

Islamic Political Economy: An Epistemological Approach

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Abstract

The budding field of Islamic political economy as premised on the epistemological roots of the monotheistic law and explained by the *Qur'an* and the *sunnah* (teachings of the Prophet Muhammad) is expounded. Several mainstream economic ideas are critically examined and their alternative treatment under Islamic political economy is expounded. The *process-oriented* model termed in this paper as the *shuratic* process or the discursively interactive, integrative and evolutionary process (IIE-learning process) is shown to be central to the methodology of the circular causation and continuity model of unified reality in Islamic political economy. Several concepts and applications are invoked in the methodological study of Islamic political economy. These involve a futuristic model of Arab political economy and the emergence of modern Turkish historicism *a la* Ibn Khaldun, by the Islamic contrariness to Eurocentricity. In order to bring out the widest conception and application of the methodology of Islamic political economy we examine the diverse problem of labour market wellbeing understood as labour market adaptation of Canadian Natives. This exam uses the methodology of Islamic political economy and shows its application to a contemporaneous real world issue. There is also a good deal of comparative study between Islam and the Occident concerning epistemological issues of the monotheistic law founded on the methodology of political economy. Such diverse applications bring out the extension of the field of Islamic political economy. Religious encumbrance are avoided and replaced by an epistemological worldview. Such a comprehensive study of Islamic political economy brings out a new and overarching economic, social, and scientific methodology that is extended to a field of intellectual inquiry beyond sheer religious outlook.

Keywords: Islam and epistemology; comparative political economy; applications of Islamic political economy

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Political Economy and the Moral, Ethical, Cultural and Religions Groundwork

Every scientific treatment of great ideas emerges from epistemological foundations. This is true both of the natural and social sciences. Within both of these areas is embedded a methodology similar to that of political economy. This inclusive field comprises the methodological study of conflict and conflict resolution. In this regard, Smith's idea of an economy and society governed by the law of natural liberty was a manifestation of the broad epistemological groundwork of a moral and scientific treatment (Smith, 1984). Yet in his *Wealth of Nations* the natural law of liberty gave rise to economic conflicts and the market system was treated as the resolver of the conflicts. Likewise, the French Physiocracy as the original school of political economy invoked the religious postulates of the just law within the framework of the monotheistic law. Quesnay and Turgot referred to the just law as *jus divinum*.

Such an approach on the origins of political economic thought in religion, morality, and ethics is also found in Edel (1970, 303-304) who wrote: "Thus a question like the existence and properties of God may be considered in terms of the scientific study of the ways in which these ideas function in the ethical process in the lives and thoughts of men." But at the same time Edel (302-303) points out the speculative nature of those religious beliefs that contradict the scientific method: "Questions of the possibility of man knowing the monotheistic takes shape in rational, mystical, authoritarian-revealed and individual-intuitive religious epistemologies, with different imbedded conceptions of the character of the human condition." The understanding of God and the monotheistic law in their functions in political economy as a scientific intellection must thus be premised on the causality of interaction and integration, evolution, and learning between the monotheistic law in action and the world-system.

Choudhury (2014, xxxv) writes regarding such a need for the monotheistic law that does not limit God to a metaphysical isolation from the world. Rather God and the monotheistic law are meaningful when their precepts regenerate the worldly causality with the moral law in continuity: "Thus the system and cybernetic study of God and the world-system comprises the highly analytical intellection of morality and ethics in terms of the epistemic unity of knowledge and the unified world-system in the details of economic, financial, institutional, banking, business and social order that arises from this epistemic foundation."

The epistemic origin of political economy in sociological foundations (Holton, 1992)¹, of which is the critical study of religion, are noted in Hegel's conception of the World Spirit (Hegel, trans. Sibree, 1956). Hegel considered the rise of Western Civilization as a definitive movement towards the ultimate rationalist mind as the World Spirit. That

¹ Holton (1992, 184, slightly edited) writes: "One major implication of this (economic sociology) is that culture enters into all social activities including economic and political life. We may therefore speak of economic culture or political culture, by which is meant those aspects of economic or political life that involve issues of meaning and values. And the practices in which they are embodied"

rational World Spirit can be identified with the role of consciousness in ‘everything’ as the nature of the functional moral law. Barrow (1991) characterizes such a meaningful movement of the mind and consciousness in his theories of ‘everything’. In our paper the generality of the theories of everything is induced to explain both the natural and social sciences to which the study of political economy belongs.

In all of science, the search and study of the epistemological origin, and thereby, of the study of ontology and consciousness, remains intrinsic. On this point of the generalized law of ‘everything’ Einstein (1954, 473) wrote: “Scientific thought is a development of prescientific thought. As the concept of space was already fundamental in the latter, we must begin with the concept of space in pre-scientific thought.”

Our background examination of the nature of the theme of political economy unravels the universal epistemological approach that can form a theory and application in ‘everything’ in a unique and universal way. This paper will be in such a directional search. It is to formalize a theory that addresses overarching problems of science and society by a unique epistemology and applies it in a most logical and applied fashion. This paper finds such an epistemic source of the theory of moral political economy in the law of monotheism analytically explained. The paper thereby calls such a field of inquiry comprising the methodology and formalism of conflict resolution out of conflict as the study of Islamic political economy. The epistemological approach thus arising from the roots of the moral law will be explained as the manifest explanation of the monotheistic law in its dynamic action for unification, that is attaining unity of knowledge, and by it the unity of the world-system. This is to resolve conflict (unification) from conflict (differentiation).

1. Objective

In this paper we will study the topic of political economy from the epistemological point of view in comparative and critical perspectives between Islam and the mainstream approach and critically within existing Islamic thought. The question posed is this: Why is there the need to study particularly *Islamic* political economy as our focus? In answer, this paper aims on establishing the soundly reasoned way of understanding how the scientific analytical horizon can be extended beyond the sheer epistemology of rationalism into the domain of the dynamics of monotheism examined analytically. In doing so, the potentiality of the scientific explanation and analysis is extended to its farthest limits of multidisciplinary. Multidisciplinary to us comprehends the domain of religion that presents some of the most moving dynamics of human society. Yet it is the comparative study of the methodological dynamics of religion premised on the moral law, whereby the monotheistic law preoccupies our study. Within this we study not God as metaphysical being. Rather we study the theme of the monotheistic *law* with its particular understanding through the functional dynamics of Islamic political economy and its diverse applications.

In brief therefore, the focus of this paper is firstly to develop the theory and methodology of Islamic political economy in terms of the Islamic epistemological foundation of unity of knowledge. This is referred to in the *Qur'an* as *Tawhid*, oneness of God and unity of the monotheistic law. We study such an emergent methodology of Islamic political economy in comparative perspectives. This leads into an extensive comparative review of the literature. The paper then applies the epistemological methodology of Islamic political economy to diversely many issues and problems.

2. An Overview of the Epistemic Nature of Arguments

In the light of the above-mentioned background of this paper as the study of political economy in respect of its epistemological and ontological beginnings, we undertake a study of the methodological foundations of Islamic political economy. We consider the imminent methodological approach to comprise a scientific research program for several reasons. Firstly, by the imminent scientific research program this paper extends the bounds of scientific inquiry uniquely across the natural and social sciences in a functional ontological way. Without this overarching study any scientific inquiry remains limited in comprehending important areas that the multidisciplinary field of political economy ought to address.

The study of the ontological foundation of political economy in this paper establishes the monotheistic epistemology. Consequently, God and religion, as in Islam, are not detached metaphysical precepts. Rather, this paper by its epistemologically derived methodology treats the elements of the monotheistic law as a functional ontology. The epistemology causally interrelates with the ontological formalism of law into analytical functions. The result is the phenomenological model of unity of knowledge and the cognitive materiality. The result thereby is an application of the phenomenological model of Islamic political economy to specific topics. The ones we have studied in order to bring out the application of the epistemological, ontological, and real world issues in a widely diverse field are as follows: Islamic economics; the nature of Arab and Turkish historicism and its evolution to present times. We also differentiate between the theory of Islamic political economy and Marxist political economy. Furthermore we study the application of the moral political economy arising from Islamic political economy to a wider field of its application. This is the study of social wellbeing shown by the problem and reconstruction of the labour market adaptation of Canadian Natives. Such diversity of themes establishes the versatility of Islamic political economy in terms of its analytical treatment of the monotheistic law as *functional* ontology.

3. Islamic Political Economy, An Epistemological Outlook

The study of Islamic political economy invokes an epistemological examination of socio-scientific phenomena in the light of the pervasively interactive and unitary evolutionary learning worldview presented in the *Qur'an* (Choudhury 1992a; 1997a; 1997b; 1997c; 1997d, 2006a; Choudhury & Malik 1992). The social rules and actions in accordance

with the *Qur'anic* holistic worldview of unity of knowledge and its induction of the world-system are then directed by the teaching of the Prophet Muhammad (*sunnah*) into worldly issues under investigation, big and small.

The discourse involving the *Qur'an* and the *sunnah* is taken up by the learned participants on the issues at hand. The medium that discourses such issues is known as the *Qur'anic* consultation institution called the *shura*. The process that leads into and out of the *shura* discourse is known as *ijtihad*, the authentic investigation of issues in the light of the *Qur'an* and the *sunnah*. The *shura* (consultation) as discourse is extensively interactive leading to consensus (integration, *ijma*) by way of participation. The interactive and integrative experience of the *shura* leads into further knowledge evolution. We refer to this totality of the epistemic and functional ontological experience in developing the knowledge-flows of monotheistic unity and its worldly application as the evolutionary learning *process*. The *shuratic* discursive process thus becomes an experience in interactive, integrative, and evolutionary (IIE) process of knowledge formation in relation to issues of the attenuating world-systems.

The emergent discursive rounds of learning in and through the *shuratic* process, that is the interactive, integrative, and evolutionary learning process (IIE-learning process), represent the unifying outlook of the monotheistic worldview and its application to the attenuating specific issues of diverse world-systems under investigation. Such an overarching systemic understanding of worldly issues in the light of the *shuratic* experience is noted in the *Qur'an* (Ch. 42, verses 49, 51-3). The unitary worldview is derived from the epistemology and ontology of the monotheistic law and the resulting organically relational unified issues embedded in the world-system under study.

The monotheistic law remains exogenous as the primal ontology. We consider this primal ontology as the super-cardinal topology (Rucker 1982). Super-cardinal topology denotes the unbounded and open domain of the origin of knowledge under the principle of the monotheistic law characterizing organic inter-causal unity of knowledge and its induction of and by the generality and particulars of studies. From this primal origin emanate worldly knowledge-flows of the nature of organic unity of being and becoming. In every round of the evolutionary learning in unity of knowledge, the same primal ontology of monotheistic law is recalled and activated in the self-same discursive manner as of *ijtihad* and *shura* processes. By virtue of its completeness in the state of the unbounded and open nature of the super-cardinal domain, we also refer to the primal ontology as Stock of Knowledge because of its completeness.

The worldly unification caused by the flow of knowledge within all systems and processes causing IIE-phenomenon to appear and continue generates pervasively endogenous inter-causal relations in their organic relational state. Hence all socio-economic variables, instruments, institutions, preferences, and behaviour and choices that are induced by unitary knowledge-flows cause unification of systems, relations, and processes to occur and regenerate. The emergent endogenous inter-causal relations form

the cause and effect and such continuity of organic unity. The nature of organic unity of knowledge and its induction of the generality and particulars of the attenuating issues studied in world-systems is reflected by pervasive complementarities (also agential participation) between the good choices that the *Qur'an* and the *sunnah* embody.

4. The Underlying Precepts and Assumptions of Islamic Political Economy

Certain fundamental precepts of methodology lead the way to the characterization of Islamic political economy. These are as follows:

First, there is a simple formalization of the discursive *shuratic* process (IIE-learning process). This constitutes an overview of the methodology of Islamic political economy.

Second, as in different terminology of the classical economic school, Marxism, and neoclassical economics, we must first address the problem of 'value', which Joseph Stigler (1960) said, 'elicited the supreme efforts of the greatest theorists'. The concept of 'value' and associated economic concepts emerge in an altogether different way in Islamic political economy.

Third, we must explain the principle of universal pervasive complementarities and show how this concept of pervasive *inter*-linkages and endogeneity of knowledge-induced variables emerge from and reinforce the evolutionary learning process of unity of knowledge and its induction of the unifying world-system in generality and particulars.

Fourth, we must show how analysis and inference are organized and derived in this pervasively endogenous system of complementarities (IIE-learning process). We must invoke a knowledge-induced simulative design of systems and study them as embedded domains.

With these precepts acting in concert with each other, Islamic political economy becomes the study of the *shuratic* process or the discursive IIE-learning process interlinking the economy with institutions, polity, society and science with endogenous moral intones. The agency of decision-making at all levels is taken up in the light of knowledge-induced *inter*-linkages. Islamic political economy is thus a study of systems of socio-scientific complementary (participatory) *inter*-relationships governed by the principle of universal (pervasive) complementarities as the representation of systemic unification of knowledge (Choudhury 1994a). While this definition attenuates specifically to issues of economy, society, and science with moral intones; yet the imminent methodology of organic unity of knowledge and the unification dynamics of the knowledge-induced socio-scientific world-system is universal in nature.

5. The Institution-Economy Linked Perspective of Islamic Political Economy by the Discursive *Shuratic* (Iie) Evolutionary Learning Process

The *shuratic* process is an evolutionary learning experience of organic unity in ‘everything’. It is also described as a discursive, participatory, and complementary process of organic relations. These attributes all together signifying the central focus on organic unity of knowledge.

The socio-scientific model that emanates from such process-based worldview hinges on the following critical factors: Firstly there is the epistemology of the monotheistic law (termed as *Tawhid*). *Tawhid* conveys the meaning of the oneness of God in the sense of the Absolute and Complete Stock of monotheistic law. This is also equated with the moral law. Secondly, there is the flow of knowledge emanating from the Stock that brings about organic unification of knowledge in all its induced forms within world-systems. The *Qur’an* refers to this experience as universal ‘pairing’. Thirdly, such a unification of knowledge carries the prototype of unity of the Stock, and thus complements sub-systems together. Fourthly, universal complementarities of this type occur by the process of interaction leading to integration followed by creative evolution to higher planes of knowledge (IIE). Fifth, knowledge-flows appear in their creative form in perpetuity across the knowledge, space, and time dimensions. Thereby, optimisation and steady-state equilibrium methods are necessarily replaced by simulation methods with knowledge-flows and their knowledge-induced socio-scientific forms. Sixth, the permanent completion and closure of the knowledge-induced monotheistic (in the *Qur’an*, *Tawhid*) thus *Tawhidi* universe is realized *only* in the Great Event of the Hereafter (the self-referenced largest universe of the *Tawhidi* worldview). Epistemological understanding in the systems context of continuum presents the Great Event as the accumulation of all kinds of systemic knowledge-flows resulting in the super-cardinal measure of the Stock of Monotheistic Knowledge (i.e. the monotheistic law, the moral law) (Choudhury, 2006b, Cantor trans. Jourdain 1955; Rucker 1982).

The meaning of super-cardinality is like the concept of large cardinalities of learning systems in the knowledge, space, and time dimensions. The *Qur’anic* epistemology equates super-cardinality with the complete and terminal Stock of knowledge of the monotheistic domain in the beginning of creation (*Tawhid*) with the End in the Hereafter. Super-cardinality thus stands for the dimensionality of the Stock in the universal knowledge closure (see expression (1)). Rucker (1982) refers to such a super-cardinality concept as ‘large cardinality’.

When the above nature of *Tawhidi* epistemological worldview of systems is applied to Islamic political economy, it results in universal complementarities as representation of the organically pairing (unifying) processes by *inter*-relating the *shuratic* processes of economy, society, polity and science. The IIE-methodology so established leads to ever-increasing domains of systemic learning via complementarities. The rise of diverse possibilities and forms of organic unity of knowledge across inter-causal variables cause

such complementarities to manifest themselves. Hence, as in the endogenous growth model (Romer 1986) where the law of diminishing returns cannot hold on the methodological ground of inter-variable endogenous relations, so also it is the same in Islamic political economy. The postulate of marginalist substitution of neoclassical economics cannot hold as a result of evolutionary learning in continuums.

Valuation of prices, wages, cost of capital and the like, are thereby not carried out by the concept of opportunity cost of resource allocation. Instead, all kinds of prices, factor payments and quantities, together with the associated objective *social wellbeing criterion*, are simulated under conditions of interaction and integration over evolutionary phases of learning among complementing partners, representative inter-causal variables, and the imminent diversity of possibilities.

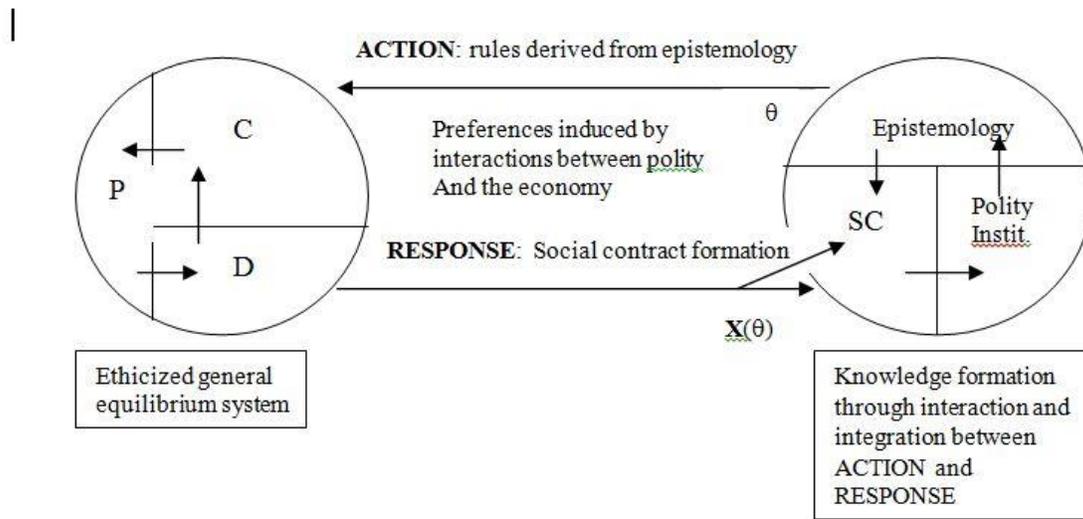


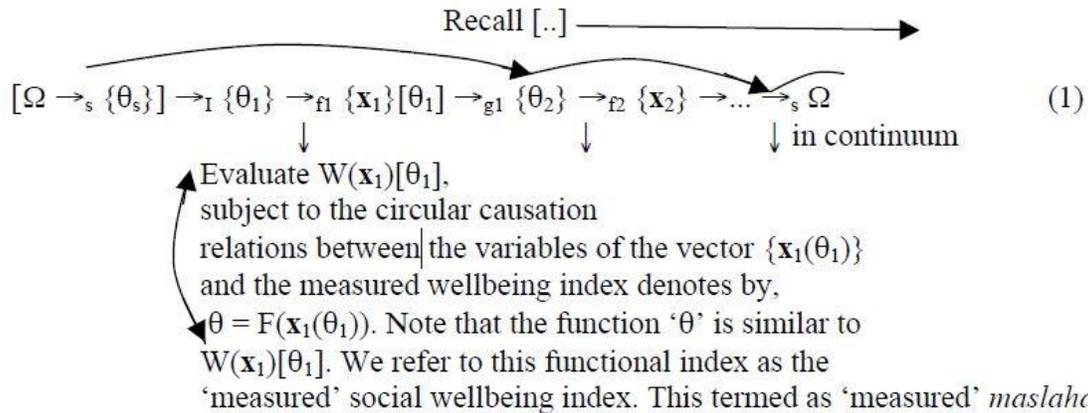
Figure 1: Interactive, Integrative and Evolutionary Nature of Social Action and Social Response in Islamic Political Economy

Figure 1 explains the nature of *shuratic* process of IIE-learning processes interconnecting institutions and the economy. Let, $\{\theta, \mathbf{x}(\theta); \text{Pref}\}$ denote the knowledge-induced socio-economic vector of variables. These are determined by interaction and integration followed by knowledge-induced evolution as marked by Action and Response through dynamic preference changes with inter-systemic complementarities as shown by the circularity of the arrows in Figure 1.

6. A Formalization of the Iie-Learning Process Model

The phenomenology of the methodological orientation of Islamic political economy, understood as the continuous interconnectivity between unity of knowledge and the knowledge-induced socio-scientific dynamics is studied by the method of circular

causation and continuity. This methodology with its unitary monotheistic epistemic methodology is now explained formally by the following *Tawhidi* String Relation (TSR) (Choudhury 1994b):



In expression (1), Ω denotes the super-cardinal topology (or primal ontology) of the *Tawhidi* Stock of Knowledge (Ghosh, 1995). Bold \mathbf{x} 's denote vector of variables that are simulated according to the purpose and objective of the Islamic law (*maqasid as-shari'ah*). *Maqasid as-shari'ah* is evaluated by the social wellbeing function of unity of knowledge called *maslaha*.

s denotes the mapping of knowledge from Ω 'onto' the experiential world-system by the prophetic guidance. 's' is thereby a *functional* ontology of the primal ontology that is Ω . Thereby, $\{\theta_s\}$ denotes the further functional ontologically derived knowledge-flow from the primal ontology of Ω . These together, (Ω, S) , advances the rules of Islamic Law (the *shari'ah*) as, $[s(\Omega) \rightarrow \{\theta_s\} \rightarrow \{\theta_1\}]$, since only parts of Ω as the complete stock of knowledge can be mapped onto the experiential world (*Qur'an* Ch. 72, verse 26). The relationship in square brackets $[.]$ in expression (1) denotes the mapping of the monotheistic law *onto* the knowledge of the objective and purpose of the Islamic law in 'everything' as embedded phenomenology of expression (1) in its entirety.² The objective and purpose of the Islamic law is referred to as *maqasid as-shari'ah*. Its objective wellbeing criterion, *maslaha*, is denoted by $W(\cdot)$ in the conceptual sense; and by measured 'θ' as wellbeing estimated by sequences of evolutionary learning processes.

² The relationship of the ontologies with the world-systems in generality and details in the continuity of unified being and becoming is the essential meaning of universality and particulars. In this regard there are the words of Whitehead (1978, 48): "The notion of a universal is of that which can enter into the description of many particulars; whereas the notion of a particular is that it is described by universals, and does not itself enter into the description of any other particular."

‘I’ denotes the mapping of the epistemology denoted by $\{\Omega, S, \theta_s\}$ ‘onto’ specific issues and problems of the experiential world-system via the discursive medium of the IIE-learning process (*shuratic* process). Hence the mapping, $I(\{\theta_s\} \in (\Omega, S)) = \{\theta_1\}$, in the first set of rounds of interaction denoted by 1. This set comprises many rounds of intra-systemic interaction leading to a consensus of understanding (integration). At the point of consensus (or integration) creative evolution occurs and causes new sets of similar interaction and integration to evolve and continue.

The totality, $E = \{(\Omega, S), \theta_s, \theta_1, \dots\}$, is the extended Islamic epistemology (E-episteme) at the outset of any new round of interaction. It is also written down in terms of Ω , signifying the primal ontology of monotheistic oneness in the *Qur'an*. $\{\theta_1\}$ signifies the first of a series of simulation derived from the application of the monotheistic law to its phenomenology in continuum of knowledge, space, and time marking the generality and particular issues and problems as studied. Since $\{\theta_1\}$ are primarily induced by Ω through $\{\theta_s\}$, and these latter ones are functional carriers (instruments) of the monotheistic law (unity of knowledge), therefore, there are attributes that mobilize the knowledge-flows, $\{\theta_1\}$. These attributes of θ -values are denoted by $A = \{\text{protection of (monotheism, justice as balance, intellect, progeny, property rights)}\}$.

In brief therefore, we can write, $\{\theta_1\} = \{\theta_1(A)\}$.

Now, $\{\mathbf{x}_1(\theta_1)\} = \{f_1(\{\theta_1\})\}$ is the knowledge-induced experiential form gained during rounds of interaction denoted by subscript 1. Interactions lead to integration (I). Clearly then, $\{\mathbf{x}_1(\theta_1)\}$ are socio-scientific variables premised on the E-episteme. By the inversion of continuously differentiable implicit function, we can write, $g\{\mathbf{x}_1(\theta_1)\} = \{\theta_1\}$.

Next we derive the wellbeing function that is generated by the cognitive knowledge-induced tuple, $\{\theta_1, \mathbf{x}_1(\theta_1)\}[A]$, meaning that attributes ‘A’ of the recalled primal ontology (shown by curved arrows in expression (1)) induce the tuple as a whole. From now we will suppress the [A] term as implied.

The *social wellbeing function* is given by, $W = W(\theta_1, \mathbf{x}_1(\theta_1))$. $W(\cdot)$ is post-evaluated jointly by examining the next stage of IIE-learning process in and among a simulacra of discursive inter-causal relations between polity and the socio-scientific variables. The role of polity is signalled by the dynamic ethicizing preferences of agents according to the episteme of unity of knowledge ($\text{Pref}(\theta)$) in Figure 1. The resulting induced socio-economic conditions are read by the knowledge-induced representative variables, $\{\mathbf{x}(\theta)\}$. Such variables can be in the form of vectors, matrixes, tensors, and other mathematical forms (Kupka & Peixoto, 1993). Thus, politico-economic interactive preferences are continuously simulated by knowledge-flows, as interaction lead to learning processes (IIE-learning process or *shuratic* process). Note that, for the sake of simplicity, we have suppressed many of the subscripts that should explain the intra- and inter- systemic IIE-learning processes.

The first stage of an IIE-learning process leads to the emergence of $\{\theta_2\}$. The sequences of tuples, $\{\theta_i, \mathbf{x}_i(\theta_i)\}$, and their social wellbeing criteria denoted by $W_i(\theta_i, \mathbf{x}_i(\theta_i))$, continue on in the discursive *shuratic* or the IIE-learning processes.

The TSR represents the phenomenology as of expression (1). Since all inputs and outputs of this system are knowledge-induced, therefore, pervasively systemic complementarities are established in this order by means of organic unification of knowledge as the endogenous element; and its endogenous functional induction of the variables, $\mathbf{x}(\theta)$. The *f*'s and *g*'s as functions in the discursive domain of various $\{\theta, \mathbf{x}(\theta)\}$ denote rule setting by simulated evolutionary learning in the *ijtihad* and *shura* learning processes.

The processes, $P_i = (\{\theta_i\} \rightarrow_{f_i} \{\mathbf{x}_i\} \rightarrow_{g_{i+1}} \{\theta_{j+1}\})$, $i = 1, 2, \dots$, shown in expression (1), comprise the *shuratic* (IIE) processes. The IIE-learning process methodology is realized both within these sequences, that is intra-system, as also across them, inter-systems. Hence such strings of recursive *inter*-relationships comprise a circular causation and continuity model of unified reality between the tuples, $\{\theta, \mathbf{x}(\theta)\}$.

7. Principles and Instruments of Islamic Political Economy

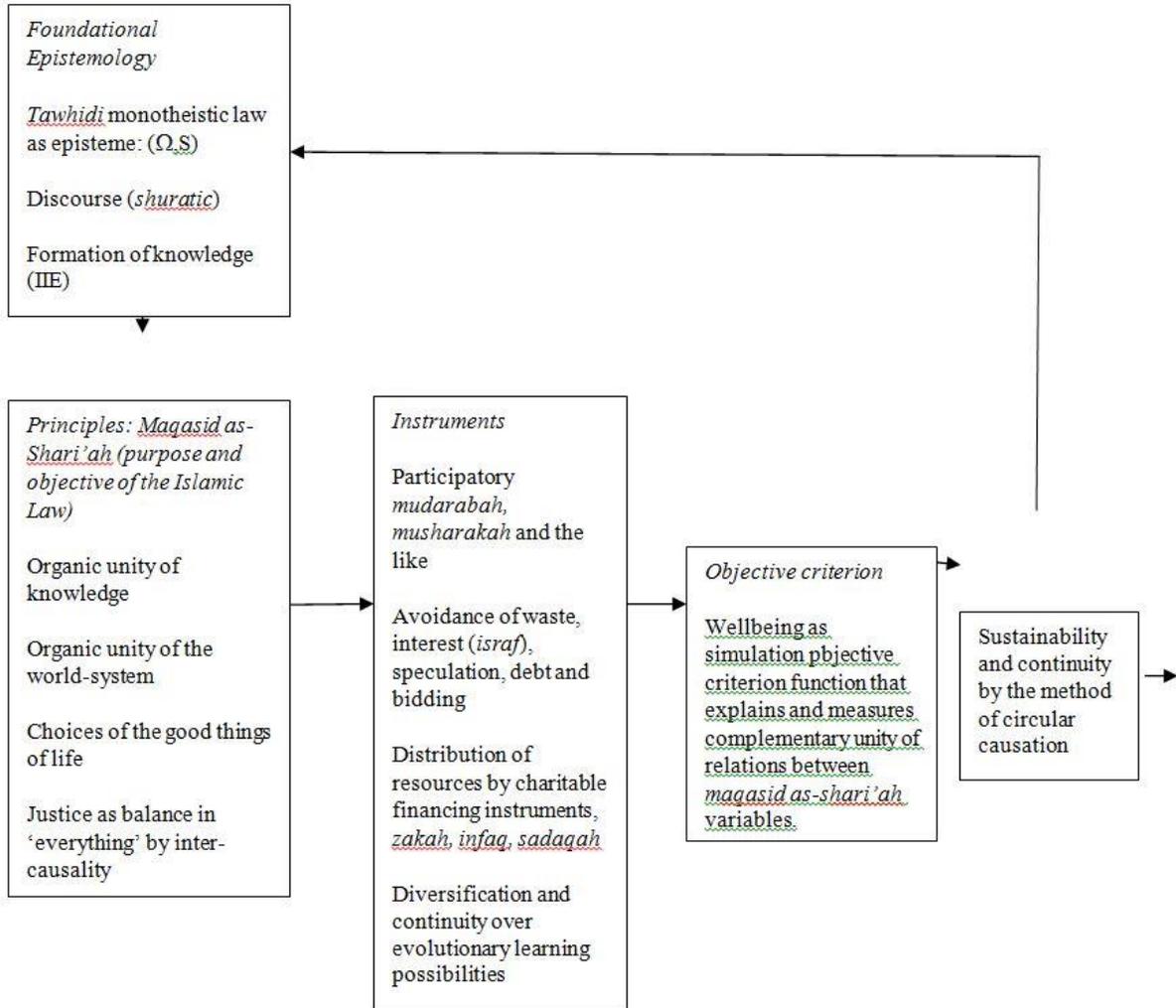
We refer to Figure 2. In Islamic political economy the principles are premised on the primal epistemology of *Tawhid* (the monotheistic law) including the *sunnah* (teachings of Prophet Muhammad). The financial instruments emanating from the 'principles', and thereafter, reinforcing the same to finally realize states of social wellbeing, are taken to be (i) *mudarabah/musharakah* (profit-sharing/equity participation) as interactively participatory joint venture instruments. (ii) Interest-bearing transactions (*riba*) are avoided. (iii) The institution of wealth tax (*zakah*) for realizing justice and goodness in the act of distribution of wealth prevails. (iv) Avoidance of waste (*israf*) exists in consumption, production, and resource utilization.

These instruments and principles are shown to be interactively related by circular dynamics. This property of the system points out the permanent existence of the circular causation relations in the methodical formalism underlying the epistemic methodology of unity of knowledge according to the monotheistic law.

The instruments can be further extended to more of the same type for specific problems of the Islamic political economy. Thus a vastly complex simulation system is generated in terms of the endogenous *inter*-relationships between the variables and entities, all of which are premised on the E-episteme.

Emanating from such extensive range of variables, entities, and their inter-relationships there arise the new conception of a deep issue of political economy. This is the issue of the theory of 'value'. According to Stigler the theory of value elicits the deepest problem

of economics. It becomes all the more intricate in the situation of complex embedding of economics in the social holism.



Recursive continuity and sustainability of IIE-processes by simulating wellbeing subject to circular causation between the selected variables pertaining to specific issues and problems under study



Figure 2: The Principles, Instruments and Objective of Islamic Political Economy

8. A Comparative Look at Religious Explanation of Consciousness in the Political Economy of World-System

The universal understanding of consciousness in the religious perspective of the world-system is upheld by all religions. For instance on the Confucian worldview of phenomenology with the world-system Qin (2002) writes: “... The Confucian perspective is the very essence of moral consciousness. The Confucian self in this context should be understood as a moral agent of a dynamic universe, identified ultimately with a cosmic order by a self-unfolding process, a Confucian pattern of self-transformation.” Such a self-transforming process is spread out extensively to all realms of human experience. In this light, the study of political economy, as in the case of Islamic evolutionary learning system, is embedded in values by way of circular causality derived from the pairing of diversity and explained and reinforced across continuums of interactions, integration by embedding, and creative evolution by way of learning processes.

In Christianity as in Islam, God is seen as an active being. He lives with the world by the monotheistic law giving shape and form to it. God and His law are dysfunctional if they are dissociated from the world-system in all details. On this perspective of God and world interrelations in Christianity, Bonhoeffer (see Mcfague, 2002, 152) write along these lines: “God is neither in the sky nor on the fringes but at the center of the village, in the midst of life, both in pains and its joys.”

Although there are differences at the conceptual level of abstraction regarding relations concerning God and the monotheistic law as the organic unity of knowledge and the world-system in its diversity, yet the meaning of active God conveyed by all religions remains similar. In Islam the monotheistic law is premised in unity of knowledge. In diversely many religions God is treated as incarnate in artefacts.

In general, the monotheistic law finds inroads in the God-World *inter*-relations by way of evolutionary relational abstraction of the dynamics inherent in the monotheistic law and its unifying connection with the world-system in generality and details. The monotheistic law is treated in the study of Islamic political economy as a dynamic factor in relation to the episteme of unity of knowledge and its organic relational unity between diverse elements of the economic, financial, and socio-scientific world-system.

9. Similarity and Difference Between Islamic Scholasticism and the Age of Schoolmen Followed by the European Enlightenment on the Theme of Interdisciplinary Causality in Political Economy

The study of pervasively endogenous processes may appear at first to be afforded by the methods of rational expectations hypothesis, REH (Minford & Peel, 1983). The problem however, would arise from the premise of long-run optimal and steady-state equilibrium of adaptive models of information flows in REH, and the linear simplification of the

otherwise non-linear models both in information flows and the Bayesian-type coefficients endowed by their own adaptive stochastic properties. The end result of the linear processes, the ‘expectational’ equilibrium as simplification, and the profuse use of the utility functions, altogether makes these models to be of the neoclassical class (Turnovsky 1995). Even in endogenous growth models we find that the introduction of every new asset generates marginal substitution between them in the neoclassical parlance (Romer, 1986).

In the final analysis, we find that there always exists marginal substitution between groups of goods in REH models. Pervasive complementarities are never a feature of such models. Equivalently, marginal substitution is not the property of the TSR expression (1) -- i.e. of the IIE-learning process model. Yet the neoclassical marginalist hypothesis can be derived as a degenerate case of knowledge in TSR. The very assumption of long-run steady-state optimisation in REH makes its adaptive method unusable in the study of the simulative nature of IIE-general systems on epistemological grounds.

10. Certain Conceptual Issues of the Theory of Islamic Political Economy

Theory of Value in Islamic Political Economy

In Islamic political economy neither prices nor unit costs of production stand for any measure of economic value *per se*. The existence of the utility function and its associated marginal utility of consumption goods are ruled out on the epistemological ground of knowledge continuum signifying the principle of universal complementarities in the IIE-learning process-worldview. This principle annuls all the ramifications of marginalist substitution or limited complementarities in the case of multiple groups of goods, as in neoclassical economics. Marxist labour theory of value is ruled out, because in this, labour appears as the primal factor of production with a primordial claim. Instead, the monotheistic absoluteness of knowledge in its primordial ontological meaning is taken up as the fundamental episteme of Islamic political economy.

All prices, wages, profits, and quantities are qualified primarily by knowledge-flows that emerge from the *shuratic* (IIE) process, as interaction and integration between polity, economy and society continue. These processes of recursively interrelating ‘Actions’ and ‘Responses’ in Figure 1 generate dynamic (interactive) preferences on the basis of the *shari'ah* (Islamic Law) values and are carried through a social contract into markets and agents by means of rules and instruments. The result is value-induction in a general system of interaction among the consumption menu, the production menu, the distribution menu, and the related policy instruments, institutions, and socio-economic variables relating to these kinds of ethicising politico-economic *interrelations* (shown by circular direction of arrows).

Dynamic basic-needs regimes of goods and services denoted by $\{\mathbf{x}(\theta)\}$ induced by the knowledge-flows denoted by $\{\theta\}$, are promoted in the light of the principles and

instruments of Islamic political economy (Hasan, 1986). Above all these, a creatively dynamic purview of interaction and integration in the social action of the Islamic political economy is preserved. Thus knowledge-flows induce all the inputs and outputs in these systems as shown in the string of interrelationships in expression (1).

All goods and services that are *shari'ah* determined and promoted in the market order are now seen to be ethicised goods (social goods, $\{\mathbf{x}(\theta)\}$) in the light of the principles and instruments of Islamic political economy. Consequently, unit cost of production and the (labour/capital) ratio (which is Marx's version of organic composition of capital) (Ekelund Jr et al, 1990) are fundamentally determined by the knowledge-flow induced in the productive use of labour and capital as the intrinsic essence of value embedded in the produced goods and services. Such a knowledge-induced benefit is termed in the *Qur'an* as wellbeing (*falah*). Unit cost, prices, and (labour/capital) ratio are not thereby determined solely by labour or capital but centrally by moral values as knowledge-flows induced in the socio-economic variables.

Therefore, since knowledge must remain the root of value, its measure must be determined by valuation using the social wellbeing function, which itself is simulated in the string form of the IIE-model. Thus the intrinsic value (F-value) of exchange is the induction of all the complementary variables by knowledge-flows. 'F'-value is properly determined in the midst of ethicising markets under knowledge-induced preference functions emanating from rounds of *shuratic* processes (Choudhury, 1992b; Sen, 1985). This concept of value can also be inferred from the fact that, the social wellbeing criterion is an aggregate in a non-linear sense of all the elementary values that complement in an ethicising market exchange realized through the IIE-learning process. It would otherwise be incorrect to read value in any other way, for the tuples, $\{\theta, \mathbf{x}(\theta)\}$ and their circular causal endogenous relations remain interdependent.

Besides, the string model of the IIE-learning process shows that, all of its inputs and outputs are functions of knowledge-flows. Consequently, the effectiveness of knowledge must be evaluated. This gives rise to creative evolution emanating from interaction and integration that first lead to certain limiting values of the knowledge-flows. The juncture of evolutionary epistemology here is characterized by the continuous simulation (simulacra) of the social wellbeing function, subject to inter-causal circular causation relations between the variables.

In the case of wage rate, neoclassical economics determines this in terms of the real marginal productivity of labour or the marginal expenditure of labour-use in monopsony (Mansfield 1985). Marxist economics equates wage rate with the unit cost of production, given labour as the primal input of production. In Islamic political economy, the wage rate is determined by the classical form of labour market demand-supply *inter*-relationship with social action and response. But while the wage rate is simulated in such a classical sense with learning perturbations in the labour market, the principle of universal complementarities simultaneously determines the simulated value of rates of

return (profit rates, profit-sharing rate, yields etc.). Furthermore, since simulated unit cost of production in complementary frames of reference determines prices of goods and services, therefore, the valuation of multi-market prices must likewise proceed in the same way.

We have now a general system of simulated valuation emerging through the IIE-learning process according to the principle of pervasive complementarities. It would therefore be inappropriate in such a general system of *inter*-relationships to target labour primordially as the origin of value, or for that, anything other than the valuation of knowledge-flows by itself and the knowledge-induced socio-scientific entities. Such a valuation is performed by simulating the social wellbeing function in the knowledge-induced variables; subject to circular causation relations between the variables. The methodology here, being premised on the principle of universal complementarities, is none of any of the following: of the utilitarian type, utility based, determined by rationalistic reasoning, preferences, and choices, or a Marxist labour theory of value based on the idea of capital-labour conflict by alienation (Cole 1966).

The Principle of Universal (Pervasive) Complementarities (Participation)

The principle of universal complementarities is the natural cause-effect (i.e. necessary and sufficient conditions) of the unification of knowledge in the monotheistic (*Tawhidi*) methodology applied to all of the socio-scientific world-system. It is applied here to Islamic political economy for explaining resource allocation, pricing, preference-formation, and the general ethico-economic equilibrium system (Choudhury 1990). Within this purview of social actions are taken up the gamut of all complementary socio-economic variables.

Unification of knowledge in the *Tawhidi* sense is dynamically established by pervasively systemic interaction leading to integration (consensus). Interaction leading to integration is followed by creative evolution of more of the same across *shuratic* processes. Therefore, the *shuratic* process (i.e. the IIE-learning process) plays the central role in determining the necessary and sufficient conditions of the principle of universal (pervasive) complementarities. The principle of universal complementarities totally replaces the mainstream economic (broadly scientific) idea of marginalist substitution. Consequently, no neoclassical concept and its prototypes, as are so central in the idea of marginalist substitution, can enter any aspect of Islamic political economy (Choudhury 1996).

Preference Function

With the principle of universal complementarities and its analytical equivalence, the unification of knowledge in the *Tawhidi* worldview, altogether new methods of preference-formation, resource allocation, and pricing arise. We will now examine these briefly.

The Islamic theory of social action in the *Tawhidi* methodology commences from a textual reference to the E-episteme. This effectively grounds the objective and purpose of the *shari'ah* (*maqasid as-shari'ah*). A progressive Islamic movement, the Islamic state, institution or educational system, establishes this epistemological order in the polity circle (Figure 1). The organized form of agents in polity uses the texts to progressively establish institutions and mechanisms of evaluation and consensus formation through discourse.

The role of state in polity action in the socio-scientific order remains minimal. The principle of minimal number of axioms in conception and theory construction was supported by the Islamic epistemologists like Imam Ghazali and Ibn al-Arabi (Karim, undated; Chittick, 1989). Minimalist assumptions and axioms also constitute the foundation of scientific theory (Nagel, 1981; von Mises, 1976). The minimal number of axioms as assumptions is taken here as follows in the Islamic political economy.

First, it is assumed that agents in the political economy invoke a natural sense of acceptance of the A-attributes stated earlier, as carriers of the *Tawhidi* worldview into its comprehension. These attributes are consciously instilled in society by the Islamic movements, Islamic state, institutions, and the educational system.

Second, due to the first assumption a coercive action in social action becomes irrelevant. The Islamic order must however, protect the rights and privileges of its members, as this responsibility is vested upon the institutions, state or political movement by the citizenry in accordance with the *shari'ah* and through a *shuratic* process. An Islamic order as in the polity-economy relational circle comes about by the participatory *shuratic* will (Figure 1).

Third, the government and state intervention in any public affair is minimal beyond security, protection, social guarantees, organization, and dissemination of knowledge in the socio-scientific order, and in the enforcement of rules, all being developed by means of invoking the *shari'ah*, and the discursive *shuratic* (IIE) process in every affair. The implication then is that the *maqasid as-shari'ah* and the *shuratic* (IIE) process cannot be limited to the domain of social, economic, and political matters alone. They are extendible to the entire socio-scientific order through intra- and inter- systemic IIE-learning processes. The *Qur'an* is quite clear on this universal implication of the *maqasid as-shari'ah* and the *shuratic* process in terms of pervasive complementarities and organic *inter-linkages* between the good things of life (*Qur'an* Ch. 14, verses 24,25,27). The Islamic epistemologists upheld this view (Jalbani, 1985; Karim, undated; Faruqi, 1977; Muslehuddin, undated). The Muslim rationalists rejected it (Qadri, 1988). Shariati (see Yadegari, 1984) brings out the implication of such an approach in the development of Islamic social thought.

From the polity-economy relational circle emerge preferences of polity that impact upon the economic order comprising consumption, production, and distribution menus; and all the agents, agencies, variables and relations involved. The objective here is to transform the preferences of agents and agencies in accordance with the E-episteme. The economy thus responds with its transformed preferences in accordance with the induction of the A-attributes. This generates value and delivers social goods and services as a result of the knowledge-impact. The process from polity to the socio-economic order is called an 'Action'. The evaluation of the social goods given the transformed preferences is evaluated by the social wellbeing function in polity. The preferences of polity are thus interacted and combined with the discursively correcting, reinforcing or revising preferences of agents and agencies to form the final interactive preferences. Such preferences determine value as consciousness. The progressive transformation of ethicised markets, their simulative knowledge-induced ethicised market exchange, the associated variables and relations, and the social wellbeing function, proceed on thereby.

The evaluation of social wellbeing and its implication on the level of F-value (intrinsic value) in the Islamic political economy, called social 'Response', now sets the post-evaluative state of polity. Policies and programs of delivery are accordingly changed in polity by dynamic interactive preferences until social consensus (integration) is reached through sequences of 'Actions' and 'Responses'.

Accordingly, a dynamic social equilibrium point is attained. The social wellbeing function is evaluated and further evolutionary knowledge-induced social actions are progressed by the on-going *shuratic* (IIE) process, as the political economy in the socio-scientific realm creates newer worlds of possibilities.

Resource Allocation and Pricing

The neighbourhoods of social action as sub-sets of the grand socio-scientific universe where the IIE-phenomenology appears, are characterized by $\{\theta, \mathbf{X}(\theta), \text{Pref}; W(\theta, \mathbf{X}(\theta), \text{Pref})\}$. Here $\{\theta, \mathbf{X}(\theta), \text{Pref}\}$ denotes neighbourhoods of IIE-points. $W(\cdot)$ denotes the associated social wellbeing function. 'Pref' denotes IIE-generated dynamic preferences evolving from the *shuratic* (IIE) social action. Now no point of the consumption, production, and distribution sets is in steady-state equilibrium. Consequently, no well-behaved neoclassical kind of production and consumption possibility curves, indifference curves, and social welfare maps can exist. Hence we abandon the neoclassical nicety of exogenous preferences, optimal convex sets for resource allocation, and their utility and social welfare functions and surfaces. Rather, all social allocations, pricing, and social wellbeing function are evaluated by simulation in and across neighbourhoods of the knowledge-induced tuples.

We note that, the ethical basis of decision-making, individual and institutional preference formation under a social contract, and the determination of all politico-economic relations in light of the ethical premise of Action and Response (Figure 1), make the

microeconomic foundations of macroeconomics a permanent feature of knowledge-induced aggregation in Islamic political economy. Yet we cannot have dichotomy between micro and macro methodologies as a tenable postulate of Islamic political economy. There exists interface between the preference-formation basis and the interactive coordination perspective in the *shuratic* (IIE) discursive process. This property causes the methodology of Islamic political economy to emerge from an altogether different epistemological orientation than is found in mainstream economics. The E-episteme when applied to the nature of the Islamic political economy means a micro-macro interface (Choudhury, 1991).

Question of Opportunity Cost of Resource Allocation

Now no neoclassical idea of opportunity cost of resource allocation can exist. Instead, we define relative unit cost of allocation among complementary possibilities, rather than between substitutes, by means of the relative social wellbeing indices. Such an index may be taken up in simple to complex forms depending upon the nature of institutions and problems at hand (Choudhury, 1993; 1992b).

The social wellbeing function is a possible mode of evaluation of F-value in terms of $\{\theta, \mathbf{X}(\theta), \text{Pref}\}$. Thus if we consider the resource allocation problem (Figure 3) in $\{\theta_i, X_i(\theta)\}$, $i = 1, 2$, the concept of a so-called ‘opportunity cost’ denoted by ‘ r ’, for choosing the complementary possibilities with $i = 1, 2$, is the difference between the ratios of the goods and their effective prices determined in ethicised market exchange in these two situations. Such a ratio, ‘ r ’, is computed by the expression:

$$r = dD_1(\theta_1 \cap \theta_2, X_1(\theta_1 \cap \theta_2), X_2(\theta_1 \cap \theta_2)) / dD_2(\theta_1 \cap \theta_2, X_1(\theta_1 \cap \theta_2), X_2(\theta_1 \cap \theta_2)) > 0. \quad (2)$$

$D_i(\cdot)$ denotes the effective demand of the two allocation menus, $i = 1, 2$. \cap denotes the complementary nature of the goods in the *shuratic* (IIE) process underlying allocation and market exchange with interactive preferences.

In terms of relative prices we can write, $D_1/D_2 = f(p_1/p_2)[\theta]$, with $\theta = (\theta_1 \cap \theta_2)$. This is monotonically related to $p_1(\theta)/p_2(\theta)$, as θ -values increase in the IIE-process model. This happens either as demonstrated by the *Tawhidi* String Relation (TSR expression (1)) or by the social action model (Figure 1). It can be shown by simple differentiation that,

$$\{d(p_1(\theta)/p_2(\theta))/d\theta\}_1 > 0, \text{ implying that, } \{(dp_1(\theta)/d\theta)/(dp_2(\theta)/d\theta)\}_2 > 0. \quad (3)$$

Thus the nature of social goods, such as dynamic basic-needs baskets consumed and produced in the Islamic political economy, would suggest that, $p_1(\theta)$ and $p_2(\theta)$ increase or decrease together, but not necessarily by the same percentage rates. Since $p_i(\theta)$ is positively related to unit cost of production, therefore, relative unit costs will also be complementing each other.

In a dynamic basic-needs regime of Islamic political economy, the prices of such complementary goods will stabilize downwards within such a regime with near-perfectly elastic demand curves overlapping the supply curves. Now the growth of knowledge in the Islamic social action means its determination in the light of the basic needs regime of development. There is indeed a saying of the Prophet Muhammad that market prices are not to be unduly interfered with. This principle was reflected in the politico-economic ideas of Imam Ghazali and Imam Ibn Taimiyyah (Islahi, 1995; Holland, 1982).

The ‘relative’ cost differential rather than the ‘opportunity cost’ in resource allocation in the Islamic political economy between two social goods (services) 1 with 2, is given by,

$$(r_1 - r_2) = \left(\left\{ \frac{d(p_1(\theta)/p_2(\theta))}{d\theta} \right\}_1 - \left\{ \frac{d(p_1(\theta)/p_2(\theta))}{d\theta} \right\}_2 \right). \quad (4)$$

When this difference is positive, allocation 2 is chosen ‘relatively more’ than the complementing allocation 1, and vice-a-versa. In either case, the existence of the principle of universal complementarities in the knowledge-induced unification worldview, will determine prices in ethicised markets, where only simulation and no steady-state equilibrium exists -- except for the instantaneous case of ethico-economic equilibrium (Haddad, 1995). Consequently, simulated resource allocation points do not lie on smooth frontiers of the neoclassical genre and its prototypes. It can be shown that, the evolution of ethicised instantaneous market equilibrium points, is tantamount to moving over learning cobweb equilibriums under the impact of θ -values (Choudhury, 1994c).

In the 3-dimensional Figure 3, the impact of θ -values on $X_i(\theta)$ is shown. Note the evolution of the fuzzy space of actions, S , in the IIE-framework. This evolutionary fuzzy bundle is made up of interactive trajectories like $T_i, T_i', i = 1, 2, \dots$. The evolution of the knowledge-induced fuzzy spaces is shown by S_1 to S_2 along the trajectory OT.

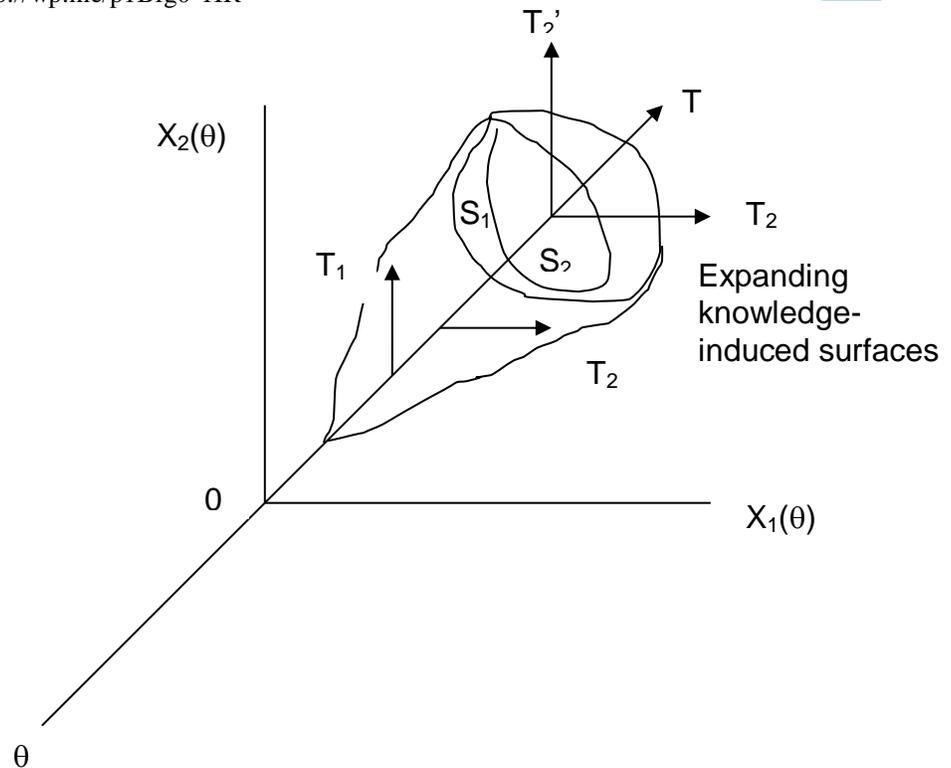


Figure 3: Resource Allocation in Islamic Political Economy Induced by Knowledge

11. Contrasting Islamic Political Economy with Islamic Economics: Selected Issues

In this section we will examine the contrasting treatment of the three above-mentioned areas in the light of Islamic economics contrary to Islamic political economy. There are many other areas that likewise can be critically examined between the two disparate areas of content and methodology between Islamic political economy and Islamic economics. For such details one may refer to Choudhury (2000a). The contrasting epistemic formalism of Islamic political economy and Islamic economics has been missed by many writers, an example of which is Siddiqi (2001).

Ibn Khaldun's Political Economy

In Muslim scholasticism, Ibn Khaldun (Rozemthal, 1956) tried to provide a universal theory of history like Kant in the Occident (Kant Ed. Friedrich, 1949). He invoked the philosophy of *shari'ah* as the *science of culture* to define the ideal society. Yet he found in his empirical work on North Africa, that the then existing social conditions departed from the standards of the *shari'ah*. Hence Ibn Khaldun succumbed to an empirical study of the prevailing conditions of North African society of his time, showing how in his empirical analysis such primitive societies were found to progress to advanced levels. Within his study of the dialectical movement of complex interrelationships with a politico-economic insight, socio-economic progress of nationalism (*umran*) is shown to

be inversely related to the quality of solidarity and nearness to *shari'ah*, as society progressed from their primitive level (*asabiyya*).

Ibn Khaldun thus mapped a linear progression of history from the solidarity of *asabiyya* to the decadence of *umran*. Yet he could not explain the *Qur'anic* permanence of unity at any and all levels of social and economic development. Equally, he could not provide the knowledge-inducing process of the *Qur'anic* philosophy of history premised on *Tawhid* and its ontic manifestations. Ibn Khaldun cannot therefore be said to have pursued and furthered a *Qur'anic* worldview of historicism. His examination of North African society in historical perspective devolved into an empirical study, and was thereby, limited by its space and time dimensions. Ibn Khaldun's idea of historicism neither could explain the recursive process of circular causality nor was it a worldview derived from the *Qur'an* that extends over the knowledge, space, and time dimensions in respect of the philosophy of history -- historicism. Ibn Khaldun's theory of historicism was therefore not too different from the occidental scope of the same except for a polemical praise of the *shari'ah* as the best law (Mahdi, 1964).

Consumer Theory in Islamic Economics

Studies in consumer theory in Islamic economics have relied heavily on the mainstream theory of consumer behaviour (Kahf, 1978; Khan, 1986; Naqvi, 1994). Islamic values such as consumption in moderation, responsibility, and the *shari'ah* recommended goods while avoiding forbidden ones, have been simply implied in consumer utility function and indifference curves that are made to exogenously relate to Islamic values, such as reward in the Hereafter. For instance, Metwally (1991) considered the equilibrium condition of a Muslim consumer in terms of his consuming output and holding capital stock in ways that are carried "up to some point at which the ratio between marginal utility and price (premium) is the same for all output and capital stock, and equals the marginal utility of spending on charity". Thereby, a purely neoclassical meaning is given to the Islamic allocation of resources in ethically induced goods and services. The evolutionary learning dynamics remains absent in this case.

Such a neoclassical approach to an exogenous treatment of Islamic ethics and values results in a profuse application of optimisation and steady-state equilibrium methods in Islamic economic theory. The essential context and feature of knowledge simulation in Islamic preference formation as explained by the Islamic political economy are ignored. The axiom of independence and pre-ordering of preferences underlying economic rationality in Islamic economics has caused Naqvi to consider independence between his axioms of Islamic economic behaviour, of which is the primal one *Tawhid*. Consequently, the central connectivity of this primal epistemology in the Islamic system of complex causality by learning in epistemic unity of knowledge, is lost (Mahomedy, 2013).

Markets in Islamic Political Economy Contra Islamic Economics

The market system is influenced by exogenous preferences in Islamic economics. The market is thus a consequentialist venue of ethics and values of exogenous individual ethical behaviour, unlike the endogenous knowledge induction of preferences in ethicising markets in Islamic political economy. Islamic behaviour in the ideal markets of the Islamic economic school is a prescribed one. It is not learned out of the process of consciousness and discourse.

Chapra (1992) and Khan (1986) for instance used a concept of moral filter in the pricing and resource allocation mechanism. According to this concept, market prices are assumed to be governed by Islamically prescribed baskets of goods and services ideally to the exclusion of imperfect ones. The filtered output is the ideal Islamic one, and prices are thereby ideal in such a filtered market. The market order is thus segmented into a recommended and a forbidden part. The moral filter guides preferences to the prescribed segmented market within such an assumed differentiation. In all of these approaches the role of learning that progressively breaks down the market duality by simulated moral induction is replaced by ethically prescribed behaviour. Hence a price discriminating model is implied between the segmented markets. No analytical treatment of the osmosis from one market subsystem to another by virtue of their interaction is made clear.

Resource Allocation in Islamic Economics

We have explained in this paper that, the resource allocation of neoclassical economics, which has entrenched Islamic economic methodology, assumes the existence of opportunity cost of alternatives that compete rather than co-operate in the market venue. Such is the cause and effect of the principle of economic rationality and marginal substitution. These properties embody both microeconomic and macroeconomic theory of production and economic growth. Thus, although no aggregation is possible from the level of microeconomic decision-making to the macroeconomic level, where decision-making and behavioural aspects of economic agents are absent, nonetheless, Islamic economists emulate neoclassical economics to treat the microeconomic and macroeconomic segmentation in Islamic economics.

Such an approach leaves empty the epistemological foundation of morals and values that makes all of Islamic political economy a study in learning behaviour on the basis of endogenous knowledge induction. Thereby, our epistemological argument points out that, only microeconomic phenomena are legitimate in Islamic political economy. Macroeconomic menu is a non-linear interactive, integrative and evolutionary compounding of microeconomic preferences and its impact on the socio-economic variables, policies and institutions.

12. Differences Between Islamic and Mainstream Studies of Political Economy

The important and essential property of Islamic political economy is its theory and application of circular causation method. This methodical formalism establishes the theory and application of the methodology of monotheistic unity of knowledge to its widest field of diversity. On the issue of causality in logical thinking there is a sharp difference between Islamic and occidental ways of scientific rationalization. Yet there is also a thread of convergence and commonality between the two. The theme of causality emanating from the monotheistic law in Occidentalism was expounded by Thomas Aquinas (1946) in ways similar to Islam.

Thomas Aquinas' Methodology

The western mind claims that, even in its best moral representation, morality, goodness, truth and God only appear in the form and meaning determined by 'objective' reason. If it is so, then reason, which determines 'objectivity', can manifest itself in one of two ways. Either reason alone is an original essence, which once created by God, has ever since its creation been left to function in the universe of and by itself. Or the other understanding is that reason is the primal basis for determining the objective circular *inter*-relationship between God, the monotheistic law, and human affairs.

In Islamic epistemology, the monotheistic law simultaneously interconnects itself in the explanatory function of reasoning. Reason then is considered as the embedded entity of revelation in creation. Thus, causality between the deductive and inductive reasoning domains establishes the continuity of reasoning and comprehension in knowledge, space, and time dimensions. This is the meaning of systemic unity of knowledge and the concrescent multi-disciplinary world-system. Political economy in the epistemic sense of unity of knowledge and unity of the knowledge-induced (evolutionary learning) world-system is thus understood as the study of IIE-learning processes. The model of causality is thereby circular and inter-relational in the organic sense of unity of being and becoming.

Thus in both the political economy consequences of circular causation in Islam and Thomas Aquinas, such an organic relational idea has been used in theological thought. Thomas Aquinas placed the whole of universal design to rest on God's law from the beginning to the end of worldly life. *Summa Theologia* presents Aquinas' idea behind this monotheistic design of creation. While God lies in a process as Creator, He exists as the sole exogenous creator of 'everything'. The monotheistic law thereby comprises the superspace (Ω) (Dewitt, 1992). Yet there is no 's' as *functional* ontology to carry primal ontological knowledge of unity (metaphysical ontology) onto the world-system. The monotheistic law thus becomes dysfunctional in the affairs of the world-system.

Such a duality in the monotheistic law, between the primal metaphysical ontology (Ω as super-cardinal topology in the Islamic sense) and the functional ontology (*sunnah*, 's' in

the Islamic sense) of the creative world-system ($\theta, \mathbf{X}(\theta)$) where the monotheistic law must remain in action. The circular plan, as of circular causation, remained a dichotomous process in Thomas Aquinas' understanding of the monotheistic law. This is like Kantian heteronomy, which remains dichotomised between deductive and inductive reasoning; between *a priori* and *a posteriori* reasoning; between noumena and phenomena. Invoking the monotheistic law in scientific explanation thus remains numinous in explaining the world-system in regards to the circular plan inter-connecting monotheism and the world-system.

Thomas Aquinas' idea of circular causation in *Summa* is explained by Torrell (2005, 27-36): "The work (*Summa*) is in fact constructed according to a circular plan that draws the reader to the 'going-out-from-returning-to' (*exitus-reditus*) movement, which is that of the entire universe coming from God to creation and returning to him as its final end." In this sense, there is similarity of the meanings of circular causality with Islamic political economy; its generalized formalism; and Thomas Aquinas' circular plan. However, the ontological function as of the transmission of the monotheistic law to the world-system as bestowed by the functional ontology of 's' and thereafter, by its continuity using functional ontology, is absent in *Summa*. Thus, in the absence of a mapping like 's' and the derived functions, the *exitus-reditus* rests on speculation by its rationalist roots.

Lonergan's Methodology

Lately, Lonergan (see Hosinski, 1987, 63-78) wrote on the circular causation process: "Lonergan draws his notion of 'finality' in the dynamic structure of becoming from the correspondences to the notion of being as the unifying drive in knowing. Just as the notion of being drives and unifies the process of knowing, so does finality drive and unify becoming."

Yet despite the similarity implied, Lonergan placed the study of God within a *process* (Vertin, 1987). In doing so, rationalism once again supplanted the monotheistic origin of knowledge and law affecting the world-system. Such a consequence resulted in the phenomenological model as of Kant's heteronomy, which is once again brought back into this picture of consciousness -- phenomenology. Thereby, a rationalist conception of truth and goodness replaces the monotheistic text. Contrarily, in the case of the ontological origin of unity of knowledge by the monotheistic text, the moral law is mapped 'onto' the world-system through the functional ontology of 's' along with the participation of a discursive community. Indeed, a similar meaning of the divine law was invoked by liberation theology (Zweig, 1999). This brings out the fact that, the religious roots of social action and social reality, those that embed in the study of political economy, are very much alive in their diversity of meaning and applications.

In the end we deduce that, the monotheistic law is not a sheer statement of numinous values. Rather, the monotheistic law carries with it the precise *rules* for enacting the

generalized moral *law* with scientific meaning.³ In one sense, the need for rules derived from the generalized moral law that intrinsically embeds the generalized phenomenological model, is similar to the complementary nature of deductive-inductive unified circular causation in the theory of critical realism advanced by Bhaskar (1978).

13. Islamic Political Economy Beyond Marxist and Other Political Economy Studies

It is essentially the epistemological and scientific nature of this paper that makes it stand out as yet another way of understanding political economy differently from the Marxist, Classical, and present-days capitalist vantage points. The dialectical nature of the field of political economy invokes in it the scientific underpinning as a methodology. In Islamic political economy this characteristic is shown by the unity of convergence as conflict resolution of conflict by way of raising ethico-social consciousness of unity of knowledge (*Tawhid*). This is the groundwork of the new dialectical worldview.

The methodology discovered in explaining Islamic political economy is of the Hegelian dialectical genre. This epistemic approach also feeds into the Marxist methodology (Resnick & Wolff, 1987). Yet there is a distinct difference between the epistemic methodology of Islamic political economy and the Marxist and all other methodologies of political economy. While the latter ones are premised on a permanent note of conflict and

3 As an example, in the Islamic Law (*shari'ah*) the *purpose and objective* of the *shari'ah* -- the *maqasid as-shari'ah* has its criterion based on the injunctions of the *Qur'an* and the Prophetic teachings (*sunnah*) along with social discourse on the derivation of rules based in the general framework of the *maqasid as-shari'ah*. Thereby, distribution and equitable ownership and sharing of resources while being the general law, is governed by the specific rule of avoidance of interest rates as impediments to fair and equitable distribution and shared ownership in society at large.

Likewise, the mandatory distribution of wealth in the alleviation of poverty and deprivation, the uplift of human resources and a frugal participatory community, are set by the charitable instrument called *zakat*, the due distribution to the needy at 2.5% of wealth for the needy and socially deprived. *Zakat* is levied as a specific rule on attaining the general *Qur'anic* law that states: "In your wealth is a share of the poor".

The *zakat* principle and the interest-rate policy, mandatory though, are specified for implementation through social discourse in structured ways. The mapping 'S' in the phenomenological sense, along with the discursive medium of the learned participants, is the way to assign specified rules to the general law of goodness and unity. Mathematically, the characterization here is topologically contained in Ω . Along the way of its deduction, the *shari'ah* is shown as the net result of the following process:

Shari'ah is usually construed to be a law governing worldly affairs. But the universal implication of the phenomenological model given by this footnote figure or expression (1) extends the domain of the *shari'ah* to 'everything'. In other words, the unified and participatory nature of organic relations in the evolutionary learning domains invokes the methodological interrelationship between heart, mind, and matter by circular causation. With this comprehensive meaning and functionalism, the *shari'ah* is defined by (1) the foundational core, (Ω, S) , remaining exogenously outside Process; and (2) the evolutionary learned periphery of $\mathbf{z}(\theta) = \{\theta, \mathbf{X}(\theta), t, W(\mathbf{X}(\theta))\}$, occurring in perpetuity of (knowledge, space, and time)-structure. The consequence of the compounded two functions causing integration between Revelation (monotheism and Materiality (Reason)) is denoted by $L[.]$.

social disequilibrium, the monotheistic foundation of Islamic political economy under the scientific lens presents the extendible methodology beyond the limited domain of rationalism. The extendibility of the scientific approach to evolutionary learning, search, and the imminent conceptions encompasses the domains of convergence in respect of unity of knowledge by reconstruction of the fallen path of social conflict and differentiation, as in economics and all social systems. There is much to learn in this area beyond the existing understanding of political economy as an epistemic methodology premised on the rationalism of conflict and differentiation involving the production, ownership, and distribution of wealth and resources.

There are other issues that are covered by Islamic political economy, which Marxist and other political economy studies are incapable of undertaking. Among them are the institution of global ethics (Commission on Global Governance, 1995; Edel, 1970) of grassroots wellbeing, environmental consciousness for preservation and mutual sharing in a life-fulfillment needs regime of development (Streeten, 1981; World Bank, 2001). Such is the message of global sustainability that can arise only from a conscious way of an evolutionary learning worldview with a participatory interactive, integrative, and evolutionary episteme driving the organic learning processes. Such a model lies at the center of the evaluative and applicative nature of Islamic political economy.

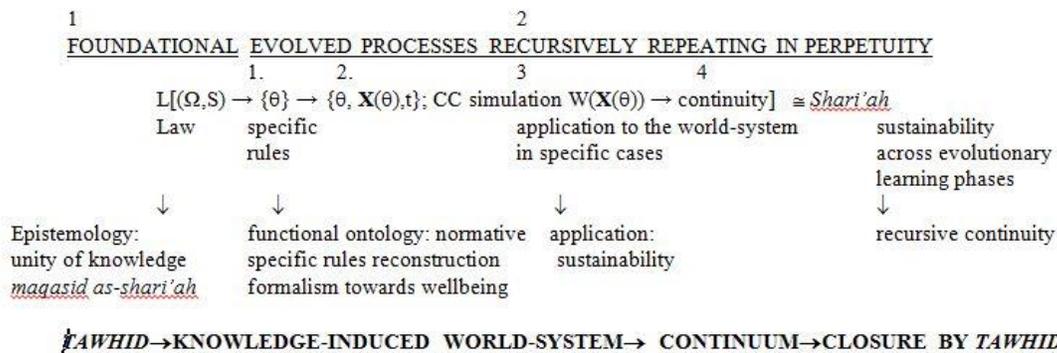


Figure 4: The Phenomenological Model of Unity of Knowledge and its Causal Effects in the Generality and Specifics of the World-System (Political Economy)

By its formal application and analysis in a vast diversity of issues and problems, Islamic political economy remains a widely applicable field of ontological concrescence (Whitehead, 1978). On the other hand, differences, yet maintaining dialectical similarities between Islamic and Marxist and other theories of political economy, call forth the need to study this contrasting worldview and to extend the politico-economic methodology beyond Marxist political economy by encompassing both states of the world-system: Islamic political economy studies both the conflicting worldview of Hegelian/Marxist dialectics, and the possibility of a moral political economy by establishing unity of being

and becoming in the appropriate range of complementary social choices within the wellbeing objective.

In our received understanding of the field of political economy, it is the study of the processes underlying the creation, production, ownership and distribution of wealth and the power that generates conflicts in such processes. In Marxist political economy, this field of study is primarily an undertaking on agent-agent conflict. Marx fundamentally addressed the problem of disequilibrium economics of the type contrary to Adam Smith's classicism, and later on, in the entire neoclassical economic school. We call the common underlying principle of classical political economy and economic neoclassicism as the postulate of marginalism. Keynesianism came later on to further explore the criticism surrounding these schools in Keynes' yet another concept of underemployment equilibrium of factors of production – capital, labour, etc. Thereby, the marginalist postulate of conflict was transmitted to study the conflicting behavior between capitalists and workers in a free market economy (Dasgupta, 1987).

What emerges from these economic perspectives is the study of the production and allocation of output; the ownership and distribution of wealth; and the setting of prices, wages, and interest rates in the face of two opposing sides of the perennial conflict that was assumed to persist in political economy as defined above. Such a conflict manifested itself in terms of the assumed inadequacy of the market economy to generate self-governing equilibrium (Krugman, 1996). This would firstly, recognize the state of the conflicts caused by the expropriation of wealth and power by large and powerful agents causing social inequity between classes. But secondly, on the other hand, there is the need for market transformation that would invoke the moral sentiments (Coase, 1994) to establish the missing principle of a just and fair ownership and distribution of wealth and power. This would include the structure of production, and the automatic response of the market on labour and capital to respond to the needs of consumers of all kinds. The need for market-polity interaction would go together in establishing the codetermining dynamics of political economy (Hayek, 1976).

Political economy as a scientific study found itself poised between such opposing social ends. This is the problem of social classes. It remains unresolvable in the Marxist and other politico-economic systems. Markets answered one separated way of resolution to such questions that was different from Marxist political economy. Yet with the classical political economy, what kind of market would prevail for such an accomplishment by markets?

An example may suffice here to answer the question. Human concern today investigating the moral consciousness of the markets (Sen, 1985; Rawls, 1971) regarding the present and future sustainability of resource and wellbeing through the market process is indeed embedded in resolving the opposing conflict between wealth and power. Thereby, the moral and ethical order of consciousness reformulates the modern perspective of the

equilibrating market by inducing ethical consciousness into social choices inter-generationally (Daly, 1992). Such an approach is not found in Marxist political economy.

It is in such a venue of intellection and consequences that Islamic political economy marches in to answer the problem of coordination out of conflict. Islamic political economy is the study of unity of resource reproduction and allocation in terms of their acquisition, production, ownership, and sharing in the widest social context encompassing markets and polity (Choudhury, 2004).

The field of Islamic political economy firstly recognizes the deep conflict that embeds the social system in respect of the existing state of affairs. Marx and others dwelled on this issue, but in terms of its social irresolution between social classes. On the other hand, Islamic political economy propounds the moral standing of law, markets, polity, and human consciousness to reconstruct the conflicting scenario into a phenomenology of unity of knowledge. This is possible by the implication of the monotheistic law. It propounds and explains organic unity of evolutionary learning in and between all the wellbeing-creating social choices. The former case is the state of the world 'as is'; an inductive case. The latter is a non-optimal evolutionary learning state 'as it ought to be'. This is the normative and deductive case. The latter epistemological approach establishes progressively wider levels of interaction between variables, systems, agents, and relations towards gaining better states of codetermination in the problem of wealth and power. Indeed, in Marxist political economy, such a procedural approach in explaining inter-causal conflicts of epistemologies is called the problem of over-determination (Resnick & Wolff, 1987). But the study of codetermination does not exist.

The moral reconstruction of a fallen, conflicting social order is the role of moral consciousness. This is premised on pairing as codetermination under the monotheistic framework of unity of organic sharing. The underlying dynamics comprise the interactive, integrative, and evolutionary domain of organic unity of knowledge as law; and its impact on the construction of a progressively learning field of unity by consciousness and structural change. A similar kind of global organic and unifying process of discursive experience is explained by Koizumi (1993).

14. Islamic Political Economy and World-System Studies

Thereby, Islamic political economy goes beyond Marxist and other studies of political economy in the literature. While such other forms of traditions in political economy, and recently in the global political economy project, address the conflicting side of wealth and power; Islamic political economy addresses both sides of social reality. Firstly, it methodologically studies the conflicting case as an unwanted socially differentiated state. This forms a morally and ethically destitute social order. Islamic political economy then studies the possible reconstruction along an evolutionary learning path. Such a trajectory cannot be an optimal path. Hence for example, the political economy of historicism

explaining civilization change, is a study on the rise from lesser to higher levels of social actualization (Braudel, 1995).

Inherent in such knowledge-induced dynamics of the world-system by moral and ethical transformation there resides the meaning of the social embedding by both forms of reality. These comprise the cleavages between social classes (the ‘as is’ state of social reality); and the transformation into unity of complements in a wellbeing state of complementarities by participation with the proper social choices (as it ought to be state of social reality).

To formalize a little, let the systemic interrelating functions of both the conflicting and complementing kinds be denoted as follows: $\{\mathbf{x}(\theta)\}$ and its continued transformation by the inherent functional, say $\{f(\mathbf{x}(\theta))\}$. $\{\mathbf{x}(\theta)\}$ denotes the vectors, matrixes, and other higher mathematical transforms of the particular case denoted by $\{\mathbf{x}(\theta)\}$. These transforms may belong to either of the two social classes – the conflicting social scenario or the complementing ones by unity of knowledge. The A-attributes further inducing θ -values of knowledge-flows form the consciousness of unity of knowledge (*res cogitans*) across extensive cognitive forms (*res extensa*).

Maxim Gorky wrote in his book, *Mother*, about the two most irreconcilable groups of the rich and the poor. Today we can implicate this for the opposing case of capitalists and workers in reference to Marxist political economy. Yet contrarily, the codetermined social order is of induced transformation of the conflict into codetermination by social consciousness. This means the conscious induction of materiality $\{\mathbf{x}\}$ by its endogenous induction with knowledge, $\{\theta\}$, defining the evolutionary learning process of epistemic unity in the formation of wellbeing out of participatory complementarities among $\{\mathbf{x}(\theta)\}$. Such an evolutionary learned state of change is represented by the epistemological embedding of consciousness via $\{\theta\}$. The entirety of social conflicts and their change by codetermination is thus explained in Islamic political economy along a diversity of non-optimal paths of social possibilities.

The embedding of the two types is intrinsic in the continuity of the opposing worldviews – Islamic political economy and Marx and others. These are namely, the differentiation in the perpetually conflicting outcome of social ordering, as with Marxist political economy and the neoclassical and Keynesian ones (Holton, 1992). In the case of Islamic political economy it is the evolutionary learning reconstruction of social differentiation into states of codetermination that explains the entire social dynamics.

Such an entire social answer squarely addresses the market-polity interaction and integration that go into explaining the market self-governing order, as also the Marxist methodical form of epistemological dialectics of social becoming by conflict between social groups (Sztompka, 1991). In Islamic political economy there is codetermination between the two ends by normative social reconstruction, such as between labour and

capital, social choices causing wellbeing, and between the rich and poor. Islamic political economy recognizes and deeply studies the existing states of conflict. But it then formulates the epistemological approach towards reconstructing such states of differentiation by the induction of knowledge-centered consciousness to generate wellbeing along the evolutionary learning processes of sustained unity of being and becoming as evolutionary learning process.

In every part of the methodological and methodical formalism of Islamic political economy -- starting from its epistemological roots and comprehending the following two opposing knowledge domains, say $\{\theta, \theta'\}$, and its application, the methodological worldview of social entirety abides. On the inherent reconstruction possibility Hayek remarked – if neoliberalism is differentiation then Hayek says he is not a liberal. Yet also, considering the dead end of conflict between labour and capital and such like opposites without a possibility of reconciliation between the social groups is to march into serfdom (Hayek, 1967).

The theme of addressing the entire social picture by Islamic political economy brings about the claim of its universality and uniqueness (Choudhury, 2014). The overarching domain and possibility of Islamic political economy premised in its universal and unique epistemology of unity of knowledge has made us apply the theme to various examples. The claim of universality and uniqueness of the epistemology of Islamic political economy is based on its methodological and methodical intellection and application to both the ‘as is’ and ‘as it ought to be’ states of social reality.

Besides, the claim is valid by the same epistemological resolution of integrating the deductive and inductive reasoning in scientific understanding by intra-systemic and inter-systemic circular causation relations. Finally, one cannot find, although the search remains ripe, to answer the complementary property of the normative worldview out of the world as it is (Husserl, 1970). Islamic political economy therefore includes the dialectical methodology of Marx and others. But it extends into the reconstructive social and scientific scenario.

One of these comprises the classical idea of historical consciousness (Lucaks, 1817). Consciousness is sustainability by the ethical outlook of learning possibility in unity of knowledge, negating social differentiation but not the study of differentiated social class conflicts as reality.

These variant examples at the end bring out the universality and uniqueness of Islamic political economy beyond Marxist and other forms of studies in political economy. These other ones are kept in view of their oppositional context as by the conflicting model of social being and becoming (Prigogine, 1980). But the wider field of moral reconstruction by the phenomenology of unity of knowledge is presented only in the case of Islamic political economy.

Within the above purview of the field of Islamic political economy vis-à-vis Marxist and other forms of political economy is presented an epistemological model of unity of knowledge and its induction of the corresponding world-system. The emergent methodology dispels religious confinement; and replaces this by extendibility of scientific reasoning beyond the constricted borders of rationalism *a la* Marxist political economy (Giddens, 1983); and the Kantian (1977) dichotomy in reasoning. See Carnap, (1966) for a criticism of heteronomy as the Kantian type dichotomy between deductive and inductive, *a priori* and *a posteriori* reasoning. In Popper (1988), his problem of demarcation based on his assumption regarding pseudo-science comes to an end by the explanatory logical formalism in Islamic political economy.

By the methodology of unity of knowledge in its formation of pervasive organic complementarities between inter-causal variables and their complementary relations in the wellbeing function, there emerges the methodical formalism of circular causation. This follows the similar idea that was pronounced by Myrdal (1958); and is today being projected by Soros' (2000) theory of reversibility. The circular causation model by its pervasive depiction of inter-causality establishes the endogenous inter-relations between the social choice variables to estimate and simulate the wellbeing criterion. The empirical results so obtained examine first the 'as is' state of the conflicting world-system. This is followed by simulation of change into the 'ought to be' state of organic unity between the appropriate social choices. The deductive case yields the inductive case, and reverses back into continuity of such relations circularly. The governing law in creating such circular dynamics forms the principle of the pairing and evolutionary learning universe of organic unity according to the uniqueness and universality of the monotheistic law relating to the world-system as the epistemology (Choudhury, 2006).

For example, money was treated as an epistemological entity in the Austrian School (Yeager, 1997); development in Schumpeter (1962), and ethics in Keynes (1963; O'Donnell, 1989), and Friedman's Quantity Theory of Money vis-à-vis the emergence of market, political, and social freedom (Friedman, 1960). The better application of the episteme of unity of knowledge and its evident reconstruction via theory and empiricism in cases other than the Muslim case presents the mature sign of universality and uniqueness of the monotheistic law of unity breaking down the constriction of rationalism. Such a politico-economic emergence also points out the negation of the logical formalism of unity of knowledge and its induction of the unified world-system beyond the stultified boundaries of religious ritualism (Choudhury, 2014).

15. Extended Issues

Further examples can be invoked here to drive this paper to its logical conclusion. It was pointed out by Choudhury (2000b) that financial instruments like equity participation (*musharakah*), profit-sharing (*mudarabah*), cost-plus mark-up pricing (*murabaha*) are simply dichotomous financial instruments. They miss out the most important character of what Islamic financing means, particularly in the light of the interactive, integrative, and

evolutionary learning of the political economy of Islamic financial economy. This essential character is participation. It establishes the application of the episteme of unity of knowledge in the induced participatory world-system from the side of the financial economy. The consequential episteme, methodology, and methodical formalism in the epistemic unity of knowledge and its induced unity of world-system are primal. The variously named financing instruments do not matter. This conveys a universal message of global stabilization in the financial economy out of the present quagmire of economic destabilization. The way is to reconstruct ethically by the episteme of unity of knowledge and the emergent participatory world-system.

At such points of transformation, the discursive nature of ethical reconstruction in the global forum of diversity, leads into specific forms of circularly formalized normative-to-positive structure of heightening consciousness. The *Qur'anic* term for such a discursive evolutionary learning that identifies the working of the episteme of unity of knowledge across diversity is the consultative *shura*. The derived process of the interactive, integrative, and evolutionary learning characterizing the consciousness raised by the discursive *shura* along the IIE-learning processes is termed as the *shuratic* process, a derived terminology. The imminent dynamics of the evolutionary learning process carries with it the entire dynamics of the emergent moral and ethical reconstruction out of the conflicting world-system scenario. The historical emergent path is a non-optimal, simulation path of reconstruction. It denies optimality by its permanent organic evolutionary learning as the process in interaction, integration, and evolutionary epistemology. The embedding of consciousness via its natural and institutional capacity delineates the evolutionary learning path of consciousness causing knowledge-induction.

Such is the characterization of Islamic political economy attenuating to its objective of constructing epistemology from unity of knowledge (monotheism = *Tawhid*) and the knowledge-induced world-system. This is measured by the social wellbeing objective criterion. The paper has laid down this distinctive perspective contra Marxist and other political economy studies, and more lately, the global political economy project on which Nitzan and Bichler (2000, 67) remark:

And from Smith onwards, it became increasingly customary to separate human actions into two distinct spheres, 'vertical' and 'horizontal'. The vertical dimension revolves around power, authority, command, manipulation and dissonance. Academically, it belongs to the realm of politics. The horizontal axis centers on wellbeing, free choice, exchange and equilibrium – the academic preoccupation of economists. The consequence of this duality was to make modern political economy an impossible patchwork: its practitioners try to re-marry power and wellbeing, but having accepted them as distinct spheres of activity to begin with, the marriage is inherently shaky.

The distinctive nature of Islamic political economy by its *res extensa* and *res cogitans* extending beyond Marxist and other forms of political economy is the focus in this paper. Islamic political economy raises the specter of a conflicting world-system *a la* Marx, while providing the methodology and formalism of moral and ethical reconstruction into participatory convergence by the episteme of unity of knowledge. This worldview comprises the domain of the monotheistic law in action via its universalism and uniqueness.

16. Wider Fields of Applications of Islamic Political Economy

A Perspective of Historicism in Islamic Political Economy

Historicism, as the epistemology underlying the explanation of historical change is represented in mainstream economics and political economy as the linear process of a marginalist economic worldview premised on economic rationality (North, 1981). This characteristic negates the framework of the evolutionary learning universe abiding in permanent complexity and organic interrelations between variables, as signified by the monotheistic (*Tawhidi*) methodology of unity of knowledge in the IIE-universe. These facts are equally characteristic of the entire world-system in its generality and details on opposite sides of the paradigmatic scale.

The rising popularity of a dialectical process understanding scientific and social reality in the framework of deconstruction and the rejection of foundationalism is also a legacy of Karl Popper (1972, 1982) and Charles Darwin's (Hull, 1988) scientific methodology. Popper's arguments in favor of an open-ended conjectural universe deny universality to axioms. The emergence of the mind is then seen to be perpetually in flux, mired by revisionism of scientific axioms in the post-modernist worldview. These representations are reflected in the consequential inferences.

In all of these trends within the new academia, we find an increasing emphasis on circularly dialectical and non-axiomatic approaches toward explaining both scientific and social realities (Giddens, 1983). These reflect the signs of a post-modernist debate in providing a historicist explanation for non-foundational, non-linear, and complex processes. Thus historicism itself has become a methodology for explaining transformations within science, society, and political economy in the light of the ensuing conflict between absolutism and relativism. It is in this intellectual arena that the *Qur'anic* worldview of *Tawhid* and the world-system stride the universal and unique methodological construct. This perspective of the *res extensa* of scientific inquiry by the monotheistic law comprehending God, the world-system and closure by monotheism in the very large universe of the knowledge-induced 'everything' is explained by the lower portion of footnote 3. In such a large-scale evolutionary learning universe with ultimate closure for the internal open subspaces the Fixed Point Theorems (Nikaido, 1987) are generalized to open and unbounded subspaces. The result then is the existence of evolutionary equilibriums in the IIE-process model of the *res extensa*.

Turkey, Eurocentricity, and Islamic Political Economy

We will now examine a political problem in the framework of Islamic political economy as an example of Turkey in modern times. The emphasis in this example is the wide application of the methodological nature of Islamic political economy. This brings to bear on the universality of the *Tawhidi* methodology invoked in Islamic political economy. The lesson ultimately obtained from the contrasting dialectics of historicism is the representation of the consequences that has swept Turkey in her geopolitical borderline of the cultural divide between Asia and Europe. Such consequences have intensified in the years following the demise of the Ottoman World-System into a creeping encroachment of occidental transformation of Turkey, as this took firmer shape and expression in that encroaching Eurocentric transformation. The end of this kind of historical transformation has not shown up in Turkey's effective political integration in the European Union. The cultural divide with Islam between the contesting worldviews remains alive to the present time. Around seventy percent of those surveyed in the European Union on the issue of Turkey's membership to the European Union voiced against her membershi A principal reason was the Islamic divide.

Yet on the other hand, the resilient spirit of accommodation in the Ottoman World-System to embrace foreign positive values remained alive. The result has been a transformation of the Turkish nation without eradicating the spirit of the Islamic worldview to learn, integrate, and evolve. Today, Turkey holds a notable place in the borderline between the East and the West, bringing to fruition the best in the occidental world-system to agree with the IIE-learning worldview that unity in diversity presents.

The message conveyed in this paper on Islam and rationalism by way of the IIE-model of unity of knowledge and the unified world-system conveys that the emergent model of Turkey ought to be a co-determined model. Here both the values of Islam and its functioning in the post-modern world should trace out the future of both Turkey and Europe.

On such issues writes Tonge (Autumn, 2005):

If these forecasts begin to prove correct, then a revisionist image of the Turk may well develop, and a self-confident Europe could be welcoming the cultural heritage which comes with Turkey and the great civilizations that flourished long before the Turks' own arrival in Anatolia some 700 years ago. Should Europe turn away from Turkey, then the risk is that rejection and wounded pride could cause some Turks to seek solace in an Islamic and non-Western world, others to demand that their country should follow a more autonomous route, and yet others to seek regional solutions. That would be to the political and economic cost of both sides, and would seriously weaken the stability of Europe's southeast flank.

Arab Future Between Secularism and Islamic Political Economy

The rise of a futuristic model of Arab political economy in the participatory model with epistemic unity everywhere and in everything will likely stand out as the credible intellection in all discourse and an epistemological way of understanding a symbiotic world of systemic learning behavior. Now, if not by willingness, then by the necessity for strategic alliances, the participatory model will prevail. On the contrary otherwise, good reasonable behavior of institutional and global politico-economic relations will be abandoned. A global disorder could then overwhelm global order. The future state of Arab political economy will then descend into the gathering storm of conflict and dissent. Such is the state of Arab anomie that is seen all around at the present time.

17. A Diverse Problem: Applying the Methodology of Islamic Political Economy to the Diverse Problem of Labour Market Adaptation of Canadian Natives

Next a different kind of problem is examined to establish the wide application of the methodology and method of Islamic political economy, which is not limited to the Islamic epistemological case alone. The methodology of Islamic political economy is now applied to the problem of labour market adaptation of Canadian Natives in respect of their comparative labour market adaptation, and thus social wellbeing.

First, policy-theoretic explanations are generated by statistical ‘estimation’. Second, this is followed by ‘simulation’ of trends in the critical indicators over the cross-sectional of Canadian provinces and territories. These trends will indicate how the economic, social, institutional, strategic, and technology issues have proceeded since the historical past. Third, a historical narrative is derived from the statistical trends and estimation to chart out how critical variables concerning Canadian Natives have moved on a comparative basis with the non-Aboriginal labour market.

The ‘estimated’ and ‘simulated’ trends in the labour market indicators are studied in the light of the theories of endogenous growth and technologically induced growth models, plus social issues of social wellbeing with the presence of the ‘estimated’ and ‘simulated’ values for the indicators in the social wellbeing function. The simulated search is to gain on possible degrees of complementarities between economic efficiency and equity in terms of the variables of the social wellbeing function for Canadian Natives.

The policy-theoretic explanations based on the examination of historical narratives of the labour market trends are invoked for studying these results against those of the structural statistical regression system. The principal focus in such evaluation, that is ‘simulation’ of ‘estimated’ results in the light of the simulated values of the indicators, is on developing a methodology that can prescribe appropriate complementary possibility between the labour market indicators and the prescription of policies. The goal is of generating better outlook for complementarities between social equity and economic

efficiency. This would implicate better economic efficiency and social equity situation for Canadian Natives in comparison to the total Canadian labour market context..

Statistical Estimation of Circular Causation Model of Islamic Political Economy Implication on Labour Market Issues of Canadian Natives

Here is how we realize the extended version of endogenous functional formalism. The theoretical social wellbeing function with the expected signs of appropriate direction of complementarities between variables is written as follows:

Evaluate, that is, estimate/simulate $W = W(\mathbf{x}, \mathbf{s}, \mathbf{P}) = W_1(\mathbf{x}) \cdot W_2(\mathbf{s}) \cdot W_3(\mathbf{P})$, (2)
 subject to circular causation between the vector of variables as indicated by the appropriate relations that are expected between them.

We then say that, such appropriate directions of complementarities between the indicators imply systemic learning. The emergent process conveys the endogenous nature of the inter-variable results. We treat the wellbeing function in the same way as those in our comparative and critical review of the literature to establish the strongly interactive and appropriately complementary nature of the indicators in the social wellbeing function.⁴

Thus the objective social wellbeing function is firstly ‘estimated’ on the basis of actual data; and then ‘simulated’ on the basis of the desired values of the critical variables. Such variables are generated by incorporating changes in the coefficients in the light of desired changes to yield a normatively desired perspective of endogenous social change. Such a change is expressed by assigning appropriate new signs of the coefficients, which are set by policy and behavioral constructs in the light of desired perspectives of labour market adaptation of Canadian Natives.

We symbolize the selected vector of indicators (see Statistical Appendix) as:

$$\mathbf{z} = (L, L_e, u^*, r, \theta). \tag{3}$$

L denotes total labour force size of Canadian Natives.

L_e denotes employed labour force of Canadian Natives.

u^* denotes relative unemployment rates of Natives to the total unemployment rate.

⁴ By converting into log-linear form and then differentiating we obtain,
 $dW/W = \sum_{i=1}^3 [dW_i/W_i] = \sum_{i=1}^3 \sum_{j \in \mathbf{x}} (\partial W_i / \partial \mathbf{z}_j) \cdot (d\mathbf{z}_j / d\theta) = \sum_{i=1}^3 \sum_{j \in \mathbf{x}} \mathbf{a}_i \cdot (W_i / \mathbf{z}_j) \cdot (d\mathbf{z}_j / d\theta) = \text{Avg.}(W_i) \cdot \sum_{j \in \mathbf{x}} \mathbf{a}_j \cdot \mathbf{g}(\mathbf{z}, \theta)$.
 All multiplications in bold symbols noted here denote vector-multiplication. The total wellbeing W is thus strongly interactive and hence endogenous by interrelationship with appropriate complementarities between the list of \mathbf{z} -variables. Each growth rate in respect of the \mathbf{z} -variables is appropriately complementary with the rest of the growth rates of the variables. θ -variable denotes the learning variable towards establishing appropriate complementarities between the \mathbf{z} -variables. Since each variable of the \mathbf{x} -vector is simulated by normative change of the 'estimated' coefficients including the connecting θ -variable, therefore, there is endogeneity by learning between the state variables, social variables, and policy variables.

r denotes the relative labour force participation rate between Natives and total for Canada.

θ is the scaled level of complementarities between the variables proxying the knowledge level as inter-variable positive causality (complements).

Endogenous interrelations between the vectors of variables are conveyed by inter-variable complementarities. The reading of degrees of complementarities between the indicators is explained by the system of circular causation relations between them. The equations (4-8) and empirically evaluated equations (8-14) comprise the circular causation system for Canadian Native labour market.

The 'Estimation' Method of Structural Circular Causation Relations

The inter-variable relations convey the meaning of complementarities and circular causation. All the inter-variable estimates can be estimated by (4)-(8). But each of these variables is technologically induced by the endogenous nature of circular causation interrelations, meaning systemic learning. The empirically estimated equations of the system (4-8) are given by (9-14).

The question of comparative levels of social wellbeing indicators are addressed by expressions (13) or (14). The whole system (9-14) addresses the labour market adaptation issue.

We express the circular causation equations of Canadian Natives in comparative perspective as follows:

$$\ln(L) = a_1 + a_2 \ln(L_e) + a_3 \ln(u^*) + a_4 \ln(r) + a_5 \ln(\theta) + v_1 \quad (4)$$

$$\ln(L_e) = b_1 + b_2 \ln(L) + b_3 \ln(u^*) + b_4 \ln(r) + b_5 \ln(\theta) + v_2 \quad (5)$$

$$\ln(u^*) = c_1 + c_2 \ln(L) + c_3 \ln(L_e) + c_4 \ln(r) + c_5 \ln(\theta) + v_4 \quad (6)$$

$$\ln(r) = d_1 + d_2 \ln(L) + d_3 \ln(L_e) + d_4 \ln(u^*) + d_5 \ln(\theta) + v_3 \quad (7)$$

$$\ln(\theta) = e_1 + e_2 \ln(L) + e_3 \ln(L_e) + e_4 \ln(u^*) + e_5 \ln(r) + v_4 \quad (8)$$

Increasing levels of L_e must necessarily mean increasing stock of L . But the relational explanation in this regard is that, increasing employment causes encouraged worker hypothesis to induce household members in order to increase their labour market participation. Hence $L_e \uparrow \Rightarrow L \uparrow$, and we expect a_2 to be positive. a_3 is expected to be negative, again by reason of discouraged worker hypothesis as high unemployment compared to the rest of the population unemployment rate causes withdrawal from labour

force participation. a_4 is expected to be positive. a_5 is expected to be positive by virtue of the appropriate complementarities between the indicators that we are looking for.

Likewise, b_2 is expected to be positive. b_3 is expected to be negative, and this is an appropriate complementarity between L_e and u^* . For b_4 the normative expectation is that, this will be positive. By the same argument of desired complementarities, b_5 is expected to be positive.

c_2 and c_3 are expected to have negative signs. Although c_4 ought to be negative, yet this may be otherwise, if increasing labour force participation does not add to more employment. Thus u^* remains high. c_5 is expected to be negative in the presence of effective labour market adaptation.

d_2 and d_3 are expected to be positive if higher employment affects positively the labour force results along with heightened labour force participation rate. d_4 is expected to be negative by the discouraged worker hypothesis, unless there is an aggressive labour market that actively looks for jobs even when ‘ u^* ’ remains high. d_5 is expected to be positive.

e_2 , e_3 and e_5 are expected to be positive by the relationship of (L, L_e, r) with ‘measured’ wellbeing (θ). For the same reason e_4 is expected to be negative.

The efficiency and equity goals are read off the relations: The policy targets are: $u^* \rightarrow 1$; $r.L \approx L_e$; $w \rightarrow$ national average.

Empirical Results of Circular Causation System of Regression Equations Applied to Labour Market Adaptation of Canadian Natives as a Target Group in Canadian Labour Force

The regional cross-sectional data for Canadian Native labour market indicators are given in the statistical appendix were used to estimate equations (9) – (14). The following results are obtained:⁵

$$\ln L = 0.210 + 0.0129 \ln u + 0.999 \ln L_e + 0.0017 \ln r + 0.0004 \ln \theta \quad (9)$$

t-stats	1.38	0.48	768.71	0.02	0.02
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Adjusted R-square = 0.9999; S.E. = 0.00505715; Durbin-Watson statistic = 2.65536

$$\ln u = 4.68 + 3.47 \ln L - 3.45 \ln L_e + 1.94 \ln r - 0.819 \ln \theta \quad (10)$$

t-stats	2.26	0.48	-0.48	2.63	-5.59
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Adj.R-square = 89.7%; S.E. = 0.0830604; Durbin-Watson statistic = 1.48090

⁵ My sincere thanks are to Dr. Mohammad Saleh Ahmad of the Department of Mathematics and Statistics, College of Science, Sultan Qaboos University, Muscat, Sultanate of Oman for helping me out with the empirical estimation.

$$\ln L_e = -0.211 + 1.00 \ln L - 0.0128 \ln u - 0.0018 \ln r - 0.0004 \ln \theta \quad (11)$$

t-stats -1.38 768.71 -0.48 -0.03 -0.02
 Adj.R-square = 0.9999; S.E. = 0.00506155; Durbin-Watson statistic = 2.65024

$$\ln r = -1.91 + 0.07 \ln L + 0.299 \ln u - 0.07 \ln L_e + 0.301 \ln \theta \quad (12)$$

t-stats -2.45 0.02 2.63 -0.03 3.95
 Adj.R-square = 59.9%; S.E. = 0.0325870; Durbin-Watson statistic = 2.44814

$$\ln \theta = 6.11 + 0.15 \ln L - 1.05 \ln u - 0.14 \ln L_e + 2.51 \ln r \quad (13)$$

t-stats 3.19 0.02 -5.59 -0.02 3.95
 Adj.R-square = 91.9%; S.E. = 0.0941561; Durbin-Watson statistic = 1.79702

Expression (13) is the same as,

$$\theta = \log(6.11) \cdot \exp(L^{0.15}) \cdot (u^{-1.05}) \cdot (L_e^{-0.14}) \cdot (r^{2.51}) \quad (14)$$

Estimated equation (13 or 14) is the estimated form of the ‘measured’ wellbeing function in the critical variables. The simulated results were not obtained, this being a substantive empirical exercise.

There are several perverse relations here for the labour market wellbeing estimation, hence labour market adaptation of Canadian Natives: L_e has a negative relationship with the wellbeing index. Besides, although the coefficient of r bears the correct sign with θ , yet an increasing r -indicator ought to increase employment, that is L_e . This is not the case in the social wellbeing function and as found by the estimation of circular causation equations.

The positive relationship between u^* , r and L points out that the labour force is increasing by the effort of increasing participation rate of Canadian Natives. Yet employment is hard to find. The equity question is thus adversely affected. This fact is further confirmed by the negative relationship between u^* and L_e ; and the negative relationship between L_e and r . Yet there is positive relationship between r and u^* and negative relationship between r and L_e .

The above kinds of perverse relations between the critical indicators as noted are principally responsible in reducing the social wellbeing level of Natives. Thus simulation is needed to improve the relationships by suitably changing the elasticity coefficients into positive or near positive values, except for the relationship with u^* . Here the coefficient ought to be negative and declining in relation to the other variables. How much this simulation impact is possible will depend upon the choice of policies towards labour market efficiency and social equity.

These goals are implied by $r.L \approx L_e$; $u^* \rightarrow 1$; and $w \rightarrow$ national wage rate. w is solved for by using the labour market efficiency relation, $r.L \approx L_e$. These equations imply simultaneous relationship between the goals of labour market efficiency and social equity in the social wellbeing function of labour market adaptation. Subsequently, such changes cause the wellbeing level to turn into positive relationship or into less negative relationship with all the relevant variables.

The statistical analysis points out that there is strong reason to focus on changes in labour market policies in the direction of improving the relationship between r and L_e , r and u^* ; and u^* and L . The signs of inter-causality between wellbeing (θ) and the indicators are perverse with respect to the elasticity coefficient of L_e . These results point to a strong presence of equity-efficiency gap in the Canadian Native labour market. To bridge this unwanted gap along with human resource development by way of educational expenditure on the education and training of Canadian Natives, there is need for adapting the technological and productivity gains to Native indigenous kinds that would heighten the participation of Natives in their indigenous development regime of social and economic change.

Such results reflect the perspectives of inter-causal participatory model of development that requires the study of complementarities between the variables of social wellbeing by circular causation relations. This is the methodical formalism that arises from the methodology of Islamic political economy.

18. Conclusion

This paper has given an overview of the methodological and formal nature of the field of Islamic political economy as a vastly interactive system of socio-scientific phenomenology premised on the immutable epistemology of the monotheistic law (*Tawhid*). We have formulated a consistent and workable framework of analysis that can be established on the basis of the epistemology of unity of knowledge premised on the monotheistic law. The *res extensa* domain of the monotheistic law and its explanation of the world-system encompass ‘everything’ in the framework of unity of knowledge. This scientific worldview transcends the existing limitation of science by its sheer space-time structure of study to the all-comprehensive and overarching dimensions of knowledge, space, and time.

The study of Islamic political economy was then used to critique mainstream economics by the review of the literature. We realize that in the earlier economic literature there existed the treatment of knowledge (Boulding, 1967; Hayek, 1945; Kirzner, 1997). But our standpoint on the pervasively knowledge-centred field of Islamic political economy is premised on the epistemology of unification of knowledge being extensively endogenous and complementary in *inter*-relations. Other approaches have failed to establish such a methodology and formalism because of their roots in rationalism as the opposing epistemology to monotheistic oneness (Neurath et al, 1970). Yet within such disparate

categories we found similarity in the methodological study of political economy in the Occident and Islam in its epistemological orientation.

In the end, we have shown that the paradigm of Islamic political economy and world-system study premised on the epistemology of unity of knowledge as in the *Qur'an* and the *sunnah (Tawhid)* gives birth to a new field of scientific inquiry that can be truly revolutionary as it is also authentic and extensive. In contrast to this paradigm we have shown briefly that the traditional field of Islamic economics has failed to go beyond mainstream economic theorizing, much of which is neoclassical economics and its varied prototypes based on marginalism.

The extensiveness of the methodology of Islamic political economy premised on its episteme of the monotheistic law is proven by its application to diverse issues and problems. In this regard, this paper has examined applications of the methodology to topics of Turkish historicism from the times of Ottoman world-system to modern times; the continuing spike of Arab Spring and its future model of political economy; and the labour market plight of Canadian Natives in the Canadian context. Such is an example of the diverse field over which the methodology and formal methods of Islamic political economy can be applied. The methodology of Islamic political economy thus expands beyond sheer religious narrowness.

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Statistical Appendix

The cross-sectional data are reproduced from the source: M. Michael, March 2004. *Aboriginal People in Canada's Labor Market: Work and Unemployment, Today and Tomorrow*, The Caledon Institute of Social Policy, Ottawa, Ontario, Canada.

Table 1: Labor Market Cross-Sectional Data by Provinces and Region for Estimation, Canadian Natives 2001

	Labor Force (supply)	Natives unemployment rate/Native Unemployment Rate	Employed labor force	Participation rate	ranked values
	L	$u^* = U_N/U$	L_e	r	θ
Nfld	12,850	154	9843	0.604	0.6564
PEI	825	180	631	0.603 ^e	0.5668
NS	10,940	201	8282	0.606	0.5668
NB	11,345	225	8690	0.621	0.5316
QUE	51,350	224	39334	0.577	0.5004
ONT	124,035	240	95011	0.646	0.5214
MAN	90,445	314	68738	0.590	0.3354
SASK	74,440	362	56574	0.545	0.2089
ALTA	110,790	288	84200	0.642	0.4253
BC	4,225	264	3211	0.629	0.4620

Eastern Region = 23.4%; Western Region = 24.0; Prairies = 24.3

* 258 is the relative $u^* = U_N/U$; r = 66.4% for total non-Aboriginal labor force in 2001.