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**Islamic critique and alternative to  
Financial engineering issues**

*Comment by:*

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This is definitely a scholarly paper of sufficient originality. Before I offer my critique, let me summarize the paper and identify its core aspects.

1. It argues that a financial system and its constituents “stand upon the assumptions of behavior, markets and institutions” of their respective methodological worldview.
2. The conventional financial institutions evolved from the Neoclassical worldview, which the author, coming from an Islamic background, totally rejects.

”The central point of risk-return analysis and interest-driven argumentation is shown to arise from the conformable preference, market and institutional ramifications of such argumentation in mainstream financial engineering. All these are premised on the epistemology of mainstream neo-liberal and neoclassical worldview.”

3. Islam has its own methodological worldview and therefore Islamic financial system must be derived from its own Islamic worldview.

”In the case of the Islamic alternative, the mainstream financial engineering arguments and applications must be thorough revamped. Such an extensive transformation emanates from Islamic epistemological foundation, just as rationalism and economic rationality define the epistemological outlook of neo-liberalism and neoclassicism.”

4. The existing Islamic financial institutions and the kind of financial engineering they are involved with do not draw on an Islamic epistemological worldview; instead, they draw on the Neoclassical methodological worldview.

”For quite some time now the method of valuation of assets in Shariah perspectives has remained elusive to Islamic economists and financial experts, who principally work in the milieu of present-value, cost-benefit modeling and all that go with these. Consequently, much of the premises of mainstream financial engineering have been accepted by Islamic economists and financial experts.”

5. Thus, the author believes that the existing Islamic finance movement and the pertinent institutions have not anchored in the Islamic worldview and therefore does not have the desired Islamic authenticity.

“The objective of this research project is to prove from the Shariah and logical viewpoints that many of the arguments of Islamic economics and financial experts toward adopting mainstream financial engineering methods and argumentation on asset-valuation methodology are flawed. ... many of the accepted notions among mainstream Islamic economists and financial experts are rejected.”

6. The author believes that he has an Islamic alternative methodology that is based on the *Tawhidi* epistemological paradigm.

“... the essential nature of the *Tawhidi* unity of knowledge in economic and socioeconomic issues cannot be found in any other paradigm including the prevalent thinking in Islamic economics and finance.”

7. In this paper, he applies the *Tawhidi* epistemological paradigm specifically to asset-valuation challenges for Islamic finance. The author develops an overlapping generation model and rejects the concept of “time value of money” as applied in discounting the future.

”The TSR methodology applied to asset-valuation, in contradistinction to the risk-return analysis of futures in mainstream financial engineering, seriously questions the received asset-valuation methodology in prevalent Islamic economics and finance and as used by the Islamic financial institutions.”

”A computer-assisted overlapping generation model of the TSR vintage as a critique and replacement of the present-value asset-valuation model will replace the unacceptable concept of time-value of money, discounting in

Islamic economic and financial reasoning and dealing, and all the risk-return misconceptions that have been artificially cultivated.”

8. The author presents an advanced topological model that, according to the author, can be amenable to simulation for comparative study to distinguish Islamic alternatives in financial engineering from its conventional counterparts.

Now, let me share my humble thoughts on this paper. This is a well-conceived work, sophisticated both conceptually and mathematically. In recent decades, the field of Islamic finance has eclipsed the field of Islamic economics and there is a great deal of merit in taking a critical approach to the so-called Islamic economics that has essentially taken the conventional economics as its anchor. The author is quite categorical in staking his critical position regarding the prevailing orthodoxy of Islamic economics and finance.

However, in my view there are several major or fundamental problems with the author’s thoughts and articulations.

- **First**, the author has an alternative paradigm, which he dubs as *Tawhidi* epistemology. He writes: “*This is the episteme of unity of knowledge (Tawhid)*. ... Thereby, the strictly epistemological methodology of unity of knowledge (*Tawhid*), fundamental to any Islamic study of issues and problems, is upheld. ... The Qur’anic epistemology of unity of divine knowledge (*Tawhid*) ...”

In each of the underlined cases, the author equates *Tawhid* with “unity of knowledge” or “unity of divine knowledge.” This is not just simplistic, but also erroneous. *Tawhid* is known and understood as the most fundamental and essential principle of Islam, meaning Oneness or Unity of God. From this Oneness or Unity, one can derive many pertinent notions of unity, including unity of knowledge, but *Tawhid* is more than just unity of knowledge. As late Dr. Ismail al-Faruqi aptly articulated:

To recast knowledge as Islam relates to it, is to Islamize it, *i.e.*, to redefine and reorder the parameters and the data, to rethink the reasoning and interrelationships of the data, to reevaluate the conclusions, to re-project the goals, and to do so in such a way as to make the reconstituted disciplines enrich the vision and serve the cause of Islam.

To this end, the methodological categories or methodologically-relevant principles of Islam, namely, the unity of truth, the unity of knowledge, the unity of humanity, the unity of life, the telic [ed., purposeful]

character of creation, and the subservience of creation to man and of man to Allah (SWT), must replace the Western categories and determine the perception and ordering of reality. So too, the values of Islam should replace Western values and direct the learning activity in every field<sup>(1)</sup>.

In the context of *Tawhid*, not just unity of knowledge, but also “the unity of truth,” “the unity of humanity,” “the unity of life,” and so on – all are integrally related. Thus, while unity of knowledge is a logical conclusion of *Tawhid*, reducing *Tawhid* to merely unity of knowledge is not tenable.

- **Secondly**, the author rejects the mainstream economics, particularly the neoclassical economics, altogether. In this context, he also repudiates the neoclassicism-anchored Islamic economics. However, such sweeping rejection of mainstream economics smacks some hypocrisy, because as the author develops an alternative Overlapping Generation Model based on his *Tawhidi* epistemological worldview, there is not even an iota of acknowledgment that the very Overlapping Generation Model is a contribution of neoclassical economics and, if the author’s premise that each paradigm (such as neoclassical) has its own epistemological worldview with its attending assumptions, then how can one justify employing models that are developed by neoclassical school – a school that the author vehemently and sweepingly reject?

Also, parallel to his rejection, the author’s assessment of his own work might be viewed by his economist colleagues from both the mainstream Western and Islamic economics background as quite presumptuous, as exemplified in the following statement:

This is due to the fundamental opposite meaning, understanding and implications of the principle of pervasive complementarities in the light of Qur’anic epistemology, against the postulate of trade-off in resource allocation premised on scarcity, competition, optimization and steady-state equilibrium states of differentiated entities *in every other socio-scientific reasoning*. [emphasis added].

Thus, the author is staking his claim about his work in a manner as if he has cracked the code of DNA or found the holy grail in economics to the extent that

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(1) See “**Isma’il Faruqi and Revival: Defining Islamic Traditionalism: First Principles in the Islamization of Thought**,” Retrieved February 1, 2008, from: <http://shaukani.wordpress.com/2007/02/24/ismail-faruqi-r-and-revival-in-science-and-life-defining-islamic-traditionalism-first-principles-in-the-islamization-of-thought/>. Also, see Faruqi, *Tawhid: Its Relevance for Thought and Life* (IIFSO, 1983), pp: 11, 18, 51, 54.

he can dismiss “every other socio-scientific reasoning” in this regard in such a cavalier manner. Curiously, while doing so, he succumbs to one of the hallmarks of neoclassical (and mainstream) economics that is so much enamored with mathematization of economics, which is discussed in the next part.

- **Thirdly**, the author obviously has advanced background and expertise in mathematical modeling, theorization and simulation. He employs advanced topological methods as part of Overlapping Generations Model, which definitely adds rigor and sophistication to the discourse on Islamic economics. While the author repudiates the mainstream economics on the basis of his own *Tawhidi* epistemology and employs advanced and sophisticated mathematics, he does not acknowledge anywhere in his paper the limitation of mathematical economics and modeling that even many notable mainstream economists argue that it has helped economics earn much formalistic precision and rigor, but at fundamental sacrifice of substance and being disconnected from the real world economy. Is it a wonder that even in the Western world economists seem to be at a loss how to deal with their chronic economic problems?

As Prof. Ken Dennis at the University of Manitoba, Canada, points out in “A Logical Critique of Mathematical Formalism in Economics”:

“Mathematical economic theory is lacking in logical rigour. Even if the mathematics used in constructing formal economic theory is rigorous as pure mathematics, economic theory possesses both mathematical and non-mathematical components. But mathematical reductionism fails to formalize the non-mathematical components of economic theory, and the method of numerics (outlined in this paper) shows how, in simple cases, the two components of economic theory can be formally identified, distinguished, and integrated. However, the real challenge to formalizing economic theory points not to mathematics but to problems of constructing a logic coping with propositional attitudes (belief, preference, intention) that lie at the very heart of economic rationality and can be treated only by means of intentional logic”<sup>(2)</sup>.

Based on a survey of mathematical economics literature, in a paper “What is the Critique of the Mathematization of Economics?” Beed and Kane observe that much of the literature “concentrate on the construction of theory rather than on its empirical relevance”<sup>(3)</sup>.

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(2) **Ken Dennis**, “A Logical Critique of Mathematical Formalism in Economics,” *Journal of Economic Methodology*, 2/2, 1995, :181-99.

(3) **Clive Beed** and **Owen Kane**, “What is the Critique of the Mathematization of Economics,” *Kyklos*, 44/4, 1991.

As this paper stakes claims of knowledge and epistemology in such an unhedged manner, the observations of the Nobel Laureate Hayek during his Nobel Lecture “The Pretence of Knowledge” are quite pertinent. While acknowledging “the great advantage of mathematical technique,” he observed that certain achievements have “... led to the illusion, however, that we can use this technique for the determination and prediction of the numerical values of those magnitudes; and this has led to a vain search for quantitative or numerical constants.” Referring to an earlier scholar who asserted that “*pretium mathematicum*, the mathematical price, depended on so many particular circumstances that it could never be known to man but was known only to God,” Hayek reminded: “I sometimes wish that our mathematical economists would take this to heart. I must confess that I still doubt whether their search for measurable magnitudes has made significant contributions to our *theoretical* understanding of economic phenomena - as distinct from their value as a description of particular situations”<sup>(4)</sup>.

As the author is a scholar, as indicated by his work, keeping the limitations of such mathematization of economics in general in mind and acknowledging so probably would enhance credibility and stature of such work.

- Fourthly, the author exudes confidence that his work is not merely of theoretical, but also of practical relevance, where contemporary Islamic finance can easily apply such models to replace the current paradigm based on time value of money and discounting of future. The author writes:

A computer-assisted overlapping generation model of the TSR vintage as a critique and replacement of the present-value asset-valuation model will replace the unacceptable concept of time-value of money, discounting in Islamic economic and financial reasoning and dealing, and all the risk-return misconceptions that have been artificially cultivated. The overlapping generation model once computerized can be available for use by Islamic financial institutions, policy-makers and researchers in using the genuinely Shariah-compliant asset-valuation in the light of the Qur'an and the Sunnah.

The author leaves the distinct impression that his overlapping generation model is yet to be computerized. It is not clear if he himself has the relevant expertise to undertake this or whether he plans to undertake this in future. If the author himself has not undertaken any such simulation yet, at the least, the author should have provided some examples of computerized simulation of such models in mainstream economics. He should also have noted the empirical

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(4) December 11, 1974; see [http://nobelprize.org/nobel\\_prizes/economics/laureates/1974/hayek-lecture.html](http://nobelprize.org/nobel_prizes/economics/laureates/1974/hayek-lecture.html).

relevance of such computerized simulations done by others. If no such citation is provided, even though theoretically such work still would be merit-worthy, there are questions to be raised about empirical and practical relevance of such work as claimed by the author.

- Fifthly, one of the biggest weaknesses of this paper is that while claiming that this alternative epistemological paradigm yields results that are sufficiently distinguished as Islamic (distinguished even from the prevailing Islamic economics), the author's paradigm leads to financial tools and products that are hardly any different than what the contemporary world of Islamic finance claims to offer at least in rhetoric. The author writes that based on his paradigm: "Institutional policy instruments, such as those promoted by venture capital centering on cooperative development financing instruments, *mudarabah*, *musharakah*, shareholding, and foreign trade financing, gain grounds."

The reality is that at the level of rhetoric, Islamic Financial Institutions do uphold these "institutional policy instruments". Especially, *mudarabah* and *musharakah* are regarded as the normative modes of Islamic finance. The only problem is that in implementing these modes IFIs are finding that making these normative modes operational is not as easy as it appears at the level of pious rhetoric. Indeed, the fact that *mudarabah* and *musharakah* are greatly marginalized in the industry is a widely acknowledged fact<sup>(5)</sup>.

A legitimate question can be raised that if the author's paradigm is so fundamentally different from the prevailing thoughts in Islamic economics and finance, how is it that it leads to the same "institutional policy instruments" that are embraced and advocated by the IFIs as normative at least at the level of rhetoric? It is not clear whether the author thinks that merely logically or coherently deriving these "institutional policy instruments" from his *Tawhidi* paradigm of Unity of Knowledge would take care of the practical challenges in making *mudarabah-musharakah*-type instruments operational. It remains unclear whether he expects that his paradigm would make these instruments more practicable or merely more coherent from epistemological viewpoint.

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(5) **Mohammad Omar Farooq** (2007a) "Partnership, Equity-Financing and Islamic Finance: Whither Profit-loss Sharing?" in *Review of Islamic Economics*, Vol. **11**, Special issue, : 67-88.

### References

- Clive, Beed and Kane, Owen** (1991) "What is the Critique of the Mathematization of Economics," *Kyklos*, 44/4,.
- Dennis, Ken** (1995) "A Logical Critique of Mathematical Formalism in Economics," *Journal of Economic Methodology*, 2/2, :181-99.
- Faruqi, Isma'il and Revival** (2008) *Defining Islamic Traditionalism: First Principles in the Islamization of Thought*", Retrieved February 1, from:  
<http://shaukani.wordpress.com/2007/02/24/ismail-faruqi-r-and-revival-in-science-and-life-defining-islamic-traditionalism-first-principles-in-the-islamization-of-thought/>.Also,see **Faruqi, Tawhid**: Its Relevance for Thought and Life (IIFSO, 1983), pp: 11, 18, 51, 54.
- Farooq, Mohammad Omar** (2007a) "Partnership, Equity-Financing and Islamic Finance: Whither Profit-loss Sharing?" in *Review of Islamic Economics*, Vol. **11**, Special issue, : 67-88.