. The attempt to earn more is explained by the expected satisfaction of the needs and extra-needs (i.e. superior needs) to satisfy the recommended and permissible utilities. The marginal earning, that leads to a new improved layer, is also a reaction to satisfy the necessities of the poor and needy groups and to contribute to social justice. It consists of shifting some purchasing ability from higher groups to lower groups.

Self-control of the consumer depends on the extent of his or her faith holding, which is based on the teachings of Quran and Sunnah. By offering alms, the consumer expects more reward in the hereafter than in the worldly file. Thus, social responsibility, as an outcome of faith holding, makes the utility function of the wealthy group sensitive to the utility of the poor (first) and needy (middle) groups of society. The utility function of the middle social group too depends on the utility of the first layer of earnings. Social responsibility increases not only with the earnings level, but also with the level of belief. Consequently, the relevant constraints of the optimal utility of the wealthy have both a financial and an ethical-religious nature.

1.2 Augmented marginal propensity to consume

Many previous papers, such as Khan, 1984; Iqbal, 1985; Ben Jilali, Taher, 1989; Mahboub, 1991; Ben Jilali, Azzamil, 1992; Khan, 1992, analyzed the impact of Zakat on the aggregate consumption function of a Muslim economy. From such models, we can compare the marginal propensity to consume for each earnings group in the community. But according to Shibani's model the attempt to earn the recommended and particularly the permissible earnings has a direct impact on the poorer groups. Thus, the nominal increase in the gross domestic product (ΔY_t) leads to an increase in the MPC.

From the original work of Shibani on consumer behavior, it appears that Islamic economics was a pioneer in integrating an ethical dimension in the consumption function. The relevant ethical variables explaining consumption could be summarized by the *net earning* of Zakat, *fairness efforts in consumption* leading to a blessing of the earnings, *marginal earning* for getting from Almighty Allah a reward in this worldly life and afterlife, and the *Zakat* on both the individual earnings and assets.

Thus we can formulate the implicit consumption equation as $C_t = C[Y_t, \Delta Y_t, A_t, Z_t(Y_t, \Delta Y_t, A_{t-1})]$, subject to the conditions (1a) and (1b) below of ethical consumption, where C_t stands for the private consumption of the families in an Islamic community, Y_t represents the disposable domestic earnings (DDE), ΔY_t is the marginal domestic earnings of wealthy groups transferred to the needy groups, $Z_t(\cdot)$ indicates the Zakat function, A_t symbolizes the value of assets at the end of the current period t. Using the average $\bar{C}$ and the semi-standard deviations of consumption, σ_+ and σ_-, we define overconsumption in the second condition of (1a) and under-consumption in the second condition of (1b):[7]

[7] Instead of the average of all observed consumption, we can use the median to avoid considering outliers. We can define the average $\overline{C_+}$ (or $\overline{C_-}$) of the observed consumption that exceeds (or does not exceed) the trend or potential consumption.

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

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

where $C_{eth\pm,t}$ and $C_{neth\pm,t}$ respectively represent the prescriptive and ethical consumption without waste or avarice and the unethical consumption with waste or avarice.

All variables are expressed in constant prices. As a theoretical basis for spending in the Islamic economy, this implicit consumption function indicates its intrinsically dynamic system. It measures the marginal propensity to reduce the disparity in the earnings distribution not only through the conventional Zakat mechanism, but also through the marginal earnings mechanism, which directly increases the purchasing power of the poor and needy groups.

To generalize this model, we could assume that the government may implement new economic and social policies encouraging more ethics in the economy. Indeed, the religious motivation based on expected rewards in the afterlife does not necessarily imply that such behavior should be present among all members of the society. In a Muslim economy, continuous efforts could be made to change the individual or family deviations from the behavioral rules outlined by the Shariah.[8] The impact of the individual faith-oriented behavior is manifested firstly at the family and community levels, and is from there spread on the societal level. In our framework, the individual ethical behavior leading to a redistribution of earnings should also incite the government to put in place policies providing for a

[8] Faith holding is a personal decision subjected to the Almighty Allah, but its construction is implemented with a dynamic interaction with the members of society. The faith stability of a Muslim economic behavior depends on the effective operationality of the Islamic principles vis-à-vis all members of the community either with null, lower or higher level of religious practices. Such positive behavior could extend the importance of Islamic faith holding between the members of society, and help for a cooperative connection between them.

redistribution of social benefits. Reciprocally, the ethical dimension of government policies should be manifested through programs aiming at alleviating poverty and smart social security networks providing health, education, and housing services. Such mechanisms would help develop ethical behaviors at the individual and family levels. Nevertheless, within an Islamic political economic framework, the government's direct role would be at a minimal (Chapra, 2014).

The welfare system that we explore is based on belief holding that orients the individual optimal utility. It is thus different from conventional subjective utility, and it remains related to the social policy implied in an Islamic economy. The underlying welfare theory has a high moral charge and appears similar to welfare in Pigouvian sense i.e. as an ethical concept (Bernheim, Rangel, 2007; 2009). The approach to ethical consumption is normative and prescriptive, but it does not assume the predominance of ideal behavior. Its implementation is related to the intensity of belief holding. Nevertheless, the public leadership at the community or societal levels should exhibit such ethical behaviors to incite the individuals and families to replicate them.[9]

As previously discussed, Shibani's analysis divides society into three groups: the first (poorest) receives Zakat from the second (middle-income) and third (richest). Hence, when we do not consider the savings and assets of the wealthiest group, the macro consumption function in the long-run can be formulated as follows:

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

[9] As indicated by a reviewer, the real ethical behavior oriented by Islamic principles has been omitted and lost for centuries in many Muslim countries. But, even if there are many historical shocks and after the globalization that perturb the secondary features of the Islamic consumer model, the core element of the ethical behavior persists. It still requires a permanent connection between worldly life and hereafter. The Almighty Allah fully and completely knows the veracity and intensity of such relationship. Such persistence would be running dynamically and independently to the existence or not of an Islamic regime. There is no automatic link between individual or familial beliefs and the government behavior even if this latter defines itself as following an Islamic system.

where the parameter β_i represents the MPC of each group $i = 1, 2, 3$. The parameter μ_2 stands for the share of the middle group in the domestic income, and μ_3 is the proportion of the income of the wealthy 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 other factors that affect consumer behavior. We can thus determine the MPC in the long-run:

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

Following Shibani's approach, if we assume that the marginal earnings contribution for 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 (2b) is enlarged by the following:

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

where θ_3 is benefactors' share of the marginal increase in output. Also, we assume that the Zakat is applicable to this marginal income, $(1-\theta_3)$. Thus, the marginal net income (the contribution) of the Zakat of the wealthy group becomes $\theta_3(1-z_1)\mu_3\Delta Y_t$, and the marginal income of the needy group $[(1-\theta_3) + \theta_3 z_1]\mu_3\Delta Y_t$. The effort of the wealthiest group to earn higher earnings is motivated by an increase in happiness in this worldly life as well as improved reward in the afterlife. We expect that this ethical dimension, engendering the benign impulses on the community members, will lead to competition among the members of the wealthy group. Thus, when such competition is active, there would be a dynamic convergence in the marginal propensities to consume 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:

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

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

with $\frac{\partial MPC}{\partial \beta_i} > 0$ and $\gamma \frac{\partial MPC^*}{\beta_3} = \frac{\partial MPC^*}{\partial \beta_3} - g_Y \mu_3$. Comparing (3b) with (3a), we deduce that the marginal income of the rich group leads to an increase in the livelihood of the poor group. Therefore, its contribution is rising in the macro MPC:

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

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

The effect of the Zakat on the macro marginal propensity to consume is mainly associated with the first difference between the marginal propensities of the poor group and the other groups. The activation of the marginal earning, motivated by a promise of rewards for righteous deeds and goodness, further 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.[10] Therefore, when this group receives the Zakat, its members can satisfy to some extent the basic necessities of food, housing, clothing; that is, they can reach the subsistence level. As for the middle group, we assume that its members reach the Zakat earning threshold, which makes this group able to fully satisfy its basic needs and have a decent livelihood.[11] On this basis, it can be assumed that $\beta_1 > \beta_2 \geq \beta_3$. Therefore, each increase in the rate of Zakat will lead to an increase in the macro MPC.

If we consider the parameter β_1 as a reflection of the parameters β_3 and β_2 through the determinant variables of the macro consumption, savings, and assets that are subject to Zakat, the MPC cannot be dissociated from the Zakat system. The conventional theory of consumption has been expanded to integrate the impact of asset ownership through the so-called wealth effects (see Metzler, 1951).

[10] Since that Zakat is not limited to income but concerns assets too, its impact on aggregate consumption will be amplified and will be larger than the impact expected by conventional Keynesian theory.

[11] The sufficiency boundary is considered as an approximate level of decent living because it depends on the customs and conventions of the community and the orientation of the Shariah scholars. It varies across time and social environments.

2. Ethical permissible utility and its asymptotic elasticity

The classification initiated by Shibani considers three distinct earning processes. The layer of spending is defined according to the layer of earnings, and each process generates a corresponding layer of utility. In this framework, the imperative utility (IU) corresponds to required G&S for a decent livelihood for each layer of society and particularly the poorest group. The imperative utility differs between earnings layers; the IU of the wealthy group is related to its social and economic position. However, the recommended utility (RU) will be possible through a recommended level of earnings, which allows to satisfy some personal and family needs of the middle group. The ethical-religious behavior of the middle group helps escaping the invidious behavior described by the 'keeping up with the Joneses' thesis. This phenomenon is largely observed in many societies around the world (Stutzer, 2004; Luttmer, 2005). Besides, the permissible utility (PU) is realizable through the permissible level of earnings. Due to belief holding, the wealthy group does not spend on luxury G&S when there are people in society who cannot meet the basic necessities. Also, even in the unlikely hypothesis that there were no poor members of society, the wealthy group would have to behave in accordance with the Shariah, which encourages fair and equilibrated spending.

2.1 Ethical permissible marginal utility

We can analyze Shibani's model of utility by defining the *imperative utility* (IU), *recommended utility* (RU), and the *permissible utility* (PU). There are three groups of families in a community, depending on the layer of earnings and the satisfaction levels related to three layers of utility.[12] The wealthy group can satisfy all layers of utility, but the poorest group struggles to meet the first layer of utility,

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

IU. It is obvious that the first and second layers of utility depend on the bundles of G&S consumed. Thus, the middle (wealthy) group would have different G&S consumption compared to the poor (middle) group to satisfy the same layer of utilities IU (RU). We observe that needs are regulated and organized according to their legitimate determinants, starting from the imperative, to the recommended and, lastly, the permissible. They also depends on whether a need is Shariah-compliant and respecting fairness in all the spending process. Also, there is negative utility, which is a form of damage that can be divided into two types: the illicit, that is, not accepted by the Shariah, and the hateful, disapproved by the Shariah.

If we focus on the members of the wealthy group, we can discuss the impact of their behavior, through consumers' utility U_3, on the utility of the other groups. The wealthy group can satisfy all layers of utility from the vector x of G&S: the imperative across x_1, recommended through x_2 and the permissible across x_3. We assume that the believer wealthy group members will seek to meet the permissible utility totally or partially, if they know that the poor group reached their imperative utility and that the middle group covered its recommended utility. As stated in Shibani's *Kitab AlKassb*: "what was recognized as generalized utility is better, from the saying of the Prophet Mohammed (Peace Be Upon Him)"[13] and "the better of the people who give utilities to people" (Shibani, 1997, p. 6). Shibani highlights the importance of righteous work: "that there is no preference for additional earnings, that implies zero donations" (ibid., p. 12). This makes the rich group's utility a function of the utility layers of the other groups, and thus the utility program of the wealthy believer can be expressed as follows:[14]

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

[14] We suppose that the utility function is continuous and increasing, but subject to the law of diminishing marginal utility when satisfaction is increased. The utility function is completely quasi-concave in $\mathbb{R}^{n}_{+}$.

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

where p_i indicates the price index of the G&S of layer i. 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. Our focus is on 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, that is, necessities of the poor group and recommended utility, covering the needs of the middle group. Also, the social welfare utility function[15] $f(\cdot)$, which depends on self and social usefulness, expresses that the permissible utility, through x_3, is not sought by the affluent consumer unless he/she learns that most of the poor group of families successfully managed to meet the marginal necessities i.e. imperatives ΔU_1. It must be assumed that a majority of the middle group succeeds to satisfy the marginal needs ΔU_2; thus, the coefficient α, measuring the belief holding of the wealthy group, indicates the *partial activation* of the permissible spending, with $\alpha < 1$.

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 $U_3(\cdot)$ is completely quasi-concave, the solution is unique. Assuming the differentiability of $U_3(\cdot)$, we can distinguish the solution y_3^* by the first order conditions. Hence, defining the Lagrange multiplier $0 \leq \lambda_3$, we obtain:

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

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

We can reduce the first order conditions to the following equation, 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. The solution y_{33}^* and $(x_{31}^*, x_{32}^*) = x_3^*$ maximizes the utility function of a wealthy Muslim.

By considering the faith dimension, the affluent consumer does not 'behave like Quaroon' (a very fortunate person who lived during the period of the Prophet Moses Peace Be Upon Him), but wishes the approbation of the Almighty Allah (Montasser, 1989). In principle, the attempt towards the highest satisfaction from the consumption of permissible G&S leads to the following equation:

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

This indicates that the permissible marginal utility is correlated with the extent of the interaction of the belief holding of the wealthy consumer with the change in the utilities satisfaction of the other groups 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 consumer equilibrium, we find an estimation of this element at an equilibrium point that represents the consumer's preferences:

$$\frac{\partial f}{\alpha \partial x_{33}} = \frac{p_3}{p_2} \cdot \frac{U_{32}'}{U_{33}'} = \frac{p_3}{p_1} \cdot \frac{U_{31}'}{U_{33}'}$$

If the affluent consumer knows the relative prices of the imperative, recommended, and permissible G&S, and he or she 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 his or her PU. Such

behavior contributes to a positive change, particularly in the imperative utility of the poor group and in the recommended utility of the middle 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 belief holding interaction element is:

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

When the effective willpower of the wealthy Muslim consumer's faith is activated, a positive change will occur in the imperative utility of the poor group and in the recommended utility of the middle group. The positive change in the IU of the poor group and RU of the middle group can be measured by the quantity $\left(\frac{\partial f}{\alpha \partial x_{33}} - 1\right)$. Such transfer to the needy group is operated either directly or institutionally through organizations and social associations that manage the distribution of social funds to targeted families. According to Saez, Stantcheva, 2016, an additional purchase power has a greater impact on lower income individuals than for higher income individuals. This principle of transfer is the core of Islamic economics principles such that the individual, near relatives, family, neighborhood, and community must organize anti-poverty programs through Zakat funds, Sadakat social giving, and Waqf funds oriented by faith.

If it is possible to rectify the initial acquisition of property according to a justice principle, the re-allocation of resources among people could reduce the inequality between the layers of earnings. Even if the level of injustice is reduced, the inequality will remain due to many factors as the abilities and talents differences in the society. As a consequence, the redistribution will have a significant role in shrinking inequalities and escaping the risk of social instability and insecurity. The Zakat system, Islamic social giving, and the Waqf system are better redistribution tools leading to more economic justice and less poverty. We expect that the ethical increase in permissible spending due to these tools will not lead to ensuring a

decent livelihood and satisfying the necessary utilities. Furthermore, in case of the highest and deepest belief holding, and when the middle group succeeds to achieve most of their needs of a decent life, it is possible that the poor group would fully benefit from the purchasing capabilities transfer.

2.2 Asymptotic elasticity of the ethical utility

In principle, concave functions imply a problem of homogeneity loss. Thus, we turn to the Δ_2 condition in Orlicz spaces theory (Krasnosel'skiĭ, Rutitskiĭ, 1961; Rao, Ren, 1991). This condition replaces the homogeneity property with a minimum limit that allows to determine the limit of the asymptotic elasticity of utility when the permissible spending y_{33} tends to infinity. It can be assumed that the utility function of the wealthy group is subject to the condition of the reasonable asymptotic elasticity (Kramkov, Schachermayer, 1999). We thus obtain the following lemma.

Lemma 1: If the utility function U_3 in system (4) is strictly concave and increasing, and y_{33} has real number values, then the asymptotic elasticity $AE(U)$ is defined clearly, and with $U_3(\infty) = \infty$ we have

$$0 \leq \lim_{\mathrm{y}_{33}\to\infty} \sup \frac{\mathrm{y}_{33}U_3'(x,\mathrm{y}_{33})}{U_3(x_{31},x_{32},y_{33})} \leq 1 \qquad (5)$$

Proof: Since U_3' is a monotone and decreasing positive function for all $\mathrm{y}_{33} \geq 1$, we have

$$0 \leq \mathrm{y}_{33}U_3'(x,\mathrm{y}_{33}) \leq (\mathrm{y}_{33}-1)U_3'(x,\mathrm{c}) + U_3'(x,\mathrm{c})$$

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

$$U_3(x,\mathrm{y}_{33}) - U_3(x,1) = (\mathrm{y}_{33}-1)U_3'(x,\mathrm{c})$$

Then,

$$0 \leq \mathrm{y}_{33} U_3'(x, \mathrm{y}_{33}) \leq (\mathrm{y}_{33} - 1) U_3'(x, \mathrm{c}) + U_3'(x, \mathrm{c})$$
$$\leq [U_3(x, \mathrm{y}_{33}) - U_3(x, 1)] + U_3'(x, 1)$$

Therefore, with $\lim_{\mathrm{y}_{33} \to \infty} U_3(x, \mathrm{y}_{33}) = \infty$ or $U_3(\infty) = \infty$,

$$0 \leq \lim_{\mathrm{y}_{33} \to \infty} \sup \frac{\mathrm{y}_{33} U_3'(x, \mathrm{y}_{33})}{U_3(x, \mathrm{y}_{33})} \leq \lim_{\mathrm{y}_{33} \to \infty} \sup \left(1 + \frac{U_3'(x,1) - U_3(x,1)}{U_3(x, \mathrm{y}_{33})}\right) = 1$$

Inequality (5) is similar to condition Δ_2 in the theory of Orlicz spaces (Biagini, Frittelli, 2008). The result (5) of Lemma 1 is deduced from the elasticity of the wealthy group's utility to y_{33}, or $E(U_3, \mathrm{y}_{33})$. Variable y_3 reflects the benefit from the permissible G&S by taking into account the positive change in the imperative utility of the poor group and recommended utility of the middle group. The asymptotic elasticity implies that when y_{33} tends towards infinity, then the faith dimension of the wealthy group implies 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 conveying the meaning of condition (5).

From the result (5), 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 his or her consumption for the permissible and desirable G&S. This outcome differs from what is prevailing in conventional economic analysis, where the increase in the income of the wealthy inevitably leads to a substantial increase in the purchasing of luxury G&S. This general idea includes the possibility that the elasticity of the utility could be greater than unity.

Let us assume that the composite utility function $f(\cdot)$ consists of a social welfare function $SU(\cdot)$, which is positive and defined from $\mathbb{R}_+^{\mathrm{n}}$ to $\mathbb{R}_+$, and where the coefficient $(1 - \alpha)$ measures the extent of altruism (Kolm and Ythier, 2006) and the Shariah-compliant abstaining of the wealthy consumer and his/her family.[16] Thus, the

[16] Such coefficient also shows the extent of thankfulness of the Almighty Allah for blessing, beneficence, and the renewed kindness.

social welfare function is related implicitly to the imperative G&S of the poor group and recommended G&S of the needy:

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

where $h(\cdot)$ defines the inverted social utility function. We assume that the social welfare function leads to a positive change in the imperative utilities of the poor and recommended utilities of the needy group of people. If social altruism disappears after the Shariah-obliged Zakat is performed, then $\alpha = 1$. In this case, the wealthy consumer spends on him/her self and his/her family without providing anything for the poor and the needy, that is, $y_{33} = x_{33}$. Considering 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 material utilities, it follows from the previous equation that

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

A new variable y_{34} can be created to express the reward that the Muslim expects in the afterlife (Zarqa, 1980; 1992). Indeed, the members of the wealthy group can enjoy part of the reward in this worldly life through their thanksgiving, from the evidence mentioned by the Almighty Allah in Chapter 14 Ibrahim (Abraham), 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 in welfare occurs before the afterlife in form of hidden support. However, its signs are tangible and perceptible; they can include the affliction pushing, kindness of the predestination, benediction in spending, benediction in earnings, longevity, health, righteous progeny, to add to the psychological satisfaction that is achieved when the social welfare function is activated. Thus, marginal utility is generated from sacrificing a part of the permissible utility, and the utility function is expanded with an otherworldly dimension that can be termed by a steady eternal utility function:

$$\begin{cases} \widetilde{U}_3(x_3) = U_3(x_{31}, x_{32}, y_{33}, y_{34}) \\ \text{s. t.} \\ y_{33} = f(x_{33}, \Delta U_1, \Delta U_2) \\ y_{34} = g(\alpha, \Delta SU(x_{11}, x_{22}), B_3, Y_3) \end{cases} \quad (6)$$

Otherworldly utility is greater than the worldly life utility according to the Almighty Allah in Chapter 9, Attawbah (The repentance), 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 afterlife? The enjoyment of the present life, compared to the afterlife, is only a little". Furthermore, the worldly life utilities are subject to the rules of logic, while utility in the afterlife goes beyond mathematical arithmetic and logic. Otherworldly utility is infinite in terms of the enjoying time and the multiple colors and tastes of the good and pure things. Thus, considering righteous deeds and connecting the Shariah-compliant utilities to their otherworldly dimension, like the righteous ancestor was doing goodness, it will be more advantageous to use convex utility functions; these indicate that the elasticity is great than one.

We can prove that the elasticity of utility to the spending in the cause of the Almighty Allah is more than one. Considering that $U'(\cdot, \mathrm{y}_{34})$ is a positive and strictly increasing function, meaning that $U'(\cdot, t) < U'(\cdot, \mathrm{y}_{34})$, then with $U(0) = 0$ and $0 < t < \mathrm{y}_{34}$, we have

$$U(x, \mathrm{y}_{33}, \mathrm{y}_{34}) = \int_0^{\mathrm{y}_{34}} \frac{\partial U(x, \mathrm{y}_{33}, \mathrm{t})}{\partial t} dt < \frac{\partial U(x, y_{33}, y_{34})}{\partial t} \int_0^{\mathrm{y}_{34}} dt = \frac{\partial U(x, y_{33}, y_{34})}{\partial t} \mathrm{y}_{34},$$

which implies that

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

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.

Lemma 2: Since U_3 in (6) is strictly convex and increasing and y_{33} has real number values, then the asymptotic elasticity $AE(U)$ is defined by

$$\lim_{y_{34}\to\infty} \sup \frac{y_{34}U_3'(x,y_{33},y_{34})}{U_3(x_{31},x_{32},y_{33},y_{34})} > 1 \qquad (7)$$

Proof: Since 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

$$0 \leq y_{34}U_3'(x, y_{33}, y_{34}) > (y_{34} - 1)U_3'(x, y_{33}, c) + U_3'(x, y_{33}, c) > [U_3(x, y_{33}, y_{34}) - U_3(x, y_{33}, 1)] + U_3'(x, y_{33}, 1)$$

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

$$0 \leq \lim_{y_{34}\to\infty} \sup \frac{y_{34}U_3'(x,y_{33},y_{34})}{U_3(x,y_{33},y_{34})} > \lim_{y_{34}\to\infty} \sup \frac{[U_3(x,y_{33},y_{34})-U_3(x,y_{33},1)]+U_3'(x,y_{33},1)}{U_3(x,y_{33},y_{34})} = 1$$

The result (7) of lemma 2 is deduced by using the elasticity of the wealthy group's utility to y_{34}, that is $E(U_3, y_{34})$. When the sacrifice of the rich group is greater, social utility will be improved through a marginal increase in social welfare, particularly that of the poor and needy groups. This outcome corroborates the proposition 1 of Elgin et al. (2013), which indicates that religious-motivated voluntary redistribution provides higher direct satisfaction. Also, a reward for this sacrifice is raised in the worldly life and in the afterlife by Δy_{34} through a marginal increase in 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 in Chapter 17, Alisraa (the night journey), verse 21: "See how we have favored some of them over others; yet the afterlife is greater in ranks and greater in favors".

3. Discussion and conclusions

Shibani's classification of necessities is not similar to the conventional classification of mainstream economics, with normal and

luxury G&S, but it is deduced from Islamic principles. With pure materialistic behavior, spending in luxury goods will increased when earnings increase, leading to an earnings elasticity of spending (EES) greater than one. However, if the earnings of the Muslim wealthy group is increased, permissible spending will be increased in a way leading to an EES lower than one. This is due to the fact that belief holding incentivizes individuals to transfer to the needy a fraction of the change in earnings. There will be a positive externality, as the wealthy group members transfer real purchasing power to the poor and needy groups. Hence, the members of these groups will augment their own marginal utilities. This outcome contradicts with the findings of Luttmer, 2005, who suggests that an increase in an individual's income leads to a negative externality on the neighbor's well-being of the same order of magnitude as the positive effects on the individual's well-being.

In our model increased earnings of the wealthy Muslim improve the well-being of the poor. Some neoclassical models lead to the same conclusion through a different channel, that is, by exerting what is known as a "trickle-down effect". In that case, however, such effects appear indirectly and take a longer time to improve the economic situations of the needy people. In contrast, the social impact of the Infaq is direct and immediately enhances the satisfaction of needy people.

According to Bernheim, Rangel, 2007; 2009, there is a lack of a general framework for behavioral welfare analysis. I expect that, since Islamic economics exhibits general principles, the social and ethical dimensions of Islamic economics could stimulate welfare analyses in economic modeling. Conventional economics is fundamentally based on a secular worldview, and derives its paradigm from human rationality; Islamic economics is based on Quran and Sunnah as divine knowledge and complementarily on Fiqh, subject to Quran and Sunnah. Also, as Islamic economics completely integrates the analysis of human well-being in its main research goals, such analysis becomes more complex.

According to North, 1990, the institutional approach integrates the analysis of human behaviour through many mechanisms, rules and constraints. For instance, as indicated by Gintis, 1998, the redistribution mechanisms and their implications matter for many people in society. The incorporation of the institutional factors would improve and promote a deeper analysis in Islamic economics. Islamic economics is primarily based on morals and humankind fraternity, whereas conventional economics assumes the predominance of the individual interested behavior. Yet, Islamic economics still needs to exhibit, measure, appreciate, and evaluate to what extent faith and moral values, rules of behavior, and social and political institutions are observed and applied by the Muslim community.

From the neoclassical perspective, the government intervenes in private markets to correct market failures and address inequality by redistributing resources (Bernheim, Rangel, 2007). For example, if the nominal wage is less than a specified minimum wage, a transfer program for the benefit of the disadvantaged people could be implemented at individual, family, community, and government levels. However, in practice, the administrative cost to manage such programs could be prohibitive. In an Islamic society, there will be more private charity management through specific institutions, like the Waqf system, collecting and redistributing social giving, in addition to Zakat, historically managed through Islamic government agencies. The redistribution should increase with income inequality.

Shibani's earnings theory can justify progressive ethical giving to those in need to correct the initial distribution of resources. Progressive ethical religious giving depends on faith intensity and hidden positive returns of financial sacrifice appearing in the earthly life and mainly the afterlife. Additionally, individual satisfaction is generated when social giving is done with religious fidelity.

The reward of financial sacrifice, through social spending (Infaq) of individuals and families, drives to a high earning from Allah, so that moral well-being leads to gains for both the wealthy and the poor. By contrast, in the conventional approach when the transfer is done, the rich lose and the poor gain. Thus, in the Islamic system subjective well-

being could be generated continuously through the Zakat system and mainly the social Infaq (spending) because this latter is operational during all the time of a year, i.e. more than the Zakat-periodic frequency.

The mechanism serving to correct the economic situation of the needy people should be implemented progressively until the necessary satisfaction of the first layer of society is complete. The progressivity of social spending requires developing randomized detailed surveys that question the targeted population of needy individuals and families about their mental, moral, spiritual, and social states (Kuziemko et al., 2015).[17] Generalized weights directly reflect society's concerns for fairness, and can be defined following a broad set of justice concepts (for more details see Saez, Stantcheva, 2016). The Waqf system is an excellent road map of such generalized weighting that contributes to improving the well-being of needy people and corrects some remaining inequities.

According to verse 21, Chapter 17 of the Quran, it is clear that the rich man/woman needs the poor earners in order to achieve the otherworldly reward, while the opposite is not true. If the consumption effort of the wealthy Muslim is considered a worship in its broad meaning, he/she gets a reward from his/her materialistic imperative and recommended utilities.[18] But he/she will be rewarded more when he/she reduces his/her permissible utilities to help achieving some of the imperative and recommended utilities of the poor and the needy groups, respectively.[19]

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[17] It is hard to detect and observe ethical behaviors. Some specific questionnaire from stochastic samples may exhibit the characteristics of some believers when doing social giving.

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

[19] The Prophet Muhammad (Peace Be Upon Him), by warning in an Hadith narrated by Attabaraani with a good reference attributed to Abdul Rahman bin Auf, 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'."

The avoidance of some conventional consumption models is required when such models are in contradiction with the quietude of the human psyche as prescribed by Islam. However, these models are strongly supported by cultural factors, media and the internet (Ng, Lee, 2015). Such information technology could excite the desires 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. Therefore, the members of the Islamic community need to install ethical values in new generations in all walks of worldly life. 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. Appropriate and fair behavior is based on Halal earnings, prioritizing Halal spending on good and pure things without lavishness or wastefulness and miserliness or avariciousness, as explained by several pioneer legal theorists (Jouini, 1028-1085 AD; Ghazali, 1058-1111 AD; Shatiby, 1320-1388 AD; see Ghazali, 1988; Shatiby, 2005), and clarified in some recent papers (Raissouni, 1992; Alkhadmi, 2001; Almassri, 2001).

In conclusion, the most significant contribution of this paper is the finding that the impact of Zakat on the MPC is mainly related to the first difference in the marginal propensity of the poor group and the marginal propensity of the middle and wealthy groups. In principle, the Zakat system is based on both the flows and the tradable assets that lead to potential returns. Therefore, the Islamic consumption function integrates the impact of the assets on the macro consumption. Secondly, we focused on the wealthy group due to its ability to get every layer of utility, from the imperative to the permissible. The believer wealthy group members do not seek to meet the permissible utility completely, but only partially, since the wealthy group's utilities 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-compliant abstaining.

The social welfare function connects the affluent consumers' permissible marginal utility to the extent of the interaction of his/her

belief holding with the change in the utility satisfaction of the other groups. Such interaction leads to the transfer of purchasing capabilities towards the targeted group. We find that the faith dimension of the wealthy group means that this group gets a unitary value of the elasticity as a limit of their asymptotic elasticity of the utility. Also, this belief holding generates new variables related to the afterlife world, consisting of the bestowed reward and hidden support as worldly life reward. Other rewards will be created in the afterlife implying a *steady eternal utility function* and conducting to an optimum of the marginal utility with elasticity greater than one.

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