



THE ISLAMIC PANACEA TO GLOBAL FINANCIAL PREDICAMENT: A NEW FINANCIAL ARCHITECTURE

(Penyelesaian Secara Islam Bagi Krisis Ekonomi Global:
Ke Arah Satu Rekabentuk Kewangan Baru)

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ABSTRAK

Akar dari krisis 2008 kewangan global yang berasal dari pasaran gadaai janji sub-prima Amerika Syarikat dapat ditelusuri dari sisi permintaan pembiayaan. Keutamaan peminjam dapat dijelaskan berdasarkan kepada kelebihan pemilikan dan perbelanjaan. Seperti keutamaan pelanggan berlebihan yang dipadankan dengan keputusan pembekal untuk membolehkan pinjaman mudah disediakan dan pinjaman terakumulasi yang menyebabkan hutang berganda. Kos terkait akibat pinjaman tersebut ditunjukkan oleh kadar bunga. Keterkaitan kadar bunga dari segi teori bagi menghasilkan pembiayaan yang cekap dan dapat memobilisasikan sumber ekonomi akan dibincangkan dalam makalah ini. Penolakan dan penggantian dengan instrumen pembiayaan penyertaan dalam kehidupan seharian akan dihasilkan. Sebuah rekabentuk arkitektur baru kewangan dicadangkan dengan meletakkan isu utama wang, kewangan dan ekonomi benar sebagai hubungan yang saling melengkapi. Hubungan ini boleh disimulasikan melalui persamaan penyebab melingkar. Premis asas konseptual ditetapkan oleh episteme kesatuan pengetahuan. Maka, pandangan dunia Islam tentang kesatuan pengetahuan diperlukan untuk mengatasi tema sistem kewangan rizab 100% (100% RRMS). Implikasi sosial dan ekonomi mengenainya akan dibincangkan.

Kata Kunci: Krisis kewangan global, ekonomi dan kewangan Islam, wang dan ekonomi benar, sistem dunia, epistemologi keesaan undang-undang Allah

ABSTRACT

The roots of the 2008 global financial crisis that originated in the United States subprime mortgage market are firstly traced to the demand side of financing.

Borrower preferences are explained to be based on excessiveness of ownership and spending. Such excessive consumer preferences are matched up with the suppliers' decision to allow easy lending and accumulation of multiple debt-ridden loans. The cost of such financial excessiveness is shown to be the rate of interest. The relevance of interest rate in efficient financing and economic resource mobilization is questioned here from the theoretical side. Its rejection and replacement by participatory financing instruments in the good things of life is formalized. A new financial architectural design is thus laid out in terms of the central issue of money, finance and real economy complementary relations. These relations can be simulated by circular causation equations. The foundational conceptual premise is governed by the episteme of unity of knowledge. Thus the Islamic worldview of unity of knowledge is invoked to address the theme of 100% Reserve Requirement Monetary System (100%RRMS). Its social and economic implications are formalized.

Keywords: Global financial crisis, Islamic economics and finance, money and real economy, world-system, epistemology of oneness of the divine law

CAUSES OF GLOBAL FINANCIAL PREDICAMENT

The following is a summary of causes of global financial meltdown that brought about a mammoth injection of bailout funds by the national world governments. The debt and assets of major banks in the west had to be guaranteed by government protection. This is tantamount to nationalization of banks, a case quite contrary to the free-market ideals.

1. The onset of the financial crisis arose in the mortgage market that could not get back the mortgage payments from large debtors on housing assets. Such large debts were built up by the borrowers in the housing market in the face of subprime mortgage interest rates, which were attractive to borrowers. The borrowers took advantage of such an easy borrowing situation to build up debt that went out of their ability to pay against the excessive borrowing in inordinately lavish housing assets. Such is the case of over-investment in the housing market that was not in tandem with the capability of being paid out in the short run. Thus default in mortgage payment commenced from the consumer syndrome of excessiveness. Upon this the financial institutions privileged the consumers to realize their excessive desires.
2. Mortgage funds are borrowed funds from banks and lending institutions to the mortgage markets. These are then returned to investors. The mammoth debt that arose from default in mortgage payments naturally fell with crushing weight on the lending banks and corporations.
3. Real estate assets were foreclosed on owners and investors due to their unwieldy loans accrued on excessive kinds of real estate properties. These could not be serviced in the face of high mortgage payments even at subprime mortgage rates.

4. For sometime in 2006, the high price of excessive kinds of real estate properties raised the volume of total mortgage payments. Together with this mortgage crunch the illiquidity of expensive property assets led to real estate market correction. This caused house prices to decline. During the period 2007-2008 owners and investors experienced the adverse financial effect of losses in real estate properties. Consequently, lending banks and corporations lost heavily in the wake of low returns on the un-capitalized value of their financed assets.
5. Easy and ineffective global financial regulations compounded the problem of excessive demand among individual owners and investors. Easy monetary policy was practiced at low but fluctuating borrowing rates in response to the volatility of the real estate market fueled by speculative investors. This was a repeat of the real estate speculative financial crunch that broke the growth bubble of East Asian economies during the late nineties. Fluctuating short-term rates of interest and the speculative aggressiveness among investors entrenched the volatility fears in the financial markets. The worst affected was the equity and bond markets, as capital freely flowed between holding of bonds during fluctuating regimes of high short-term term structure of interest rates and equities with higher but volatile yields during regimes of low term-structure of interest rates.
6. While the domestic financial markets reacted to the sequence of causes for financial volatility and corporate insolvency, the contagion spread across the global financial markets through the adverse effects transmitted by the real economy and international trade in both merchandise and capital.
7. Economic and financial indicators that worsened the relationship between financial and real sectors were legion. Industrial production in the U.S. slumped. The rate of growth of real GDP slowed down considerably in China. The International Labor Organization forebodes 20 million people unemployed globally. Several sovereign nations, Iceland, Pakistan, Ukraine and Hungary came near to bankruptcy and had to be rescued with heavy doses of borrowed funds. Heightened debt-service charges fell upon the immense amount of borrowed funds to bailout large banks across the world. The stress was on taxpayers' resources to finance such large debt hangovers. Slowdown in consumer spending and investor confidence subdued recovery of the stock markets globally despite the mammoth financial bailout packages for banks, financial corporations and nation states. These causes compounded to worsen the relationship between the financial sector, the real sector and foreign trade flows, whose health had already reached unsustainable level in the stalled ideas and mechanism of western capitalism and its political and institutional backing under neo-liberalism.
8. The long-term foreboding of the western capitalist and neo-liberal system is sullied by the permanent fear of instability. Within this climate of change

the economic, financial and social relations cannot be maintained for the common wellbeing. The IMF has pointed out this long-term financial Armageddon (Kahn 2008). There is structural problem in the neo-liberal western capitalist system that cannot be resolved by empty slogans like 'a new global financial architecture', 'new international economic order', 'western democracy', 'new world order', and the faded ideas, mechanisms and applications of an unworkable free-market.

SUMMARIZING THE ROOTS OF THE GLOBAL FINANCIAL CRISIS – THE PERMANENT HUMAN AND ECONOMIC MALAISE

The basis of the present financial crisis, which is bound to continue inflicting its venom because of structural problems of society, economy, finance and institutions, are the insatiable preferences of households and investors that fuel excessiveness in the real estate market. Then there is the contagion that this kind of preference has on the economy and the foreboding uncertain market expectations everywhere. Finally, the excessiveness is allowed to survive and proceed on with unrelenting animal spirit by weak government polices, outmoded understanding of the economic and financial world-system, being unable to simulate the otherwise complex system by a spent-out methodology. At the level of preference interactions is a complete lack of consciously responsible behavior in individuals, households, and institutions. These agents reinforce each other in their acquisitive passion of excessiveness to acquire. This is the permanent character of global capitalism by neo-liberalism (Dunning 2004; Sklair 2002).

Learning with consciousness remains absent in the face of gullible self-interest in the midst of the greed and passion that flairs the excessive passion to acquire. The perennial financing instrument upon which the acquisitive animal spirit survives is the rate of interest of every kind -- short, long, term-structure and shadow-rates of interest. The interest rate as the instrument of volatility carries with it the permissiveness of the acquisitive spirit and silences the conscious elements from everyone's preference maps.

In this paper we will associate the global financial crisis as a permanent case of large business cycles caused by multidimensional factors. These are different from the text-book explanation. They are quite apart from the narrow limits of the investment and spending scenario that marked the Great Depression of the thirties. That is because of the complexity caused by multidimensional factors, which cannot be simply analyzed by the existing straightforward economic and financial methods. The present business cycles move away from stability into continued disturbances due to structural causes fueled by the capitalist passion to acquire excessively. Such is the character of greed and disorder on which the high grounds of capitalism born out of liberalism survives and mutates.

Around the basis of individual and collective preferences organized into institutional forms, systemic chaos becomes a permanent character of global capitalism. To get out of this permanent environment of chaos and disturbances no quick patchwork can be adequate. While the need for immediate halting of the financial crisis is mandated, yet its long-term implications regarding substantial change ought to be the goal (Mankiw 2008).

Substantial and revolutionary change will require bold negation of the neo-liberal premise. It will consequently entail great and bold questioning on the economic, financial, institutional and social fronts. Julian Huxley wrote about the social engineering of planet earth in his *Brave New World*.

The entire concept of money and the real economy through the function of finance and institutional policies must be rethought. The conception of money itself will undergo a new definitive understanding. The resulting financial instruments will deny many of the underlying epistemological groundwork on which neo-liberalism and its model of global capitalism stands. We will argue that the central implement in all these is the rate of interest of all kinds. Interest rate is proven to be a financial instrument that is the cause and effect of vicious cycles of reinforcing individualism, acquisition, and institutional debility arising from under-mobilization of resources. At the end, we inherit a permanent lack of linkage and continuity that otherwise the monetary and real economy need to sustain in a stable and fulfilling economic, financial and social order. A thorough change of global capitalism and its epistemological roots in neo-liberalism is mandated.

A GENERALIZED SCHEMA OF FLOWS OF FUNDS

In Figure 1, problems of sustainability and stabilization arise when full or partial delink exists between the monetary, financial and real sectors. The depth of such differentiation between the sectors is caused by the inability to mobilize financial and real resources in complementary fashion to make the best use of money in the real economy. This requires appropriate financing instruments, supervision and learning in the system to transform or perpetuate consciousness through the interacting system through the labyrinth of their complex relations. Interest rates are a barrier to such a possibility. The presence of interest rates diverts monetary and financial resources away from the real economy into financial savings to earn interest rates without the turnover in money being linked to real productivity. Indeed Keynes, whose ideas of macroeconomics saved the western world from the Great Depression of the thirties, encouraged spending in productive ways opposing the propensity to save, to tax and cause unproductive leakages (Ventelou 2005).

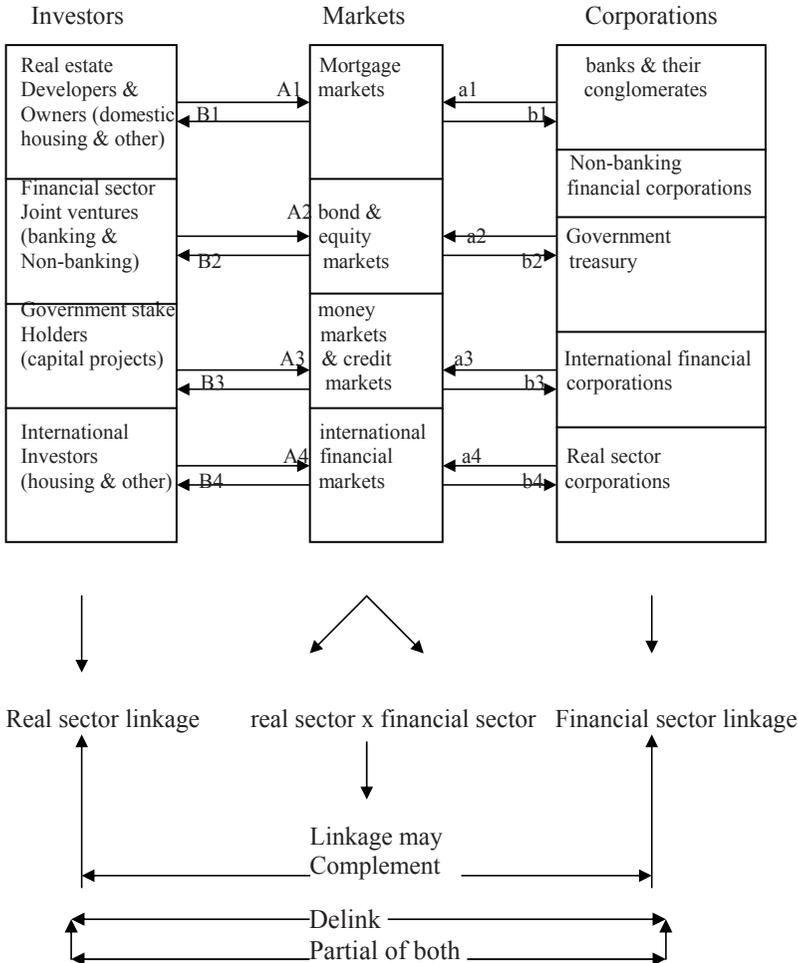


Figure 1 Nature of relationships between money and real economy in neo-liberal society

THE ARGUMENTS IN RESPECT OF A NEW EPISTEME FOR ECONOMIC, FINANCIAL AND SOCIAL SUSTAINABILITY

In this paper our objective is to point out the structural problems of that faded economic, financial and scientific rationalistic episteme of the neo-liberal genre that is unworkable in the face of social complexity. The socio-scientific system that humankind has inherited in this post-industrial age of production turning into high consumption broadly defined is complex due to its extensive relational and simulative nature. The idea of complexity is that of endless continuity of circular causation relations, which delineate the nature of

human problems. Myrdal (1968) wrote on this point in his explanation of the wider field of social causation in the context of socioeconomic development. Fitzpatrick (2003) writes on the endless simulative character of our learning and organic relations within embedded socio-scientific problems: “Ours, then, is an age of simulations that endlessly refer only to other simulations. The infinite circularity of these self-references is what Braudrillard calls the simulcare: everything is a reproduction of other reproductions. Society explodes in on itself and we cannot liberate ourselves from the simulcare...”

In our case in this paper the circular causality that we will study how neo-liberal western socio-scientific episteme breaks away from the unity of the economic world-system. The particular case of such organic and learning understanding of systemic unity is the organic symbiosis between money, finance and the real economy. Due to such a permanent entrenchment in neo-liberal worldview, its episteme cannot address the structural problems and the social reconstruction towards organic unity.

Our focus then is on the structural nature of organic and complex relations that symbiotically embed the money, finance, real economy and exchange relations under the framework of organic learning. Such learning occurs continuously in a complementary venue of market and institutional interaction. The idea is substantively defined to establish the episteme of unity of knowledge in such a pervasively unified and hence complementary system of organic learning relations.

Following this contrasting departure of the new structural reconstruction model as an epistemic novelty different from the socio-scientific oddity of neo-liberal rationalist paradigm, we will present the new symbiotic worldview of unity of knowledge as the episteme of the new structural reconstruction. In the light of this episteme we will offer the alternative framework of reconstruction towards a participatory worldview involving money, finance, real economy, exchange and institutional circular causation relations qua complexity caused by the systemic richness of learning.

Our search in the above directions of establishing the functional ontology (Gruber 1993; Acikgenc 1995) of unity of knowledge and its formalism and application to the case of money, finance, real economy, exchange and institutionally embedded symbiosis will take us to the Islamic foundations of oneness of God and the world-system. Divine Oneness here is a general, universal and unique epistemological precept. We will particularize its application to the case of money, finance, real economy, exchange and institutionally stimulated systemic symbiosis. Through our functional ontological formalism and its application and simulated inferences we will point out the strategic policies and programs that emanate from the epistemic worldview of symbiotic oneness in the context of organically learning systems that are complex by their relational

complexity but unified by pervasive complementarities between the good choices of life.

Thus our objective at the end is to alert the reader to the Islamic foundational worldview of divine oneness (Tawhid) at work in replacing and sustaining a new breed of thinking along of economic, financial, institutional discursive theories and policy perspectives.

WHERE HAS NEO-LIBERALISM FAILED? THE CONTRASTING EPISTEME OF ISLAM AND THE WORLD-SYSTEM

What is the meaning of episteme? Foucault (1983) in Sheridan defines the word episteme as follows: “By episteme we mean ... the total set of relations that unite, at a given period, the discursive practices that give rise to epistemological figures, sciences, and possibly formalized systems... The episteme is not a form of knowledge (*connaissance*) or type of rationality which, crossing the boundaries of the most varied sciences, manifests the sovereign unity of a subject, a spirit, or a period; it is the totality of relations that can be discovered, for a given period, between the sciences when one analyses them at the level of discursive regularities”.

Why is it essential to invoke an epistemic inquiry to lay down the altogether different and revolutionary original view of Islamic economic and financial architecture from its epistemic foundation of divine oneness in ‘everything’? In answer to this question we point out that foundational axioms remain at the root of a conscious order. They do not simply operate mechanically, as by human desires and rationalism. Contrarily, morals, ethics, consciousness, logical formalism based on such edicts of human values and the reason to decipher inferences premised on the epistemic axioms play their organic roles in erecting the mind of civilization of the *longue dure* (Braudel 1995).

Liberalism and economics (Taylor 1967) and the emergent social, cultural, institutional and political order are examples of the epistemological entrenchment of a certain understanding of reality based on rationalism (Minogue 1963). In rationalism God and the moral order in the organization of human experience remain isolated from the worldly function and model of the neo-liberalism worldview.¹

Consequently, rationalism is a denial of oneness by the self-centered ego of competition and individualism, which exists in the agent and the social order. So when we apply this edict to everything, then there arises the corresponding form of civilization. This kind of rationalistic origin of self and methodological individualism promotes the differentiated system of economics, finance, society and institutions. Within this we find the partitioned views and functions of money and finance from the real economy.

The central premise of savings in capital accumulation rests on the perpetual withdrawal of a certain proportion of the potential output into interest-bearing idle capital. Such a continuous withdrawal of resources away from the formation of potential output causes the economy to under-perform. Business cycles now remain endemic in economic and financial flows. Thus savings are never fully mobilized into spending in the good and conscious choices of life. Think of such good pursuits as the Rawlsian primary (Sen 1989). The stability and sustainability of the economy, so much required to arrest the business cycles, are thus never attained in the presence of failed mobilization of resources.

The monetary and financial sectors on the one hand and the real economy on the other hand have opposing goals and interests to serve. Financial interest and savings promote the power of capital accumulation by holding back the potential resources from full mobilization into the real economy.² Contrarily, investments and spending in the good things of life promote the interests of productivity and creativity by full mobilization of resources.

The economic problem of the financial sector in neo-liberal heritage of economics is maximization of expected utility function of a principal-agent contract subject to the present-valuation of future cash-flows discounted at a rate of interest. The economic problem of the real economy in the differentiated economic and financial systems is construed as maximization of output subject to the payments to factors of production and sources of economic profits according to prices set by a combination of market and institutional forces. A pervasively complementary relationship between the financial and real economic activities is impossible. Otherwise, the relative prices of interest rate to output prices cannot be determined by the marginal productivity of commodity substitution with the two kinds of goods and services (real economy and financial sector, respectively) being substitutes of each other (Henderson & Quandt 1971). Pervasive complementarities between these sectors and their artifacts are thereby methodologically impossible in received economic and financial theory governing rational choices.

Contrary to the pervasive rule of marginal rate of substitution coming out of the kinds of competing opposites that are generated in a differentiated regime of money, finance and real economy, the principle of pervasive complementarities forms the sure and measured attainment of unity by participation and organic learning between money, finance and the real economy. But in this case, relative prices cannot be determined by the first-order conditions of profit-maximization. Instead, prices are like those of classical markets. They are set by multimarket cause and effect between the endogenous variables that interrelate with the activities of multimarket. Such interrelationships generate the essential visage of learning by circular causation in the form of simulations between the endogenous variables. Learning causes all variables, including the policy variables and household and institutional preferences, to become

endogenous. Only the precept of oneness remains the invariant exogenously provided axiom that governs all other relations as endogenous ones.

Circular causation across the domain of endogenous relations is the sign of learning. Then economic and financial systemic sustainability by such a participatory learning behavior establishes the ethics of the system. It is singularly derived from the moral law of oneness. We therefore have the money, finance and real economy, institutional and social relationships as a system of unified, complementary and participatory circular causation between endogenously learning variables on the basis of the precept of organic unity of knowledge in 'everything'.

There is no such epistemic methodology in the prevalent economic, financial, institutional and social world-systems to study the functional nature of the divine law of oneness by its various functional instrumentations. Contrarily, such instrumentations establish a sustainable economic, financial and social order by pervasively complementary learning relations. Such a socio-scientific order rests primarily on the precept of unity of knowledge of a symbiotic, embedded and unified worldview. Unity of knowledge is thereby a systemic participatory and complementary reality. It invokes the moral law of conscious oneness as well as the functional ways of attaining the oneness in the form of organic linkages between the good things of life.

In the financial world, interest rate is unacceptable for resource mobilization. It diminishes the power of resources to flow freely across complementing systems. Unfortunately, the neo-liberal financial system with its theory, institutions and policies has not been able to liberate itself from the grips of interest-rate mechanism, despite the realization that low rates of interest are necessary to step up spending in all fronts to evade a recession.

Chairman of the Federal Reserve Board in the United States, Ben Bernanke (CNNMoney.com. 2008) in his speech on the present economic and financial conditions, repeated the economic argument of opportunity cost of choices. He referred to the banking bailout with public funds as a trade-off between bailout and recession, despite that the recession in which America has already nose-dived is expected to be a prolonged one, protracted globally. The concept of opportunity cost is a static one in a non-learning world. It cannot therefore be included as ethics within the organic learning of richly complex but unifying systems.

Contrarily, cooperative financing instruments replace interest rate and bring about the cementing nature of cooperation, participation and complementarities in everything that revolves around accelerated resource mobilization. The consequential effects, such as employment, productivity and creativity in a conscious environment of learning within organic wholeness represent the working of systemic unity arising from the episteme of divine oneness. Such a

systemic organism of oneness derived from the episteme of divine oneness as the primal law, and around which everything revolves in the orbit of oneness and its continuity by learning, is the basis of the linkages that must exist between money, finance, the real economy and the social and institutional environment.

WHY IS THE EPISTEME OF CONSCIOUS ONENESS OF SYMBIOTIC INTERACTION BETWEEN MONEY, FINANCE AND REAL ECONOMY NECESSARY?

Both the answer to the questions posed here and the status of the prevalent thinking in economics, finance and society shows that unity of knowledge between these mutually embedded systems and their representative variables is a long forgotten ideal. Reintroducing the episteme of oneness and its functional ontology of unity of knowledge and the world-system into the problem of money, finance and real economy with the social and ethical essence is a revolutionary project.

Ethics and human systems were deeply ingrained in Smith's theory of moral sentiments (Smith 1790). Ethics is deep in Keynes' economic epistemology of uncertainty, probability and the econometric method (O'Donnell, 1989). In the study of social dynamics and political economy Hegel blazed the way of thinking along lines of the ethical concept of the World Spirit (Hegel 1956, 1996). Marx (Spechler 1990) was not an ethicist, yet the dynamics of social discourse and interaction colored his political economy. The Austrian School of Economics was deeply ethical by virtue of its epistemology of the learning model (Hayek 1990; Kirzner 1997).

In the age of Islamic scholasticism almost every single idea was deeply epistemological and invoked the moral law of divine oneness to explain the central Islamic episteme of unity of knowledge and the world-system (Choudhury 2004). Of particular mention are Imam Ibn Taimiyyah (Islahi 1988) and his student Ibn Qayyim (Islahi 1988). They both wrote strongly in favor of gold and silver as the intrinsic bullions for the monetary standard. They opposed the policy of the Mamluk dynasty of Egypt during his time, which debased money by replacing gold and silver with copper. The result was a four-hundred percentage increase in inflation in Egypt at the time. Imam Ghazzali (trans. Rahman, undated) was strongly against debasing of gold and silver coins, which were treated as currency in circulation during his time. A debased coin was valued less because it did not buy the same amount of goods as a non-debased currency coin in circulation. Ibn Khaldun (Rozenthal 1958) praised the artisans over merchants because of their productive contributions to the nation.

The most important sources of Islamic epistemology of divine oneness and unity of knowledge, namely the Qur'an and the Sunnah (Prophetic guidance) present the architecture of the symbiotic picture of 'everything'. The most powerful explanation of the underlying principle of pervasive complementarities is the principle of pairs in the Qur'an.³ Besides, the model of development in the Qur'an is one of dynamic basic-needs comprising the good choices of life.⁴ Upon this principle Imam Fakhruddin Razi formalized his Ubudiyya (worship theory) theory of life-sustaining goods (Noor 1998). Imam Shatibi (Masud 1995) established his wellbeing theory called *al-maslaha wal-istihsan* (wellbeing according to juristic preferences). The Prophet Muhammad had assigned values to smaller denominations of the Islamic Dinar (Gold and silver currency) called *danaq* and *mithqal* in terms of basic foodstuffs (Allouche 1994; Choudhury 1997).

These developments in the history of Islamic economic thought amply establish the fact that currency as money was always thought of in terms of its required spending power in acquiring the dynamic basic-needs of life. Financing of the dynamic basic-needs regime of development mobilizes real and financial resources in the direction of the Islamic Law governing money, finance and real economy inter-linkages within the goal of attaining wellbeing.

THE EPISTEME OF UNITY OF KNOWLEDGE: IS IT A TALL CALL?

So at the end, can it be expected that the drawing boards of economics and financial gurus will embrace the episteme of unity of knowledge as in Islam to reconstruct the fallen world of ethical and material sustainability? Hardly do we expect this to happen. That impossible task is not the intent of this paper. The paper merely points out the logical formalism of this altogether different worldview of socio-scientific rethinking. But after this, the essential elements of organic linkages involving the following circular causation interrelations provide the way out towards economic stabilization, growth and sustainability:

The extensive learning process as a functional phenomenological ontology will require continuous and vigorous discourse within the western and Islamic civilization and other cultures and across them on the groundwork of unity of knowledge and the economic, financial and social world-system. This would invoke a combination of socio-scientific discourses in the problem area and interfaith dialogues. There is much scientific and technological know-how in the West that can be used to promote the socio-scientific formalism of unity of knowledge according to the Islamic worldview. Conversely, there is always much that Islam can bestow by way of learning in the methodology of unity of knowledge and the world-system from which the world can gain. But the essentials of the learning universe with its particular, the global economics,

finance and society at large, cannot depart from the kind of schematic development of thought and its application that we pointed out in Figure 2 or its diverse prototypes.

In summary therefore, why is it necessary to study the epistemic origin of unity of knowledge and the world-system, and the reconstructive model and the failed model of global capitalism in accordance with rationalism as the episteme of liberalism? It is to erect the new economic and social thought in the midst of complex processes that pervasively generate complementarities between the ethically induced choices. Such an extensively complementary and participatory view is expressed by the organic unity between money, finance and real economy in accordance with the reconstruction of ethical preferences in individuals and social preferences in institutions.

Neither rationalism nor liberalism, and thereby global capitalism, can answer these impending questions and designs of pervasive complementarities in the light of symbiotic views. Ethics is always an exogenous element in these systems, not the endogenous embedded core of the learning, discursive and unitary worldview of moral consciousness. Buchanan (1999) writes emphatically on this point.⁵

In the Money-Commodity-Money (M-C-M) model, which was so much discussed by Marx, we also find the process whereby money increases itself in volume and circulation in the economy.⁶ The idea is that accumulation of capital that finances economic growth and sustainability is formed through the productive returns of commodity production. Such returns arise from trade and exchange in the good things of life. Contrarily, interest rates of all kinds and denominations impede resource mobilization by breaking down the complementarities between money, finance and the real economy. This is a reality that is not accessible to the economics based on opportunity cost of resource allocation under conditions of scarcity and competition of the economic world that does not learn and in which diminishing returns to scale as a condition of steady-state equilibrium and optimal resource allocation halts the learning process (Shackle 1972). Technology and institutions remain exogenous or are endogenously hegemonic in imposing preferences (Becker 1989).

THE INEPTNESS OF PREVALENT RESPONSE OF ISLAMIC ECONOMICS TO THE CRISIS

In the financial and economic field, Islamic banks have mushroomed under an Islamization agenda. Yet the foundation and principles of Islamic banks give no comprehensive vision of a background intellectual mass of ideas how to transform the prevailing environment of interest-transactions into an interest-free system. How do the economic and financial economies determine risk-

diversification and prospective diversity of investment and production, thus mobilizing financial resources in the real economy along Shari'ah (Islamic Law) determined opportunities?

The financial reports of Islamic banks show an inordinately large proportion of resources floating in foreign trade financing. These portfolios have only to do with sheer mercantilist business returns by charging a mark-up on merchandise called Murabaha. Such a mark-up has nothing in common with real economic returns arising from the use of trade financing. Consequently, the mobilization of resources through foreign trade financing alone has neither helped to increase inter-communal trade financing in Muslim countries nor to increase returns through development prospects in the real economic sectors undertaking foreign trade financing.

Islamic banks have not constructed a program of comprehensive development by re-thinking the nature of money in Islam in terms of the intrinsic relationship between money as a moral and social necessity linked endogenously with real economic activities. Here endogenous money value is reflected only on the returns obtained from the mobilization of real sectoral resources that money serves to monetize according to the Shari'ah.

Money does not have any intrinsic value of its own apart from the value of the precious metals that are to be found in real sector production of such items. The structural change leading to such money, society, finance and economic transformation has not been possible by Islamic banks. Contrarily, Islamic banks today are simply pursuing goals of efficiency and profitability within the globalization agenda as sponsored by the West and her international development finance organizations. Thus, Islamic banks are found to have launched a neo-liberal model of economic competition in the midst of privatization, market openness, rent-seeking economic behavior and financial competition. This is contrary to promoting co-operation between themselves and other financial institutions and sectors.

A study carried out by Choudhury (1999) showed that although deposits have risen phenomenally in Islamic banks as a whole, the rate of profitability (distributed dividends/deposit) remained low at 1.66 per cent. The investment portfolio of Islamic banks is overly biased toward foreign trade financing and equity financing. Yet as is known, equity financing is destined to be highly risky when adequate sectoral diversification and progressive production and investments remain impossible for Islamic financial and non-banking institutions.

We therefore infer that the high level of deposits in Islamic banks comes from the sincere desire by Muslims to turn to meaningful modes of Islamic financing. The dynamics of Islamic transformation and an equitable and

participatory framework of business operations as forms of Islamic relations have received marginal attention at the social and institutional levels and in reference to Islamic socioeconomic transformation.

THE MALAYSIAN ISLAMIC ECONOMIC FIASCO

Statistical interpretations for the distribution of investments by financing instruments are similar to those for sectoral allocation of investment. Besides, the pattern of such allocation was similar between Islamic banks and commercial banks in Malaysia during the period 2002-2006 by quarters. The inference drawn goes strongly against the expected Islamic mode of financing in participatory development financing instruments and in favor of secondary financing instruments, which have doubtful legitimacy as Islamic investment venues in view of their management approach in Islamic banks. These have applications that are not different from the time-valuation methods, which commercial banks practice at large.

Paradoxically, commercial banks appear to enjoy the cost-plus pricing mode of financing more than Islamic banks. This brings out the incipient decline in Islamic financing instruments by Islamic banks, while the cost-plus pricing method of Islamic financing instrument is questionable as it is presently practiced in the economy-wide case. The implication is damaging for Islamic banks in the perspective of the Islamic call for socioeconomic development, provision of the good things of life and establishing a participatory economic, financial and social system along with pertinent policy measures so embedded in this kind of systemic unification framework vis-à-vis the Islamic episteme of unity of knowledge according to the precept of oneness of the divine law and the world-system.

The further implication of the statistical results on a trend-basis for the stated time-period is that neither Islamic banks nor commercial banks played an identifiable role in productive transformation of the Malaysian economy. All the contributions to share-value and economic growth came from the secondary financial markets. In the end, a significant substitution of resources took place in favor of the financial sector and financing instruments away from productive possibilities. These are unhealthy signs of a looming bubble in the economy, like the one that was faced by Malaysia during 1994-96 causing the financial crunch then as was foreseen by Jomo (1992) and Ali (1992). Abdullah et al. (2007) pointed out that Malaysian Islamic unit trust funds did not perform any better than conventional unit trust funds in regular times. Also the funds were poorly diversified and did not reach the 50 per cent level of diversification required for good portfolio.

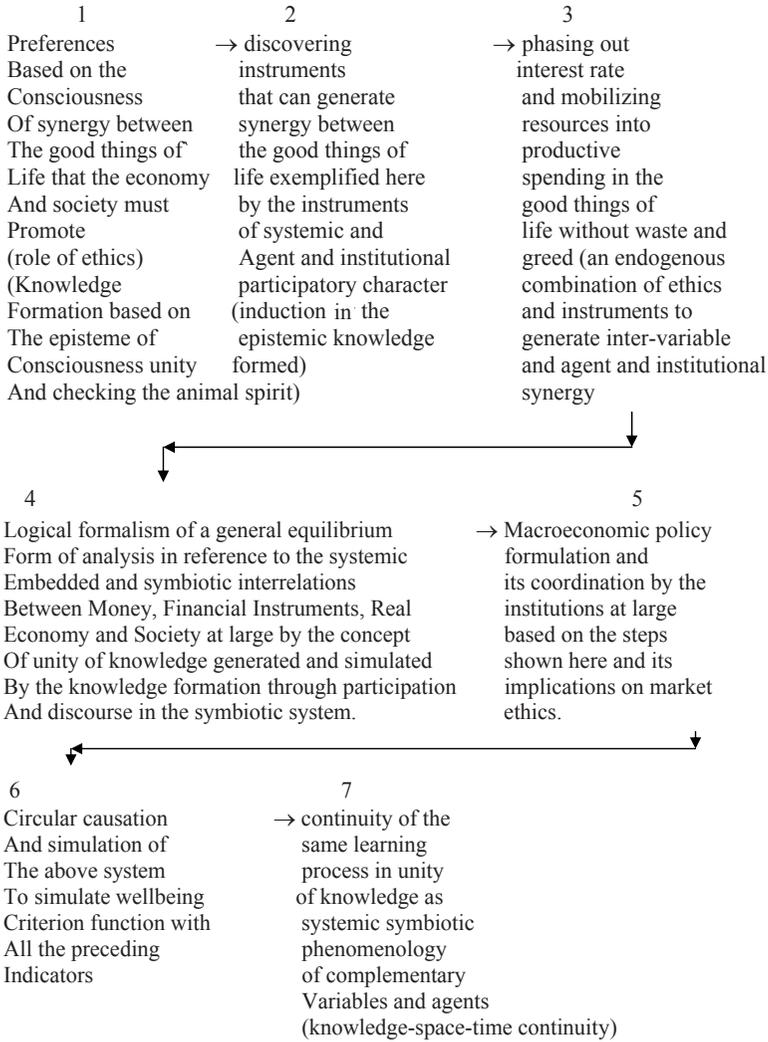


Figure 2 A phenomenological model of learning for a symbiotic system of relations between economy, finance and society

**THE MODEL OF MONEY, FINANCE AND REAL ECONOMY
LINKAGES IN THE LIGHT OF UNITY OF KNOWLEDGE
CAUSING SOCIAL WELLBEING**

The mathematical formalization of the schema of Figures 2 and 3 yields the general equilibrium model of circular causation relations for simulating wellbeing. This is shown in the endnote 7. The money, finance, real economic system according to induction by knowledge-induced dynamic preferences is schematized in Figure 3 and explained below.

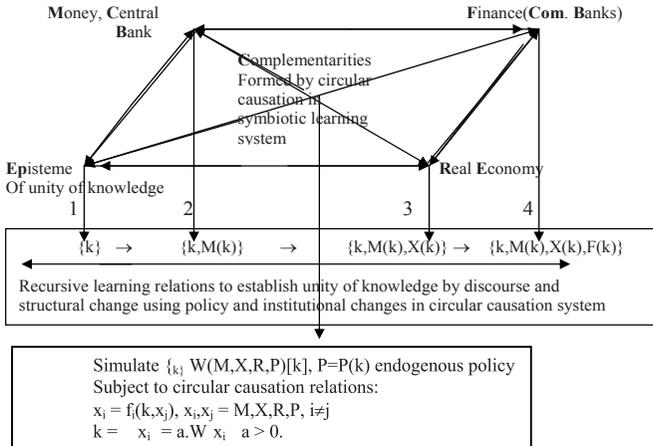


Figure 3 Complementary relations of an epistemologically driven General Equilibrium Circular Causation System in Money, Finance, Real Economy with Policy induction

**THE IMPLICATIONS OF COMPLEMENTARY CIRCULAR
CAUSATION RELATIONS BETWEEN MONEY, FINANCE,
REAL ECONOMY, POLICIES AND SOCIAL AND
INSTITUTIONAL VARIABLES**

The relationship, $M = f_1(k^+, F^+, X^+, P^\pm)[k]$; $[k]$ indicating induction of all the variables inside (...), means that the quantity of money has to be controlled (P^\pm) in the circular causation relations such that financial instruments link up with the mobilization of quantity of money (M) to establish complementary relations with the real economy vector (X) (e.g. real GDP, employment, price stability, growth, trade and distributive equity). Such policy variables (P) are cooperative ones within a climate of participation and complementarities between the variables shown. But sustainability of this complementary system with price stability requires that monetary transmission into the real economy must be proportionate to the requirements of the cooperative projects and outlets. Any excess of monetary transmission will be inflationary and harmful for the real productivity of the projects.

Examples of F are profit-sharing, equity-participation, joint ventures, co-financing, mark-up cost-pricing, and such secondary financing instruments that also revolve around the primal ones of profit-sharing and equity-participation. The choice of projects must be in accordance with the sustainability of the X-vector in the real economy to generate the simulated levels of wellbeing.

The signs of the coefficients in the relationship, $F = f_2(k^+, M^+, X^+, P^+)[k]$ give the same meanings as above in relation to complementarities between $(M, F, X)[k]$ with the use of P-policy vector to help attain and sustain the complementarities.

Similar explanation can be attached to the circular causation relationship, $X = f_3(k^+, M^+, F^+, P^+)[k]$. This in itself is a multiple-equations system in respect of the vector X. Thus an extensive system of circular causation relations is opened up for study and estimation. Within this extended system there will be inter-X vector circular causation relations along with their $(M, F, X)[k]$ relations, all based on the principle of inter-variable complementarities.

Finally, we note that the principle of pervasive complementarities is derived from the recursive learning and discursive processes that are enabled by the continuous induction of every such learning process by consciousness of unity of knowledge in the systemic sense of 'pairing' or symbiosis between the variables representing the good things of life, like the Rawlsian primary mentioned earlier. Such an ethical idea is also used by Hammond (1989) in his reconstruction of Harsanyi's fundamental utilitarian function as a welfare function.

In our case of social wellbeing function we equate wellbeing with the degree of complementarities gained by estimation and reconstruction of the circular causation system by simulating the k-parameter across the (M, F, X, P) variables as explained earlier. The estimated and reconstructed social wellbeing function is given by the empirical version of $k = f_4(M^+, F^+, X^+, P^+)[k]$. The signs of the coefficients are explained as before in the sense of learning and consciousness by discourse emerging from and recursively leading to participatory unity. Thus unifying experience leads to systemic symbiosis.

From the above formalism it is obvious that money in the symbiotic sense with finance, real economy and society at large is a microeconomic entity. The theory of money and the real economy in this sense arises from a definition and analytical treatment of micro-money pursuing projects and spending through the relationship of commercial banks and the central bank. The quantity of money so pursuing the demand of projects equals the value of spending in the project or groups of projects all linked to each other by circular causation relations between them.

In such a case we interpret the quantity of micro-money (M_i) meeting the needs of a project (i) or other spending outlets as the total amount of spending (P_i, Y_i) required for that project. That is, $M_i \cdot V_i = P_i \cdot Y_i$, with project-specific velocity of money circulation, $V_i \approx 1$. P_i denotes prices and Y_i denotes specific output, so that $P_i \cdot Y_i$ is nominal output for project $i = 1, 2, \dots, n$ number of projects. Total quantity of money in circulation across all projects and sources of output is $M = \sum_i M_i = \sum_i P_i \cdot Y_i$; $V_i \approx 1$, for each $i = 1, 2, \dots, n$.

The above project-specific (spending-specific) concept of micro-money increases the role of banks in mobilizing money into the real economy by the use of participatory financial instruments. A special kind of monetary transmission mechanism is now necessary to realize the productive mobilization of savings into the real economy, so that no savings is withheld to earn interest rates, and savings = investment at every time. It is important to note that in such a money and real economy circular causation relations with the use of financial instruments, productive mobilization of money through financing resources in the good things of life is necessary, and the condition of savings = investment everywhere in the life of the economy narrows down the business cycle. Consequently, interest rates in savings for holding it as idle financial resources are redundant. Instead, interest rates are replaced by participatory development-financing instruments.

A 100 per cent reserve-requirement micro-monetary system (100%RRMS) is formed. But we must understand the meaning of this concept, which is quite different from the idea of 100 per cent reserve requirement monetary system in which the central bank has the full authority to maintain the full reserve. Commercial banks cannot hold reserve. In our definition of the concept the central bank receives the full deposit of the un-mobilized funds through the commercial banks into the real economy. This residual reserve is 100 per cent protected by a proportionate stock of gold and silver as bimetallic bullion. A good coverage with arguments similar to the ones presented in this paper appears in Currie's historic paper (1937 reprinted 2004).

Furthermore, the concept of 100%RRMS means in our case, that commercial banks are allowed to hold the 100 per cent of the deposits to mobilize them into productive investments and spending in the good things of life. Only in the case when savings in the form of money in circulation is not fully mobilized then the un-mobilized savings are deposited with the central bank. This is a residual case of the central bank and commercial bank relationship in safekeeping and protecting the value of money in reserve deposit and in circulation. The central bank backs up the value of the un-mobilized savings in its safekeeping by such a proportionate amount of bimetallic bullion (gold and silver).

It can be noted that only a small amount of gold is required for this function in inverse proportion to the quantity of money mobilized. The higher is the quantity of money mobilized through the commercial banks into the real economy the smaller are the residual savings transferred to the central bank by the commercial bank. Hence a smaller quantity of gold is needed to protect the value of the residual reserve with the central bank.

Besides, this small quantity of gold protects the over all currency value of total quantity of money. This equals money in circulation plus the residual reserve that is fully held in the central bank.⁸

The implication of 100%RRMS is wider. Since foreign trade is an important outlet of resource mobilization, therefore, the market catalytic effect of 100%RRMS exists. Mydin and Larbani (2004) point out that a small amount of gold as the bimetallic bullion standard can support a large volume of trade. For this reason we refer to the 100%RRMS as being backed by the gold standard. Gold was a fairly stable asset until the end of the Bretton Woods Arrangement in the 1960's and proved to be a stable monetary base over a long time. Later on, it was the self-interest of large bankers and their national governments that ended the gold standard and central banks turned to paper money with fractional reserve requirement monetary system. Multiple credit creation is the consequence of creating large sums of paper money without any asset backing. The study of the relations between money, price, output and the real economy is thereby a fascinating intellectual enterprise (Bordo 1989).

Institutional Implications: banking relations in the 100 per cent reserve requirement monetary system interconnecting money, finance and the real economy

Chart 1 explains the participatory interrelationships between the Central Bank and Commercial Banks to bring about money-finance-real economy symbiotic linkages. Arrows 1 and 2 denote the flow of the quantity of currency as money in circulation through the commercial bank and the central bank in response to real economic demand. Arrow 3 denotes the interbank and other clientele needs of the real economy arising within a continuous need for quantities of currency to finance real economic activities. This amount of deposits belongs to the central bank whose currency stock it is. These deposits limit an excess production of additional currency stocks. However, suitable mechanisms can be developed between the central bank and the commercial bank to efficiently circulate the interbank and other deposits into real economic transactions as needed under the supervision by the central bank through its networking with the commercial banks. The arrow 4 shows this possibility. Other new currency flows needed for financing real economic activities are indicated by arrow 5.

The same mechanism exists in case of an excess demand for a quantity of money to finance real economic transactions. The central bank can produce additional currency and also use its commercial bank residual reserve deposits to finance this excess demand. In this way, any excess demand is perpetually removed. Thus no price pressure can exist, which otherwise would be caused by a shortage or excess of liquidity.

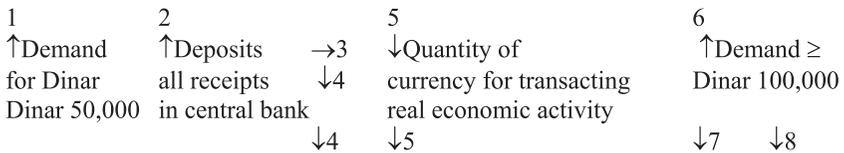
Chart 1: Institution-Market Interrelationships in the 100%RRMS: Central Bank, Commercial Bank (Islamic Bank) and the Real Economy

Central Bank: Produces and Manages Stock of Currency and Oversees the Money-Economy Relationship

Central bank produces currency stock = Dinar 100,000. Central bank maintains Dinar 100,000 level by producing residual stock of currency. The central bank can also produce stock in view of expected excess demand of the real economy.

Reserve ratio = 100 %

Central bank oversees the money-real economy relations in view of economic development and social perspectives both for the closed and open economy. Hence, domestic and external sector stabilization is part of the overall goals of the central bank to guide the allocation of funds. To stabilize the external sector the central bank links exchange rate determination to productivity. Consequently, terms-of-trade and balance of payments in current and capital accounts are sustained. See below for formalization relating to these.



Co-operative Venture Relationship between Commercial Bank and Clientele in the Real Economy

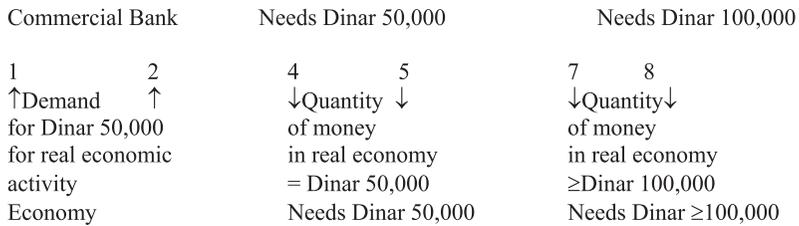


Figure 4 Discursive relationships according to the episteme of unity of knowledge

Since arrows 3, 4 (hence 7,8) represent exact matching of demand with the quantity of money to finance such real economic activities, therefore, there cannot exist any excess demand or supply of money. Thereby, money market unstable consequences on prices and real output do not exist. In other words, the growth of currency = growth of demand for real economic transactions = growth of output = real rate of productive return. In an economy that moves according to the dynamic basic-needs regimes of development there would be steady states for these various rates.

This however requires active functioning of the two levels in the banking system, namely, the discursive organization and the co-operative venture relationship. Such relationships are instrumental in the knowledge formation of the system. Knowledge formation is measured by active policies, performance of co-operative instruments and discourse. All of these conditions are accounted for in terms of ordinal weights in the learning k -values.

The 100%RRMS realizes stability and sustainability of the economy in the midst of a dynamic life-fulfilling regime of development. The otherwise growth-oriented and lifetime cycle of capital accumulation through interest-based savings and economic growth are not the goals. These are replaced by the singular goal of simulating social wellbeing as the criterion of estimating the degree of systemic unity attained between the symbiotic relations of money, finance, real economy and society. Details in this regard were explained earlier. The wellbeing function based on dynamic life-fulfilling goods and services becomes the criterion for reading sustainable stability and moral worth through the money-finance-real economy circular causation interrelationships. The interplay between stages of institutional organization and market transformation explains the circular causation model. That is, the interactive interface is explained by the underlying systemic participatory and institutional discursive relations between institutions and markets. The relational order is denoted by the circular flows of arrows in Figure 4. It implies the principle of pervasive complementarities with diversity.

ECONOMIC PRODUCTIVITY IN 100%RRMS

We need to understand the productivity relation in the 100%RRMS. The usual definition of productivity is now understood in terms of the underlying knowledge-simulation in the 100% RRMS relating to discursive and organic relations between the central bank, commercial bank (Islamic bank) and the variables of finance and the real economic economy.

Labor productivity is defined by, $\rho_L(k) = Y(k)/L(k)$, where L is a factor input (particularized to labor) in the production function that is now of the form, $Y(k) = F(L,K)[k]$, so that labor L is complementary with capital K through the

knowledge variable 'k' that defines the interactive, integrative and dynamically evolutionary process describing all relations in the Islamic world-system. Total productivity is defined by $Y(k)$, this being distributed between labor and capital in a complementary way. There now comes about increasing returns to scale in the production function. On a simplified basis we also note the following production relations (Choudhury 1998):

$$\text{Total productivity, } Y(k) = [\rho_L(k).L(k) + \rho_K(k).K(k)]/2.$$

The right-hand side of the above expression is a simulated parameter in terms of a combination of institutional and market forces. Thus, $L(k)$ and $K(k)$ are complementary to each other with respect to the simulation of k -values in the sense of the 100%RRMS.

In the end, we note that in the 100%RRMS the rate of growth currency money equals the rate of growth of output with prices and rates of return on assets remaining stable. The utilization of factors of production is also based on organic complementarities in terms of the unifying relationships between their factor productivities.

REGULATORY MATTERS

Because of the microeconomic nature of macroeconomic reasoning, variables and policies, the regulatory matters are relegated to the microeconomic level. This though is not how current macroeconomic regulations are construed in respect of managing global financial and economic crises. Yet as this paper has argued, the roots of the present crisis that stemmed from the subprime mortgage market in the United States was premised on buyers' preferences that reflected excessiveness beyond means. This resulted in insolvency at the micro-level of the housing market. The premise of this paper and the way that Islamic panacea explains regulation in all of these is to reform micro-foundational aspects of preferences and then move into policy coordination to perform regulation by means of learning in monetary and real economy causality relationships. Some of these circular causation relations are explained below.

1. Macroeconomic policy implications of micro-money in 100%RRMS

All policies, financing instruments and institutional reformation matters are endogenous in nature by virtue of their learning and knowledge induction derived from the given epistemic premise of unity of knowledge. Thereby, money turned out to be a quantity of currencies that pursues projects. Contrary to such micro-level nature of money-finance-real economy circular causation interrelations governed by the principle of complementarities, macroeconomic monetary and fiscal policy instruments remain unnecessary in the detailed understanding of the underlying dynamics of economic projects. Yet for

reasons of making economic forecasts it may be necessary to consider some semblance of macroeconomic models to make estimates on the general state of the economy.

A sample of projects representing diversified portfolio and different levels of society could therefore be selected to enable estimation on the state of the economy concerning money, finance, real economy and social wellbeing. In other words, such estimation is the result of establishing the appropriate kinds of complementary projects upon which the sample estimation can be done and the policy forecasts can be accomplished. The data for such estimation come from the microeconomic levels of money-finance-real economy interrelations.

In our case, unlike the macroeconomic LM-curve of monetary equilibrium, and thereby the IS-curve of fiscal equilibrium, we have a system of circular causation between the variables. These help to generate pervasive and new levels of heightened complementarities between them together with the 100%RRMS attaining its heightened state of money-finance-real economy complementarities. The implications of the participatory policy variables and of the epistemic premise of unity of knowledge are implied.⁹

The income multiplier results in the two cases are quite different. According to the IS-LM General Macroeconomic Equilibrium, interest rates cause limitation of the output variable to attain the full-employment real GDP. In the case of 100%RRMS the prototype of the monetary equilibrium and expenditure variables follow positive trends by the force of learning (k). The two trajectories are thereby simultaneously described by evolutionary learning equilibriums.

In the conventional IS-LM shifts a similar trajectory would be described by simultaneous shifts in the general equilibriums under the impact of productive spending and monetary expansion. This result is consistent with the case of either a lower level of interest rate or low level of liquidity traps where the interest rate remains low (Venieris & Sebold 1977). Contrary to such shifts, the effects of real values of spending and GDP would be dampened by the increasing real rate of interest. The financial stabilizing effect of lower prime rates of interest is known to be effective for economic stimulation across the world during times of financial volatility and economic crisis.

2. Short-run and long-run implications of policy simulation

The coterminous evolution of investment and quantity of money curves in the 100%RRMS, and thereby, the positive relationship between financing instruments and the real GDP are principally influenced by the impact of ' k '. Thereby, the question of short-run and long-run adjustment in the investment-

money relations with respect to the real rate of return ('r') and real output (Y) is resolved by the simulation of these relations in respect of 'r'-values.

Figure 5 shows that in one case the adjustment to evolutionary general equilibrium between money and investment (ee) in respect of $(r, Y)[k]$ causes the investment curve to adjust towards the money curve with expanding levels of $(r, Y)[k]$. In another case, an equivalent adjustment is caused by the money curve adjusting towards the investment curve with expanding levels of $(r, Y)[k]$. Note the evolutionary learning equilibrium path $e'e'$.

These adjustments mean respectively, that the quantity of money in excess of investment first causes the central bank to hold the un-mobilized funds (S) as the 100 per cent reserve. Subsequently, as r increases in the real economy causing Y to increase by the complementary effect, then investment demand increases. This call for additional funds liquidates the withheld reserve in the central bank. Now the difference between the quantity of money and investment demand falls as $(r, Y)[k]$ increases by the money-investment, money, finance and real economy complementarities.¹⁰

The equilibrium towards E1 from the region M1 being in excess of I1 is explained as follows: The excess of investment demand over the quantity of money available to finance it suppresses 'r'. Consequently, Y decreases as well, until the complementary relations between money and investment, that is, between money, finance and real economy, are established at the equilibrium point E1.

Secondly, the way towards simulated evolutionary equilibriums by the force of learning (k) is for M to adjust towards I. This happens when an excess demand for investment either liquidates the quantity of money in reserve (S) with the central bank in 100%RRMS or creates new money to finance the excess investment demand. Now $(r, Y)[k]$ increases along such adjustment, as in the first case. The equilibrium adjustment at E1 from the region of $I > M$ can be explained as in the first case.

The process continues until the equilibrium E1 is established, but only to evolve into subsequent levels of similar evolutionary E's (as shown) that are established by the shifting investment and money curves under the impact of evolution into higher learning processes with greater effects of complementarities, institutional change and diversification of production (technologically induced production menus) and financial risk (new financial instruments).

The evolutionary processes (along the trajectories ee and $e'e'$) are the consequences of continuous learning. But every such process is the result of short-run learning and adjustment. Therefore, there is no tenable concept of the

long-run (across evolutionary processes) that remains independent of the short-run (intra-process) learning.

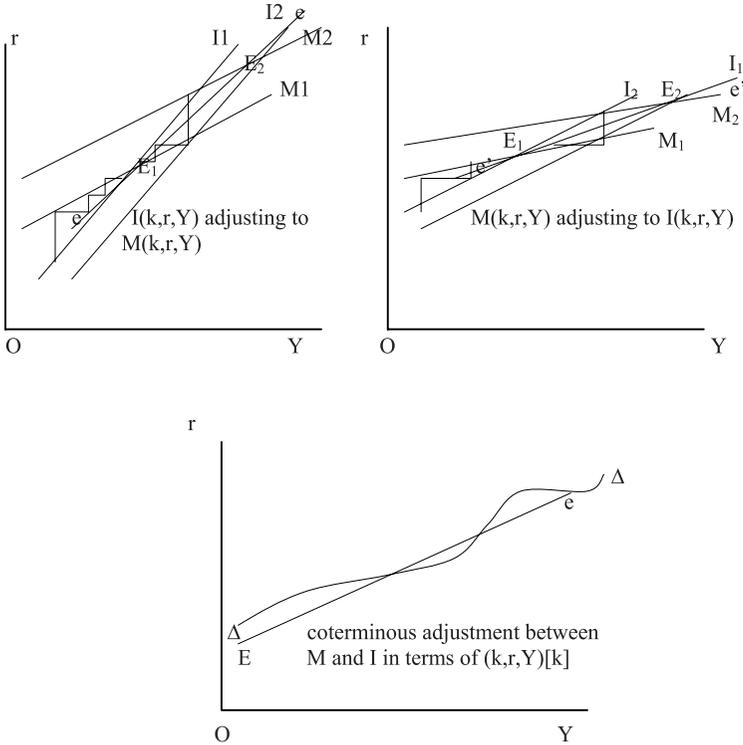


Figure 5 Evolutionary learning equilibria in the money-finance-real economy complementary relations

The evolutionary equilibrium path is now shown in Figure 5. It remains fairly coterminous between I and M curves under the monotonically positive impact of learning that causes unity of relations (complementarities) between money, finance and real economy symbiotic interactions.

The equations of relations between M , I in terms of $(k,r,Y)[k]$ are of the following form: $I = b.M$ yields $r = f(k,Y)$. Hence we have the $(r,Y)[k]$ coordinates. The curves connecting these coordinates yield the investment and money curves as shown. The evolutionary equilibrium adjustment between these (Δ) is equivalent to the money, finance and real economy complementarities as the sure conceptual and applied sign of unity of knowledge in this world-system. But this can be obtained in the presence of participatory financing instruments replacing the interest rates of every kind. The reconstructive circular causation relations between the organic variables indicate the transformation to be brought about by activating relevant institutional changes and adopting policy strategies towards attaining all of these.

CONCLUSION

The economic and financial paradigms upon which the world stood for quite sometime had first lost its validity during the Great Depression. It then required the philosophical and insightful acumen of John Maynard Keynes to rescue economic theory from its inability in stabilizing the fallen economy out of the desuetude of neoclassical economy and financial theory. Only now the world has come to face another bitter reality. This is marked by the emptiness of all of economic theory towards addressing the sustainability issue of the global economy, which is teetering in financial and economic crisis. The very high cost on tax-payers money to rescue big banks, insurance companies and non-bank financial companies from bankruptcies has already proved that the high finance and macroeconomic ideas of so-called economic fundamentals are flawed, even after Keynes and government protection by deficit financing and expansionary monetary and fiscal policies. We have argued in this paper that a thorough rethinking of both economic theory and its application must be discovered to create a sustainable world-system of money, finance and real economy with the objective of attaining social wellbeing.

We have argued this theme and constructed alternative economic and financial argumentation in the light of the episteme of systemic unity of knowledge. We asked the question: Where is such an abiding episteme to be found, one that stands upon learning by pervasive complementarities between variables and agents and activates institutional changes to attain such systemic unity? We discovered it in the episteme of the Islamic worldview, which rests on the functional ontology of divine oneness in the order of “everything”. Upon this epistemic background and its functional ontology a brave new world of economic and financial reconstruction was proposed for attaining social wellbeing as the measure of systemic unity between the good choices of life.

The challenge of replacing interest rate instrument by participatory instruments of cooperation and organic complementarities and its various implications on money-finance-real economy interrelations and sustainability by discursive learning was formalized. This is the field of epistemological understanding and application of the paradigm of Islamic economics and finance in the light of its core episteme of oneness across learning domains of human experience.

Endnote

¹ Bakar (1999, p. 32) writes: "Rationalism is false not because it seeks to express reality in rational mode, so far as this is possible, but because it seeks to embrace the whole of reality in the realm of reason, as if the latter coincides with the very principle of things. ... the very rational faculty is placed at the disposal of faith or revelation in the sense that it is called upon to present and expound the contents of Revelation in a rational manner to the best degree possible, whereas in modern thought it has been used to rebel against truth claims which lie outside its cognitive competence."

² Let Y_0 denote GDP at time $t = 0, 1, 2, \dots$; s_t denote saving ratio at time $t = 0, 1, 2, \dots$; g denote a constant growth rate of GDP at time $t = 0, 1, 2, \dots$

Disposable income after saving at time $t = 0$ is $Y_0(1-s)$, which increases to national income Y_1 at time $t = 1$. $Y_1 = Y_0(1-s)(1+g)$. Likewise, $Y_t = Y_0 \cdot (1-s)^t \cdot (1+g)^t$.

$$\text{Now consider, } \partial Y_t / \partial s = -t Y_0 \cdot (1+g)^t (1-s)^{t-1} < 0$$

$$\partial Y_t / \partial g = t Y_0 \cdot (1-s)^t (1+g)^{t-1} > 0$$

only due to the positive effect of g but dampened by the negative effect of s .

The above results remain true irrespective of a moment of time and in the continuous sense. Besides, the argument that a higher volume of savings would grow into more resources for investment in the future contradicts the fact that at any moment of time that volume of savings is a resource withdrawal. That amount of potential resource could otherwise have been used to perpetuate economic growth and thereby development and social wellbeing.

³ Qur'an (36:36): "Glory is to Him, Who has created all in pairs of that which the earth produces, as well as of their (own) human kind, and of that which they know not."

⁴ The design of pervasively connected and diversely rich world-system is one that is morally induced by laws, reason and directions to create wellbeing and plenty. On this the Qur'an (14:24-25) declares: "See you not how Allah sets forth a parable? A goodly word like a goodly tree, whose root is firmly fixed, and its branches (reach) to the sky, giving its fruit at all times, by the leave of its Lord, and Allah sets forth parables for mankind in order that they may remember."

⁵ Buchanan (1990) writes, "If we can disregard the revival of fundamentalism, notably in Islam, we can refer to this century as one "without God".

⁶ Heilbroner (1985, p. 146) writes, "The structural logic of accumulation therefore begins from the powerful tendency of capital to develop its productive forces – a tendency we are familiar with as an integral aspect of the M-C-M' circuit."

⁷ A formal version of the above schema is this:

1 {0, Pr(θ)} = {k}	2 ρ {k} = ρ	3 {k, x(k), ρ} = {k, z(k)}	4 repeat (3) for a A three-sector Model, {money (M(k)), Finance (ρ), real economy (x(k)), thus the Vector {k, z(k)}	5 simulate wellbeing W(k, z(k)) subject to circular causation relations between the Variables (Sim _k W(k, z(k)) s.t functions showing interrelations between the (k, z(k))-variables	6 policy and prescriptions on change in structure institutions and thought by discourse and logical formalism
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⁸ Let total quantity of money (M^*) equal the money in circulation (M) and the amount not mobilized and remaining in savings with the central bank (S). Let G denote the quantity of gold as asset to support the value of currency in savings with the central bank.

We write therefore, $M^* = M + S$. This is similar to the equation of total reserve = cash in vault + statutory reserve. But in our case S is a residual, not a policy requirement by the central bank.

With the gold standard, $S/G = a = (M^* - M)/G = (M^*/G) + (M/G)$.

The coefficient 'a' is a policy variable to set the quantity of gold required to shore the un-mobilized funds that stays with the central bank, so that it does not create multiple credit creation if it were to stay with the commercial bank. The multiple credit creation is a subtle mechanism to create excess amount of money and unleash interbank lending interest rate.

As an assigned coefficient, 'a' gives $da = 0$. That is, $d(M/G) = d(M^*/G)$. This result implies that stability by gold-backing of the money in circulation equals the stability of total quantity of money. Hence the stock of gold used to stabilize the value of S also stabilizes the quantity of money in circulation.

⁹ At the background of simulating the complementarities between the variables of social wellbeing function are the two particular equations on money (M) and expenditure (I), respectively. These are namely,

$$M(k) = f_1(k^+, F^+, I^+, P^+)[k],$$

$$I(k) = f_2(k^+, F^+, M^+, P^+)[k].$$

All variables were defined earlier.

According to the banking relations of 100%RRMS, $I(k) = b.M(k)$, b being a coefficient. This relationship is true at each level of learning estimated by 'k'. Besides, the continuity of 'k' takes place over time. Hence, $I(k) = b.M(k)$ everywhere along 'k' and time, with $b \rightarrow 1$ as financial resources get fully mobilized by commercial banks. Note that because of the microeconomic nature of spending relations, the idea of fiscal expansion is not limited to government expenditure. Hence we have subsumed all forms of spending in the good things of life in the variable 'I'. Hence the LM and IS curves are elastically convergent on each other in tandem with the extent that the policy variables and institutional transformation strategic variables (P) are activated to attain better states of the 100%RRMS. They revolve around the attainment of effective participatory development-financing variables.

¹⁰ Let $\Delta = |M-I|$, then $d\Delta/dk = (\partial\Delta/\partial Y).(dY/dk) + (\partial\Delta/\partial r).(dr/dk) < 0$ by the tatonement effect of equilibrium. Since, k affects positively both Y and r, therefore, $dY/dk > 0$; $dr/dk > 0$. By the equilibrium effect, $(\partial\Delta/\partial Y)$ and $(\partial\Delta/\partial r)$ must be individually negative.

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