THE FUTURE OF MONETARY REFORM AND THE REAL ECONOMY: A PROBLEM OF TRADE VERSUS INTEREST

MASUDUL ALAM CHOUDHURY[1], MUHAMMAD NAZMUL HOQUE[2]
[1] Trisakti University Jakarta, University of Malaya Kuala Lumpur
[2] University of Malaya Kuala Lumpur

Abstract

Problem/Relevance *- The paper presents a scientific model of interrelationship between money, finance, and real economy by way of banks, such as Islamic banks, mobilizing the bank-savings into productive spending with moral and ethical values. Such moral and ethical values are embedded in the monetary and financing relations to give the model of monetary reform necessary for an unstable financial economy.. The way to realize this goal is to refer to the Islamic epistemic foundation of unity of relations between the good things of life, while avoiding the un-recommended ones. Such good things are specified in this paper as money, spending, real economy resource mobilization along with their inner variables. All of these unitary relations are made possible by phasing out interest rate and thereby causing monetary resource to interrelate with real resources.*

Research Objective/Questions *- The paper establishes the epistemic foundation of Islamic banks, well known these days to be productive and ethically performing financial institutions. This epistemic perspective takes the form of lowering the rate of interest; and thereby causing resource mobilization by complementing positively the monetary and financial resources with the real economy. Such an inter-causal relationship is shown to realize the objective criterion of wellbeing while also heightening the productive picture of the socio-economic system, which is the Islamic social economy in the absence of interest rate.*

Methodology - *The methodology of the study is based on the pertinent Islamic worldview of unity of knowledge between the good things of life that are embedded in the dynamics of a learning inter-causal relationship. This methodological approach explains the imminent complementary nature of relationship between money, finance, and real economy of exchange in the ethically good and productive things of life while avoiding the unwanted ones.*

Major Findings - This paper is a rare one in the area of money, finance, and real economy inter-causal relations from the Islamic perspective of absence of interest. The paper thus becomes an analytical study for Islamic banks, central bank, and public and private sectors to formulate their thought and models along such imminent epistemic directions.

Implications - The paper is of great relevance in the area of quantitative policy-theoretic study for that important part of the socio-economic system, which today is being financed by Islamic moral and productive instruments for monetary and financial reformation towards sustained stability.

Keywords: Monetary economics, Islamic economics and finance, Islamic political economy and world-system, social economics; ethics and economics.

Introduction

The prologue is our starting premise. The Qur'an (2: 275) declares, "As for those who devour interest, they behave as the one whom Satan has confounded with his touch. Seized in this state they say: 'Trade is but a kind of interest', even though Allah has made trade lawful, and interest unlawful". Keynes (1930, p. 368) picked up such wisdom of the inverse relationship between trade and interest and wrote, "The strenuous purposeful money makers may carry all of us along with them into the lap of economic abundance. But it will be those peoples, who can keep alive, and cultivate into a fuller perfection, the art of life itself and do not sell themselves for the means of life, who will be able to enjoy the abundance when it comes."

Such are the messages of moral elevation and wisdom picked up in this paper. The fundamental point here is to establish the fact that, the only way of phasing out interest rate from Islamic socioeconomic activities is to understand and implement the formalism of the inverse relationship that permanently exists between trade in the good things of life and the rate of interest as the impediment to the free flow of resources into such exchange activities.

Often in recent economic and financial experience it has been found that a low rate of interest by bank regulation, macroeconomic policy objectives, and market forces have ended in fiasco in stabilizing the economic fundamentals. The low real rate of interest during the 1960s in the face of low nominal rate of interest in fact fuelled the subsequent increase in inflation and resulted in stagflationary economic periods of the late 1970s. The recent macroeconomic policy to drive the nominal rate of interest to zero in Japan, as an example, resulted in non-performing loans that were abundantly provided to borrowers. Most starkly true, the subprime mortgage rates on real estate in southern United States resulted in an aggressive spirit of borrowing to fuel the housing boom that turned sour.

The inference drawn is that a low or zero rate of interest is a necessary but not a sufficient condition for the road to financial economic bliss. Structural changes in the relationships between money, finance, and market exchange must be established simultaneously with reduction in the rate of interest. Such a simultaneity problem of relational balance between critical economic variables has been referred to in the literature as the general equilibrium framework of rigorous scientific study. It is found that, the general equilibrium establishing relational balance between the critical variables, mostly price, output, inputs, and money both by various sectors and in the aggregate case

of macroeconomics. This approach has mostly disbanded the presence of interest rate as a price, thus relenting on prices of real goods and services. Otherwise, the interest rate was recommended at a lower level possible to induce a highest positive impact on real output, full-employment of inputs, and stabilizing effect of price, money and expenditure. Certain specific cases of the formulation of general equilibrium formulation of economic allocation of resources for optimizing the welfare function have been formalized by leading economists in this field.

Walrasian general equilibrium model has been formalized in its static case without the presence of interest in the resource allocation problem (Wainwright & Chiang, 2009). But the problem of interest rate versus the effect on real intertemporal investment remains unresolved.

Sraffa (1960) did not impute an interest rate in his classical general equilibrium model. Yet again, the problem of interest rate remains unresolved in respect of money and resource allocations in the intertemporal case (Nell, 1988). Friedman (1960) who was a new-classicist promoting the market order against government intervention and so too of its institutions, such as the Central Bank setting of the prime rate and thereby this affecting commercial interest rates, did not have interest rate in the equation of exchange. It was much later on when considering capital and financial markets that, Friedman introduced interest rates in the equation of exchange (Friedman, 1989). Keynes, who philosophized economics by introducing epistemological questions on household behaviour and resource allocation on expenditure including government spending, saw in interest rate an unethical consequence (Keynes, 1963; O'Donnell, 1989). The Austrian School of Economics (Yaeger, 1997; Hayek. 1999) was the solitary one of the many economic traditions that abhorred the use of interest rate in sound economic reasoning. The Austrians thereby thought of a new and interest free concept of money and finance by reasoning about a market concept of a Unit as money.

In general therefore, the effects and the ethical question of interest rates in the intertemporal case have remained unresolved over the history of economic thought. The Islamic case of avoidance of interest rate in every case of resource allocation, and thereby its logical explanation and policy-theoretic implications on monetary policy remains a novel undertaking. In this paper, this problem of the avoidance of interest rate in relationship with wellbeing and resource allocation is studied in the context of its computational general equilibrium approach.

Objective

The formulation of a computational general equilibrium model, still better defined as a generalized system model of wellbeing, subject to the epistemic context of unity of knowledge explained by inter-causal relations between the critical variables, is the focus of this paper. in developing such a rigorous formalism. In so formalizing, the Islamic monotheistic episteme is used in theoretical and applied contexts.

The objective of this paper is to explain the necessary and sufficient conditions of economic and social stabilization that is attained by the endogenous interaction between money, finance, and the real economy arising from the Islamic case of a generalized computational system of circular-causation relations (Desai, 1989). The idea of endogenous relations is conveyed by the systemic interrelations between entities and variables of the socioeconomic problem under investigation. These internal dynamics generate causality and learning by interaction between the selected variables. This concept is similar to what Paul Krugman termed as 'self-governing equilibrium' resulting in self-organized behaviour in the market economy at large. The endogenous change in relation to the variables occurs simultaneously with the phasing down of interest rate as this

adversely affects all the stabilization variables. This kind of total change is also tantamount to the pursuit of endogenous interrelationships between the central bank, the commercial banks, and the market exchange in the good things of life.

These kinds of endogenous changes between the stabilization variables are explained in reference to a fundamental phenomenological model. Upon such a model the Islamic socioeconomic world-system rests permanently and indispensably. The methodological approach is thereby an epistemological one in and of unity of knowledge and socioeconomic being and becoming of the Islamic concept of social and economic relations. Within this kind of learning and the resulting unified world-system by inter-variable complementarities we study the endogenous interrelationships of pairing (Qur'an, 36:36) by interactive relations in terms of unity of knowledge between the economic and financial domains of the issue of monetary reform. We thereby invoke the inter-causal endogenous study interrelating money, finance, and the real economy.

Zero Rate of Interest? A Necessary but not Sufficient Instrument for an Islamic Economy

Interest-rate arbitrage

In Malaysia for instance, a recent programme towards zero-inflation rate (cipher-inflasi) resulted in a mismatch between the subsequently high rates of interest and the zero rate of inflation (mid-nineties). When the Southeast Asia financial crisis hit Malaysia (mid-1990's) and Malaysia experienced serious flight of capital, the government used the instrument of high interest rates as a macroeconomic monetary policy to reverse the flight of capital, hoping that a high rate of interest would arrest the declining exchange rate. Yet, the relationship between interest rates and exchange rates remained volatile (Choudhury, 1999). The expected stability of the financial fundamentals by the use of interest rate and exchange rate relationship did not stabilize the macroeconomic fundamentals in the financial sector. Thereby, macroeconomic evidence does not support the expected consequence of financial stabilization even on the face of higher interest rates. The expected relationship of this to achieve exchange rate and inflation stabilization remained unrealized.

Malaysia's experience with Islamic funds has soured in regards to their performance. For example, the Islamic financial experience with the now diminishing mudaraba (profit-sharing) and musharaka (equity participation) financing has resulted in Islamic banks and finance companies withdrawing from these principal Islamic financial instruments.

The Islamic primary financing instruments are being replaced by secondary financial instruments, all of which are subject to interest-rate concerns (Choudhury, 2008). Likewise, despite earnest efforts to promote Islamic financing and profitability in the name of interest-free financing of projects and investments, Islamic banks in Malaysia could not herald even a distinct prospect for financial stabilization by Islamic financial instruments. In the field of Islamic economics, this field and Malaysia in particular as a self-claimed Islamic financial hub, has vanished in global intellectual study. This situation is borne out by the fact that, Islamic banks and development planning in Malaysia never accounted for a clear direction of Islamic finance and economics towards ameliorating either her own broader Islamic global picture or the momentum of trade, development, and related policy instrumentation for the Muslim bloc as a whole. The Islamic

Development Bank Annual Reports for a long time now bring out these facts on the basis of poor inter-communal trade statistics, both by countries, sectors, and projects.

Islamic debt-ridden instrument, sukuk (bond) and debt-equity swap

Yet another example is this. The current lure with sukuk (bonds that revolve around the principal financing instruments, as of mudaraba and musharaka and the market of sale of musharaka-linked bonds in real assets in the private sector to finance mega projects, have ended up in deep Islamic legitimacy concerns (Usmani, see internet website). Sukuk financing problems arise from the sale of debt with interest to private outlets. The sukuk holders can then proportion this equity instrument. Debt is inevitably linked with interest rates or; there is no formal approach to debt capitalization. Rates on sukuk bonds are exogenously set by contracts, and therefore are exogenously introduced by financing firms (Islamic banks). Such exogenously set rates are none other than a form of interest rates.

The debt coverage in all of Islamic financing instruments passes on the debt as an intergenerational burden socially and financially. No alternative to attain debt-retirement has been found by Islamic financial engineering methods. Yet we suggest that an alternative would be for so-called Islamic financial firms to engage in debt-equity swaps (Krugman, 1989; Blackwell & Nocera, 1989; Choudhury, 1989).

Debt-equity swap

Debt-equity swap involves large investors to retire the debt or a part of it on behalf of an indebted country by paying out the debt by equity holdings proportionately. That is, consortium of mega-corporations would pay off the debt outstanding; and thus treat such debt assumption as collateral investment (equity) by way of the debt assumed. Thereby, in exchange, the debt-ameliorated country would treat such an investment as an equity swap in proportion of the debt retired. Thus debt-equity swap can be managed effectively by way of equity-participation (musharaka).

The debt overhang and the allowance for financing debt in the private sector is thus at best extended over time, rather than being a comprehensive financing model that can be instituted for phasing out the interest rate regime caused by debt overhang. The goal of financing interest-bearing, debt-ridden projects by interest-free financing instruments therefore does not cure the interest-rate enigma. Thereby, the true impact of financing by Islamic participatory instruments is not reached, even when the interest-free goal is targeted. Yet in the name of interest-free financing as the focus of Islamic participatory financing, Islamic banks, finance companies, Muslim governments, and large businesses and projects are raising the flag of sukuk (Gassner, 2008; Business Islamica, 2008).

Capitalization of Income flows and the Rate of Interest

From the history of western economic thought we learn about alternatives to interest rates in asset valuation. Sraffa and Keynes referred to one such alternative interest rate as 'the own rate of interest' (Sraffa, 1932; Donzelli, 2004). Likewise, we note the theory of the Austrian concept of money and interest rates (Wicksell, 1934) in which the pricing of money was not explained by interest-rate arbitrage.

The first of the above-mentioned issues indicates that traditional economic theory, like the ones claiming the concept of 'own rate of interest', equated the rate of interest with the marginal productivity of capital or the marginal efficiency of investment. Wicksell's problem points out how the rate of interest is equivalently treated as a discount factor to evaluate capital-flows over time. Such notions are used in Islamic economics and finance to legitimate their so-called 'rate-of-return' concept according to the marginal productivity theory and the use of asset valuation based on discount-rate formulas. Islamic banks have now adopted these rules thoroughly. Islamic gurus support this foregone idea (Vogel & Hayes, 1998). They have failed in deriving a truly Islamic alternative for capitalization of financial assets. Islamic financing engineering has thus continued on to use a shadow interest rate approach according to the discounting of cash-flows, and thereby the time-value of money. These approaches otherwise are contrary to the entire philosophy and methodology of Islamic economics and financing.

One can also refer to the continued practice of such a time-value-of money discounting mechanism now being carried out in the Islamic Development Bank and all Islamic banks around the world. This fact is confirmed by a survey of research departments and directors of Islamic banks in Indonesia. Such a survey was carried out by the author (Choudhury, 2011)

Is the idea of low interest rates acceptable in Islamic asset valuation?

The notion of a low interest rate or phased-down interest rate in economic and financial understanding has prevailed in the literature on Islamic finance (debt valuation). But the concept of how the rate of interest emerges in the economy, and how it can be phased out from the financial system, has not matured either in the mainstream literature and practice or within the theory and practice of Islamic economics and finance. The latter area thus remains inextricably submerged in mainstream academic thinking relating to money, interest rate, and the real economy relations. The result of this intellectual shortcoming is reflected in a flawed conception of Islamic jurisprudence (fiqh al-muamalat) and concocted by interest groups of Islamic financial institutions, and in academic conceptions underlying Islamic economics and finance as a study in non-relational exogenous understanding of Islamic economic and financial functions in the absence of all forms of interest. The academic seat of higher Islamic level learning, namely the university of Al-Azhar had several times legitimated lower rates of interest as permissible in Islamic asset valuation.

The net result of these developments in the history of economic thought in respect of the theory of interest and capital accumulation, and which Islamic economics and finance have emulated, is this: Capital accumulation embodies savings arising from abstemiousness in present consumption (spending) for attaining maximum intertemporal consumer utility of consumption and savings. This idea is embodied in the classical theory of intertemporal savings and consumption contributed by Ramsey (1928). The capitalized value of all future yields from present abstemiousness in consumption is obtained by a discounting method that invariably imputes the discount rate as the shadow rate of interest for capitalizing future uncertain yields of present savings (abstemiousness in consumption).

The Position of Islamic Economics and Finance in respect of Capitalization of Assets with Interest-Free Instruments

Inequity in Islamic economics and financing methods

Islamic economic and finance gurus have adopted a time-value of money discounting approach in asset valuation. They thus failed to understand the interest-rate implications of the discounting approach. The result in asset valuation is that a future market, which remains undetermined, would be capitalized at a rate either less or greater than the expected rate of return on the stream of future income flows.

Especially, in such a case of discount-rate indeterminacy, microenterprises have difficulty in tying up commitment to a mark-up that determines the investors' and shareholders' dividends and profits. Microenterprises bear the burden of the excessive cost of capital. The problem arises when large shareholders aim at discounting their risk by taking a larger share of the profits in joint venture. This leaves smaller residual shares and dividends for the small borrowers and participants in Islamic funds. Microenterprises thus find it disproportionately poised to refinance their assets due to the lower shares of the total profits from joint ventures.

The same result can swing in favour of microenterprises at the expense of shareholders when an under-valuation of the intergenerational flow of projected returns takes place. In such a case, the question is this: Can the investor be risk-avert; and divert potential investments into risk-free alternatives, such as short-term trade using the murabaha (mark-up) financing instrument?

None of the above-mentioned alternatives comes to the benefit of socioeconomic development of the community, and beyond of the global financial stabilization. Indeed, a prevalent problem of Islamic banks is either a lack of investments or an over-subscription of shareholders' capital. These results are reflected in the variable, 'financing/ deposit ratio', which is found to move away on either side from the expected value of unity (Choudhury, 2009) in Islamic banks. Islamic banks in Indonesia show such financing problems in their annual reports (Bank Muamalat Annual Report, 2007; Bank Mandiri Annual Report, 2006).

Consequently, although interest-free financing has been promoted by Islamic banks, yet the method towards realizing this goal has not been well-defined in terms of investment, liquidity problem, asset valuation, and socioeconomic development. Besides, secondary financing instruments have been used in place of the primary Islamic financing instruments to argue in favour of operations in interest-free financing. Yet there are looming Islamic problems relating to interest rates in these secondary financing instruments. Two of these problems are firstly, the absence of the idea of diversified pooled funds made by combining individual types of financing modes. The sharia gurus have not looked into this possibility. The result has then been to promote independent modes of financing by separable contract rules (aqd). The second problem is the difference of the often used 'sharia-compliance' jargon. This approach is distantly removed from the great purpose and objective of the sharia as a rule of making good choices -- maqasid as-sharia (Mufeedh Choudhury, 2009).

The existing Islamic approaches in asset valuation and financing run into the same kinds of methodological problems mentioned above. They generate ineffective socioeconomic development effects. A clear example of this is the almost negligible difference between Islamic banks and conventional banks in respect of such Islamic and conventional modes of financing. This situation is found to be empirically true of Islamic financing everywhere (Choudhury, 2008).

The Money, Finance, and Real Economy Relationships in an Interest-Free Regime of Socioeconomic Change

The missing gap in Islamic intellection in financial engineering

Islamic economists argue on behalf of establishing an interest-free regime of socioeconomic change by retaining the existing fractional monetary reserve system, despite introducing the compelling need for delivering social justice (Chapra, 1985). The arguments, prescriptions, and implementation of such an approach through interest-free targeting are untenable. We explain this problem below in terms of a generalized system of comprehensive socioeconomic transformation by endogenous interrelations between money, finance and real economy.

Further details on the analytical version of the general-equilibrium system are given by Choudhury (1997). The idea expressed in this reference and similar references is that, interactive and thus unifying relations between an expanding economic system and financial system, cause systemic learning. Such a socioeconomic dynamic is explained by evolutionary-type equilibriums with inter-variable complementarities signifying inter-causal learning. The result then would be heightened participation causing empowerment for the participants and financial stabilization.

If interest-based financing is inverted by the rise of exchange (trade)-based instruments in the Islamic case, then there is a decreasing need and incentive for holding savings in banks (bank-savings) and capital markets. Consequently, Islamic banks become outlets of mobilizing savings continuously into spending in the good and productive things of life (referred to as halal at-tayibah in the Qur'an). This process, which is continuous, generates participatory dynamics between spending possibilities (diversity) and represented entities (representative variables denoting socioeconomic variables and financing instrumental variables). There is also the money variable as mobilized savings in transaction demand. These variables define the relations and represent the agencies comprising agents, institutions, markets, etc., underlying the relations and their constituent variables. Indeed, the Islamic world-system, within which are studied the complementary relations between money, finance and the real economy is fully participatory in nature (Choudhury, Zaman & Harahap, 2008). Yet such a creative idea has remained absent in Islamic economics, finance, and banking.

The result then is to interactively integrate the three domains – money, finance and the real economy in participatory ways, so that they learn by endogenous circular causation relations between them. Such causation is the same as generating endogenous relations between the representative pairing variables. Indeed, pairing is the Qur'anic, and hence truly Islamic message of pervasive complementarities between entities and their representative variables. The circular-causation phenomenon is termed equivalently as learning behaviour in the midst of complementary relations. The pervasive principle of extensive complementarities is the clearest sign of unity of knowledge, which denotes the epistemological premise of money, finance, and the real economy system of circular causation relations. This methodology is equally fundamental in all other cases of generalized-system relations in respect of the truly Islamic explanation of socio-scientific phenomena.

The argument here is that, phasing out the rate of interest in Islamic financing can neither be sustainable in the absence of a simultaneous transformation of the monetary system in relation to the real economy, nor will the ruptured goal of unity between money, finance, and the real economy lead to the realization of anything that is truly Islamic in nature. The latter argument here was

explained earlier by examples in the contemporary history of Islamic economic thought and action in reference to its imitation of the mainstream non-Islamic worldview (Occidentalism).

Contrasting the Islamic and Occidental worldviews in financial conception

The Occidental economic thought indeed aims at the development-financing regimes devoid of the interest-rate but with a failed conception of inter-causal episteme. Likewise, at the present time of global financial and banking crisis, central banks in most countries are lowering their prime rates to zero to bring about lower bank-lending rates and stimulate spending. Yet we cannot argue that, these economies and the banking system have been transformed into the Islamic banking and finance kinds. The fact is that, interest-rate reduction to zero can be attained independently of structural change. Such is the case with Islamic banks today. They follow the idea of 'sharia-compliance' instead of focusing on and rising up from the foundation of the purpose and objective of the Qur'anic law of monotheistic unity of knowledge (Tawhid) rather than sharia. Consequently, no structural change has come about in any form of substantively foundational way for the benefit of intellection and global wellbeing. Only a small segment of the financial sector, less than 2 per cent of the global capital market, remains relatively free of interest-based transactions. See Parker (3 Jan. 2012) for supportive facts. The idea and applications of the worldview of extended socioeconomic inter-linkages implied by the law of unity of knowledge and its embedded world-system, as of money, finance, and real economy, have not been engineered by so-called 'Islamic' gurus in financial engineering.

Formation of Islamic capital market

How can an Islamic capital market arise? The fundamental transformation into the money, finance, and the real economy complementary linkages remains hampered by the blockage in the flow of resources in the mere presence of the 'sharia-compliance' idea. Resource here means the coterminous ones interconnecting in positive ways, money, finance, and real economy resources of ethical and productive consequences. This implies the extended possibilities for realizing the impact of interest-free financing in the real economy. Such respurce mobilization establishes the wide range of endogenous linkages that money-finance-real economy interrelations generate and are sustained throughout the socioeconomic system.

Therefore, to premise all transactions on interest-free instruments in the Islamic economic and financial system is only a necessary condition of Islamizing the financing and banking system. By itself the abolition of interest financing is not a sufficient condition in establishing the alternative of trade and participatory development globally. It is therefore necessary to combine the interest-free transactions as a process linked with a simultaneous change in monetary policies and money-finance-real economy inter-causal relations. Such relations are generated between the central bank, the commercial bank, and the real economy by circular causation. The resulting new economic arrangement based on complementary circular causation relations between variables and their representative agents would cause the emergence of unified, synergetic interrelationships between the monetary system, the financial instrumentation, and the real economy and all other systems that these interrelate with. We now turn to a formalism of the underlying dynamics of such a model.

Model of Money, Finance, Real Economy Inter-Causal Endogenous Relations

The praxis of the Islamic approach to exchange (trade) and interest relationship

Our arguments establish the fact that, interest-rate eradication in the Islamic economy cannot be enforced by exogenous forces, policies, and measures. If it is so, as is presently practiced by Islamic venues everywhere in the world, the replacement of the interest rate will not be sustained without simultaneously charting the constructive change that the trade and financing instruments must generate between money, finance, and the real economy. Presently, there is no such attempt by Islamic educational institutions, Islamic development institutions, Islamic banks, and Muslim governments in their Islamization experiment. Consequently, the programme of Islamization of the financial sector has not proceeded to the extent of contributing to the rise of a viable and sustainable intellection. Consequently, the present state of Islamic capital markets, inter-communal international trade dynamics, and socioeconomic development programmes remain weak in the truly Islamic epistemic precept. That is, merely a construal of interest-free financing modes does not form an adequate benchmark of the Islamic worldview. Islamization of knowledge and of the financial sector, has failed to be an adequate approach even in a partial view of Islamic change. The global intellectual worldview, in which money, finance, and real economy interrelationships play a crucial role of structural change and monetary reform, and which must emanate from the general-system objective based on the epistemology of systemic unity of knowledge between the critical variables has remained dormant.

We have argued and explained that, the Islamic programme to phase out interest rate, and replace them with trade instruments, must be carried out within a general equilibrium system of circular causation relations between money, finance, and the real economy and their extended inter-variable representation. This simultaneously involves pervasively complementary interrelations between the central bank, the commercial banks, and the real economy, under the 100 per cent reserve requirements monetary system with the gold standard. Such pervasively complementary relations would generate organically paired interrelations in reference to the epistemology of systemic unity of knowledge. This would be the generalized system oriented inter-causal worldview of an integrated Islamic financial economic order.

The functions of money in 100% RRMS

The resource mobilization issue in trade versus financial interest implies that, increased complementarities in the financial economic system are required so as to simulate the wellbeing criterion that is attained from such complementarities over learning processes. The function of money, finance, and Islamic banks is precisely to attain this wellbeing objective. So what are the functions of monetary aggregate in such an integrated system?

Is money a store of value in 100%RRMS?

Is money a store of value? We note that the value of money arises from the real economy in terms of approved exchange of goods, services, and project financing. The absence of the attribute of store of value in money means that, there is no productive value in money as such. Rather, the stability of currency value in international exchange as an indicator of monetary value, is attained

by means of the gold standard in the 100%RRMS in money, finance, and real economy circular interrelationships.

Is money a unit of exchange in 100% RRMS?

Is money a unit of exchange? Yes, this is true; for money in 100 %RRMS determines the true relationship between the unit value of money and the price of goods and services in exchange with currency stability. Currency is equivalent to money in circulation in this system. The amount of money in circulation is supported by the gold standard in order to be stable. Good money (Hayek, 1999) must be circulating in the form of currency by its equation of exchange (von Mises, 1981). Indeed, the Prophet Muhammad informally denominated various values to smaller monetary units called danaq and mithqal. The values were assigned in terms of physical units of basic needs in weight and quantity of financial circulation (Allouche, 1994). The importance of denominations of weights and value-measures appears in the Qur'an (83:1): "Woe to the defaulters in weights and measures, those who take full measure when they take from men and who give less when they measure out to them or weigh to them."

Is money a medium of in 100% RRMS exchange?

Is money a medium of exchange? This property of money is true only in the static case of market valuation of resources. In the intertemporal case of resource mobilization it is difficult to ascertain the state of demand and supply of goods and services at future time-periods. It is also difficult to ascertain the risk-contingencies that exist at future points of time. Also, consumer preferences, systemic risk, and values of future flows of goods and services, and financial demands in projects, are all based on subjective factors, price, quantity, demand and supply, and preferences being some of these. The intertemporal valuation of such variables is thus undeterminable. Consequently, it is impossible to ascertain the value of goods and services in expected exchange. Thereby, the value of money that would back up such a real economic value over distributed future time-periods remains undetermined. The quantity of money in use remains only an expected amount with subjective probability.

Therefore, money does not have any market of its own, which otherwise would result in the theory of interest rate as the price of money and financial instruments. Islamic money being micro-money (Choudhury & Hoque, 2004), because of its quantity in circulation according to the equation of exchange, relates to specific projects that need to be financed. Thereby, the quantity of money (currency) in circulation in the economy is determined by its full quantum flows into specific projects.

In the End: Functions of Money

We have debated against the notions of demand and supply of money, and replaced the concept of quantity of micro-money mobilized into projects through the banking sector in complementary relations with the real economy and by appropriate participatory financing instruments. By our arguments this paper has also rejected the unquestioned acceptance of the notions of the mainstream functions of money. Of these, only the function of unit of exchange as it is actually realized or intertemporally established with true market transactions is acceptable. The micro-money is thereby asset-backed and socially contractual. The function of store of value is untenable, for value is not of money. Rather, value is claimed by monetary value of market exchange of real

goods and services as they are intertemporally realized and as corresponding payments are settled. The function of money as the medium of exchange is rejected in the absence of a well-determined exchange value of goods and services over time with only subjective probabilities prevailing.

Ludwig Von-Mises (1981, p. 84) writes in regards to the notion of money as a medium of exchange (slightly edited):

"Its (state) task thus becomes that of determining, in accordance with the intent of the contracting parties, what is to be understood by money in commercial transactions. From the legal point of view, money is not the common medium of exchange, but the common medium of payment of debt settlement."

In this paper, we have gone a step further by arguing that in *100% RRMS* money is a convention to settle payment contracts at every determined moment of clearly realized market exchange in the real economy. In the sense of valuation of money, finance, and the real economy activities, the quantity of money and its valuation can be measured at what we refer to as 'nearest' point of valuation. Such a point is that which reduces subjective probability of occurrence of the contingent events. But there always remains a certain gap of expected measurements by way of probability of occurrence of the events.

Conclusion: Inferences on the Islamic Alternative on Global Financial Crisis: The Money, Finance, Real Economy Gap

Islamic banks are claimed to have remained safe from the financial crisis that is sweeping the world today. Central banks of most countries have cut down their prime lending rates to near zero to stimulate consumer and investment spending. Yet the deepening financial economic crisis continues. Islamic banks although insulated from the global financial crisis due to their narrow percentage operations that do not involve the stock market and speculative financing, have not gained advantage of the situation to contribute to the global future on financial economic stabilization and sustainability. The path out of the crisis for the global order could not be charted by any form of 'Islamic' economic, financial, and banking intellection, except by pointing out the zero interest agenda. Even the alternative trade financing instruments have not presented the alternative (Choudhury, 2017a).

This paper argued that, reducing the interest towards zero is not a new recommendation of any and all economic systems during financial crisis. Spending and innovation require venture capital to be freely mobilized by development-financing instruments through commercial banks. Yet such a central bank policy is not taking effect towards stabilizing the global financial economic system. The problem looms in the absence of an informed understanding of the inter-causal relationship between many coterminous variables in the inverse function between exchange (trade) and interest rates.

This paper points out that, simultaneously with the phasing out of interest rate to zero, it is necessary to reconstruct the generalized-system design of the relations between the central bank, the commercial bank, and the real economy. Within such general-system reconstruction must be taken up all such circular causation synergies that establish pervasive complementarities between the productive and good things of life. Such choices would meet the demands of the greater purpose of wellbeing that is embedded in the purpose and objective of the truly Islamic worldview of

monotheistic unity of knowledge as episteme. The resulting financial economic transformation with sustainable stabilization would then be panacea for the global order. That is because unethical, unsocial, and thereby, immoral and unwanted choices are abhorrent to all peoples and cultures.

A brief articulation of the formal model of wellbeing that merges the epistemic moral (ethical *a la* Keynes' 'Our future generations') is enunciated in the appendix. The reader interested in examining the empirical applications of the generalized system model can refer to many of the author's publications in this area (e.g. Choudhury, 2017b). The complete model and its technical details and offshoots are too vast to be presented here. Only a crisp summary is provided. With such an epistemic formal presentation, this paper has explained most fundamentally, that underlying the common heritage of mankind upon which to build, renew, or reconstruct old and fallen systems is thus the epistemological shift towards systemic unity of knowledge. This is equivalently the core of unity of the Islamic law (Tawhid) in relation to diverse world-systems.

Indeed, discourse would lead to new patterns of monetary futures. The global financial crisis requires a change in the monetary arrangements along with spending stimulus through reduced interest rates to restore financial economic stability, sustainability, and enhance wellbeing in *100% RRMS*.

Our above-mentioned recommendations can thereby be extended for global institutional reform. On this issue the International Monetary Fund has a standing idea. The U.S. Treasury Secretary muses on such a direction of monetary reform in the following words (U.S. Department of the Treasury (Dec. 2, 2008). U.S. Department of the Treasury, Deputy Assistant Secretary Sobel Remarks on the Global Financial Crisis and the IMF's Response from http://www.treas.gov/press/ releases/hp1307.htm. Washington D.C):

 "This is an important moment for the IMF and its future. The IMF has a critical role to play in the global resolution of the financial crisis. The proposed modernizing reforms will begin the process of making the IMF more representative of the global economy. It is strongly in the U.S. interest that the Fund fulfills these responsibilities in order to retain its relevance and preeminent place in the international monetary system. The need for a strong and effective IMF is all the more pressing in the challenging global economic environment we find ourselves in today."

(htt p://www.treas.gov/press/ releases/hp1307.htm,U.S. Department of the Treasury, Deputy Assistant Secretary Sobel Remarks on the Global Financial Crisis and the IMF's Response, Dec. 2, 2008). This quote signifies the urgency of the time to launch the blueprint of a future reform of the monetary system in conjunction with the outlook of the real economy to gain global economic and financial stability. This paper has pointed out what structure of reasoning and institutional change will be required inside such an alternative perspective of money, finance, and the real economy interlinked by their endogenously circular causation system of interrelationships.

Appendix: Epistemic generalized system model of estimation and simulation of wellbeing, subject to circular causation relations between critical variables

Wellbeing versus welfare objective criterion:

1.Maximize **Welfare**, $W = W(\mathbf{x}_{end}, \mathbf{x}_{exog})$, subject to $x'_{end} = f_i(\mathbf{x}''_{end}, \mathbf{x}_{exog})$;
$\mathbf{x}_{end}$ denotes the list of endogenous variables; $\mathbf{x}_{exog}$ denotes the list of exogenous variables. These variables can be marginal substitutes. Thus unity of knowledge between the variables of the good things of life (pervasive complementarities) can exist; e.g. economic growth and employment.

$\mathbf{x}'_{end}$ denotes the particular endogenous variable in relationship to other endogenous variables, $\mathbf{x}''_{end}$ and exogenous variables. As in Keynesian general equilibrium model it is not necessary for $\mathbf{x}_{end} = \{\mathbf{x}'_{end}, \mathbf{x}''_{end}\}$. Also $\mathbf{x}_{exog}$ need not appear in every one of the i-numbered equations. Bold variables denote vectors.

2. **Wellbeing** is defined as the estimation and simulation objective criterion of inter-causality between all endogenous, thus learning (parametric induction by symbol 'θ') variables arising from the Islamic episteme of monotheistic unity of knowledge (Tawhid). The degree of such unity of knowledge between the variables in the wellbeing evaluative function is denoted by the system parameter 'θ'.

Evaluate (estimation followed by coefficient simulation) Wellbeing, $W(θ) = W(\mathbf{x}_{end}, \mathbf{x}_{exog})[θ]$, subject to $x'_{end}(θ) = f_i(\mathbf{x}''_{end}(θ), θ)$; [θ] denotes induction by unity of knowledge.

$\mathbf{x}_{end}(θ)$ denotes the full list of endogenous variables. There is no exogenous variable because of circular causality between the variables in respect of organic linkages of the episteme of unity of knowledge.

Thus by way of endogenous relations, x'_{end} denotes the particular endogenous variable in relationship to other endogenous variables, $\mathbf{x}''_{end}$. This result is similar to the Walrasian general equilibrium but having no optima. Only evolutionary learning simulated equilibriums exist. There cannot be any interest rate because of the inter-variable circular causation, as of not holding on to savings in favour of resource mobilization from point to point progressive evaluation over intertemporal points. Sraffian intertemporal interest rate problem is thereby resolved. The Keynesian problem of interest and bank-savings is resolved (Ventelou, 2005). Unlike in all other general equilibrium formulations, it is true in the wellbeing evaluation case for $\mathbf{x}_{end} = \{\mathbf{x}'_{end}, \mathbf{x}''_{end}\}$.

The closing equation in the wellbeing objective criterion is the evaluation of the parameterized knowledge indicator in the system or correctable thereby by changes in the estimated coefficients of the whole model system, which appear as inter-variable elasticity coefficients. This knowledge approximation denotes the empirical form of the wellbeing function, subject to the evaluation of the circular causation variables in their respective structural equations. The parameterized wellbeing function is, $θ = F(\mathbf{x}_{end})$. $F(.)$ like $f_i(.)$ can assume different monotonically positive forms, depending upon the specific statistical methods used. Bold variables denote vectors.

References[1]

Allouche, A. (1994). *Mamluk economics, a study and translation of alMaqrizi's Ighathah*. In Currency:Islamic Currency. Salt Lake City, UT: University of Utah Press.

Bank Syariah Mandiri, (2006). *Annual Report 2006*. Jakarta, Indonesia: Bank Syariah Mandiri.

Bank Muamalat, (2007). *Annual Report 2007*. Jakarta, Indonesia: Bank Muamalat.

Black, S. (1989). Seigniorage. In J. Eatwell, M. Milgate & P. Newman (Eds.), *New Palgrave: Money*, (pp. 314–315). New York, NY: W.W. Norton.

Blackwell, M., & Nocera, S. (1989). Debt-equity swaps. In Frenkel, J.A. Dooley, M.P. & Wickhman, P. (Eds.), *Analytical issues in debt* (pp. 311–345). Washington, D.C.: International Monetary Fund.

Business Islamica. (2008, March). Gulf mega-sukuk issues, a 'rich man's club, 18–19.

Chapra, M. U. (1985). *Towards a just monetary system*. Leicester, UK: The Islamic Foundation.

Choudhury, M. A. (1989). Privatisation of the Islamic dinar as an instrument for the development of an Islamic capital market. *Islamic Economic Co-operation*, (pp. 272–294). London, Eng.: Macmillan.

Choudhury, M. A. (1997). *Money in Islam*. London, Eng.: Routledge.

Choudhury, M. A. (1999). A critique of econometric modeling for development studies: A political economy approach with special reference to Malaysia. In Ghosh, B.N. & Salleh, M.S. (Eds.). *Political economy of development in Malaysia*, (pp. 105–123). Kuala Lumpur, Malaysia: Utusan Publications.

Choudhury, M. A. (2008). Islamic economics and finance – a fiasco. *The Middle East Business and Economic Review*, *20*(1), 38–51.

Choudhury (2011). Overlapping generation model for Islamic asset valuation: A phenomenological application. In Chapter 8 of his *Islamic Economics and Finance: An Epistemological Inquiry*. Bingley, UK: Emerald Publications.

Choudhury, M.A. (2017a). The Problem of Ummah Integration: Conceptual and Empirical Work. In *Intra-Trade in OIC*. In Al-Elzahi A., Ismail, A.G., Yusof, R.M., & Ahmad, N.H. (Eds.). Jeddah, Saudi Arabia: Islamic Research and Training Institute.

Choudhury, M.A. (2017b). Shari'ah and economics: a generalized system approach. *International Journal of Law and Management,* 59(6), 993-2012.

Choudhury, M. A., & Hoque, M. Z. (2004). Micro-money and real economic relationships in the 100 per cent reserve requirement and the gold standard, in their *An Advanced Exposition of Islamic Economics and Finance*, (pp. 199–220). Lewiston, New York: The Edwin Mellen Press.

Choudhury, M. A., Zaman, S.I. & Harahap, S. S. (2008). "An evolutionary topological theory of participatory socioeconomic development". *World Futures*, 63, 584–598.

Choudhury, Mufeedh. A. (2009). Money, finance and the real economy in Islamic banking and finance, perspectives from the Maqasid as-Shari'ah (Unpublished doctoral dissertation). Department of Economics, Banking and Finance Program, University of Stirling, Scotland.

Desai, M., (1989). Endogenous and exogenous money. In Eatwell, J. Milgate, M. and Newman, P., (Eds.) *New Palgrave: Money.* New York, NY: W.W. Norton,

Donzelli, F. (2004). Rise and decline of the notion of own rate of interest in Sraffa. Working Paper No. 32. Universita degli Studi di Milano.

Friedman, M., (1960). *A Program for Monetary Stability*. New York, NY: Fordham University Press.

Friedman, M. (1989). Quantity theory of money. In J. Eatwell, M. Milgate, & P. Newman Eds. *The New Palgrave: Money*, (pp. 1-40). New York, NY: W.W. Norton.

Gassner, M. S. (March, 2008). Revisiting Islamic bonds, are 85% of sukuk haram? *Business Islamica*, 22–23.

Hayek, F.A. (1999). Intertemporal price equilibrium and movements in the value of money. In his *Good Money, Part One: The New World*, (pp. 186-227). Chicago, ILL: University of Chicago Press.

Keynes, J. M. (1963). Economic Possibilities for Our Grandchildren. In *Essays in Persuasion*, (p. 368). New York: W.W. Norton.

Krugman, P. R. (1989). Market-based debt-reduction schemes. In Frenkel, J.A. Dooley M.P. & Wickhman, P. (Eds.), *Analytical issues in debt*, (pp. 258–278). Washington, D.C.: International Monetary Fund.

Nell, E. (1988). Does the rate of interest determine the rate of profit. *Political Economy: Studies on the Surplus Approach*, 4(2), 263-267.

O'Donnell, R.M. (1989). Some philosophical background. In his, *Keynes: Philosophy, Economics & Politics*, (pp. 11-28). London, Eng: Macmillan.

Parker, M. (2012, Jan 3). Comments on al-Amine. M. al-Bashir's Global Sukuk and Islamic Securitization Market. *Arab News*.

Ramsey, F.P. (1928). A mathematical theory of savings. *Economic Journal*, 38(152), 543-550.

Sraffa, P. (1960). Production of Commodities by Means of Commodities, Prelude to Critique of Economic Theory. Cambridge, Eng.: Cambridge University Press.

U.S. Department of the Treasury (Dec. 2, 2008). U.S. Department of the Treasury, Deputy Assistant Secretary Sobel Remarks on the Global Financial Crisis and the IMF's Response. Retrieved from http://www.treas.gov/press/releases/hp1307.htm.

Usmani, T. on Sukuk (n.d). Most sukuk 'not Islamic', body claims.

Retrieved from http://www.arabianbusiness.com/most-sukuk-not-islamic-body-claims-197156.html

Ventelou, B., (2005). Economic thought on the eve of the General Theory. In Chapter 2, *Millennial Keynes*. New York: M.E. Sharpe, Armonk.

Von Mises, L. (1981). The return to sound money. In his *The Theory of Money and Credit*. Indianapolis: Liberty Fund.

Wainwright, K. & Chiang, A. C. (2004). *Fundamental Methods of Mathematical Economics.* New York: McGraw-Hill.

Yeager, L.B., (1997). *The Fluttering Veil, Essays on Monetary Disequilibrium*. Indianapolis: The Liberty Press.