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Re-examining the equation of exchange according to Shariah rationale money

By Hassan Belkacem GHASSAN [†]

Abstract. Earlier, the Muslim scholars stated that money is a social convention. For instance, Ibn Taymiyyah (1263-1328) indicated that the gold standard money constitutes a pricing system or a rationale money. Ibn Khaldun (1377) urged a stable monetary policy by using Shariah currency which is related to the number of transactions, and the monetary policy was done through a control and a supervision by a Shariah board office as a monetary authority. The focus point in all transactions is to forbid the Riba including the banking interest rate. Inside the Shariah paradigm and according to historical economic facts revealed by Ibn Khaldun, we suggest that the economic theory of money, through the equation of exchange, should be re-examinedby treating the value of transactions and the velocity of money as endogenous, and considering the stock of money as exogenous and determined only by the monetary authority. We expect that when the consumers and producers as buyers and sellers behave following the Shariah transactions by avoiding any form of unfair dealing, the speculative money will tend to zero and all the money stock will be in circulation. It is best for community welfare that the money reaches its optimal velocity by improving the trade between members of the society. Such Shariah statement would be realized at least through the Zakat system and by any form of re-distribution of the wealth or social giving. The implementation of a new gold standard system requires a political decision and the flexibility of the market prices processes. Even if money is just an instrument, it is perceived differently in Islamic and non-Islamic perspectives. The practical prescriptions (i)-ii)-(iii) based on Shariah transactions perception and Islamic economics paradigm would fit more for the mankind that needs justice and fairness.
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1. Introduction

Shariah bans inconvertible paper money; it recognizes no privilege for the government to emit non-commodity money such as fiat money; nor does it recognize the right acquired by any bank through legislation to emit debt money.[1] For many centuries, only gold and silver were used as money in the Islamic countries (Ibn Khaldun 1377, see later Section 7). Also, Ron (2011: 6) stated on the bezant i.e. byzantine gold coin that “For ten centuries the byzantine coins were accepted all over the world, ... The Byzantine empire declined when it debased the bezant.” After several centuries, paper money made its debut in the mid-19th century with the Ottoman empire. Pamuk (2000) indicates that from 19th century the Ottoman government first adopted bimetallism and moved towards the monetary gold standard system, among other governments around the world. The Islamic Ottoman empire issued in 1863 paper money convertible to gold, the monetary authority named the Imperial Ottoman Bank was granted issuing gold-backed banknotes and then guaranteed their convertibility (Pamuk, 2000; Tuncer, 2012).[2]

† Umm Al-Qura University, Department of Economics, Saudi Arabia.
☎. +966125298163
✉. hbghassan@uqu.edu.sa

The various opinions of scholars, discussing the Shariah-compliance of paper money, depend on the historical circumstances and on their interpretation based on the Quran and authentic Sunnah. The first Islamic jurisprudence viewpoint considers that the paper money is Shariah compliant since its convertibility is approved by the monetary authority. The second viewpoint considers it as debt on the issuing bank i.e. central bank, and then it is illegal for selling or purchasing. The third viewpoint perceives the paper money as a weak substitute, adopted by the monetary authority, because it has virtually no commodity value. The fourth viewpoint conceives it as trade item but cannot be joined to the six *tangible* items cited in the Prophet Hadeeth narrated Ubida Ibn al-Samit because such special class of item differs from the other trade commodities. According to Muslim ibn al-Hajjaj (817-875: 306), Ubida Ibn al-Samit narrated the authentic Hadeeth (sayings) of the Prophet Mohammed (peace be upon Him) "Gold for gold, silver for silver, wheat for wheat, barley for barley, dates for dates, salt for salt, like for like, same for same, hand to hand. But if these commodities differ, then sell as you like, as long as it is hand to hand.". Also, according to Imam Bukhari (810-870: 490), Ibn Shihab narrated the authentic hadeeth of the Prophet Mohammed (peace be upon Him) "…The selling of gold for gold is Riba (usury) except if the exchange is from hand to hand and equal in amount, and similarly, the selling of wheat for wheat is Riba (usury) unless it is from hand to hand and equal in amount, and the selling of barley for barley is usury unless it is from hand to hand and equal in amount, and dates for dates, is usury unless it is from hand to hand and equal in amount."

These two authentic Hadeeths indicate which dealing should be prohibited to protect the people's rights and that the focus point in all transactions is to forbid the Riba includingthe banking interest rate (Iqbal, 2003; Hassan & Lewis, 2007).[3] At that time, such items represented the necessities of the people and served to define prices in the market of the settled transactions. Based on the Hadeeth narrated by Ibn Shihab, Abdul-Rahman (2010: 107) shows that there are two conditions to not fall in the prohibition when making a transaction between two items from the same material: c1) the quantity on both buying and selling sides should be identical, regardless of the quality; c2) the buying and selling must be done on the spot i.e. hand to hand. He shows that, to avoid Gharar (Al-Suwailem, 2000),[4] Shariah requires that commodities must be priced (in the market) in terms of another reference commodity (generally gold and silver money) before being traded for a higher quantity, volume, or weight of the same type of commodity (Abdul-Rahman, 2010: 108). Muslims continued for centuries to apply such rulings in their commercial and transaction dealings. Furthermore, from the Hadeeth narrated by Ubida Ibn al-Samit, we understand that if one excludes the gold or silver money in his/her transaction, he/she must implement the transaction or trading through strictly equal weighted-quantity and on the spot. Then, the Prophet Mohammad (peace be upon Him) institutionalized that the best manner to operate fair trading in the markets is through gold and silver money i.e. real money. Also, if this rule is transgressed the economy will face unreal prices.

Shariah strictly forbids altering the standard of measure be it meter, ton, or liter. Once the standard of value has been defined in terms of weight and fineness, it should become immutable. Hence, a gold dinar defined at 4.25 grams should remain unaltered.[5] Shariah prohibits the creation of money ex-nihilo by the government. The latter may regulate money through minting, preventing counterfeiting, and insuring the quality of coin. Although many commodities served as money, gold and silver superseded all commodities, and became universal money throughout the centuries in all countries.

Shariah considers money and financial intermediation as two related aspects of the payment mechanism in an economy or across economies. They were inseparable aspects of a money system. Financial intermediaries, which include non-interest banks, clearing houses, were needed to increase the efficiency of money and economize on its use. Financial intermediaries do not create money;

they create substitutes for money, which have to be convertible, by law, into money.

Shariah strictly forbids the altering of weights and measures. According to the Quran: Chapter 11, Hud: verses 84-85: “And to Midian[6] people, we sent their brother Shuaib. He said: O my people, worship Allah; you have no deity other than Him, and do not decrease from the measure and the scale. Indeed, I see you in prosperity and verily I fear for you the punishment of an all-encompassing Day. And O my people, give full measure and weight and do not deprive the people of their due, and do not commit abuse on the earth, causing corruption.”. This Shariah ruling is repeated often in the Quran and Sunnah. Also in the Quran: Chapter 6, Al-Anaam (The Cattle): verse152: “… and give full measure and full weight with justice…”. Quran: Chapter 17, Al-Isra (The night journey): verse 35: “And give full measure when you measure, and weigh with balance that is straight. That is good and better in the end.” Quran: Chapter 55, Al-Rahman (The Most beneficent): verse 9: “And observe the weight with equity and do not make the balance deficient.” Because of their rejection of Shuaib messages, Allah destroyed the people of Shuaib and wiped them out for their cheating in weights and measurements. Quran: Chapter 7, Al-Aaraf (The Heights) verse 93, Shuaib said: “O my people, truly did I deliver to you the messages of my Lord and advise you, so how could I grieve for a disbelieving people?” Shariah ruling in regard to integrity of measures and weights is part of the ruling regarding the sanctity of property rights, often emphasized in the Quran and Sunnah. Money, if corrupted, can be turned into a grandiose stealing scheme, which would deprive victims from substantial real wealth.

The paper covers in Section 2 the historical and paradigmatical dimensions of Shariah based money. Section 3 addresses the re-examining of exchange equation, and Section 4 is related to practical sides in re-implementing the gold exchange standard. We conclude in Section 5.

2. Shariah based money: Historical and paradigmatical dimensions

Shariah is a set of immutable rules and stands against all forms of fraud, and injustice by rulers or individuals. The origin of money as a valuable and borderless commodity in the exchange against other valuable commodities, based on free choice, cannot be altered. The State cannot arrogate itself above divine laws and spread financial and economic disorders through costless paper creation. Gold and silver money were not superseded throughout centuries and never vanished as money. Costless inconvertible paper was not chosen freely by the market as a better money than gold and silver, and often died in ruins.

According to Askari & Krichene (2014), by its nature, inconvertible paper originated in bankruptcy of government due to wars as well as bankruptcy of debt-based banks. The suspension of the Bretton-Woods accords in 1971 testified to bankruptcy as much as did the suspension of gold standard by the United Kingdom in 1931. By force, the government acquired the mean to bail itself out as well as falling banks. They indicated that inconvertible paper caused continual alterations of the measures of value, uncertainty in trade, inflation tax, consumed capital, undermined growth, and often extinguished real money. Countries are trapped in high inflation, impoverishment, and social disorders. It is only tyranny that maintains inconvertible paper.

In Shariah, money is what it was at the time of the ProphetMohammedpeace be upon Him; gold and silver coins, common to all countries, a medium of exchange and store of value, and not a mean of taxation. It is distributed among countries via trade. No prohibitions can prevent money's departing from those countries where its amount is beyond what their trade and industry require. No country can be deprived of its just proportion of the precious metals, except by the use of paper, or by such causes as ruin the commerce and the industry of a nation. By excluding spurious money, no obstacle can prevent the precious metals from flowing into countries where wealth is increasing. A government that undertakes productive spending has no need for inflation tax. Money is not a discretionary policy tool to overcome government rigid laws such as minimum wage laws, impediments to trade, and free foreign exchange market. The government may emit gold and silver money if it owns these metals from mining deposits or buying them with other minerals such as oil.

Shariah strictly forbids interest ratesand more largely Riba, which led to fraudulent inconvertible paper. Such interdiction has far-reaching implications on the nature of money and banking. Money is a traded commodity obeying the laws of value. How much money an economy requires is as irrelevant a question as saying how much fish or copper an economy needs. The market determines via price information efficient allocation of resources. The government has a regulatory duty in asserting the quality of coins. It should have no taxes and impediments to gold and silver trade and free minting of coins according to established standards. Depository and safekeeping banks, with 100% reserve banking[7] is Shariah compliant. Shariah allows a convertible paper money to be issued by a monetary agency with 100% gold backing.[8] It allows non-interest money substitutes such as clearing operations, credit, bills of exchange, and credit cards are Shariah compliant. Risk-sharing equity investment banks that mobilize capital, and intermediate between savers and investors are fully Shariah-compatible.

Historically, many Muslim scholars through the jurisprudential point view explored the money issues in Muslim societies. There are interesting research papers discussing the monetary thought by questioning the variation of the value of money to display its juristic solution. According to Islahi (2001), Al-Ghazali (1058-1111) qualifying the money as a convention between members of the society, he identified lucidly up to that time the various functions of money and considered it as a mirror that can reflect all things; he condemned the counterfeiting and debasement of money and also its hoard. Al-Ghazali explained that the Riba prohibition consists of preserving the gold and silver function as money. For that reason, he ingeniously pointed out that the money is not created to earn money but to serve as a medium of exchange and a measure of value. According to Islahi (2001), Al-Ghazali agreed to that the metallic content of money in terms of gold and silver does not matter once it is fixed by the monetary government authority. As indicated by Islahi (2001), this statement, even if it is acceptable by all users, exhibits a voluntary debasement by the ruler and could be considered as an “embryonic concept” of inflation since Al-Ghazali did not relate the quantity of money in circulation to the price level.

After 200 years, Ibn Taymiyyah (1263-1328), improving the findings of Al-Ghazali, elaborated also the nature and functions of money, and indicated that there is no Shariah definition of money, but the money is a social convention. He coherently stated that the authority should be aware about the metallic content of money avoiding any form of injustice to the people’s transaction (Islahi, 2001). More interesting is his statement that the quantity of money should be in proportion to the volume of transactions ensuring just prices (Islahi, 1988; 2001). As it is, this statement constitutes an original theoretical contribution of the monetary economics because Ibn Taymiyyah emphasized the relationship between quantity of money, volume of transactions and price level. Furthermore, he indicated that the gold standard money constitutes a pricing system or a rationale money.

A detailed and well-documented historical analysis of monetary thought is presented by Islahi (2006) showing that the age of Ibn Khaldun (1332-1406) and Al-Maqrizi[9] (1364-1442) during the fifteenth century corresponded to advanced research and analysis in Islamic economics, in comparison to earlier studies as of Al-Ghazali[10] (1058-1111) or Ibn Taymiyyah (1263-1328) and also to later readings of Al-Suyuti (1445-1506) or Al-Tumurtashi (1532-1599). Islahi (2006) indicates that in the sixteenth century Al-Suyuti writings contained only compilation of previous ideas and were juristic-oriented inside the Shafii School. Also, Islahi reported that Al-Tumurtashi'swork was legal-oriented and based imitatively on the Hanafi School. He discussed in legal terms how to state on deferred payments and transactions in process when the value and acceptance of coins fluctuated (as copper Fulus or mixed metals of dinar and dirham). According to Islahi (2006), both Al-Suyuti and Al-Tumurtashi writings did not discuss the causes and effects on the economy and behavior of society members. Our paper is focused on the conceptual preeminence of Shariah money based mainly on the analysis of Ibn Khaldun.[11]

Shariah requires a just government to balance its budgets and restore fully gold and silver as lawful money. A Government with a balanced budget never needs inconvertible paper. Shariah refutes the idea of money as a policy tool.In this purpose, Ibn Khaldun (1377: 297) urged a stable monetary policy by using Shariah currency or Shariah coins which are related to the number of transactions, and any other coin is known as non Shariah money. The monetary policy was done, through a control and a supervision by a religious office as a monetary authority. The control is related to the process of engraving, and the supervision concerns the whole operation of everything dealing with coinage and all the conditions that govern it (Ibn Khaldun, 1377: 333). On the other hand, the authentic Hadeeth of the Prophet Mohammed (Peace be upon Him) narrated by Ubida Ibn al-Samit (Muslim ibn al-Hajjaj, 817-875: 306) shows that the focus point in all transactions is to forbid the Riba including the banking interest rate (see Section 1). However, the conventional monetary policy tool is fundamentally based on the interest rate with a discretionary behavior. Many economists such Simons (1948: 64-65) deplored money as an instrument policy, considered the discretionary policy as a form of lawlessness and he strongly urged the abolition of fractional reserve. The analysis of such problems is also discussed in detail by Askari & Krichene (2016) proving that in the gold standard monetary framework, the banking system is not authorized to create money, but must work with 100 percent reserve.[12] Only despotic and unjust rulers stand against restoring gold and silver money. Rulers and their privileged groups such as bureaucracy and welfare recipients need costless paper to raise taxes. Ideologues believe it is a policy tool.[13] General people are ignorant about fraudulent money and think there is no better system to it.

Ibn Khaldun (1332-1406), considered as the father of economics, stated that in the Islamic monetary system money should be made up of gold (Dinar) and silver (Dirham) due to less volatility and resistanceto more economic fluctuations compared to other commodities (pp.297, 332-336). He stated that the weight and purity of these coins should be strictly tracked as a religious function. IbnKhaldunthought out that there is a physical relationship between the quantity of money and the transactions in markets, and that the increase in the commodities prices required more quantity of money (Ibn Khaldun, 1377; Rosenthal,1958, translation, pp.456 and 460). Thus, he indicated implicitly that there is no effect of the money quantity on the commodities prices. Such an idea suggests an economic theory of money which is different from the quantity theory of money; this latter implies that the prices move following the money supply movement. By analyzing and comparing the economic situation of Fez with other Maghribi cities or between cities and villages, Ibn Khaldun (1377: 456) showed that there are many sorts of markets. He states that, in cities like Cairo, Fez, Tlemcen and Oran, the money spent in each market corresponds to its volume of business depending on production, income and expenditure of civilized cities. Ibn Khaldun (1377: 458) indicated also that "… the number of people with money to waste is great, and these people have many needs for which they have to employ the services of others and have to use many workers and their skills.".

Ibn Khaldun (Rosenthal, 1958: 204) stated that the urban population paid the Bedouins by coined money (dinars and dirhams) to get their commodities needs. Also, according to Ibn Khaldun (1377, Rosenthal 1958: 456): "… The only reason for this is the difference in the labor (available) in (the different cities). They all are a sort of market for their labor (products), and the money spent in each market corresponds to (the volume of business done in it). The income of a judge in Fez suffices for his expenditures, and the same is the case with a judge in Tlemcen. Wherever income and expenditure (combined) are greater, conditions are better and more favorable." Page 460: "… As a result, the expenditures of the inhabitants increase tremendously in proportion to the civilization of (the city). A great deal of money is spent. Under these circumstances, (people) need a great deal of money for expenditures, to procure the necessities of life for themselves and their families, as well as all their other requirements. The income of the Bedouins, on the other hand, is not large, because they live where there is little demand for labor, and labor is the cause of profit." The previous sequence of phrases shows that Ibn Khaldun (1377) stated that the velocity of money in the cities is largely greater than in the villages and that there is a correspondence between the value of the business-volume and the silver-gold-money in the economy.

The availability of the gold-money and the commodities demand of the active members in the cities led to increasing the commodities prices mainly for luxurious products. Such behaviors eroded gradually the social solidarity and the life of cities changed and became riskier. Ibn Khaldun (1377) revealed no more than five successive stages in the life of dynasties until the dynasty dissolves and disappears. Vico (1725) summarized, what corresponds approximately toIbn Khaldun theory of the five stages of cyclical society changes that "it is the first crude, then severe, next generous, later delicate, and finally dissolute." These stages, detailed in Rosenthal translation (1958: pp.233 and 234) are related to three steps of satisfaction layers of necessities, conveniences, and luxuries. We expect that during the first three stages the parameter α of the gold-money equation would exhibit more elasticity due to an increased demand of gold-money as a consequence of economic growth and a business boom. At the third stage, the economy would reach an optimal quantity of gold-money; the private sector should be expanded to be the principal engine of the economy. The main objectives of the rulers i.e. the public sector consist in stabilizing the gold-money system, to regulate the social, economic and financial relationships between the society-members and between these latter and the foreign-members, and to establish more justice in all dimensions of the life. But, when the members of society mainly the rulers and the wealthy families have a tendency in satisfying their needs to use non-necessities and non-conveniences of the commodities, the society shifts toward a delicate and sensible stage by focusing on building palaces, spending in bureaucracy, and financing mercenary armies, causing then a generalized inflation process and the loss of confidence in the economy.

Without any correction process of such deviations in spending that could help to revert to an equilibrium position, and if the rulers through non-independent monetary authorities played with the money value, the inflation will increase more, and there will be spreading of economic and social injustice in the society. As Ibn Khaldun distinguished between nominal and real values, the real wealth will drop its value following the markets perturbations. Consequently, during the decline of the economic activities and the irrational behavior of the rulers of the dynasty and their followers, the velocity becomes inelastic to all the factors of the LHS of the gold-money equation. Due to the wrong strategy of the rulers, the contraction of businesses and the social and economic crises, the dynamic of prices could lead to deflation processes, and the quantity of gold-money will shrink considerably.

3. Re-examining the equation of exchange

According to suchhistorical economic facts revealed by Ibn Khaldun, we suggest that the economic theory of money, through the equation of exchange, could be re-formulated as in equation (1). We consider that the equation of exchange is a general equation that needs to be re-examined by treating the value of transactions and the velocity of money as endogenous and the stock of money as exogenous and determined only by the monetary authority (King & Plosser, 1986). As indicated by Askari & Krichene (2016), the real quantity of money is an endogenous variable. To display the Islamic approach of money, we re-write the long-run equation of exchange at the equilibrium condition as follows:

$$\sum_{j=1}^{N} T_j P_j \equiv P \cdot T = M_{G,S} \cdot V^{\alpha} \qquad \alpha > 1 \tag{1}$$

where $M_{G,S}$ is the quantity of gold and silver-money or gold backed money as tangible medium of exchange. V is the velocity of money, measuring holding money per hand during a given moment of time by various members of a society. To avoid any monetary inflation, a given volume of transactions, the velocity should be greater than one ($V > 1$), otherwise there is a risk of inflation due to the money supply excess. The velocity of money depends globally on the economic and financial activities, describing the circulation of gold-money between the active agents in the economy.[14] The index j stands for a transaction between the active members of the population (N). The parameter α indicates the elasticity of the money velocity related to the variables on the left-hand side (LHS) of equation (1). These variables are the price level index (P) and transactions (T) contracted in the economy and the virtual nominal value of all transactions is ($P \cdot T$). Since M_G has an intrinsic value and considering a level of the velocity. Thus, the LHS of equation (1) corresponds to a totalized value of all the transactions as spending and sales in the economy. Since, all the variables are jointly determined, by applying the total differential rule to equation (1), we obtain:

$$\frac{dP}{P} = \left(\frac{dM}{M} + \alpha \frac{dV}{V}\right) - \frac{dT}{T} \tag{2}$$

To accommodate the needs of trade and subjected to stabilizing the price i.e. $\frac{dP}{P} \approx 0$, both the monetary authority and the people or agents behaviors should imply that:

$$\left(\frac{dM}{M} + \alpha \frac{dV}{V}\right) \approx \frac{dT}{T}$$

which indicates that the price stability depends on both the money growth and the velocity growth i.e. its acceleration over a period of time. Though, as indicated by Bernholz (2003), historically when the monetary policy is governed by a strict gold or bi-metallic standard, the inflation occurs at the mildest level; but, under fiat paper money regimes, the inflation happens at the highest level. All will readily agree that increased velocity of money could drive to inflation even with a stable money stock, when $\alpha \frac{dV}{V} > \frac{dT}{T}$ i.e. the parameter α is larger than the elasticity of transactions with respect to velocity.[15] The elasticity of velocity is related to the acceleration of the money circulation which depends on the position of the economy inside the cyclical fluctuations that characterize the economic evolution.

According to Mele & Stefanski (2018) and using a bi-sectorial analysis, the velocity variation is driven by the structural transformation between sectors in the economy and that the price levels or inflation rates are explained by the composition of the output and may not always be monetary phenomenon. Also, the analysis of Gerlach & Svensson (2003), using the logarithmic transformation of equation (1), asserts that the long-run equilibrium price level (p^*) or future inflation would mean that the value of nominal money stock ($m \coloneqq \widetilde{m} + p$) is equal to the long-run equilibrium real money stock ($\widetilde{m}^*$), provided that the output is at its potential level (y^*) and velocity at its long-run equilibrium level (v^*).[16] This assertion leads to define the equation of inflation, then we have $p^* \equiv m - \widetilde{m}^*$. By combining this latter equation with the long-run equation of exchange $\tilde{m}^* \equiv y^* - \alpha v^*$, we obtain an interesting long-run equation named the price gap:

$$p - p^* \equiv -(\tilde{m} - \tilde{m}^*) \equiv \alpha(v - v^*) - (y - y^*) \qquad (3)$$

The equation (3) displays also that the expected velocity has more effect on the price gap than the output gap, this is due to $\alpha > 1$. The interpretation of this proposition is that the velocity, caused mainly by the variations in margin of trade, matters more than money itself. This result is well-documented by Anderson *et al.,* (2017) revealing that tracking money velocity is particularly valuable to policymaking during both financial crisis and recovery periods.

We expect that when the consumers and producers as buyers and sellers behave following the Shariah transactions by avoiding any form of unfair dealing, the speculative money will tend to zero and all the money stock will be in circulation. As indicated by Hasan (2011), the human factor behavior vis-à-vis to money leads to moral crimes and is a source of instability in economic and monetary spheres. Such behaviors require a large government intervention in the economic life establishing ethical capitalism and setting up more confidence and fairness between the community members.

An increased velocity means more transactions in the economy and then the holding money per hand will decrease. Whilst, a decreased velocity of money signifies less transactions in the economy and then the holding money per hand will increase. It is mentioned by the Almighty Allah in Chapter 59 of the Quran (Surat Mobilization i.e. Al-Hashr), verse 7: "Whatever Allah restored to His Messenger from the inhabitants of the villages belongs to Allah, and to the Messenger, and to the relatives, and to the orphans, and to the poor, and to the wayfarer; so that *it may not circulate solely between the wealthy among you.* Whatever the Messenger gives you, accept it; and whatever he forbids you, abstain from it. And fear Allah. Allah is severe in punishment."[17] The focus point from this canonical principle that matters for the money subject is that the wealthy and influential people are not allowed to monopolize the returns, means and resources of wealth.

In terms of money velocity, as in equation (2) or (3), the verse 7 indicates clearly that it will be best for the community welfare that the money reaches its optimal velocity by improving the trade between members of the society. Such monetary and economic policy supports in avoiding the velocity gap $(v - v^*)$ leading to an inflation process. The flows of wealth of different kinds should not remain circulating only among the rich people but among the whole of community. Because the fair state is that the money should spread among the largest circle of people. Such divine statement would be realized at least through the Zakat system and by any form of re-distribution of the wealth or social giving (Askari *et al.,* 2015; Ghassan, 2016). There is still a lot of room for developing a new monetary theory based on velocity and optimal allocation of money for consumption and investment processes that leads to increasing the stock of money for the investment needs when the real supply of goods is less than the real demand. Such dynamic allows to avoid any inflation process, but the fair ruler should take into consideration the ethical behavior of the money holder as consumer and producer.[18]

4. Re-implementing the gold exchange standard

In the Islamic economics paradigm, we can build axioms of real endogenous theory of money where the money supply depends on the money demand which is related to the increasing transactions operated within profit-loss system of real investments. In addition, there is no need to grow the money supply even if the investment grows since the velocity of the money circulation v will increase in accordance to the markets of the real economy. On the other hand, the implementation of a new gold standard system requires a political decision that would protect the people against the injustice and unfairness regarding money and allowing to an independent monetary authority to construct a fair monetary system. According to Askari & Krichene (2014, Chapter 11), the experience of restoring a gold standard is the same as restoring the convertibility of a currency to gold. They discuss the prior conditions for implementing a gold standard in an Islamic economy; and indicate that there is no technical problem when restoring the gold standard. They emphasize the importance of the markets prices flexibility as a primordial condition for the gold standard success. The implementation of gold money could be initially based on the Gold Dinar as an international convertible currency at least between a group of countries and improved progressively as the real economic transactions increased. Nevertheless, the real implementation of the gold system in terms of legal and physical infrastructures, covering national and international transactions, needs a specific research focusing on Islamic monetary engineering.

The practical dimension leading to a specific monetary system is important and appears through the monetary system experiences in the economies around the world. The monetary history is too instructive and allows to theoretically conceive a fair monetary standard. As Ugolini (2018; 2017) indicated in surveying the historical evolution of the Western monetary policies from middle ages to today that central banking appeared to have been driven by a perpetual adaptation of policymakers to political and economic environment changes, and less by pursuing the fittest and fair monetary system.

On the other hand, the human capital of the Islamic banks and their Shariah Boards have become largely habituated to using paper and digital and electronic money, controlled by state regulatory agencies. They should distinguish between such types and determine their degree of compliance to Shariah. Furthermore, the current technological infrastructure and the Shariah-legal rules could lead to recognize the gold dinar and the silver dirham as currencies including the use of e-dinar and e-dirham but backed by their equivalent number of gold and silver. The Shariah compliance based money requires an evolutionary process i.e. it takes time to be really operational in the financial sphere of Muslim countries. But, at this time, the political regimes that govern in Muslim economies work with conventional prudential rules in managing money issues, and are largely influenced by the occidental vision i.e. capitalism system which is as an existing religion. Furthermore, the Muslim economies need to develop their in-between trade to institutionalize an Islamic confident money in the long-run. The economic, financial and monetary recovery of the Islamic Ummah i.e. community could happen by applying the Shariah perspective globally on all sides of life. Such recovery process would lead to Shariah compliant behavior of individuals and families, and consequentlyconnect themto real economic and financial stability.

Even if money is just an instrument, but it is perceived differently in Islamic and non-Islamic perspectives. How to implement a practical monetary standard respecting the fundamental conditions of ethical transactions i.e. Shariah compliant? The first of these cardinal conditions are that (i) the added value in the economy drives the issuance of money as a general medium of exchange by the monetary authority only. This latter is authorized to manage the money controls in all the economy according to the overall national interest ;[19] (ii) the banks couldnot generate credit as a money substitute because the Riba is banned; the banks link their financial activities to the real economy through Shariah-compliant contracts. The investment financing for corporates and families should be based on risk-sharing instead of risk-transfer. (iii) the political and social environment has to generate ethical behaviors of both public and private sectors leading to the persistence of Shariah behavior in all aspects of individual, family and community life. Because of the complexity of current international monetary system, Maes (2018) shows that the central banks will navigate in uncharted waters and surprisingly conceives that there is no way of opting-out of the current complex monetary system. The practical prescriptions (i)-(ii)-(iii) based on Shariah transactions perception and Islamic economics paradigm would fit more for the mankind that needs justice and fairness. In parallel, there is need for a sound monetary theory by linking the conventional one as in Currie's (1902-1993) leading sector theory of growth (1991) with the Islamic one as in Chapra's precepts of Islamic morality and sociability (1985, Chapter 9).

5. Conclusions

Based on historical and paradigmatical dimensions of the money, the Muslim scholars condemned the counterfeiting and debasement of money and also its hoard, and stated that the money is a social convention. Ibn Taymiyyah (1263-1328) emphasized the relationship between quantity of money, volume of transactions and price level. Furthermore, he indicated that the gold standard money constitutes a pricing system or a rationale money. The age of Ibn Khaldun (1332-1406) and Al-Maqrizi (1364-1442) during the fifteenth century corresponded to advanced research and analysis in Islamic economics in comparison to earlier studies.

A Government with balanced budget never needs inconvertible paper. Shariah refutes the idea of money as a policy tool. In this purpose, Ibn Khaldun (1377) urged a stable monetary policy by using Shariah currency or Shariah coins which are related to the number of transactions, and any other coin is known as non Shariah money. The monetary policy was done through a control and a supervision by a Shariah board office as a monetary authority. Substantially, the authentic Hadeeth of the Prophet Mohammed (Peace be upon Him) narrated by Ubida Ibn al-Samit (Muslim ibn al-Hajjaj 817-875) shows that the focus point in all transactions is to forbid the Riba including the banking interest rate. Recently, the analysis of monetary problems is also discussed in detail by Askari & Krichene (2016) explaining that in the gold standard monetary framework, the banking system is not authorized to create money, but must work with 100 percent reserve. They emphasize that only despotic and unjust rulers stand against restoring gold and silver money.

Inside the Shariah paradigm and according to some historical economic facts revealed by Ibn Khaldun, we suggest that the economic theory of money, through the equation of exchange, should be re-examined by treating the value of transactions and the velocity of money as endogenous and considering the stock of money as exogenous and determined only by the monetary authority. We expect that when the consumers and producers as buyers and sellers behave following the Shariah transactions by avoiding any form of unfair dealing, the speculative money will tend to zero and all the money stock will be in circulation. In terms of money velocity, and using the equation of exchange (3), the verse 7 (Quran, Chapter 59) indicates clearly that it will be best for the welfare of the community that the money reaches its optimal velocity by improving the trade between members of the society. Such divine statement would be realized at least through the Zakat system and by any form of re-distribution of the wealth or social giving (Askari *et al.,* 2015; Ghassan, 2016).

The dismantlement of the gold standard was due to government bankruptcy. Money as an inconvertible paper is the culmination of government absolutism, bankruptcy, and inflationism, which confuses money and wealth, and considers printing money paper as creating wealth. All money printed is a confiscation of an existing wealth from a group of beneficiaries at the expense of a group of losers. The implementation of a new gold standard system requires a political decision that would protect people against the injustice and unfairness regarding money, and allowing an independent monetary authority to construct a fair monetary system. It is important that the market prices processes must be characterized by their flexibility as a primordial condition for the gold standard success.

Nevertheless, the real implementation of the gold system in terms of legal and physical infrastructures, covering national and international transactions, requires specific research focusing on Islamic monetary engineering. The current technological infrastructure and the Shariah-legal rules could lead to recognition of the gold dinar and the silver dirham as currencies, including the use of e-dinar and e-dirham but backed by their equivalent number of gold and silver. Even if money is just an instrument, it is perceived differently in Islamic and non-Islamic perspectives. The practical prescriptions (i)-ii)-(iii) based on Shariah transactions perception and Islamic economics paradigm would fit more for mankind that needs justice and fairness.

Notes

[1]Inconvertible paper is not money as much as a horse in paper is not a horse and a house in paper is not a house. Government power cannot alter the nature of money as a traded commodity in as much as it cannot turn a horse in image into a true horse.

[2]Under the inconvertible paper money system, the issuing authority does not authorize to convert the fiat money, i.e. currency note ordered by the government, into gold or other precious metals coins. In an Islamic perspective, even if the paper (fiat) money is convertible, it should be implemented in a Riba-free based financial system. But nowadays and since the colonization period, the Muslim people went out of the pathway of their Islamic monetary system.

[3] Concerning the Riba and interest concepts, there is a consensus that Riba concept is not restrictive as the interest concept. Because, the Riba can appear in any unfair transaction, but the rental price called interest rate on loans is involved specifically by financial transactions of banks (Algaoud & Lewis, Chapter 3 in Hassan & Lewis, 2007; Iqbal, 2003). Both Riba and interest rate as a renting money lead to the concentration of wealth and then to economic and social inequalities (Al-Suwailem, 2000). Obviously, the bank interest is a type of Riba, and for the monetary purpose the interest is equivalent to Riba. Nevertheless, it is more accurate to use Riba-Free financial system than Interest-Free financial system (Abdul-Rahman, 2010, Chapter 2).

[4]i.e. fraud trading due asymmetric information.

[5]The Dinar and Dirham are defined by their weights and have not face values; Dinar weighted 4.25 grams of pure gold and Dirham weighted 2.975 i.e. 0.7 of the Dinar weight as defined by the standard of Umar Ibn al-Khattab (Ibn Khaldun, 1377, page 334). The Islamic dinar was about 4.25 grams nearly 65.59 grains (696 AD). The relation between money and unit of account is set by law it should never be altered by the government or by traders. The British gold sovereign was defined by the coin act of 1816 at 7.32 grams nearly 112.96 grains. The standard of a US gold dollar was about 25.8 grains with 23.22 grains of pure gold from 1792 to 1933 with scantily changes (for more details see Officer and Williamson, 2019).

[6] The people of Madyan were from the early Arab tribes that had settled in the area between Hijaz and Palestine. They were known for their prominence in business activity, and their town was a commercial center. But, they lacked faith in Allah and didn't reckon the hereafter, thus they fallen into cheating and injustice, which became the norms in their business dealings. No one examined this way of life, and Allah sent to Madyan people their brother Shuaib (Peace be upon Him). Shuaib condemned the wrong norms in Madyan, and warned against depriving people from their material and moral rights and social dues.

[7]El Diwany (2003, Chapter 7) explained easily that the Profit Lose Sharing (PLS) system without fractional reserve banking and with gold standard currency would be the basis of a stable creating wealth in the economy.

[8]In such system the money will have a smoothing effect on the economic life; this effect is due to the reduced risk of inflation. Paper money will circulate only as a pure representative of gold. The market judgement settled spontaneously over centuries for gold and silver money. Only government tyranny changed this ruling.

[9]Al-Maqrizi was firstly a student (in Cairo) and later colleague of Ibn Khaldun. Their notable contributions are recognized in social sciences and particularly in all aspects of History of cities. As theorists they introduce many concepts such causality, cyclical evolution, nature of money, and urbanization. They discuss the impacts of generation rulers' power on the economy and society. Al-Maqrizi was the first in discussing the inflation as a phenomenon due particularly to debasement of money, and analyzed its adverse impacts on different groups of the society (Kato, 2012; Figuera, 2018). He asserted that the return to gold and silver would resolve the inflation problem.

[10]A detailed study of Al-Ghazali thinking about money can be find in Ghazanfar & Islahi (1990).

[11] The purpose of the paper is not empirical, but oriented to fundamental principles of money rather than to statistical analysis of the monetary system experiences in the economies. Oftentimes, the discussion of stylized facts and the basic correlations between facts are initially too important than the empirical data analysis itself (see a deep methodological discussion in Hahn, 1983). Nevertheless, we expect that future paper could analyze the monetary historical data in Muslim countries up to the Ottoman Caliphate or Ottoman nation.

[12]Simons (1948) suggested also that besides 100 percent money, the risk-sharing equity investment banking is able to reduce the conflict between creditors and debtors. Through some specific financial products as the profit-loss sharing rate, which is related to real economy by the return on capital, the Islamic financial markets can generate Shariah tools to manage the monetary issues of

the financial institutions with a consultative role of the monetary authority. Such mechanisms, with independent monetary authority and large concertation involving all economic interest groups, are qualified to avoid inflationary pressures and then money value depreciation.

[13]VonMises (1953) rejected money as a policy tool such as to achieve full-employment. He stressed this objective should be attained by dismantling all legislations hampering competitiveness in labor and goods markets.

[14]The inverse of money velocity shows the share of money to nominal transactions. This interpretation of money velocity as the money sharing could validate theoretically the correctness in using the profit sharing ratio as an instrumental tool to manage the stock of money in an Islamic-oriented economy.

[15]Nevertheless, in the real world sometimes it could happen that the prices drive velocity of money, but the main causality is that the velocity drives the price dynamics.

[16] The issue of the optimal quantity of money is dismissed as the conventional economy adjusts to any nominal quantity of money. In contrast, the Shariah economy the optimality of money quantity is maintained since each transaction adjusts to real economy.

[17]The translation is from Itani (2012).

[18]The expansion of money supply may depend on the economic growth, and on the available quantity of gold. Even if there are no new quantities of gold in the monetary market managed by the central bank, the economic activities will continue to be expanded, but accompanied by a decreasing process of the prices. Barro (1979) showed that the effects of reduced prices in the long-run could be accompanied by a positive economic growth. These findings are based on some stylized facts historically observed during the gold standard rule between 1821-1914, contradicts the conventional economic theory.

[19] The inverse, i.e. money drives economy, should not be allowed to avoid any risk of monetary inflation. From, this perspective, the equation of exchange should be reexamined by treating the value of transactions and the velocity of money as endogenous and the stock of money as exogenous and determined only by the monetary authority.

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