Developing Inclusive and Sustainable Economic and Financial Systems

Volume 2

Islamic Economics: Theory, Policy and Social Justice

CONTENTS

Foreword

Hatem A. El-Karanshawy

Founding Dean, Qatar Faculty of Islamic Studies, Hamad bin Khalifa University, Qatar Foundation, Doha

The International Conference on Islamic Economics and Finance (ICIEF) is the leading academic conference in the discipline organized by the International Association for Islamic Economics (IAIE) in collaboration with other key stakeholders, including the Islamic Research and Training Institute, Islamic Development Bank. It is the pioneering international conference on Islamic economics organized first in Makkah Al Mukaramah, Kingdom of Saudi Arabia, in 1976 under the auspices of King Abdulaziz University and has since been held in numerous locations around the world. The conference as such has contributed immensely to the promotion of Islamic economics and finance. Since 2011, the Qatar Faculty of Islamic Studies (QFIS), of Hamad bin Khalifa University, Qatar Foundation, has also become a key partner in organizing the conference.

The global economy continues to face the perennial problems of poverty, persistent youth unemployment, excessive inequalities of income and wealth, high levels of inflation, large macroeconomic and budgetary imbalances, exorbitant debt-servicing burdens, inadequate and aging public utilities and infrastructure, skyrocketing energy prices, and growing food insecurity. The reoccurring regional and global financial crises further intensify and magnify these problems, particularly for the underprivileged segments of the world population. As a result, many countries are at the risk of failing to achieve by 2015 the Millennium Development Goals (MDGs) set by the United Nations. Hence the achievement of an inclusive and sustainable economic and financial system has remained highly illusive.

The ICIEF presents an excellent opportunity for those interested in Islamic economics and finance to present their research and contribute to the development of an inclusive and sustainable global economic and financial system. It is through such a setting that thoughts can be debated with the objective of advancing knowledge creation, facilitating policymaking and promoting genuine innovation for the industry and the markets. Disseminating research presented at ICIEF to the greatest number of researchers interested in the topic is important. It not only advances the discourse, but also grants those who did not have the privilege of attending the conference to partake in the discussion.

To this end, this series of five volumes (two in Arabic to follow) presents the proceedings of 8th and 9th conferences, which were held in Doha and Istanbul respectively in 2011 and 2013. Each volume focuses on a particular sub-theme within the broader theme of *Developing Inclusive and Sustainable Economic and Financial Systems*.

The volumes are as follows:

Volume 1: Access to Finance – Essays on Zakah, Awqaf and Microfinance
Volume 2: Islamic Economics and Social Justice – Essays on Theory and Policy
Volume 3: Islamic Banking and Finance – Essays on Corporate Finance, Efficiency, and Product Development
Volume 4: Ethics, Governance, and Regulation in Islamic Finance
Volume 5: Financial Stability and Risk Management in Islamic Financial Institutions

We hope that this academic endeavor in partnership with the Bloomsbury Qatar Foundation Publishing will benefit the Islamic economics and finance community and policy makers and that it will promote further academic study of the discipline.

Acknowledgements

Tariqullah Khan

President, International Association for Islamic Economics

At the International Association for Islamic Economics (IAIE), we are grateful to acknowledge the unprecedented success of the 8th and 9th International Conferences on Islamic Economics and Finance, which were respectively organized in the Qatar National Convention Centre, Doha, December 19–21, 2011, and in the WoW Convention Centre Istanbul, September 9–10, 2013. We greatly appreciate the financial, academic and logistic support provided by the Qatar Faculty of Islamic Studies, Hamad bin Khalifa University at Qatar Foundation; Islamic Research and Training Institute at the Islamic Development Bank; and the Statistical, Economic and Social Research and Training Centre for Islamic Countries.

We offer our sincere thanks to the sponsors of the 8th International Conference on Islamic Economics and Finance in Doha. Without their partnership and generous contributions, the conference would not have been possible. In addition to the Qatar Foundation and the Islamic Development Bank, other sponsors included: Qatar Central Bank (QCB), Qatar Financial Centre Authority (QFCA), Qatar National Research Fund (QNRF), Qatar National Bank, Qatar Islamic Bank, Qatar International Islamic Bank, Masraf Al Rayan, and Qatar Airways.

We owe our deepest gratitude to the highly-esteemed panel of reviewers who volunteered to dedicate their time and energy in reviewing all the thousands of abstracts and papers that were submitted to the conferences. The reviewers of the English papers and abstracts included: Abdallah Zouache, Abdel Latef Anouze, Abdelaziz Chazi, Abdul Azim Islahi, Abdullah Turkistani, Abdulrahim AlSaati, Ahmet Tabakoğlu, Anowar Zahid, Asad Zaman, Asyraf Dusuki, Ercument Aksak, Evren Tok, Habib Ahmed, Hafas Furqani, Hafsa Orhan Astrom, Haider Ala Hamoudi, Hossein Askari, Humayon Dar, Ibrahim Warde, Iraj Toutounchian, Jahangir Sultan, John Presley, Kabir Hassan, Karim Ginena, Kazem Yavari, Kenan Bagci, Mabid Al-Jarhi, Maliah Sulaiman, Marwan Izzeldin, Masooda Bano, Masudul Alam Choudhury, Mehdi Sadeghi, Mehmet Asutay, Moazzam Farooq, Mohamad Akram Laldin, Mohamad Aslam Haneef, Mohamed Ariff Syed Mohamed, Mohammed Benbouziane, Mohammed El-Komi, Monzer Kahf, Muhammad Syukri Salleh, Murat Çizakça, Nabil Dabour, Nafis Alam, Nasim Shirazi, Nazim Zaman, Necdet Sensoy, Nejatullah Siddiqi, Rifki Ismal, Rodney Wilson, Ruhaya Atan, Sabur Mollah, Salman Syed Ali, Savas Alpay, Sayyid Tahir, Serap Oguz Gonulal, Shamim Siddiqui, Shinsuke Nagaoka, Simon Archer, Tariqullah Khan, Toseef Azid, Turan Erol, Usamah Ahmed Uthman, Volker Nienhaus, Wafica Ghoul, Wijdan Tariq, Zamir Iqbal, Zarinah Hamid, Zeynep Topaloglu Calkan, Zubair Hasan, and Zulkifli Hasan. The reviewers of the Arabic papers and abstracts included Abdelrahman Elzahi, Abdulazeem Abozaid, Abdullah Turkistani, Abdulrahim Alsaati, Ahmed Belouafi, Ali Al-Quradaghi, Aly Khorshid, Anas Zarqa, Bahnaz Al-Quradaghi, Layachi Feddad, Mabid Al-Jarhi, Mohammed El-Gamal, Nabil Dabour, Ridha Saadallah, Sami Al-Suwailem, Seif El-Din Taj El-Din, Shehab Marzban and Usamah A. Uthman.

The primary objective of the conferences is to further the frontiers of knowledge in the area of Islamic economics and finance. Without the hard work and creativity of the researchers who shared their work with us, the pool of knowledge generated in the form of the conference papers and presentations would not have been possible. We thank all the authors who submitted their abstracts and papers to the two conferences.

The IAIE has always endeavored to publish most of the significant research papers contributed to its conferences. Currently the selected papers of the 8th and 9th conference are being published in five volumes under the common theme of *Developing Inclusive and Sustainable Economic and Financial Systems*. On behalf of the Editorial Board we acknowledge that the partnership with the Bloomsbury Qatar Foundation Publishing in this regard will be highly beneficial in disseminating research output and in promoting the academic cause.

Preface

Dr. Moh'd Azmi Omar

Director General, Islamic Research & Training Institute (IRTI)

Islamic economics and finance holds great potential and appeal for achievement of economic growth with social justice. Particularly, in the present time when countries across the world are growing but their financial and economic progress has been uneven and achieved at the cost of moral and social decline. Moreover, the repercussions of the moral, social, economic and financial rise and fall of regions is no longer isolated but can be felt globally. In this scenario, the need for developing inclusive and sustainable Islamic economic and financial systems become much more important.

The early opinion building as well as the later technical literature on the subject of Islamic economics has greatly contributed to the promotion of this line of inquiry. However, Islamic economics has not yet achieved a level to become a discipline that is able to create a paradigm shift in the way of thinking and policymaking. The need is therefore not only to develop the theory but also to link the theory with policymaking. This transition would also require yardsticks and measuring devices to gauge the social, economic, and financial progress defined in congruence with Islam. With this perspective, the present volume focuses on: (i) further articulation of the fundamental concepts and methods of Islamic economics, (ii) analysis of the workings of fiscal and monetary policies in Islamic context, and (iii) measurement and analysis of socio-economic development.

The fifteen papers collected in this volume attempt to cover the three aspects mentioned above. These papers are selected from the 8th International Conference on Islamic Economics and Finance held in Doha during 19-21 December 2011 and from the 9th International Conference on Islamic Economics and Finance held in Istanbul during 9-11 September 2013. They are presented here in their original form, with changes limited to copyediting and correcting typographical errors. These conferences were organized by the Center for Islamic Economics and Finance, Qatar Faculty of Islamic Studies (QFIS), Hamad bin Khalifa University ; Islamic Research and Training Institute (IRTI), Islamic Development Bank (IDB); International Association for Islamic Economics and Finance (IAIE); and Statistical, Economic, and Social Research and Training Centre for Islamic Countries (SESRIC).

We hope that the papers presented in this volume will provide further insights into the issues and contribute in generating fundamental and policy-oriented research on the subject that can take the discipline forward in creating a paradigm shift in socio-economic development.

Islamic economics and social justice essays on theory and policy

Salman Syed Ali

Islamic Research and Training Institute, Jeddah, KSA

Economic thinking from Islamic perspective is not a new phenomenon. Even before the birth of the formal conventional economics discipline, several Muslim scholars have written on the economic and social issues of their time and provided policy advice to the rulers and guidance to the masses. Among the fourteenth century academicians and policy advisors Ibn Khaldun's name (1332–1406 AD) appear prominently, for he not only explained many of the economic phenomenon that present-day economists discuss but also put forward a complete theory of dynastical and social change in which social and economic factors interact to explain the dynamics of the rise and fall of nations, dynasties, cities, societies and businesses.

These early strides in the development of economics have been eclipsed by the rise of the West in knowledge and power and eventual colonization of many parts of the Muslim world. This dominance was complete by the eighteenth and nineteenth centuries but insistently challenged in many places in various forms. A revival of thought and movement for addressing the social, economic and political issues from the Islamic perspective started at the beginning of the twentieth century, and it contributed towards many countries gaining freedom from colonial rule. The momentum of writings and contributions to the field of Islamic economics and finance has increased since the end of the colonial era. However, these ideas and thoughts were not put into practice after independence of Muslim lands due to a variety of reasons including the local politics and the mindset of the political leadership that replace the colonial rulers. Economic ideas and theories have a different nature compared to physical sciences in that unless they are formulated into policies and implemented they cannot be refined and perfected. Absent this, the writings on Islamic economics grew, but they did not get mature enough to generate some critical level of consensus around various theories and ways of thinking to become an independent discipline.

The intellectual effort is now directed at turning theory into actionable policies and practice wherever possible. This would also result in refinement of ideas and hence the development of Islamic economics as a discipline distinct from conventional economics. The strategy requires building of a mind-set that can think out of the box of conventional economics and also development of a political will and the courage to experiment with new things. This approach would require many things, but some important dimensions would be:

- Regular, evaluation of the progress of the theory and models of Islamic economics
- Translating the theory into policies and evaluating the channels through which the policies are creating or likely to create an impact
- Developing a benchmark to evaluate socio-economic progress and impact of the policies in line with Islamic teachings

The fifteen papers collected in this volume attempt to do just that. They are divided into three parts.

1. Part 1 Islamic Economics as a Discipline

There are six papers in Part 1, all dealing with evaluation or advocacy for Islamic economics as a discipline. These papers also provide food for thought on how to move forward from the current position.

In the first paper, "Crisis in Islamic economics: Diagnosis and prescriptions," Asad Zaman points out that most Muslim economists have uncritically accepted many of the ideas of conventional economics. Since the methodological framework and the underlying assumptions of conventional economics are different and in conflict with Islamic views, the attempt to combine contradictory bodies of knowledge has not been successful in providing any new theory or practical policy wisdom. He attempts to provide alternative foundations, upon which a genuine Islamic economic theory could be constructed.

The paper points out four maxims of conventional economic philosophy that are taken for granted but are not necessarily true. These are: 1. Economic theories are universal laws, 2. Economic theories are best framed in mathematical form, 3. Only materialistic economic propositions are important, 4. Economic theories are positive (or factual). He then presents Islamic alternative principles that should be present in any potential Islamic economics theory. These Islamic alternatives call for focusing on 1. Transforming human beings, which requires attention to spiritual aspects, moral training, and engagement and struggle towards transformation as, in-itself, a means of knowledge.

It also requires focusing on 2. Generosity versus greed, and 3. Cooperation versus competition.

The paper invites the Islamic world to build Islamic economics theory on new foundations free from the burden carried by conventional and neoclassical economics. Muslim economists have to be prepared to abandon a lot that they try to carryover from the conventional economics. Fortunately, they have a source of guidance from the Quran and access to practical wisdom in the form of Sunnah that can help them to manage economic affairs of a society.

The second paper "First vs. second generation Islamic economists: Deviations and differences in thoughts," by Abdul Azim Islahi, analyzes the thoughts of the first vs. second generation Islamic economists during the past forty years and investigates deviations that occurred in thought and practice in this period. This is done based on a differentiation between the two generations and their distinguishing features. It takes as the first generation those scholars who started writing on the subject of Islamic economics between 1950 and 1975. This was a period very unfriendly to the idea of economics with an Islamic perspective. The second generation of scholars is defined as consisting of those who came into the field after the organization of the First International Conference on Islamic Economics, held in Makkah Mukarramah in 1976. That conference is taken as a cutoff because a new era started after it, in terms of the following: establishment of research and study centers, issue of specialized journals, enrollment in PhD courses, foundation of study departments, set up of financial institutions, organization of conferences and seminars, awarding of prizes, and creation of employment opportunities. It also attracted attention of some non-Muslim economists. The paper finds significant differences in the thoughts of the two generations of Islamic economists and suggests certain steps that could be taken to bridge the gaps, minimize the difference, and train the new emerging generation.

The third paper, "Methodology of Islamic economics: Typology of current practices, evaluation and way forward," by Hafas Furqani and Mohamed Aslam Haneef, takes the position that the methodological development of Islamic economics is necessary for the sustainable development of this subject. It studies the methodology of Islamic economics by surveying what has been written on this particular topic as well as by content analysis of the writings on Islamic economics, banking and finance. The paper found three categories of writings, namely: (1) the usul al-fiqh methodology applied in economics, (2) methodological pluralism that tries to utilize various methodologies developed in both Western and Islamic tradition, and (3) conventional mainstream positive economic methodology applied in Islamic cases.

The fourth paper, "Islamic economics: Still in search of an identity," by Abdulkader Cassim Mahomedy, argues that despite the concerted efforts by the proponents of Islamic economics to shape it as a distinctive paradigm, no substantial success has been achieved beyond arguing that Islamic economics is based on strong moral ethics. So far, the epistemological roots of this discipline have remained within the framework of rationalism and methodological individualism, hence it has not been able to shed itself of its neoclassical moorings, the very paradigm it originally set out to replace. It needs to clarify its purpose and develop its content and method appropriate to its worldview.

The fifth paper, "Islamic Economics as a New Economic Paradigm," by Necati Aydin, attempts to make a case for Islamic economics as an alternative paradigm to deal with the crises of capitalism. It draws attention to western worldview in which free market capitalism emerged and flourished. Then, it redefines Islamic economics based on distinctive worldview of Islam particularly from anthropological, epistemological, and teleological perspectives. The paper discusses some distinguishing features of Islamic economics pertaining to happiness. It also suggests a strategy to build Islamic economics as separate paradigm by first focusing to construct a microeconomic theory that can explain consumer and producer behavior. It should also focus on empirical content and experimentation.

The sixth paper in this part, "The effect of scarcity thinking on human wants among Muslims: Exploring the ideological orientation of the concept of scarcity," by Amir Wahbalbari, Zakaria Bahari and Norzarina Mohd-Zaharim, tackles interesting concepts of "scarcity" and "scarcity thinking" that are at the heart of conventional economics. The paper empirically examines the effect of scarcity thinking on human wants and also explores the ideological basis of the concept from conventional and Islamic perspectives. For empirical analysis it collected data through a questionnaire administered to 345 Muslim individuals working within the Federal Territory of Kuala Lumpur, Malaysia. The analysis concluded that scarcity thinking significantly intensifies human wants and works contrary to Islamic religiosity, thus it causes a dissonance between Islamic religiosity of moderation in expenditure. In this sense, scarcity thinking contradicts the Islamic worldview of cooperation and obedience.

2. Part 2 Fiscal and Monetary Policies from an Islamic Perspective

The first paper in this section, "The transmission of monetary policy through conventional and Islamic banks," by Sajjad Zaheer, Steven Ongena, and Sweder J.G. van Wijnbergen, empirically compares the response of a monetary contraction to loan/financing growth of Islamic banks with conventional banks. It finds that a contractionary monetary policy stance indeed reduces the growth of bank financing, but its magnitude varies depending on the size of the bank, its liquidity situation, and the type of bank. Using banking data of Pakistan between 2002:III and 2010:I, the authors find that following a monetary contraction; small banks with liquid balance sheets cut their lending less than other small banks. In contrast, large banks maintain their lending irrespective of their liquidity positions. Islamic banks, though similar in size to small banks, respond to monetary policy shocks as large banks in cutting their financing. This may be due to several facts: (i) as Islamic banks were expanding during the sample period, their deposit growth may have been less affected by tight monetary policy, (ii) the proportion of fixed deposit in their total deposits was higher, and (iii) the proportion of liquid assets in total assets was larger than other small banks, hence they were able to maintain their financing growth.

Though the authors have concluded that "ceteris paribus the credit channel of monetary policy may weaken when Islamic banking grows in relative importance," the fact of the matter is that when Islamic banks grow in relative importance, the ceteris paribus assumption will not remain in place. Deposit composition as well as liquidity situations will change due to availability of more kinds of investable assets and due to facing the pool of all depositors with all types of characteristics rather than only the loyal type. Will there still be a different response to monetary contraction? And what would be the channels of monetary transmission? Both are open questions for further research.

The second paper, "The importance of the Islamic banks in the monetary transmission mechanism in Malaysia," by Zamrah Hasin and M. Shabri Abd Majid, complements the above paper by focusing on Malaysia and empirically exploring the relevance of Islamic banks' financing in channeling the monetary policy effects to the real economy. The paper uses autoregressive distributed lag (ARDL) bound testing approach and innovation accounting approach, with quarterly data spanning from 1991:Q1 to 2010:Q4. The study finds that monetary policy indeed affects Islamic banking channels in Malaysia as it influences the distribution of financing to various economic sectors.

The third paper, "Economic sectors sensitivity to Islamic and conventional monetary instrument: Case study of Indonesia," by Raditya Sukmana, focuses on Indonesia with monthly data from May 2006 to February 2011. Using unit root test, the co-integration test, and impulse response functions, the paper finds that Islamic banks play important roles in the monetary transmission process in the Indonesian economy. In particular, specific economic sectors react differently to both Islamic monetary instruments as well as conventional monetary instruments.

The fourth paper, "Public sector funding and debt management: A case for GDP-linked Sukuk," by Abdou Diaw, Obiyathulla Ismath Bacha, and Ahcene Lahsasna, advances the idea of Sukuk for infrastructure and development projects whose returns are linked to GDP growth of the country rather than the returns from the specific projects. The concept is highly relevant for financing of non-revenue generating public sector projects. The paper examines the potential benefits and obstacles of the GDP-linked Sukuk (GLS) model, which is based on Forward Ijārah, as well as its risk-return profile. Furthermore, a framework for pricing GLS is put forth. Based on a sample of countries from five regions of the Muslim world, the theoretical properties of the GLS are validated through back-testing method. The model is shown to be a new asset class between the traditional debt and equity instruments and offers interesting diversification opportunities. Besides its theoretical contribution, the model proposed in this paper addresses in an effective way the issue of debt management, in an interest-free context, and the issue of benchmarking sovereign Sukuk against the interest rate.

The fifth and final paper in this section, "Economic and financial crises in fifteenth-century Egypt: Lessons from history," by Abdul Azim Islahi, studies the economic and financial crises of fifteenth-century Egypt, which was then ruled by the Mamluk dynasty. During this period Egypt faced several economic crises caused by natural calamities such as the overflowing of the Nile as well as ill governance and corruption by the rulers. The financial crisis that occurred during the period mainly emanated from monetary mismanagement. Two social thinkers of the time—al-Maqrizi at the beginning of the century and al-Asadi at the middle—addressed the situation. This paper describes the thinking of these two scholars, and reviews the remedies suggested by them. Al-Maqrizi diagnosed the cause as deterioration of the monetary system of the country and recommended as remedy a return back to gold and silver standard coins. Al-Asadi on the other hand highlighted both the monetary and socio-economic factors behind the crisis and recommended an overall reform and strict management of the whole economy, monetary aspect being one of them. The episode provides a learning experience for us to see how similar or contrasting the debate was compared to crises debates we witness in the present century.

3. Part 3: Economic Development, Social Justice and Sustainability

The first paper, "Post-crisis economic recovery in OIC member states: Is it sustainable?" by Zafar Iqbal, analyzes the macroeconomic performance of OIC member countries in pre- and post- global financial crisis periods. It shows that economic performance of OIC member states was adversely affected in 2009 in terms of decelerating economic growth and deteriorating current account balances. However, in the post-crisis period, the OIC member states have recovered rapidly. The recovery is visible at the regional level as well as at the level of individual countries. However, the major global factors that have affected economic performance during the financial crisis period are still major threats to sustainable economic growth. The OIC countries need to focus more on addressing youth unemployment, weak economic integration and weaknesses in macroeconomic policies. The paper also highlights the efforts that the Islamic Development Bank (IDB) Group is making for the development of its member countries.

The second paper, "The integrated development index (I-Dex): A new comprehensive approach to measuring human development," by Ruzita Mohd Amin, Selamah Abdullah Yusof, Mohamed Aslam Haneef, and Mustafa Omar Muhammad, focuses on an important subject of integrated economic development that simultaneously caters to the material, intellectual and spiritual dimensions of human beings. This study proposes to develop an integrated Islamic development framework and an index that is based on the Maqasid al-Shari'ah for OIC and non-OIC countries. The paper does not develop the index but it is a step in that direction. In future this program hopes to build a Maqasid-based Integrated Development Index (I-Dex) that can better represent holistic development and well-being according to Islamic benchmarks to measure progress.

This is an important area in which not only more research is needed but active participation among the governments, academia and data collection bodies is essential. We needed to come up with methods and indexes that not only provide a comparative index but also provide opportunity to disaggregate the various dimensions for their usefulness in policy making and impact evaluation.

The third paper, "Islamic finance and economic growth: The malaysian case," by Néjib Hachicha and Amine Ben Amar, raises the question: does Islamic finance influence growth? The aim of their paper is to empirically investigate the impact of Islamic bank financing on Malaysia's economic growth over the period from 2000Q1 to 2011Q4. The implicit hypothesis is that Islamic finance encourages productive activities that are growth enhancing and poverty reducing. At the same time, Islamic finance principles allow for better risk sharing, again contributing to stability and economic efficiency. Thus the presence of Islamic finance should be pro-growth. To investigate this, the paper uses the approach familiarized my Demirgüç-Kunt and Levine to assess financial sector impact. The distinction is that a neoclassical production function has been augmented by some indicators of the Islamic bank financing. The estimation shows a positive impact of Islamic finance on production. The estimation of an error-correction model of the GDP growth in Malaysia shows the short-run economic growth elasticity with respect to various Islamic finance indicators is higher than in the long run. This may be due to wide use of *murabaha* financing by Islamic banks, which is short-term in nature.

The fourth paper, "Distributional and poverty consequences of globalization: Are OIC countries different?" by M Tariq Majeed, brings out some macro stylized facts by examining the impact of globalization on cross-country inequality and poverty of OIC and Non-OIC developing countries. It uses a panel data of developing countries over a long period from 1970 to 2008. Several findings come out of this analysis: First, it finds that a non-monotonic relationship between income distribution and level of economic development holds in both samples of countries. However, this relationship is comparatively strong in the case of Non-OIC countries. Second, globalization causes adverse consequences on income inequalities in OIC countries while it does not exert adverse effects in non-OIC countries. Third, in terms of the poverty model, openness to trade accentuates, rather than ameliorates, poverty in both sets of countries, while FDI hurts only the poor of non-OIC countries. Fourth, financial liberalization exerts a negative and significant influence on income distribution only in OIC countries. Fifth, inflation distorts income distribution and poverty in both sets of countries. Finally, the role of government is robustly significant in reducing inequalities and poverty in non-OIC countries, while the role of government is insignificant in the OIC world. The overall results of this study show that globalization exerts adverse distributional and poverty consequences, and comparatively

OIC countries suffer more from adverse consequences of globalization. This study concludes that OIC countries are different from non-OIC countries in their exposure to globalization. Further investigation is needed to find the causes of these differences and how Islamic economic and finance principles can be used towards improvement. However, it seems that OIC countries need to focus more on growth and increase spending on helping the poor to reduce poverty if they are to face the challenges of globalization.

4. Future Direction

While the present volume covers only some issues in theory, policy and measurement, there is a pressing need to focus on some neglected areas as well. One important area in Islamic economics that was well recognized in the early literature as one of the strong hallmarks of Islam is the concept of social justice. This aspect has slipped out of focus in recent active research. An articulate theory and corresponding policies to put the ideas of Islamic social justice into practice need renewed attention.

Concerns for social justice are very old in human history; it is likely that this concern may have existed even in the period before the beginning of our recorded history. Given the contrast inherent in human nature between human affinity for having everything for himself and a strong concern around fairness, this may have given rise to the tension between the two objectives and hence the evolution of concepts of social justice.

Justice is fundamental to human life, we use the phrase "social justice" when it is applied to resolve the tension between self-interest and fairness to others in social issues, particularly those that are related to economic dealings, opportunities and freedoms in social choices, and redistribution. This also includes ways of organizing the informal and formal mutual support systems to overcome the bad consequence of human decisions or uncontrollable fate. The question of social justice becomes relevant in all these circumstances. It determines what ought to be ensured, and how it is to be ensured—that everyone get at least some minimum level of those things that are important for their life in this world and in preparation for the next world. The Islamic concept of social justice is derived from divine foundations (divine knowledge) as well as from introspection by uncorrupted human nature that itself is also a reflection of divine will. In the future, we hope to see enough research in this area to compose a dedicated volume on the issue.

Crisis in Islamic economics: Diagnosis and prescriptions

Dr. Asad Zaman

Professor of Economics, International Islamic University, Islamabad

Abstract - There is substantial evidence that the development of the discipline of Islamic economics is currently in crisis. In this article we argue that the main reason for this is that most Muslim economists have accepted too many of the ideas of Western economists uncritically. The methodological framework, and underlying assumptions are wrong, and in conflict with Islamic views. This conflict has not been recognized, and the attempt to combine contradictory bodies of knowledge has failed. We also present alternative foundations on which a genuine Islamic economic theory could be constructed.

Keywords: Islamization of knowledge, Islamic economics, economic methodology

1. The Islamization of knowledge

The project of "Islamization of Knowledge" continues to be of vital importance to the Ummah of Muslims. The future of any community is strongly linked to the education received by the children in that community. Today, the vast majority of Muslim children receive a secular Western education. Built into such an education are assumptions that contradict basic Islamic teachings; for example, the separation of state and religion, based on the idea that religion is a private and personal matter and should not be brought into the public domain. Because of these conflicts, many Muslim intellectuals have argued for the necessity of assimilating Western knowledge into an Islamic framework. At the dawn of the fifteenth century Hijrah, the Organization of Islamic Conference (OIC), created two universities – the International Islamic Universities of Islamabad and Malaysia – for this explicit purpose. All across the Islamic world, a large number of diverse initiatives have been launched for this purpose of integrating our traditional corpus of Islamic knowledge with modern Western knowledge.

Because of its vital importance, large amounts of individual and collective efforts of Muslims have gone into achieving this goal. While partial success on certain limited fronts has been achieved, it would be fair to assess the overall outcome as a failure. Many of the leading scholars who have spent their lifetimes on this goal have acknowledged this failure, as we will shortly document. Corresponding to this failure, many diagnoses have been offered as to the reasons. In this paper, our goal is to provide a new diagnosis of the reason for the failure. A correct diagnosis is essential to providing a proper remedy; existing misdiagnoses have not allowed for application of the correct curatives. To summarize briefly, we will argue that there are strong conflicts between Islamic views on the nature and purpose of human existence and Western views. The full extent of this conflict has not been realized by most who have worked on the Islamization of knowledge project. As a result, they have attempted to integrate two conflicting bodies of knowledge, which is an impossible task. This is what accounts for the failure of these attempts.

To keep the discussion sharply focused, in this paper we confine our attention to 'Islamic Economics' or the project of Islamizing the Western discipline of economics. The broad principles underlying social sciences as developed in the West, and their conflict with Islam, has been discussed separately in Zaman (2009) "Origins of Western Social Sciences."

2. Islamic economics is in crisis

There are many signs of failure of the project of coming up with an Islamic alternative to Capitalist Economics. Leading figures in the field of Islamic Economics have expressed disappointment with the current state of affairs.

Umer Chapra (2000, p 375) writes: "… Islamic economics has been unable to come to grips with … the problems faced by Muslim countries."

Nejatullah Siddiqi (2008) writes that "All is not well with Islamic economic(s) … The grand idea of providing an alternative to capitalism and socialism … has yielded to a desire to join the flock."

Monzer Kahf (n.d.) in "Islamic Economics: What Went Wrong" writes:

> Besides, Islamic economists did not provide any agenda for political economics founded or derived from their branch of human knowledge in spite of the need for such an agenda.
>
> It seems to me that the present generation of Islamic economists is exhausted and already consumed in the activities of Islamic banking and finance that the best it can do is to hand over the torch to a second generation that may carry deeper theoretical analysis and fill the gaps left by our generation.

These are the pioneers of the field, who have invested their lives in its development. Critics have been much harsher. For example, Sohrab Behdad (1994) talking about attempts to implement Islamic Economics in Iran under Ayatullah Khomeini writes that "It has become apparent that Islamic Economics is not capable of presenting a viable social alternative."

Similarly, Timur Kuran (1997) writes that "Islamic economics did not emerge from a drive to correct economic imbalances, injustices, or inequalities …(but to) restore Islamic community's self-respect. Because Islamic economics was developed to serve cultural and political ends, it did not have to meet scientific standards of coherence, precision, or realism." In simpler words, Kuran says that Islamic Economics has no substance or content. It is simply a part of an effort to create a differentiated Islamic identity.

There is no textbook of Islamic Economics, despite numerous efforts to create one. The diversity of opinions among Muslim economists is extreme. We do not have any agreement on even the definition of "Islamic Economics," and no clear model of what an ideal Islamic economic system would look like in concrete and practical terms. Aware of these problems, leading scholars have argued that Islamic Economics is in an embryonic state. They have argued that it has taken centuries for Western economics to achieve its current polished form, and similarly, some time will be required for the development of an Islamic alternative. Such counsel for patience is of course also an admission of current failure. We will argue below that the problem is more fundamental, and current approaches to the development of Islamic Economics are bound to fail. We will try to sketch more promising alternatives.

3. Four fundamental flaws in economic theories

There are four background assumptions of economic theory as currently presented in textbooks used in Economics departments in USA and Europe. All of these four assumptions are wrong. Because Islamic teachings are in conformity with the realities of human existence, acceptance of these assumptions leads to contradictions that cannot be resolved. The only solution to this problem is to reject conventional economic theories as well as methodology, and start from the background assumptions furnished by Islam. The object of this section is to define, discuss and refute these background assumptions of modern Western economic theories.

Economic theories are universal laws

It is assumed, without explicit statement, that the best way to study economics is via universal laws of economic behavior, which are invariant in time and space. Thus economic theory is the same in Great Britain in 1800, Argentina in 1900, and Somalia in 2000. More accurately, economists see their discipline as being engaged in studying those features of the economic environment and behavior, which are independent of history. This is why some prominent economists were bewildered at being blamed for the failure to predict the global financial crisis of 2008. They thought naively that this historical event has nothing to do with their discipline. Looking through the entire corpus of textbooks in use in orthodox Economics departments in the USA and Europe, we will not find particular historical explanations of economic events. Such explanations, even where available, are not considered part of economic theory, because they cannot be generalized across time and space.

Consider, for an illustrative example, a study of the economy of Germany between the two world wars. Because they lost World War I, a punishment in the form of heavy reparations payments to the victors was imposed on the German economy. Keynes predicted that this injustice would lead Germany to revolt against these terms and lead to another war within twenty years. A modern economist studying the inter-war economy of Germany would create a macro model in which a foreign tax is imposed on the GDP. The methodological mindset of modern economic theory blinds us to most important fact about this economy, which was the resentment and anger of the population against the heavy and unjust economic burden placed upon them. It was this which led to the rise of Hitler and World War II, and drastically changed the economic landscape of the world.

The lack of attention to historical factors led the Nobel Prize winning economist Douglass North to state that: "We live in an uncertain and ever-changing world that is continually evolving in new and novel ways. Standard theories are of little help in this context. Attempting to understand economic, political and social change requires a fundamental recasting of the way we think." By adopting the framework assumptions of modern economic theories, Islamic economists have crippled themselves, accepting the idea that we must not invoke historical explanations for economic events, since these can never have the status of universal laws. However, the Quran uses both particular historical explanations and universal laws. Thus there is no need for Islamic economists to forego this type of explanation as a methodological principle.

Economic theories are best framed in mathematical form

Due to peculiarities of European history which cannot be detailed here (see Kung 1980), science arose in conflict with, and as a rival to, Christianity. This had two important consequences. One was an exaggerated importance attached to science as the sole source of valid knowledge about the world; this has been called the "Deification

of Science," by Olson (1990). The second was the rise to central prominence of Physics as the ideal model for all scientific thought. Since physics is naturally concerned with measurement and quantification, Lord Kelvin was led to proclaim that when you cannot measure, you do not really know what you are talking about, and when you can, you do. The history of this idea of the central importance of measurement, sometimes called the "quantitative imperative," has been traced by Michell (2003). Furthermore, mathematical models have played a crucial role in key advances in physics. Mirowski (1990) has documented how economic theories have been developed in direct imitation of models borrowed from physics: "neoclassicals did not imitate physics in a … superficial manner; no, they copied their models mostly term for term, symbol for symbol." This imitation has created a situation where economic theories are admired more for mathematical elegance, without any regard for practical relevance.

Nobel Prize winning economist Paul Krugman has said that the entire field of economics went astray because it mistook the beauty of the mathematics for truth. A discussion of the state of economics organized by the AEA concluded that "Economics as taught in graduate schools has become increasingly preoccupied with formal technique to the exclusion of studying real-world problems and issues." Blaug (1998, Disturbing Currents in Modern Economics) thinks that modern economics suffers from "formalism" which is the overuse of mathematical models with more attention to rigor than content. We examine below a single case to illustrate the dominance of mathematical reasoning over economic reasoning.

The Arrow-Debreu model of General Equilibrium is extremely well developed mathematically; however, its economic assumptions of complete markets, zero costs of transactions and information, price taking behavior by all agents, etc. are highly unrealistic. Instead of being criticized for its extreme deficiencies on the economic front, Arrow & Debreu went on to receive Nobel Prizes for the mathematical precision of the model. An intellectual grandchild of Arrow-Debru is the DSGE (Dynamic Stochastic General Equilibrium) model, which has been blamed for the global financial crisis of 2008. The failure of mathematically sophisticated economic theories has become so glaringly obvious that a Congressional Committee was set up to investigate the role of deficient economic theories in the global financial crisis of 2008. In testimony before this committee, Solow (2008) commented on the extreme lack of realism in the DSGE model: "A thoughtful person, faced with the thought that economic policy was being pursued on this basis (i.e. DSGE models), might reasonably wonder what planet he or she is on."

It is worth noting that Umar R.A. carried out censuses to determine how to justly and equitably distribute revenues generated from Muslim conquests. Also, Muslim contributions to mathematical knowledge are substantial. There are no objections to appropriate use of mathematics and statistics, where relevant and useful. However, as McCloskey (1998, p. 36) points out via detailed argument, "Samuelson's skill at mathematics … is itself persuasive … (even though) … the mathematics itself is pointless." It is the use of mathematics in cases where it adds nothing,

or even distracts from key relevant issues, which led Milton Friedman to state that "… economics has become increasingly an arcane branch of mathematics rather than dealing with real economic problems."

Economic theories are materialistic

Karl Marx believed in material determinism; that is the theory that all cultural and social movements and ideas are brought about by changes in economic and other material conditions. The forces that drive historical change are material in nature. This is why his doctrine is called "material determinism." While not explicitly mentioned, these views are also built into foundations of modern Western economic theory. These have two important consequences which conflict with Islamic ideas:

One is that there is no room for God. Those in the West who believe in God subscribe to the clockmaker model: God created the universe and the causal mechanisms, and no longer interferes with it. The Quran is full of stories of how God intervened in the past, and also conditions required for receiving help from God, or interventions in the present.

Two is that there is no room for human beings. That is, visions, ambition, and ideologies are all constrained by material means. Indeed, Marx went so far as to say that even philosophies developed by men were determined by their economic circumstances. It is a delicious irony that his vision of a classless egalitarian society, where needs of everyone would be met, inspired millions of people in Russia and China. His ideas changed the world without any material means, contrary to his theories that hold material causes to be primary. This development was also contrary to his theories that held that agrarian societies would transition to capitalistic ones, prior to being led inexorably to the communist form.

Modern economic theory treats human beings as an input into a production function – they are a means for the creation of wealth. As consumers, they are solely driven by selfish utility maximization. The possibility that inspired leaders can change the destiny and fortunes of a nation, as was accomplished by our Prophet Mohammad S.A.W., does not exist in these theories. The Quran states that:

> 8:63 And (moreover) He hath put affection between their hearts: not if thou hadst spent all that is in the earth, couldst thou have produced that affection, but Allah hath done it: for He is Exalted in might …

The most valuable treasures of Allah, the community or Ummah created by the efforts of our Prophet Mohammad S.A.W., cannot be obtained by material means. Again this is in conflict with the methodological bases of Western economic theories. Major failures of economic theories in the recent past have led some economists to consider invisible and immaterial causes for material progress. For example, Zak and Knack's (2001. Trust and Growth. *Economic Journal.* 111:295–321) is a seminal study on trust and economic growth. Because it ignores the role of invisibles such as the quality of institutions, property rights, social norms, etc., "Existing economics … bears little relation to what happens in the real world," according to Nobel Laureate Ronald Coase. However, these critiques

are tentative and hesitant beginnings, which have not been widely accepted by mainstream economists. In fact, Islamic teachings offer us solid information far more advanced than that currently available to these dissenters from the mainstream, as we will discuss later.

Economic theories are positive (or Factual)

A dichotomy is made between positive and normative theories. Positive theories are factual and objective, while normative theories contains value judgements which cannot be empirically tested or verified. The claim is made that Western economic theories are positive. For example, Samuelson and Nordhaus write [Economics 17th Ed. Page 8]: "Positive economics describes the facts of an economy, while normative economics involves value judgements." Similar claims can be found in most conventional economics textbooks. As we discuss below, this claim is false. Predictions of economic theories are contradicted by observed behavior of firms and consumers.

Consumer behavior: Theory versus observation

The field of behavioral economics has emerged as a result of observing actual behavior of consumers, and comparing it with predictions of economic theories. The list of systematic discrepancies between the two is so large that several book length treatments have been presented. Daniel Ariely in "Predictably Irrational" and Thaler in "Quasi-Rational Economics" have given large categories of examples where consumer behavior does not conform to utility maximization hypothesis.

Proven substantive conflicts between human behavior and economic theory cannot be covered in a few short paragraphs. One line of investigation shows that it is necessary to take into account human drives for understanding, achievement, and feelings of reciprocity, trust, etc. in order to account for behavior in different types of economic environments; Mahmood (2011) provides a guide to this literature in context of the labor market. Another line of research shows the importance of social norms in determining human conduct; see for example, Biccieri (2006). Nobel Prize Laureate Herbert Simon showed replacing "maximization" by "satisficing" and "bounded rationality" leads to better descriptions of observed behavior of humans. We give a few examples to show that consumer behavior does not correspond to economic models.

1. Chapter 2 of Ariely entitled "The Fallacy of Supply and Demand," illustrates the phenomenon of "anchoring." Initial decisions regarding the value of new products are often arbitrary and made on the basis of context. Subsequently, these decisions are not revised in light of new information. Ariely provides many illustrations of how people make arbitrary decisions about price and value, and how these can be exploited by savvy marketeers to obtain high prices.
2. Consumer choices at cafeterias are systematically influenced by factors like the sequence in which choices are listed, contrary to predictions of economic theory. This can be used to "nudge" consumers towards healthy choices; see Thaler and Sunnstein for a detailed discussion.

3. Empirical studies of the Vickrey 2nd price auctions show that people frequently bid over their private values. As Vickrey showed, bids exactly equal to the private value is the unique optimizing strategy, and overbids have the potential to result in losses. This observed behavior is due to a cognitive error, and has been demonstrated in many experimental studies of auctions, as reported in Kagel and Roth (1995).

Initial research in the field of behavioral economics was concerned with establishing contradictions between theoretical predictions and observed behavior. These have been firmly established, and now the attention has turned to developing realistic theories that help explain actual behavior. See Koehler and Harvey (2004) for many surveys of the diverse areas within this field.

Firm behavior

Simple-minded theories of profit maximization by firms fail to describe actual behavior of firms in the real world. There are many areas of failure.

1. Efficiency wage theories show that firms often pay laborers higher wages than the marginal product. See Mahmood (2011) and Abbas (2006) for detailed discussion and guide to the extensive literature.
2. Theories of internal organization of the firm find that firms cannot be treated as a homogenous entity devoted to a single goal. Owners would like to maximize profits, but managers want to maximize their salaries and employees have other goals. The Principal/Agent literature is based on recognition of these conflicts. See Laffont and Mortimort (2001), who write that "the problems were so serious that a whole generation of … theorists gave up the grandiose framework of General Equilibrium Theory .. to build a theory of incentives."
3. Greenwald and Stiglitz (1990) have developed a theory of firms which takes into account informational asymmetry. Their theory corresponds to observed behavior of firms but differs markedly from neoclassical theory.
4. Fundamental findings of the theory of Industrial Organization show that firms rarely behave in the way assumed in the theory of competitive markets as exposited in economics textbooks. A survey of ways in which observed behaviors differ from theoretical predictions is given in Kagel and Roth (1996, Chapter).

Commenting on the unrealistic theories, and complete lack of attention to empirical accuracy or validation, Bergmann (2007) writes that "The material about business behavior that students read about in economics textbooks, and almost all of the new theoretical material developed by mainstream professionals and published in the profession's leading journals was composed by economists who sat down in some comfortable chair and … simply made it up."

Prices are determined by equilibrium of supply and demand

The Great Depression showed that labor markets could stay out of equilibrium for a long time. Keynes explained this by saying that wages are rigid downwards, but offered no explanation for why this should be – but this is equivalent to

saying that the standard demand and supply model breaks down in the labor market. Therefore the government must intervene to bring about equilibrium. Long and persistent bouts of unemployment have been observed in many different countries, showing that labor markets do not clear at the supply and demand equilibrium. Many different types of explanations have been offered for this market failure; for a survey see Mehmood (2011).

More recently, Card and Krueger (1997) showed that contrary to predictions of the supply demand model, raising minimum wages may actually increase employment. In an interview about this finding, Card stated that:

To what extent does the simplest model of supply and demand actually describe how employers operate in the labor market? [Not very well. Alternatives to supply and demand theory explain] a lot of things that don't seem to make sense, at least to me, in a simple demand and supply model.

These created such a controversy that Card stopped doing research on this issue:

I've subsequently stayed away from the minimum wage literature for a number of reasons. First, it cost me a lot of friends. People that I had known for many years, for instance, some of the ones I met at my first job at the University of Chicago, became very angry or disappointed. They thought that in publishing our work we were being traitors to the cause of economics as a whole.

Zaman and Saglam (2010) have shown that the Marshallian theory of supply and demand as a mechanism for price formation in a single market, conflicts with general equilibrium theory. This means that the two could not be right at the same time. Since GET is a generalization to multiple markets of the principles by which the single market theory is derived, this shows that these principles lead to contradictory outcomes.

The foundations of economic theory, both micro and macro, are built upon supply and demand and the concept of equilibrium. We have shown that the consumer theory on which demand is built is not observed in actual behavior. Similarly, observed firm behavior does not conform to theoretical specifications. Finally determination of prices via equilibrium also does not hold empirically. Thus economic theory is not a positive theory, conforming to observations; rather it is an a priori, axiomatic, and mathematical theory directly in conflict with many observations about actual behavior. In recognition of the stark differences between observed behavior and economic theories, Stiglitz remarked that the theoretical "models (used) in America's graduate schools … bear testimony to the triumph of ideology over science."

4. An Islamic alternative

As we have shown, methodological foundations of Western economic theory are fundamentally flawed. Mostly, Muslim economists have uncritically accepted claims that economic theory is "positive," or factual, and many other

methodological assumptions. Attempts to combine these with insights from the Islamic tradition have failed, because the two are in conflict. In my paper, "Islamic Economics: A Survey of Literature," I have described at length the many many places where Islamic conceptions of economics differ radically from conventional ones. This paper is complex and lengthy. A somewhat simpler exposition, focusing directly on a point-by-point comparison of issues where there is a conflict between Islamic teachings and conventional Economics is given in my paper "An Islamic Critique of Neoclassical Economics."

It is impossible to discuss all the differences between a genuine Islamic approach to economic issues and modern Western conceptions within the space limitations of a short paper. Below, I will outline what I believe are three fundamental issues which would form the foundations of any Islamic approach to economic issues.

Transforming human beings

All actions of a Muslim, including the study of economics, are directed towards a single goal:

6:162 Say: "Truly, my prayer and my sacrifice (all my struggles and efforts), my life and my death, are (all) for Allah, the Cherisher of the Worlds:

The training given to the Companions by the Prophet Mohammad S.A.W. brought about a spiritual transformation, causing them to focus on the purpose and meaning of our existence as defined by the Quran. As Allah T'aala has stated:

95:4 Verily, We create man in the best conformation;
95:5 and thereafter We reduce him to the lowest of low

This means that there exists potential within human beings to rise above the angels, and also to become baser than the beasts. All of Islamic teachings, including those in the economic domain, are concerned with realizing this potential within man. The work of our Prophet Mohammad S.A.W. was to change men, who then changed the world, in accordance with the promise of the Quran:

13:11 Verily, God does not change men's condition unless they change their inner selves

This is the exact opposite of materialistic teachings, which hold that we must change material conditions to produce human welfare. Many practical people have come to this insight after having applied Western recipes for economic development. For example, Mahbub-ul-Haq implemented policies for economic growth designed by experts from Harvard in Pakistan. The failure of these policies led Mabubul-Haq to the conclusion that "We were told to take of our GNP as this would take care of poverty. Let us reverse this and take care of poverty as this will take care of GNP." That is, we must reverse priorities to emphasize human beings over materials. Martha Nussbaum, Amartya Sen, and many other thinkers have come to similar conclusions –providing capabilities to human beings is the central goal of development and also leads to economic development as a peripheral matter.

The area of human development is one where Islamic teachings offer us substantially more than what is currently available from the best Western thinkers. The prophet Mohammad S.A.W. was the best of human beings, a perfect role model, and was also the best of teachers. The effect of his teachings was to create excellence in human beings. Secular thinkers can propose the idea of human development, but cannot agree on what it means. It has been correctly argued that normative propositions cannot be derived from observations and logic, which is all that is available to secular thinkers. Thus Sen is reduced to the idea of "Development as Freedom," even though it is obvious that freedom is merely a means to an end, and not an end in itself. The idea that the best use of freedom is to surrender and become a slave of Allah cannot be found in secular thought.

It is impossible to summarize all the consequences of focusing on the development of human beings within the Islamic tradition. We will summarize three major contrasts with conventional economic thought below:

The spiritual focus
All of our acquisition of knowledge and our struggle to change the world occurs for the sole purpose of pleasing Allah Subhanuhu wa T'aala. This explicit spiritual focus characterizes the efforts of our Prophet Mohammad S.A.W. and differentiates Islamlic Economics from any other existing approach. As the Quran states:

> 73:7 Lo! [the struggle to establish the Deen] keeps you very busy in the daytime.
> 73:8 So remember the name of thy Lord and devote thyself with a complete devotion.

That is, even being busy with the struggle to establish the Deen during the daytime should not distract you from the remembrance of Allah, and some significant portion of the nights should be fully devoted to Allah.

The strong spiritual focus of Islam contrasts favorably with conventional materialistic approaches to economics. For example the currently fashionable idea of "Corporate Social Responsibility," is sold on the basis that social behavior will generate more profits. But this leads to documentable emphasis on images and advertising, not a genuine concern with social problems. Similarly, many authors have argued that the audit failures which led to the Enron scandal are not unique, but an unavoidable part of a system where auditors are paid by firms being audited. Only a spiritual focus can ensure the existence of people who cannot be purchased at any price.

Moral leadership and training
The Prophet Mohammad S.A.W. was sent to the world as a teacher. Islamic economists must be concerned with moral training; being exemplars and teaching students to actively engage in the process of changing the world for the better. Not only must we urge the feeding of the poor, but we must teach our students to spread this message. Not just the outward action, but the inner dimensions, which consist of intentions and the feelings with which the action is done, are essential components of Islamic teachings.

> 21:107 We sent thee not, but as a Mercy for all the Creation.

We must seek to develop this characteristic of mercy and compassion for all human beings within ourselves and our students.

Explicit concern with moral training, developing compassion and sympathy for others, contrasts with Western abandonment of the moral mission of education. Reuben (1996) has described how conflicts between religion and science, as well as changing ideas about the nature of science, led to the abandonment of the moral mission of building character in American universities in the early twentieth century. Failure to instil morals has led to a "terrible failure," as the following quote from Harvard Professor Zuboff (2009) indicates:

> "I spent a quarter-century as a professor at the Harvard Business School, including 15 years teaching in the MBA program. I have come to believe that much of what my colleagues and I taught has caused real suffering, suppressed wealth creation, destabilized the world economy, and accelerated the demise of the 20th century capitalism in which the U.S. played the leading role.
>
> We weren't stupid and we weren't evil. Nevertheless we managed to produce a generation of managers and business professionals that is deeply mistrusted and despised by a majority of people in our society and around the world. This is a terrible failure."

Engagement and struggle as a means to knowledge
According to many sayings of the Prophet Mohammad S.A.W., we cannot remain detached and neutral; when we see oppression, injustice or other social evils, we must act to change them. Furthermore, it is in the process of this struggle that we will be given the required knowledge:

> 29:69 And those who strive in Our (cause) – we will certainly guide them to our Paths: For verily Allah is with those who do right.

Thus Islamic Economists must seek to change the world to bring about economic justice, to urge the feeding of the poor, and to implement orders of Allah relevant to the economic realm in our own lives and in the lives of our students. It is essential for moral training and leadership to engage with the world in ways prescribed by Islam; this is how the Prophet Mohammad S.A.W. trained the Companions. Thus, Islamic Economics is neither positive, nor normative, but it is transformative. We do not seek to study the world (positive), nor do we seek to describe an ideal state of affairs (normative). We struggle with the world we see in the ways prescribed by Islam, to generate the same type of radical changes created by the struggle launched by our Prophet Mohammad S.A.W. and his Companions.

This is in sharp contrast to Western methodology, which advocates the stance of a detached observer. In their capacity as scientists, Western economists seeks to discover universal laws, and have nothing to say about policy matters, which involve normative decisions. Reuben (1996) has described how conflicts between religion and science, as well as changing ideas about the nature of science led social scientists to abandon the role of activists and

reformers working to bring about a better world in favour of the detached observer role of the Baconian scientist.

The process of transforming men from lower than the beasts to higher than the angels has many dimensions, which cannot be covered or even mentioned here. From these, we pick two that are central to economics, and contrast maximally with conventional economics. The contrast can be summarized by saying that Western economic theory is founded on "selfishness and competition" while Islamic economic systems are based on "generosity and cooperation." The reason for focusing on these two is that one is the basis for individual behavior while the second is the basis for social behavior. Together, the two provide the foundations for Islamic views on economic affairs.

Greed versus generosity

The Quran is full of verses exhorting people to spend for the sake of Allah. Kahf (undated) writes that there are many more verses on this topic than on the famous five pillars of Islam. A few are cited below:

> 16:90 BEHOLD, God enjoins justice, and the doing of good, and generosity towards [one's] fellow-men

> 2:274 Those who (in charity) spend of their goods by night and by day, in secret and in public, have their reward with their Lord: on them shall be no fear, nor shall they grieve.

Muslims are commanded to spend money in excess of our needs for the sake of Allah.

> Q2: 219 They ask thee how much they are to spend; Say: "What is beyond your needs."

The generosity of our Prophet Mohammad S.A.W., who is the perfect role model for us, is well known. He never turned away anyone who sought his help. After observing how much he gave out of the wealth that accrued to the Muslims after the conquest of Mecca, Safvan bin Umayyah remarked that "(the prophet) was as generous as the rain."

This is in sharp contrast with Western economic methodology that attempts to explain all economic behavior as a consequence of selfishness and greed. Many papers have been written attempting to explain charity and generosity as being a manifestation of long-run selfishness. However, the Islamic act of charity is motivated by the love of God alone, and also Muslims expect compensation from Him alone:

> [Q76:8,9] and who give food – however great be their own want of it – unto the needy, and the orphan, and the captive,[saying, in their hearts,] "We feed you for the sake of God alone: we desire no recompense from you, nor thanks."

Genuine Islamic teachings in the economic domain must have the effect of creating generosity and spending on others. This requires that teachers model this behavior and also teach it to students. This can be done by engaging in projects to help the poor and disadvantaged. Such practical experience must be an important part of any

Islamic curriculum of studies. This contrasts with Western economic teachings that promote selfishness. Many studies have documented that economists tend to be more selfish than others; see for example Kirchgässner (2005).

Cooperation versus competition

As a broad general principle, Islamic systems in all spheres are built with the goal of promoting community feeling and cooperation among all members of society:

> Q3:103 And hold fast, all together, by the rope which Allah (stretches out for you), and be not divided among yourselves; and remember with gratitude Allah's favour on you; for ye were enemies and He joined your hearts in love, so that by His Grace, ye became brethren;

> Q2:5 Help ye one another in righteousness and piety, but help ye not one another in sin and rancour

People are urged to cooperate with each in doing good; to look after needs of others like they would their own. The whole Ummah is one body and pain in one part is felt by the whole. The brotherhood and love between the hearts of the Mohajereen and Ansar is more valuable than all the treasure in the world.

> Q8:62,63 He it is who has strengthened thee with His succour, and by giving thee believing followers whose hearts He has brought together: [for,] if thou hadst expended all that is on earth, thou couldst not have brought their hearts together [by thyself]: but God did bring them together. Verily, He is almighty, wise.

A cooperative attitude has very different consequences from a competitive one. In particular the market for insurance under cooperation will not suffer from the problems of moral hazard and adverse selection; see Zaman (2011) for details.

If selfish profit maximization is the norm, then cooperation between firms will have adverse consequences as they will collude against the consumers. This why guilds were eventually banned, and laws exist preventing firms from collusive behavior even today. If Islamic ideals of service prevail, then firms will cooperate to provide the best possible service to the society, being oriented towards the spiritual and the rewards of the Akhira. This is not just a pie-in-sky vision, but an ideal that was achieved in Islamic societies through the institutions of Awqaf. This has been documented in many different sources.

Modern economic theory has been strongly influenced by (and also influenced) the theories of evolution. Competition among individuals leads to weeding out the unfit, and survival of the fittest brings benefit to the race as a whole. This is taken as the natural state of affairs. Profitable firms will survive, and this will improve efficiency of the economy. The laws of the jungle do not apply to a society where human beings are spiritually developed, as occurred in Islamic history through the training of the Prophet Mohammad S.A.W. The Quran bears testimony to the fact that the Companions fed others while being themselves hungry, and also acted in ways to earn the pleasure of Allah even while in this world. They transmitted these teachings

to their followers and these visionary ideals served as the standards of excellence in Islamic societies for a long time.

5. Answers to common objections

The ideas proposed as the foundations for an Islamic Economics run into several common objections which we will raise and answer here.

Normative ideals cannot be compared with a positive theory

The **objection** is that our descriptions of Islamic Economics refer to an ideal state of affairs, a normative idea. Conventional theory is positive; it describes the ground realities. The two cannot really be compared, and it is unfair to contrast a theory that describes ground realities of human existence with some visionary ideals. If we look at actual Muslim behavior in Islamic countries, we will find that it corresponds far better with theories of economic texts and not much (if at all) with the Quranic ideals described above.

This objection can be answered in two different ways.

The **first answer** is that Islam does not seek to describe the world; it seeks to change the world. The Message of the Prophet S.A.W. did not present a detailed critical analysis of the Jahilliyah, but only focused on describing those elements which required changing to conform with Islam. The methodology of Western science prizes descriptive accuracy, but Islam is concerned with creating change, and describes the most effective techniques to bring about changes in human beings. One of these techniques to describe a high set of ideals and persuade people to work to achieve excellence. The goal of the normative ideals to set the direction for the struggle, even though the ideals are themselves unachievable. This is exactly as the North Star sets the direction for the journey, even though one will never reach the star.

The **second answer** is that economic theory is itself not a positive theory. In fact, it also creates a vision of an ideal market society, where there is "perfect" competition, firms and consumers are price takers and do not seek to collude or monopolize, there are no transaction costs, information failures, or externalities, etc. It is freely acknowledged that the idealized conditions of perfect competition have never actually been realized in any real world economy, but it is nonetheless proposed as an ideal to strive for, due to its wonderful theoretical properties. Viewed in this light, there is not much difference methodologically between the two approaches. However the imagined ideal of cutthroat competition, and survival of the fittest in a jungle conflicts strongly with Islamic ideals.

One must use material means to bring about changes

Acknowledging the excellence of Islamic ideals still does not give us a clue as to how these could be achieved in the real world. Any line of action undertaken must work through the practical reality; that is, it must be embodied in real world institutions and real world economic policies.

Based on these ideas, an **objection** can be phrased as follows. Political and economic realities constrain and determine the path of motion of societies. The gap between lofty ideals and ground realities is too large to have any real effects. Thus one must study material means and causal laws of motion of politico-economic systems, like a Western scientist, in order to bring about change.

To **answer** this objection, we must argue that the materialistic theory of how the world works is wrong. It is not true that ideals and visions do not affect the material world. If we look at the trajectory of the rise of Islam, we cannot find any material cause for it. The Bedouin Arabs were backwards in all ways. The Prophet S.A.W. did not teach them any new martial skills, or equip them with technical knowledge, or provide them with industry which would furnish a material basis for their advance. Rather he inspired them with a vision and Islamic ideals, and they went on to change the world.

We offer several pieces of evidence to show how abstract and immaterial ideals and visions influence the course of history, without material means. The case of Karl Marx is especially interesting. His visions of a classless society where people would receive "according to their needs," with justice, equality and brotherhood, inspired millions and changed the course of history. His own deterministic analysis of how the mechanical and material forces would shape economic trajectories proved to be completely wrong. On a more pedestrian level, Karen Pfeifer (2001) has analyzed the wage-profit shares for different firms in Egypt. She finds that Islamic firms in Egypt offer significantly higher wages (and have lower profits) than comparable non-Islamic firms, which have higher profits and lower wage shares. Similarly Najam (2007) studies philanthropy among immigrant Pakistanis in the USA. He finds that they contribute substantially more to charity than other communities with comparable income. Furthermore, these contributions are the effect of Islamic injunctions. Studies of recent earthquakes in Pakistan showed huge public response, overwhelming the official government response. Furthermore, this response was much larger than the public response to comparable catastrophes in non-Islamic countries (i.e. New Orleans). All of this shows that, contrary to materialist views, visions and ideals do affect the real world, even when they are very imperfectly practiced.

Islamic ideals are not realistic and practical

The **objection** is that the ideals described above are not in tune with human realities. Even the Quran describes how human beings can be greedy and selfish, love luxuries and chase after idle desires. The lofty ideals simply cannot be achieved. A realistic theory must be more concretely tied to the ground realities of Islamic societies that we observe in the world around us.

To **answer** this objection, we must look at the descriptions of Jahilliya, the age of ignorance that prevailed prior to the advent of Islam. This closely resembles modern society; both are characterized by massive oppression and injustice, and the exploitation of the weak by the strong. The Quran explicitly forbids the concentration of wealth in the hands of a few, which is an important

cause of this outcome. Today, as Stiglitz (2011) writes, 'the top 1% in the USA own 40% of the assets in the country." Referring to trillion dollar wars and trillion dollar bailouts of wealthy firms, Carter (2011) writes "In America, the top 1 percent led the country into war and economic devastation, leaving the less fortunate to fight for one and pay for both." Bankers threw millions out of their homes for nonpayment of interest after the financial crisis of 2008. Loose sexual mores, alcohol and drugs, and many other social evils associated with modern societies are characteristics of the Jahilliya. Strikingly, even the practice of burying daughters alive finds parallels in the modern age. In order to prevent death of thousands of babies abandoned in trashcans, "safe haven" laws have been enacted in many states in the USA. These allow mothers to abandon children at specially designated hospitals, without being asked any questions.

Islam brought the light of knowledge, and revolutionized the world. History bears testimony that the ignorant, illiterate and semi-barbaric Arabs created a civilization which dominated the world for a thousand years. It was prophesied that 'Islam came as a stranger and will soon become a stranger." So it is today, when we look at the lives of the Muslims and find in them every evil that Islam prohibits. Islam has become a stranger to Muslims, and that is precisely what gives rise to the question and objection under discussion in this section.

Answering this objection requires faith in Islam. Islam has the same power to revolutionize the world today as it did fourteen centuries ago. The message of Allah, in the shape of Islam, is the greatest gift to Mankind:

> Q5:3 This day have I perfected your religion for you, completed My favour upon you, and have chosen for you Islam as your religion.

Not only has Islam become a stranger to the Muslims, but the Muslims have stopped believing that their religion contains complete and perfect guidance for our problems of today. The vast majority believe that the solution of our problems today lies in acquiring science and technology, and social and political institutions of the West. In fact, as was the case fourteen centuries ago, the basic lesson of Islam in terms of spirituality, Taqwa Tawakkul, Tabattul, as well as the excellence in conduct modeled by our prophet is sufficient to solve our problems of today. The problems of the Islamic world will not be solved by Foreign Investment, IMF, democracy, and institutional reform. Rather, if individuals strive for achieving the potential within them, and create a society based on the concept of the Ummah as one body, replicating the efforts of the Prophet S.A.W., then we can also replicate his success.

6. The challenge and the opportunity

The spectacular failure of economic theory in the recent global financial crisis of 2008 is open for all to see. Responding to questions about this failure, former United States Treasury Secretary Larry Summers implicitly agreed that academic "economists did not understand what was going on." Testifying before a Congressional Committee setup to investigate this failure, many prominent economists blamed dominant economic theories. Despite the fact that many Nobel caliber economists have written devastating critiques, the economics profession has not responded by making changes to the conventional syllabus and hiring practices. This is because about 5000 Ph.D.'s produced each year, and mechanisms for evaluations, tenure and publications, carry a huge momentum which cannot easily change direction. When the Japanese invented the fourth generation steel furnaces, the US Steel Industry was unable to follow suit, because they could not scrap their huge investment in obsolete technology. A similar situation currently obtains in economics.

This gives us in the Islamic world a tremendous opportunity to build an Islamic economics on new foundations. In the East, we do not have heavy investments in obsolete knowledge forcing us to stay on the dead-end treadmill of neoclassical economics. The message of this paper cannot be heard by Western economists because it destroys all their intellectual capital. Muslim economists also have to be prepared to abandon a lot, but they have a platform to which they can jump for safety. The Quran gives us deep wisdom about how to manage economic affairs of a society. While many new and radical schools of thought have become prominent after financial crisis of 2008, nearly all look at partial remedies to the problem, because no one has an alternative foundation, a coherent worldview radically different from that fostered by the failed methodologies of materialism and logical positivism. This is what Islam and Islamic teaching in the economic realm provide us today: an opportunity to lead the world out of the morass it currently is in. As it was fourteen hundred years ago, so it is true today that the Quran provides us with complete and perfect guidance.

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First vs. second generation Islamic economists: Deviations and differences in thoughts

Dr. Abdul Azim Islahi

King Abdulaziz University, Jeddah, Saudi Arabia, Email: aaislahi@hotmail.com, aaislahi@kau.edu.sa
Mobile: +966501215824

Abstract - The present paper studies differences in thoughts of first vs. second generation Islamic economists, during the past forty years. It also investigates deviations that occurred in thought and practice in this period. But first it attempts to determine the basis of differentiation between the two generations and their distinguishing features. For our study purpose, we regard as the first generation those scholars who started writing on the subject of Islamic economics between 1950 to 1975, a period highly unfriendly if not hostile to the idea of economics with Islamic perspective. This phase culminated at the organization of the first international conference on Islamic economics by King Abdulaziz University in the Holy city of Islam – Makkah Mukarramah. A new era started after the conference, in terms of the establishment of research and study centers, issue of specialized journals, enrolment to Ph. D. courses, foundation of study departments, set up of financial institutions, organization of conferences and seminars, award of prizes, and creation of employment opportunities. It also attracted attention of some non-Muslim economists. Thus, those who joined the movement of Islamic economics after this conference are considered as the second generation. In its concluding remarks, the paper suggests certain steps that could be taken to bridge the gaps, minimize the difference, and train the new emerging generation.

Keywords: modern history of Islamic economics, gaps in Islamic economics, *Tawhidi* economics, spiritual economics, "financialization" of Islamic economics, future of Islamic economics

1. Introduction

The notion of a generation is a convenient way for the sake of differentiation or comparison that developed or changed with the passage of time at different stages. The same method has been used in the present paper to study the changes that have occurred in thinking and ideas of leaders and followers in the discipline of Islamic economics over a period of forty years or so, dividing them into two generations. But let us first decide the time span of a generation.[1]

There are different opinions on the duration of a generation. Ibn Khaldun assigned a period of forty years for a generation of human beings. But that period is for vanishing of a particular generation. To him, Children of Israel, who lived among the Copts in a life of slavery, in a luxurious environment of a city, when they fled from Egypt were kept in the desert of Sinai in wanderings for forty years so that a new sturdy generation was brought up who could face challenges of life and fulfill the Prophetic mission (Ibn Khaldun n.d. 141). But forty years is not always and in every case a standard period. Our Prophet (be peace upon him) said the best *qarn* (age, generation) is my *qarn*, and then the *qarn* of those who follow them and then the *qarn* of those who follow them (al-Bukhari 1987, 5: 3). Here the *qarn* is in the sense of generation. We know that the periods of his generation and those of his companions and followers were not equal. His prophetic life was twenty-three years. His companions lived for a longer life, and so did their followers. We have seen how quickly generations of electronic goods are changing, which means goods belonging to a specified stage of development in manufacture, usually imply improvement—for example, a second-generation mobile phone. Thus, it is clear that generation differs from object to object and even in time span.

Since our classification is based on the dominant characteristic of a time span, this does not mean that when one generation stops its functioning it takes charge of the next generation. After a generation is grown up and begins reproduction, it remains active for a certain period to train and bring up the next generation.[2]

2. First generation of Islamic economists

In this paper, for the sake of generation determination, we have not considered the date of birth of a writer. Rather we took the duration of 1950 to 1975 for the commencement of his writing on and/or association with Islamic economics. In this way we combine appropriately the two necessary elements of a cultural generation—time and thinking. Those who joined it with their writings or association later, form the second generation.

The justification for this criterion is that in the period between 1950 and 1975 the scholars joined the movement in highly unfavorable circumstances. Scholars of the first generation devoted themselves to the study of Islamic economics without any institutional support. At present institutional assistance plays a significant role in propagation and dissemination of Islamic Economics and finance. Now it has various attractions. In the case of the first generation, an interest in Islamic economics sometimes meant jeopardizing one's academic career. Mannan, from the first generation, illustrates the situation during the 1960s: "… a group of volunteer Islamic economists challenge the Neo-classical orthodox paradigm in the wake of a great transformation of Muslim societies resulting from gaining independence from their colonial past. This group of volunteers put themselves forward, at some personal cost, moving outside the comfort zone of familiarity to engage with new frames of reference and undertaking agreed tasks. They were motivated by a complex mixture of factors quite specific to their individual situations and perceptions of themselves" (Mannan, 2008, p. 62). The first generation chalked its way without precedents. Their works were mostly original and innovative.[3]

While in the first half of the 20th century, *ulama* played a leading role in the foundation and formulation of Islamic economics, during the 1950s and thereafter the number of professionally trained economists increased. In this period increasing numbers of professionally trained economists joined the field. Generally, individual scholars led the movement of Islamic economics forward. They may be aptly called "*pioneer Islamic economists.*" They played the leading role and they showed the way. Many of them were well-versed both in conventional economics and Shariah sciences. As compared to earlier works, their writings were more analytical and modern in style. They guided PhD scholars on Islamic economics in economics departments. Some of them started teaching students of economics. Some others got involved in establishment of institutions like cooperative societies and self-help groups.

They generally focused on topics such as the nature of Islamic economic systems, critiques of capitalism and communism, property rights, economic roles of state and public finance, money and banking, partnership and equity finance, production and consumption, labor relations, *etc*. As Mannan (2008, 45) puts it: "The contributions made

during that period were mostly ideological, detailing the economic system of Islam as distinguished from capitalism and socialism." The literature prepared in this period was inspired many to establish Islamic banking and financial institutions. They set up Mit Ghamr Saving Bank in Egypt; Tabung Haji in Malaysia during early 1960s; and Dubai Islamic Bank, Islamic Development Bank (IDB) and Kuwait Finance House, all by the middle of 1970s.

The culmination of this period is the event of the First International Conference on Islamic Economics at King Abdulaziz University. The Conference was scheduled to be held in 1975, but due to a tragic incident it could only be organized in early 1976. The first international conference provided a forum for Muslim economists and Shariah scholars to discuss together some of the major issues and themes in economics. It provided a golden opportunity for scholars working in isolation on Islamic economics to be aware of the existing state of affairs in the field of Islamic economics, to exchange ideas with each other, to take stock of the existing literature on the subject and realize the challenges ahead.

3. Post conference developments and rise of the second generation

In its communiqué the First International Conference exhorted universities to start teaching Islamic Economics, support researches in this area and provide basic facilities for this purpose through specialized libraries, research units, full time research scholarships, publication of periodicals, exchange programs and the establishment of scientific associations (Ahmad, 1980, pp. 353–56).

The first International Centre for Research in Islamic Economics was founded at King Abdulaziz University, Jeddah, as part of the implementation of the conference's resolutions. In 1983 the center started the first refereed professional journal in the field of Islamic economics, "*Journal of Research in Islamic Economics.*"[4] Another research institute was also established in Jeddah by the Islamic Development Bank (IDB) called Islamic Research and Training Institute (IRTI). It was founded in 1401H/1981 and became operational in 1403H/1983.

In 1988 IDB started international Islamic economics and banking. Europe saw the first professional research journal *"Review of Islamic Economics,"* Leicester, U.K., in 1991. IRTI issued a refereed professional journal, "*Islamic Economic Studies*" in 1993.[5]

Islamic economics gained momentum after the first conference. It led to intensive and extensive research on various aspects of the discipline, development of curricula on Islamic economics, foundation of research centers and study departments, establishment of a chain of Islamic banks and financial institutions—which were already founded in a few places—and issue of specialized journals on Islamic economics. And a new generation was brought up in the post-Makkah conference period. However, this does not mean that the role of first generation Islamic economists was finished. In fact it is they who prepared the second generation by their guidance, supervision, works, and instructions. They continued writing on various significant topics in the post-conference period. Some of

them are still active after passage of more than 35 years to the conference.[6]

In the period of the second generation, a number of new developments took place that provided a boost to the new discipline of Islamic economics. No doubt, in many cases, patronage was extended by the leading scholars of the first generation. The second generation saw chains of conferences, seminars and discussion forums. In these programs, Islamic banking and finance increasingly became the dominating theme. Advanced courses of study have been initiated not only in Muslim countries, but also in the West (For details, refer to Belouafi, *et al*. 2012). Numbers of research centers, banking and financial institutions have been established. Prizes and awards have been announced. Some non-Muslim writers were also attracted to Islamic economics. Generally, they look at it with great curiosity, show sympathetic association or demonstrate neutral scholarship with respect to the subject of Islamic economics. Contribution of Volker Nienhaus to the discipline goes back to the early eighties of the last century. Rodney Wilson and John Presley also established relations during the same decade. Badal Mukherji, Vasudevan Sundararajan, Frank Vogel, Ibrahim Warde are some other renowned names. The second generation also saw a number of critics both from within and outside. Constructive, unbiased criticism is always welcome and beneficial, but a criticism to tarnish the image and objective of the discipline cannot be considered as healthy criticism. Unfortunately ideological differences on the part of a few writers have taken this kind of criticism.

4. General characteristics of their works

With the expansion of quantity, the control of quality is the biggest challenge. In the post-conference period, although quantity of research has increased considerably, the record is not very promising. The invention of the internet has considerably increased the availability of information and facilitated data collection in the short time. But this has affected the quality of research "because there is no barrier to entry, hence regardless of credentials or veracity anyone can post anything as a 'fact'" (Ali, 2008, 225). Perhaps this is the reason that sometimes their works are duplicative, repetitive and monotonous. Generally repetition occurs due to not being aware of the extent to which research has advanced. For example, sometimes we find discussions such as whether credit creation is allowed or not allowed; paper money will be subject to zakah or it is not zakatable, while these issued have already been settled. There is also complaint that works of most writers does not reflect knowledge of developments that are taking place in contemporary Western writings on economics and allied subjects to update their knowledge.

The evil of plagiarism has also been detected. In the opinion of a leading scholar of the first generation "plagiarism is an endemic disease afflicting scholarship" (Siddiqi 2008, 7). To him there are indicators that "it is assuming bothersome proportions." However, efforts are going on at various levels to root out this evil. Organizers of various conferences, editors of research journals, and publishers give stern warning on plagiarism.

Reliance on secondary sources is a common complaint against the writings of the second generation. Siddiqi (2008, 4) feels that "the source of most of the economics projected as Islamic has been *fiqh*," and that is also mostly picked up from secondary sources. They blur our vision of the total picture, because we are living in a different time and place and "with the passage of time the constraining influence of the detailed rules and regulations of *fiqh* seems to have all but extinguished the spark of *maqasid*-inspired thinking" (ibid.).[7] Nienhaus (2012) also feels that the contemporary generation sticks to the "legalistic approach." They determine Shariah compliance on the basis of Islamic law or *fiqh* without considering whether there is any economic justification.

But it is also a fact that quite a few scholars of this generation are distinguished in scientific and analytical presentations due to their modern academic background and training in reputable Western institutions. They started using econometric models in their research. Specialization in various aspects of the subject increased, such as finance, insurance, waqf, zakah, history of economic thought, *etc*. In many cases their works feature a distinct combination of theoretical and applied research. They innovated analytical tools applicable to financial lease and operational lease. They have wider audiences and enjoy multicultural and multi-lingual interactions. This has provided a great opportunity to enrich the discipline of Islamic economics and disseminate it to others.

5. Dissatisfaction over the unsatisfactory growth

Within ten years after the First International Conference, it was felt that progress of the discipline is not smooth and in accordance with the vision of its pioneers. For the first time, in 1986, a symposium was held by the Royal Academy for Research on Islamic Civilization "Al al-Bayt Foundation" in Amman, Jordan, in cooperation with the Islamic Research and Training Institute, to discuss obstacles and problems faced in the way of research in Islamic economics. The next year a workshop was organized in Kuala Lumpur on the same issue. Since then, up to date, several meetings, seminars, conferences and workshops have been organized to discuss this issue and suggest corrective measures. In May 2004, the Islamic Research and Training Institute arranged a round table discussion on the "Current State of Knowledge in Islamic Economics and Development of the Discipline." The theme of the Seventh International Conference was *Thirty Years of Research on Islamic Economics.*" It was organized by the Islamic Economics Research Center, King Abdulaziz University, Jeddah, over 1–3 April, 2008. In a similar effort, the International Institute of Islamic Thought also organized a seminar on the "Methodology of Islamic Economics" on 1 st July 2011. And lately, the Islamic Economics Institute (formerly Islamic Economics Research Center), Jeddah, held a workshop on "the future of Islamic Economics" during 12–13 November, 2012. Many leading economists of the first generation have expressed their exasperation and dissatisfaction with the present development of the discipline.[8] But their annoyance shows a paternal affection for correction and reformation, not frustration and abandonment.

Even within the second generation, there is feeling of dissatisfaction with the developments that are taking place at present. Haneef (2008, p.19) wonders: "have we been

agents of change or have we become *changed agents*? He thinks that "the loss of idealism or the 'spirit of the Makkah Conference' is a root cause for much of the problems we face" (ibid.). Zaman (2008, 110) also feels that there is "need to find ways of Islamizing the economy that conform to both the spirit and the form of Islamic law, instead of just the form, which is taking up most of the current efforts of Islamic economists."

6. Research gaps

At present, the largest numbers of works are focused on Islamic banking and finance rather than Islamic Economics, because that is the most saleable literature. This has incurred an opportunity cost as many other important areas have missed their attentions. Some important gaps in well-known areas are noted below:

One important gap in the contemporary scholarship of Islamic economics is the lack of empirical studies. The first generation has an excuse if it has not done so because they have spent their energy in theorization of Islamic economics and banking. With the establishment of Islamic banks and financial institutions, and with the development of numerous theoretical works, it was expected that there would be enough empirical research so that one could see to what extent those theoretical works stand the test of time, and to know whether Islamic economic institutions are moving in the correct direction. Only then we can know whether our institutions are actually playing the role claimed for them in Islamic economic literature and then we can evaluate our achievements. This is also necessary for future planning. But very little change in research patterns has been noticed in the second generation. We still have a larger amount of theoretical research than empirical and case studies. There is hardly any study on discrepancy in Muslim ideals and actual conduct. Siddiqi (1972), who once wrote on desirable behavior of firms and consumers "under Islamic spirit" complains: "We know very little about contemporary Muslim economic behavior" (2008, 5). No doubt, empirical research needs teamwork and sustained efforts. It also needs financial support. The absence of these two is, indeed, behind the insufficient number of empirical research.

There is dearth of Islamic economic literature on poverty removal, inequality, development and redistribution of income. While pointing out these gaps Kahf (2004) writes: "It was only recently that a few Islamic economists started dealing with issues of development, political economics of the role of government and of the economics of poverty reduction." Siddiqi (2004) reiterates: "One has only to compare the emphasis on poverty elimination and inequality reduction in the early Islamic economic literature with the almost total neglect of these subjects during the recent years to feel the change." IERC (2008, 49) in "A Proposed Strategic Vision for Future Research in Islamic Economics" has rightly pointed out: "All religions have been poor-friendly, Islam particularly so. But this cannot be claimed for Islamic economics, so far. The attention paid to *zakat*, *sadaqat* and *awqaf*, the most poor-friendly of Islamic institutions, has been sporadic and feeble. The jewel in the crown of Islamic economics, Islamic banking and finance, proved to be largely irrelevant for the poor."

Zaman (2008, P. 17) suggests that "effective *da'wah* to Muslims to pay zakah and to adopt simple lifestyles recommended by Islam has the potential to eliminate poverty in Islamic societies." But this claim needs to be verified by empirical studies. We find so many incidences in history of the denial/evasion of zakah, beginning from the early days of Islam. Sometimes *da`wah* is not enough. It requires enforcing authority and efficient management. Moreover, poverty removal also requires enlargement of the size of the cake, not only its fair distribution.

A number of Muslim countries are rich in natural resource and fertile lands. Building the foundations for sustainable development is the greatest challenge we face today as an international community. How to achieve growth with sustainable development should be their serious agenda. But very little attention has been paid to address this topic. Much earlier Khurshid Ahmad (1980) showed the way of *tanmiyah* with *tazkiyah,* material growth along with improvement among human beings. Chapra (1997) has also made it his focus of attention. But little headway has been made in this direction in the subsequent period. Works on environment and sustainable development are also not very substantial.

In Islam, in the field of economics, perhaps the area of public finance was first to attract the attention of Muslim scholars. Exclusive writings started on this subject as early as 2nd century Hijrah (8th century CE). This was but natural in the wake of the expanding territory of the Islamic state, availability of new sources of income, confronting new heads of expenditure and facing other socio-economic challenges. But at present, works "on taxation, fiscal policy, social welfare and development financing" are very few. They followed almost the same patter as their predecessors in their treatment of the problem. They seldom look up "to gauge the reality faced in modern living" (Siddiqi 2008, 10). The first generation had the excuse, as in the first place there was need to know our heritage in these areas. But it was expected from the second generation to advance this study through interaction with the current situation while taking into consideration the present reality.

In spite of commitment by many Muslim states to Islamize their economy, public finance and fiscal policy has not attracted the attention of writers. This aspect of Islamic economics needs fresh thinking, as some of the traditional sources of government revenue no longer exist. For example, *fay'*, *ghanimah*, *jizyah* and tributes represent a socioeconomic reality long extinct. *Kharaj* was the mainstay of government financing for many early centuries but it lost its importance in the modern period (Zarka 2008, 27). There is a need to fully discuss what would be sources of public revenue for a modern Islamic state and what would be its expenditure policy.

An important gap in Islamic economics is "the absence of a unified and well-defined Shari'ah methodology" (al-Jarhi 2012). In the opinions of many scholars, Islamic economists never discussed methodology properly. "Those who were trying to talk of methodology, referred to *usul al-fiqh*, which was understood as the methodology of Islamic law/jurisprudence" (Haneef 2012, 146). It was due to the importance of subject that Islamic Economics

Institute (IEI) in its recently held workshop made it one of the main themes of discussion.

Research on the history of Islamic economic thought and the economic history of Muslim peoples started before the fifties in the last century. However, it is still "a very thinly researched area" (Siddiqi 2008, 4; 2008, 3). Drive to "financialization" and concentration on practical aspect of Islamic economics, left very few to pay attention to study history of Islamic economic thought. Hitherto the research in this area has been language, region and period specific—Arabic, the Middle East and up to 9th/15th century, respectively. Scholars of erstwhile Andalus, West Africa, Turkey, Persia and South East and Far East Asia have not been made subject of the enquiry. More attention has been paid to write on the economic thought of few personalities than others. There is a fneed for intensive and extensive research to include more personalities, ideas, periods, languages and regions and to write a systematic history of the subject (Islahi 2008, 347).

Zaman (2012a), in one of his articles, protests: "There is no textbook of Islamic Economics, despite numerous efforts to create one." No doubt it is a serious gap that has to be filled up. Much earlier Mannan (1970) prepared the first textbook on the pattern of contemporary texts. Until that time, modern Islamic economics was in its early stage. But he tried to give a Islamic perspective on every topic. Since then the literature on Islamic economics has increased tremendously. There should have been effort to develop a textbook on Islamic economics in a more systematic way, with up to date information.[9] This feeling is shared by many, and several efforts are going on at individual and institutional levels to produce an authentic standard textbook on Islamic economics.

Islamic Economics Research Center (IERC) in its "A Proposed Strategic Vision for Future Research in Islamic Economics" (IERC 2008, p. 40) brought into notice various research gaps in the scholarship of Islamic economics and challenges faced in the fields of globalization, environmental concerns, housing, drinking water, clean air, rapid technological changes, flexible labor markets, hot money and flying capital, rising anxiety levels outpacing rising living standards, gender relations, family problems, an aging population and challenges arising out of it. All these issues got very little space in the works of second generation.

7. Departures and deviations from the first conference generation

Diversity of opinions and differences on various issues are not something uncommon among the intellectuals. Sometimes a seemingly different stand is just a matter of interpretation, with no consequential effect. Examples of changing outlook with the passage of time, and withdrawal of opinions are abundant in the short history of modern Islamic economics. It is full of controversies like *mudarabah* vs. *murabahah*, *mudarabah* vs. time multiple loans, paper money vs. gold money, insurance vs. no-insurance or which kind of insurance, *sukuk* vs. no *sukuk,* or which kind of *sukuk*, financial lease vs. operational lease, scarcity vs. no scarcity, competition vs. cooperation, *tawarruq fiqhi* vs. *tawarruq masrafi*, self interest vs. selflessness,

maximization vs. altruism, *etc*. With the passage of time and experience, such differences are narrowed down, or lose their importance, or disappear altogether. They are not worrisome.

However, one cannot pass unnoticed from two significant departures shown by two eminent scholars of Islamic economics—Masudul Alam Choudhury and Asad Zaman. Both of them are educated in the prestigious institutions of the West, and specialize in mathematics and econometrics respectively. Both of them criticize Western economics and call for getting rid of neoclassical economics influences. They equally criticize mainstream Islamic economics, and each of the two claims that he presents the real Islamic economics. However, the similarity ends here. Their writing styles are quite different. One writes in philosophical and mathematical jargon that the majority of readers are unable to understand,[10] while the other writes in simple understandable language. They are critical of each other.[11] One focuses on '*tawhidi* economics" and the other preaches "spiritual economics." In Choudhury's opinion Zaman's thinking is "utopian." To him, reading his work "one gets the impression of an irreconcilable gap between a misconceived Western intellection and an ideal Islamic reemergence" (Choudhury, 2012, 181). In Zaman's opinion Choudhuri limits the perfection of the Quran to its episteme. It "is perfect in its technique and in its phronesis as well" (2012b). "MAC (Masudul Alam Choudhury) seems to suggest that if we used topology instead of calculus, that would solve the problems we face. This seems very simple minded and ignores the fact that a tremendous amount of efforts to apply Differential Topology, Catastrophe Theory, Chaos Theory and other complex branches of mathematics over the past forty years or so have failed to produce a single worthwhile or substantial contribution to our understanding of the economic affairs of man" (ibid.).

Choudhury's first inroads into Tawhidi epistemology of the Islamic world system was opened up by his various works during the 1990s and relentlessly continues till date. He has benefited from Ibn Arabi's ideas of *Wahdat al-Wujud* (the Oneness of Being) to support his *tawhidi* argumentations presented in his work *Science and Epistemology* in the Qur'an (2006b).

Choudhury's approach is not confined to a religious way of disseminating thought. *Tawhid,* as he understands it, as the law of divine oneness expressed through the epistemic law of unity of knowledge, is a highly methodological worldview. It applies uniformly to all the sciences, even without the constriction of calling it Islamic-such-and-such.[12]

Choudhury (2006a) claims that foundationally, the *Tawhidi* methodological worldview is derived by analytical investigation and discourse from the Quran, the Sunnah, and critical examination of the historical works in comparative perspectives. He thinks that the present situation of a mess in Islamic economics can be remedied if we "return to the Tawhidi methodological worldview and establish the universal and unique epistemology of the whole socio-scientific order on this as derived from the Qur'an, the Sunnah, and by learned discourse and applications." The rest of Islamic economics "died before it could deliver."[13]

Many scholars who tried to understand "*tawhidi* economics" find it an abstract idea that has no significant practical importance, just like the concept of "general equilibrium," which is in itself a beautiful idea but cannot exist in practice.[14]

Zaman (2012a, 149) also thinks, though differently, that "current approaches to the development of Islamic Economics are bound to fail." He emphasizes "the *Spiritual* Focus" in his economic discourses. Hence it seems appropriate for our purpose to give his ideas the name of "Spiritual Economics." He states: "The strong *spiritual* focus of Islam contrasts favorably with conventional materialistic approaches to economics" (ibid. 159).[15] He further says: "All of our acquisition of knowledge and our struggle to change the world occurs for the sole purpose of pleasing Allah Subhanuhu wa T'aala. This explicit *spiritual focus* characterizes the efforts of our Prophet Mohammad S.A.W. and differentiates Islamic economics from any other existing approach" (ibid. 158).

It may be noted that the mainstream Islamic economists find "Spiritual Economics" a one-sided approach, which presents a half picture of the whole system of Islamic economics. They do not and cannot disagree with this half.[16] But they insist on taking into account the other half as well.[17]

It is a fact that at present there is more than one stream of thinking in Islamic economics. But they have still not taken definite shapes. We have mainstream Islamic economics represented by a majority of scholars in the field. There are *Tawhidi* and Spiritual streams. We have another stream of thought that insists on adoption of conventional assumptions (such as self-interest, maximization, rationality, etc.) of capitalist system with certain modifications. It may be noted that before the fall of communist systems there was also a group that advocated for "Islamic socialism." Of course, all these streams are not equally forceful. But in the future either they will turn into various schools, or the principle of the survival of the fittest would work.

8. "Financialization" of Islamic economics

It is the issue of 'financialization'[18] of Islamic economics and banking that bothers leading scholars of the first generation and most of the writers of the second generation. 'Islamic banks have taken their own course, which causes frustration' to Islamic economists. Generally, dissatisfaction is expressed over the widening gap between theoreticians and practitioners in the area of banking and finance and the increasing role of the latter.

It is to be noted that the propounders of Islamic banking and finance have been stressing the value-based nature of the industry that would operate under the Islamic spirit. It would aim at earning a reasonable profit with investment in merit goods and services. The advocates of Islamic finance always characterized it as faith and ethics based. But in practice today various providers of financial products and services primarily take "the form of negative screens" (El-Gamal 2006).

Similarly, in theory, it was claimed that partnership and risk sharing is the core of Islamic banking and finance. But

now the dominance in practice is for debt-based finance, including *sukuk* based on *ijarah*, *salam* and *istisna.`* At one time there was controversy about the legitimacy of *murabahah*, but it has been left behind.[19] Now sale of debt (*bay` al-dayn*) has been introduced in Islamic finance. *Tawarruq* and `*inah* are used as a way of obtaining cash now against a larger amount of cash to be paid at a date in future. Though it is given a shape of sale and purchase, in the opinions of experts "the economic role of the transaction can hardly be different from that of lending and borrowing money." "From the macroeconomic point of view" says Siddiqi, "the position of Islamic banks practicing *tawarruq* is exactly the same as that of the conventional banks giving (interest-based) loans to their clients" (Siddiqi, 2006, 16). It bears all the evils of interest bearing loans. Just like interest-based debt financing, in the case of *tawarruq,* also, there is no integration. In fact there is a clear hiatus, between the real sector of goods and services and the financial sector. No real asset corresponds to an interest-bearing loan.

Development of financial engineering ignored the objective and spirit of Islamic economics and finance. Consultation and seeking guidance from the original and classical Islamic sources has declined. Recourse to legal stratagem has increased. There are high resentments over the role of Shariah Supervisory Boards. Shari`ah advisers have a *fiqh* background and hardly any economics training. Hence they consider that their only duty is to fulfill legal requirements, not any economic criteria or rationale.

The Islamic banks and financial institutions try to fulfill their objective of competing conventional institutions through some kind of financial engineering. The *maqasid* prove hindrance in their way of 'financialization.' They develop products that are shaped in a way that satisfy *fiqh* rules, but they are not in conformity with the *maqasid* of Shariah. It is well known that financial engineering is very different from social engineering. Financial engineering is driven by financial goals—monetary gains. Needless to say in many cases financial goals are not harmonious to social goals.

It is the result of 'financialization' of Islamic economics that banking and finance has become the most growing sector of Islamic economics. So much so that it overshadowed the other sectors such as *zakah*, *waqf*, *etc*., as if Islamic banking and finance is the other name of Islamic economics. At one time, theoreticians of Islamic banking and finance spent lot of energy to prove that Islamic products are different. Today maximum efforts are made to prepare products that could match the conventional ones. Thus the gap between Islamic and conventional financial practices is shrinking. This has made the barrier to entry much easier to surmount. That is the reason that indigenous financial institutions in the Islamic world are facing growing competition from multinational Western banks. If Islamic institutions do not reform themselves and return to genuine Islamic conducts, they may lose their identity. It is a matter of satisfaction that a majority of scholars share this feeling and at various levels efforts are going on to correct the situation.

9. The future of Islamic economics is not gloomy

However, the present writer thinks that there is no reason to be disappointed with the performance of the second

generation as a whole. He may not agree with such statements as: "it [Islamic economics] does not seem to be moving forward. It seems to be stagnating" (Haneef, 2012). Similarly, there seems to be a little bit exaggeration in Prof. Siddiqi's statement (2008, 8) that "Islamic economists hardly did any better than those without any learning of social dynamics, specializing only in traditional Islamic sciences developed more than a thousand years ago." True, "too much focus has been given to Islamic Banking and Finance" and generally form dominates over substance or *fiqh* dominates on *maqasid*. Some writers prefer easy going and quick gaining, termed by Nienhaus (2012) as "Islamic Economics Light." But all have not accepted the current state of affairs. Dissatisfaction on the part of many from within the second generation, Islamic economists give hope for correction and future direction. No doubt, the discipline is making progress in spite of many ups and downs. A few topics on which we did not have any work until recently, such as risk analysis, hedging, risk sharing, microfinance, now we have important additions by the scholars of second generation Greuning and Iqbal (2008), al-Suwailem (2006), Askari *et al.* (2012), Obaidullah (2008, 2011), *etc*.

Similarly, in spite of certain limitations in research on history of Islamic economic thought, literatures prepared until now by Siddiqi (1964, 1982), Mirakhor (1987), Hosseini (2003), Ghazanfar (2003), and Islahi (2005) have refuted the Schumpeterian great gap thesis (1954) and pointed out to the "serious omission in the history of economics of profound contribution made by Muslim scholars." This literature has exerted some effects on scholars of the mainstream economic thought, and a few of them are trying to rehabilitate it in the main body of economic thought. Moreover, for a long time, we were in complete darkness about what was the situation of Islamic economic thought after the 15th century. In recent years, first time effort has been made to explore Muslim economic thinking in post Khaldunian era and other regions and languages. Now there are works to give at least some idea about it (Islahi, 2009, 2011a, 2011b).

The leading Islamic economists of the first generation, who are still active, continued to enrich the discipline with their valuable works all through these years. They are source of guidance and inspiration for the existing generation as well as for the coming one. At present there are several institutes dedicated to the research in Islamic economics, banking and finance, we have a number of professional and specialized journals on the subject and increasing number of courses, and teaching departments. It is not true that all are confined to the present trend of banking and finance, and there is no reason to think that they will be so in the future. The very existence of dissenting voices is rays of hope, not the shadows of frustration. The literature on Islamic economics and its various components increased in the past 40 - 50 years like a flood. And as happens with every torrent, it bears along the swelling foam. "Then, as for the foam, it passes away as scum upon the banks, while that which is for the good of mankind remains on the Earth" (The Qur'an 13: 17).

10. Concluding remarks

Thanks to the financial crises in recent years. It forced economists all over the world to return to fundamentals.

It has also awakened fanatics of "financialization." The recent crisis was the crisis of the system. Excessive debt promoted by interest-based and risk-shifting gambling–like instruments—was the root cause behind it. It enhanced the conviction and self-confidence of the first generation. It has opened the eyes of many second-generation Islamic economists who were trying to imitate conventional banking and finance "in an Islamic way." It has also alerted the new generation in the offing and created an urge among them to return to the fundamentals of Islamic economics.

The crises seen in conventional economics have provided an opportunity to Islamic economists to have a critical look at the present state of the discipline and avoid repeating similar mistakes. During and after the recent crisis, a number of seminars and symposia were held to discuss the causes and remedial measures and how Islamic economy can avoid such happenings. For instance, in such a conference held in Amman, Jordan, 1–2 December, 2010, there was consensus among the participants that excessive lending and risk shifting in conventional finance, in addition to interest (*riba*), excessive risk (*gharar*), gambling (*maysir*), speculations (*mujazafah*), were the main reasons behind the financial crisis. The capitalist system was noted to have an inherent tendency of frequent crises. In their opinions, the risk-sharing and Islamic economic system, based on ethical values, presents an alternative to avoid occurrence of such crises (Oran 2012).

Islamic economics, since its revival in the modern period, presented a balanced economic system between the two extreme of socialism and capitalism. At a time when these two systems were struggling to take the rest of humanity into their hegemony, first generation Islamic economists presented a convincing Islamic alternative to capitalism and communism. At that time, the focus of Islamic economics was to prove supremacy of Islamic economics against those two extreme economic systems (Mawdudi (1969), Siddiqi (1975), Rafi'uddin, M. (1969), Hamidullah (1950), Ahmad (1969), Abdul-Hakim (1953) and al-Sibai (1960). The second generation faced the challenges of widespread banking and finance. At that juncture it showed how interest-free participatory financial institutions could be established to avoid the curse of interest. Now the generation of Islamic economists in the offing is facing the challenges of globalization. In the past, the world was divided into cities, states and continents. Now the whole world has become a global village. So the new generation must address challenges arising out of it such as ecology, sustainable development, equity, and poverty eradication. These are shared concerns of humanity.[20]

Now the generation in the offing must adopt this approach. It has to carry the message of Islamic economics to all over the world, making their problems one with the problem of Islamic economics. This is what IERC, the organizer of 7th International Conference, declared: "Let Islamic economics be for each and all, declaring their problems to be its problems, taking up the causes of humanity as its causes" (IERC p. 41).

I feel that the second generation is also about to lose its energy. There should not be much expectation from them. A new generation is coming up. Now certain measures should be taken to prepare them well and train them better:

There is need to organize a fresh round of conferences and seminars to discuss relevant issues and emerging challenges in Islamic economics. In such events, a maximum participation of young generation must be ensured. They should be guided and persuaded to take up those issues for research that missed the attention of the second generation.

Interaction with them should be increased to convince them to fill the existing gaps in theory and practice of the discipline. Various methods should be adopted to encourage and appreciate good talents in this field, such as scholarship for non-traditional topics, stipend to do research in areas of gaps, prizes for young economists, *etc*.

For raising a new generation of Islamic economics researchers, IERC (2008, p. 50) has rightly emphasized the need to reiterate the challenges, constantly illuminate the potentials and promises of Islam, and expose the current grave human situation, and then make it rewarding for those who take up the cause. The young scholars should be motivated to undertake researches relating to problems facing common man. They should not remain confined to specific issues of limited implications.

Last but not the least, they should establish direct relation with the Quran and Sunnah and seek recourse to *maqasid al-Shariah*, the spirit and not the form of *fiqh* and its regulations. It is well known that Islamic economics is mainly based on the Quran revealed to Prophet Muhammad (peace be upon him) and the Sunnah—his excellent example (*uswah hasanah*), who was mercy for all creatures (*Rahmah li'l-`alamin*) (Qur'an 21: 107), not only for Muslims. Let Islamic economics be mercy for the whole world.

Notes

1. A generation is generally defined as all the people of approximately the same age, especially when considered shared, certain attitudes, etc. There are two main forms of generation—familial and cultural. Familial generation have been determined as ranging from 16 years to 30 years depending on the level of economic and cultural situations. We can roughly take 23 years as an average generation time, a period in which a person was born and started reproduction. But academic or cultural generations are cohorts of people who lived in the same age and shared similar cultural experiences. A new generation comes into existence when these two elements change.

2. In an earlier discussion paper, this writer, conveniently taking a period of 25 years for a generation, divided Islamic economists into four generations beginning from the first writings, which appeared during the second quarter of the 20th century, precisely during the 1930s and 40s (Islahi 2010). There is no essential difference between that classification and the present division. In the present paper we have ignored the developments that took place in the first half of the 20th century and the last one, the new generation, which is in the offing.

3. It may be noted that writing on modern Islamic economics started before 1950s during the second quarter of 20th century at the hand of mostly *ulama* (religious scholars). Few in numbers, they may be called as *founding scholars* of this new discipline. "*Founding scholars*" is in contrast to "*pioneering Islamic economists.*" Prominent among those who started wring on Islamic economics before the 1950s are: Abul-Ala Mawdudi, Muhammad Hamidullah, Hifzur-Rahman Seoharawi, Anwar Iqbal Qureshi, Muhammad Yusufuddin, Manazir Ahsan Guilani, and Shaikh Mahmud Ahmad from the subcontinent. From the Arab world we can put in this category Zaki Salih, Muhammad Ali Nash'at, Ahmad Muhammad Ridwan, Muhammad Abu Zaharah, Ali Fahmi Taman, Muhammad Abdullah al-Arabi, Muhammad al-Ghazali, Sayyid Qutb, *et cetera*.

4. It is the first and the oldest journal of Islamic economics. In 1989 it was renamed as the *Journal of King Abdulaziz University - Islamic Economics*].

5. Series of conferences, seminar, institutions and journal started after the first conference. At present there are more than a dozen specialized journals on Islamic economics, banking, finance, *waqf*, and accounting. These journals helped in dissemination of Islamic economics and finance all over the world.

6. Some of the first generation Islamic economists who are still active include: Muhammad Umar Zubair, Muhammad Nejatullah Siddiqi, Khurshid Ahmad, M. A. Mannan, Yusuf al-Qaradawi, M. U. Chapra, Abdul Hamid Abu Sulaiman, Hasanuzzaman, M. Anas Zarqa, Monzer Kahf, Muhammad Ahmad Saqr, Akram Khan, Rifat al-Awdi, Abd al-Salam al-Abbadi, Abd a-Rahman Yousri Ahmad, Rafic Younus al-Misri, etc.

7. It may be noted that most of the contemporary writers confine the *maqasid* of Shariah into five objectives: protection and preservation of religion (*din*), life (*nafs*), progeny (*nasl*), property (*mal*), and intellect (*'aql*). This is a traditional classification inherited from al-Ghazali (450–505/1058–1111), al-Shatibi (d.790/1388), and others. Siddiqi argue for the expansion of this list. He seems to be supporting Allal al-Fasi (1963) and Ibn Ashur (1366 H), who advocate expansion of this list. Siddiqi would like to include the following objectives relating to economics: "Sustenance for all, dignity, security, justice and equity, freedom of choice, moderation and balance, peace and progress, reduction of inequality in the distribution of income and wealth" (Siddiqi 2004).

8. For such statements see Zaman (2012a).

9. A few years before, another textbook came into the market under the title "Microeconomics with Islamic perspective" but it had very little Islamic input (Yusoff 2008). The author could not find anyone from the host of Islamic literature to refer except to himself and to a book written in Urdu in 1939.

10. The present writer wonders: Tawhid is a Quranic concept. Quran is meant for all. It uses the language known as "*Arabiy mubin*" (clear Arabic language that everyone can understand). How people will benefit from *tawhidi* economics if it is discussed in philosophical style and in mathematical language that at the most only few selected could follow it.

11. See Choudhury's comments on Zamans' paper entitled "Crisis in Islamic Economics: Diagnosis and Prescriptions" in *JKAU--Islamic Economics*, 25:1 and the latter's rejoinder in *JKAU--Islamic Economics*, 25:2.
12. In reply to a letter of this writer.
13. Explained to this writer in a personal correspondence.
14. Readers are advised to go through an article published in *JKAU – Islamic Economics*, 22:2 along with some comments. Although it is on "Islamic Critique and Alternative to Financial Engineering Issues," it will give an idea about Choudhury's *Tawhidi* economics and how main stream Islamic economists think about it.
15. We had such current of thought in our history sometimes called *sufi* economics. In the Islamic tradition, a group of *sufis* presented a somewhat different school of thought in economics. Their thrust has been the minimization of wants, purification of soul, and preference of others to their own needs. According to Siddiqi (1992, p. 15): "The main contribution of *tasawwuf* (or *zuhd*) to economic thought in Islam is a constant pull against giving too high a value to material wealth and a persistent push towards altruism and unselfish service of Allah's creatures. They emphasized the ultimate concern of the human soul and its reaching out towards its source in the Divine. They personally exemplified this concern by minimizing the material values and extolling the virtues and attributes that contributed towards felicity in the hereafter while also enabling the life here on the Earth."
16. For example, Siddiqi (2004) says: "Islam is primarily about a spiritual view of life and a moral approach to life's problems, including the economic problem. The contentment Islam promised man is rooted in this spiritual and moral framework." Zarka (2008, p. 35) observes: "Islamic economics will not be complete theoretically in research and teaching, nor in application on the ground through appropriate policies, but with the help of Allah the Almighty and then relying on those who know economics in addition to the knowledge of Shari'ah, jurisprudence and economic reality."
17. Readers are advised to go through Zaman's article published in *KAUJ–Islamic Economics*, 25:1, along with comments by M.N. Siddiqi, Shamim Siddiqui, Seif el-Din Tag el-Din, and M.A. Choudhury, and Zaman's rejoinder in 25:2. They will give an idea about Zaman's spiritual economics and how the mainstream Islamic economists think about it.
18. I borrow the term "financialization" from Askari *et al.* (2012, 31) who used it in the sense of "fast expansion of financial institutions," "a significant expansion of the financial sector relative to the real sector," and "an expansion that was not beneficial to the broader economy and may have even turned out to be harmful…"
19. According to Kahf (2004), discussion on issues of *mudarabah* and *murabahah* kept Islamic economists busy in vain for a long time. The real practice of Islamic banks ended up at *tawarruq,* which brought "the whole Islamic banking theory to square 1."
20. As the IERC puts it: "It is no longer the question how Muslims are going to manage *their* economies. It is one world, one economy. The new economic order has to be conceived and executed at the global level. It has to be an Islamic economics for all, the entire humanity, rather than a Muslim manual on how to conduct your economy, as the contemporary Islamic economics largely happens to be" (IERC 2008, 46).

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Methodology of Islamic economics: Typology of current practices, evaluation and way forward

Hafas Furqani[1], Mohamed Aslam Haneef[2]

[1]Department of Economics, International Shari'ah Research Academy for Islamic Finance (ISRA), E: hafasf@gmail.com, hafas@isra.my
[2]Department of Economics, International Islamic University Malaysia, E: mdaslam@iiu.edu.my

Abstract - The sustainable development of Islamic economics as a discipline depends also on methodological development that provides a clear direction on how to appraise economic theories and provide evidence of its reliability. This paper attempts to study the methodology of Islamic economics in two ways: (1) by examining the works by scholars in their specific writings on this subject, and (2) by observing the writings on Islamic economics, banking and finance to see how Islamic economists develop their discipline. The paper found three categories of writings, namely: (1) the usul al-fiqh methodology applied in economics, (2) methodological pluralism that tries to utilize various methodologies developed in both western and Islamic tradition, and (3) conventional mainstream positive economic methodology applied in Islamic cases. These are evaluated thoroughly and suggestions are made as to what needs to be done to assist Islamic economics' develop.

Keywords: methodology, Islamic economics, typology, usul al-fiqh, methodological positivism, methodological pluralism, Islamization of economics

1. Introduction

Methodology of economics as a discourse received wide attention among economists in the 1970s and experienced dramatic growth in the 1980s whereby it had become a recognizable sub discipline within economics (Backhouse, 1994:4). It brought new debates on how economics was to be approached and how its theories and later on body of knowledge was to be constructed.

Methodology is not to be interpreted as a method, technical procedures or an approach to modeling, instead methodology, to quote Machlup (1978:55) is "a study of the reasons behind the principles on the basis of which various types of propositions are accepted or rejected as part of the body of ordered knowledge in general or of any special discipline." In this regard, methodological study would provide arguments, perhaps rationalizations, which support various preferences entertained by the scientific community for certain rules of intellectual procedure, including those for forming concepts, building models, formulating hypothesis and testing theories (Machlup, 1978: 54).

Hence, the product of methodological inquiry would be (1) a set of criteria, rules, principles, standards, rationalization, arguments and justifications for theory appraisal as well as testing and proving the reliability of that theory so that we could distinguish between *valid* theories and *invalid* ones (Fox 1997:34); and (2) the methods, techniques or procedural steps needed for appraising and justifying theories which come much later after the criteria and arguments are clearly established.[1]

For Islamic economics as a new discipline, the methodological study plays a role in developing the discipline itself. In addition, if most of Islamic economists claim that conventional economic theories are infused by vision or values that are not in-line with Islamic vision and values, then, one main task is how to develop economic theory that can be, and is, infused by Islamic vision and values. Without a proper methodology of Islamic economics this task could not be done properly.

In this paper we attempt to identify the type of methodology of Islamic economics as proposed by scholars in their specific writing on the subject and based on the modes of writings in the literature of Islamic economics, banking and finance. In the latter, although we might not find explicit methodological discussions, we could infer the writer's methodological preference. Based on this we would classify the typology of methodology of Islamic economics and identify the features as well as examine

those methodologies to assist in developing the discipline of Islamic economics.

2. Methodology of Islamic economics: The typology

In general, we observe three types of approaches to methodology: (1) the use of *usul al-fiqh* methodology applied in economics, (2) the use of methodological plurality, utilizing various methodologies developed in both western and Islamic traditions, and (3) the mainstream conventional positive economic methodology applied in Islamic cases.

Type I: Usul al-Fiqh as the methodology of Islamic economics

Usul al-fiqh or the methodology in deriving rules (*ahkam*) is used in the discussion of Islamic economics to develop Islamic economics. This comes from the understanding that the nature of Islamic economics is similar to *fiqh al-mu'amalah*. And this was observed by Addas (2008:5,97)

> Islamic economics is no more than the result of applying the Islamic rules and injunctions, i.e., Islamic *fiqh*, to the prevalent secular theoretical structure of economics to separate the permissible from the non-permissible, as well as to ascertain the position of the *shari'ah* on economic acts and current business events.[2]

Islamic economists could use *usul al-fiqh* as their methodology and also in their attempt to identify and establish an economic order that conforms to Islamic scripture and traditions by discovering the theorem in texts (*nusus*) and derive general rules and principles in establishing consistent drawings of the Islamic economic theories and system (Yalcintas, 1987:27).

The approach is like the *fuqahā'* (jurists) practices in their attempt to construct *al-qawāid al-fiqhiyyah* (legal maxims) to be the source of derivation of economic theories (Hasanuzzaman, 1984, 2007). The Islamic economic theory would then be "the application of juristic principles and ethical norms to the mainstream dispensation" (Addas, 2008:108).

This notion of methodology of Islamic economics reflects that the contemporary body of knowledge of Islamic economics is still dominated by *fiqh, which is unfortunately almost always narrowly defined as "law."* Hence, efforts using this methodology are not able to focus on "Islamic economics as a social science." Islamic economics is loosely viewed as "fiqhinomics" that is equated with *fiqh* or that of a branch of *fiqh* body of knowledge. This, in our opinion, is not really appropriate because of two reasons. *First*, the two subjects have different subject-matter. *Fiqh* (as commonly understood today) studies the practical rules and laws that are attached to the human acts (*ahkam al-shari'ah*) such as obligation (*wujub*), prohibition (*hazr*), indifference (*ibaha*), recommendation (*nadb*), or reprehension (*karaha*) and the like (Moad, 2007: 142). Islamic economics, on the other hand, discusses a much wider area of human behavior. It attempts to find means and tools that are suitable to analyze the economic problems and to find out their causes, consequences and solutions in practical

life. Islamic economics would include both the normative and positive dimension of economic analysis and policy.

Second, methodologically speaking, *usul fiqh* is not really appropriate to be the methodology of Islamic economics. *Usul al-fiqh* as a methodology aims to "provide standard and criteria for the correct deduction of the rules of *fiqh* from the sources of *Shari'ah* (*nusus*, texts)" (Kamali, 1989: 2)[3]. The object of study of *usul al-fiqh* is the divine ordinance or proofs of *Shariah* that mainly refers to the Qur'an and Sunnah as well as from *'aql* (reason) in solving cases which are not explicitly indicated by the primary sources. While the experience, customs and the public interest are also well-taken in juristic formulation, a rigorous approach in dealing with them is not well-elaborated in *usul al-fiqh* as it is done in the social sciences. The methodology of Islamic economic, on the other hand, will deal with those three sources of knowledge; doctrinal-revelation, intellectual-reasoning and factual-observation thoroughly. Its object of study would include a wide spectrum of revelational texts (*nusus*) and human actual behavior in making choices and decisions in solving economic problems. The methodology will not only attempt to investigate the ideals-framework of how economic problems *should be* solved, but also investigate the best means of *how* to solve them. This dimension of empirical study, is not really elaborated in *usul fiqh*.

With that limitation in scope of methodological inquiry, *usul al-fiqh* methodology is not a really an appropriate methodology in understanding the practical reality of economic phenomena and therefore is not readily substituted for the task of overcoming the inadequacy of Western contemporary methodologies and at the same time, they are inadequate for guiding modern economics activities. Al-Faruqi (1987: 19) sees this inadequacy as stemming from two diametrically opposed tendencies in *usul al-fiqh* methodology; (1) the tendency to restrict the field of *ijtihad* to legalistic reasoning, i.e. the subsuming of modern problems under legal categories and thereby reducing the *mujtahid* [which should also include economist] to a *faqih* (jurist), and reducing science to legal science, and (2) the tendency to eliminate all rational criteria and standards by adopting "a purely intuitive and esoteric methodology, or confine the methodology to textual studies of language, traditions and orthodox jurisprudence."[4]

In developing Islamic economics, we certainly have to go beyond 'juridicial texts' and focus on the implications these rules and regulations positions have on the economic system as a whole. It is quite important at this juncture that we reaffirm an important point that does not seem to have received sufficient attention as can be seen from the practice of contemporary Islamic Banking and Finance.

Type II: Methodological pluralism in Islamic economics

Currently, there is a growing interest in economics for a methodological pluralism by enlarging the methodological practices and criteria from the dominant positivist/empiricist framework. Any exclusivist prescriptivism which seeks to establish one approach to methodology as supreme or to give it a privileged position is not accepted (Samuels, 1998: 301).

For Islamic economists, the call for methodological plurality comes from the fact that Islamic epistemology recognizes multiple sources of knowledge from where theories can be appraised. For Siddiqi (2001: 47) "the Islamic tradition in economics has always been free of formalism, focusing on meaning and purpose with a *flexible methodology* and must be open to contributions to realize in economic affairs, the Islamic vision of good life". In addition, Islamic economics' task is much greater and harder than conventional economics as it aims at furthering of human well-being, rather than just explaining, predicting or persuading (Chapra, 1996:35).

We are not sure whether this is a definite solution or whether it is a reflection that the methodological discussion has reached a deadlock. For Islamic economics, we are not really clear what is meant by methodological pluralism since its proponents did not elaborate further. Nevertheless, we might see this approach in Islamic economics coming from the common practice in the *interaction* and *integration* of conventional economics and Islamic heritage. Rather than just being dependent on one mainstream view, methodological sources are developed from both conventional and Islamic scientific tradition.

Before accepting the thesis of methodological pluralism, some clarifications need to be answered. Does Islamic epistemology really recognize methodological pluralism or just acknowledge the possibility of plural methodologies? Let's say, even if we answer yes, Islamic epistemology accepts methodological pluralism, the next question would be: does the fundamental epistemological difference between the Islamic conception of methodology of economics and that of modern economics still exist, or has it all but disappeared? Those are among the questions that need to be clarified before we accept methodological pluralism as an Islamic economic methodology.

With need to acknowledge as Bakar (1984:17) did that Islamic methodology is based on epistemology that is fundamentally different from the dominant epistemology of economics. The conventional methodology is developed in a secular worldview that excludes religion in the scientific realm. In Islamic methodology, not only religion is linked to scientific endeavor, but it is its epistemological basis and foundation. The religious sources' exclusion and inclusion in the epistemological foundation implies the differences methodological development. In the discussion of methodological pluralism in economics, there is no clear position whether religious sources' inclusion in the scientific methodology could be accepted as part of pluralism in methodology. The pluralism seems still sought within human epistemological realm with no divine intervention.[5]

In addition, in methodological pluralism there will be no ultimate (if not dominant) truth generated by any methodology. What we have is a relative truth. This is because methodological pluralism, according to Samuels (1998:301) "does not deny the usefulness of the several positions constituting these antinomies, but maintains that *no position can be summarily disregarded* and that insight can be achieved on the basis of the matrix formed by knowledge generated potentially using each position in all antinomies, whatever individual preferences may be." Therefore, methodological pluralism in developing theories tends to accept *any* goals and *any* methodologies in theory appraisal. Logic may yield valid inferences or conclusions given the premises and system of reasoning, but a valid inference is not necessarily true. Neither can empirical testing yield a singular and conclusive truth. This, perhaps, might be applied also to knowledge derived from revelation. That knowledge cannot claim the only truth. All are relative truths depending on their respective perspective of truth, and no such single truth could be claimed.

While one may agree that there should be no single way of "defining the truth," especially if we are talking of a global/plural setting, the indifference of truth could lead to indifference in solutions, which according to Bakar (1984:17) is "a kind of theoretical anarchism." While the desired output of methodological pluralism is to have a better understanding of economic realities benefitting from various methodologies, the practice that leaves an "open" answer without a clear decision on what goals to be pursued or what theory is correct might create further theoretical confusion and later on practical uncertainties.

As far as Islamic methodology is concerned, there are some flaws and limitations of those methods, which somehow cannot be accepted in Islamic methodology. The problems such as (1) strict followers of scientism, empiricism and materialism hold that there is nothing real beyond matter and observed phenomena; (2) they believe that only repeated observed (external) phenomena are true, irrespective of morally or ethically right or wrong, good or bad; (3) this is because science cannot provide answers (or in a lesser degree it is indifferent) to moral and ethical problems that are external to the scientific realm; and (4) science is not completely objective, neutral and value-free as most people assume it to be (Ahmad and Ahmad, 2004:43–46).

Methodological pluralism might recognize those limitations, but no conclusive position should be taken as that might reflect methodological absolutism. They are true in their respective criteria, and they are false in their respective criteria, and hence should be accepted as part of methodological pluralism. For us, the argument of methodological pluralism is not really plausible.

Instead, we would like to argue that while Islamic methodology acknowledges and promotes multiplicity (plurality) of methods in scientific enquiry, it does not really promote methodological pluralism. Instead, it promotes methodological unification (*tawhidic* methodology).

Islamic epistemology gives equality to all methods of inquiry, and *tawhid* sets the framework of ethics and values as well as direction and goals that will ensure a multiplicity of methods that complement each other and would integrate into totality. Those various methods are used to arrive at total understanding and coherent interpretation of reality rather than seeing them as conflicting theories with rival claims to truth as they are bounded in a unified goal and direction of achieving the ultimate truth (*al-haqq*), which is the unification of multiple truth; objective truth, logical truth, and the truth of revelation (Bakar, 1984:18).[6]

Type III: Islamization of Economics (IOE) methodology

The third approach is the methodology in the Islamization of economics project when the scholars attempt to interact and integrate the mainstream economics with Islamic principles/heritage in economics and vice versa. The program is part of a bigger project of Islamization of knowledge that attempts to recast the whole legacy of a body of knowledge from an Islamic perspective by adopting the best that conventional offers, then to imbue these with Islamic principles and to inform further developments with Islamic values (Bennet, 2005: 110).

The development of Islamic economics as a discipline will not start from the scratch; instead it will utilize the relative more advance development in economics (theories and methodologies) and attempt to make them compatible with Islamic frameworks/principles.[7] Besides, there might be some common ground where (some) conventional theories might be accepted as long as they are not in conflict with the logical structure of the Islamic worldview (Chapra, 1996), they are not against the explicit or implicit injunctions of Islam (Mannan, 1984:17), or they do not contradict with the principles of Islamic teachings, and should be evaluated within an Islamic framework and using Islamic criteria (Haneef, 1997).

The Islamic economists express this approach in various ways. Anwar (1990) proposes to *contrast* the components of conventional economic theories with components of an Islamic corpus and nucleus in order to *classify* the components of conventional economic theories into Islamic and neutral elements and to then *accept* the Islamic economic theories while *rejecting* the un-Islamic theories. Kahf (2003) proposes *takhliya,* (identification and isolation of the biased postulates of conventional economics) and *tahliya* (incorporation in economics of positive postulates derived from *Shariah*) in order to revise the conventional economic theories. Zarqa (2003) on the other hand argues that if we *replace* those values on which the science of economics should be based by Islamic values, and if we *add* to the secular statements, then Islamic economic theories can be produced. Hasan (1998) states that conventional economics can be sifted, pruned, and modified, where possible, to conform to the *Shariah* tenets. In general, the interaction and integration, will generally take place in two areas of the discipline; (1) the *substantive dimension of the discipline,* which includes economic concepts, principles and theories in modern economics and economic teachings or views on economic matters in the Islamic heritage, and (2) the *formal* (*technical*) *dimension of the discipline,* which includes methodology of modern economics and *'usūl'* studies in the Islamic heritage (Haneef and Furqani, 2007).

While we are not denying the importance of blending the conventional economics with the legacy of Islamic heritage, the understanding of the concept as well as the actual process of Islamization of economics (IOE) as we see in the literature is questionable.

Conceptually, the IOE seems to be understood in a very shallow way, keeping intact the bulk of conventional economics' assumptions and underlying values. Then either a mere adding of an Islamic prefix on each concept/

theorie is done to reflect the internalization of Islamic values or, sometimes, minor modifications are made. Those who are not happy with this lament the uncritical stance of Islamic economists with many fundamental assumptions in conventional theory. They choose the path of what Maki (1994:237) terms as "family quarrels" in evaluating the assumptions of conventional economic theory by refusing to move to another version of a theory or framework, instead of adopting an *antagonistic approach* that sees mutually incompatible frameworks of analysis, theories and approaches, traditions and schools of thought and hence attempt to provide alternative (i.e., new better concepts).

Methodologically speaking, we see there is a "task division" (if not to say a 'methodological dualism') in the writings of Islamic economics, banking and finance, whereby in the conceptual (normative) part, Islamic economists attempt to find Islamic justification based on Qur'anic verses (or *fiqh* judgments) over certain theories, while in the empirical part, Islamic economists simply utilize and apply the common analytical tools into an Islamic/Muslim cases, retaining the positivist criteria and assuming no contradiction to Islamic heritage.[8] Such practice seems to infer that IOE is approached 'dichotomous-ly', instead of 'integrative-ly' between the conceptual (theoretical) and its empirical dimensions.

In addition, the tool of analysis is also largely viewed as purely technical procedures, lacking of any normative elements, and hence completely objective (value-neutral) and could then be adopted as it is in Islamic economics. Islamic economists simply utilize what is the latest technique available in the market and to some extent they heavily depend on those tools and the criteria, principles and paradigm that make up them. Islamic economists fail to see that methodologies culminated in the logical positive approach embodied in Western behavioralism, and their conditions for using methods cannot be described as purely technical and empty of any epistemological assumptions (Sardar, 1988: 162).[9]

That simplistic approach in the Islamization of economics program puts Islamic economics within the fold of Western modernist discourse in terms of theoretical concerns and methodology, and has therefore been unable to develop itself as a new and better alternative.[10] At most, the current development of Islamic economics is working within the boundaries of neoclassical theory, with some adjustments to incorporate teachings/norms/values that reflected certain requirements of Islam (Haneef: 1997).[11]

As a result, Islamic economics, instead of becoming a distinct discipline that could analyze economics using its own distinct philosophy, concepts, framework and methods of analysis as intended by the project of Islamization of knowledge, has become almost a sub-discipline of conventional neoclassical economics, without Islamic justification. Instead of contesting the existing paradigm, it seeks to justify scientific practices and hence legitimizes what already took place in Islam's name (case study). The current methodology practice in Islamic economics seems to conform to Lawson's (2003:28–9) first category of methodological discussion of economics, namely "those who accept the scientificity of economics as practiced and seek (for the time being at least) mostly to *justify* and/ or *clarify* the way in which economics is already done, to

demonstrate the nature and rationality of what goes on," instead of "seek to impose onto economics conceptions of proper science or method determined outside the discipline." Islamic economists largely forgo the possibility of a significant philosophical input from Islamic perspective.[12]

Islamization of economics: The way forward

While we believe that Islamic economics could benefit from modern economics in developing its body of knowledge, interaction and integration should be genuine and creative at the same time. While the need to interact with the mainstream economics is undeniable for disciplined progress, the approaches in this interaction, the criteria in theory appraisal and justifications as well as the Islamic framework/foundation as benchmark in that interaction need to be specified clearly. The Islamization of economics is actually an intellectual attempt to recast the whole legacy of economics from an Islamic perspective.

This seems to be missing as Islamic economists are more interested in detailing steps and procedures in the Islamization of economics that are more "methods" than "methodology" of Islamic economics that seeks to establish the criteria and principles in theory, appraisal and evaluation.

Little attempt has been made to address the methodology of conventional economics and to discuss and propose economic methodology from an Islamic perspective with its underlying conceptualization of reality (the Islamic worldview) in relation to the preferred mode of reasoning as well as the standards and criteria used to appraise and evaluate theories. This meaning and understanding of methodology is not fully reflected in the works of the Islamic economics scholars although it is important to justify the "Islamicity" of a theory in the process of interaction and assimilation of conventional concepts/theories into an Islamic framework.

In addition, the methodological principles or criteria that are widely discussed in conventional economics, such as falsification, verification, rhetoric, etc., have not received adequate responses from Islamic economists writing on the subject. Not only that, the discussion of what is the purpose of Islamic economic methodology (is it for understanding, description, explanation, prediction, persuasion or something else?) has also not been given sufficient attention by Islamic economists yet. What adds to the challenge faced is that those principles or criteria (that are discussed in methodology of economics) may have been designed in accordance with a Western logic and framework in mind, and in itself needs to be critically evaluated from Islamic perspectives as they may be unable to cope with contemporary complex realities, nor with the richness and multidimensional nature of Islamic concepts (Sardar, 1988: 212).

We believe that if this critical evaluation is not done, it will leave the young Islamic economists who are involved in the process of developing Islamic economics unaware of what is "acceptable" or "unacceptable" and why this is so. If the Islamic methodological criteria of establishing good theory over bad theory is not developed, one can only see palliative works or worse still, patchwork efforts being undertaken since Islamic economists would unwittingly

use 'Western criteria' for building and evaluating economic theories. Hence, this would distort the potential of Islamic economics as a distinct discipline as it would give a confusing picture and the analysis would fail to comprehend all the dimensions and the full dynamics of an Islamic system (Arif, 1987: 64).

A plea for genuine/holistic IOE

Islamization of economics (the interaction and integration of two sources) is acceptable and needed, but the process should be creative and genuine at the same time. That is the intellectual effort that emerges should to produce a distinct (not simply a mixture) discipline of Islamic economics. In fact, al-Faruqi (1987: 15), the proponent of IOK, has warned that "the task of integration is not an eclectic mixing of classical Islamic and modern Western knowledge, but rather a systematic reorientation and restructuring of the entire field of human knowledge in accordance with a new set of criteria and categories, derived from, and based on, the Islamic worldview." The IOK work plan (1995:85) also outlines "it is necessary to build and restructure correct principles for genuine *Islamic intellection* and to create the conditions conducive to its existence and growth by erecting the lofty edifice of *Islamic knowledge.*" With this genuine spirit, the process involving agglomeration, augmentation, refinement, harmonization, restructuring, and finally the crystallization of the foreign element into an Islamic framework is not simply a "creative borrowing and absorption" but also a "creative production and construction" of "new knowledge."

The objective is to arrive at Islamic "authentic" knowledge in economics whereby we are not blindly imitating and adopting the past intellectual legacy and not rejecting the mainstream economics for the sake of rejection. In this endeavor, Islamic economists should first develop an "Islamic economic conceptual scheme" based on the Islamic worldview and general Islamic scientific conceptual scheme prior to interaction and integration taking place. In that "Islamic economic conceptual scheme" we equip the discipline with a strong foundation of discipline that include values, principles, benchmarks, key-concepts, key-terminologies, methodological criteria, justifications and processes.

In other words, the interaction with modern economics should be preceded by a clear explication of the rule of interaction, criteria for the acceptance and rejection of conventional theory, and most importantly the Islamic benchmark as derived from Islamic worldview as the reference point and scientific conceptual scheme from where we can decide to accept or to reject a conventional theory. This is important so that the "creative synthesis" is not understood as a creativity to "mix and match," "copy and paste" or "conceptual assemble of addition and subtraction dictum" of the conventional and Islamic concept/theory, but it really comes from our intellectual effort contemplating the "reality' with our 'intellectual Islamic legacy."

The foundation should be given attention before specifying the steps of interaction and integration of two disciplines. This is what is missing in the current IOE, which according to Haneef (2009:51) also "suffered from the same disease as

the IOK itself, i.e., focus on the end-products at the expense of a thorough elaboration, discussion and eventually, application of a proper methodology/ies to economics."

On the side of the Islamizer, likewise, we believe that he/she has to equip him/herself with a clear understanding and consciousness of the Islamic worldview (i.e., Islamic vision of Reality and Truth, which is a metaphysical survey of the visible and invisible worlds and life as a whole). That worldview (ontological) consciousness will then remove "ambiguity" and clarify what needs to be isolated, amended, reinterpreted, and what needs to be "infused," what are acceptable or not and what alternatives are acceptable or not and why this is so. With this "ontological" foundation an original and integral Islamic approach to Islamize economics, which reflect the Islamic worldview, essence and ethos, could be produced and used to construct an Islamic economics.

The Islamizer, who is going to interact with modern economics, should also at the same time have an awareness that the modern conceptions of economics is the product of a historical process of evolution that reflects the Western laboratory from where it emerged (Yousif. 2001:94). Contemporary economic science is the product of the "post-enlightenment materialistic worldview and has evolved to solve problems arising from this intellectual tradition" (Butt, 1989: 96–97). Economics, as a body of knowledge that has been crystallized into a discipline, is not value-free. It necessarily reflects the interpretation and framework of the civilization in which it is developed.

Therefore, in the Islamization of economics, al-Faruqi (1987) warns to borrow only those aspects, which are compatible with the Islamic doctrine of unity (*tawhid*) and truth (*haqq*), as defined and upheld by the *Shariah*. He argues that it is *tawhid* that gives Islamic civilization its identity and binds all its constituents together, making them into an integral, organic body that we call civilization. Therefore, borrowing (i.e., interaction and integration) from the mainstream economics must be exercised with *caution*. With this consciousness, "borrowing" ideas from other civilizations, as Yousif (2001:96) rightly notes "is not only permissible, but can be a powerful vehicle of stimulating new thought."

In this process, evaluation, interaction and synthesis will normally take place in Islamic economics discourse but always with reference to our benchmarks with Islam (and its worldview) as the reference point. In this perspective, IOE is interpreted as an epistemological and methodological concern, dealing with how Islamically creative minds can evaluate modern knowledge using Islamic benchmarks, and reformulate and reconstruct the contemporary economics in Islamic framework.

The process of theory appraisal in Islamic economics is to be preceded by developing "primary concepts and its philosophical foundations" or "economic vision" in Islam (Naqvi:1981, Arif:1987, Haneef:1997). That foundation/vision will be a "conceptual framework of Islamic economics" that function as benchmarks, parameters, schemes and guidelines for the production of Islamic economic postulates, hypothesis, precepts, assumptions and theories.

The methodological discussion in Islamic economics to appraise theories and provide justification of the reliability of that theory, in our opinion, should be directed to achieve a theory that could link the Islamic normative doctrine/values and practical reality, able to explain economic phenomena and human actions and human behaviors in making choices/decisions with a comprehensive and integrated perspective to contribute to goal realization. To produce that kind of theory, Islamic economics needs a methodology that would go beyond interaction and integration of conventional economics and Islamic heritage, to the methodology that would genuinely attempt to derive knowledge from the sources of knowledge recognized in Islamic epistemology, namely divine revelation, intellectual reasoning and fact observation, as well as following the scientific criteria as delineated in Islamic epistemological tradition.

3. Conclusion

In general, the practice of methodological discussion of Islamic economics are generally could be classified into three types: (1) the *usul al-fiqh* methodology applied in economics, (2) the methodological plurality to various methodologies developed in both western and Islamic tradition, and (3) the mainstream positive economic methodology applied in Islamic cases.

We have reviewed the conceptual foundation of each methodology and the practical application of those methodologies in theory appraisal and in developing Islamic economics in general. Each methodology poses certain methodological shortcomings that should be addressed thoroughly by its proponents, if not the scientific community who commit to develop Islamic economics. Effort should be put to develop a methodology of Islamic economics that has a solid structure and foundation where the science of Islamic economics will flourish. That methodology would not only recognize and able to derive knowledge/theories from Islamic legitimate sources of knowledge (revelation, intellectual reasoning and facts/experience), but would also reflect the Islamic epistemological principles and purposes in theory of knowledge.

That epistemological and methodological renewal should not be treated as evaluating modern economics from an Islamic perspective or restructuring of its theoretical and practical frameworks, but it should go beyond that and lay the essential foundation of an Islamic economics discipline which include the structure, content and scientific strategy of Islamic economic theory. Methodology of Islamic economics should be able to produce a distinct knowledge of economics based on Islamic epistemological sources.

Notes

1. In a more lengthy statement Blaug (1992:264) explains the role of methodology in economics as follows:

   What methodology can do is to provide criteria for the acceptance and rejection of research programs, setting standards that will help us to discriminate between wheat and chaff. These

standards, we have seen, are hierarchical, relative, dynamic, and by no means unambiguous in terms of the practical advice they offer to working economists.

2. Yalcintas (1987: 28) earlier on argues that Islamic economics is a modern version of *fiqh al-mu'amalah.* He justifies, if *fiqh mu'amalat* sets the legal framework of economic transactions, Islamic economics studies the rationale and motives of the same. *Fiqh* is an inexhaustible source of insight and indispensible for economic analysis if it was to carry the description 'Islamic' (in order to put them in the juristic scoop in accordance with *Shari'ah*). This he says, is simply because in Islamic economics we do not only deal with the how, but we also deal with the ought.

3. This is quite different from the early understanding of Shariah and fiqh as having a much wider (and correct) connotation of 'overall guidance' and 'understanding of the Shariah and of the din'. How and why these fundamental concepts were unfairly 'narrowed' in their meaning requires further study.

4. Another critics by Abu Sulayman (1985: 268–9) is that *usul al-fiqh,* as a discipline, has been developed with an emphasis on technicalities in studying texts at the expense of goals and purposes of *Shariah* (*maqasid al-Shariah*) that would inject methodological flexibility and dynamism. As a result, *usul fiqh* has become a theoretical discipline studied as a part of the legal heritage rather than a tool to regulate and encourage *ijtihad* (Kamali, 1989: iii).

5. One of the opinions is from Nienhaus (1989:95) who believes that there is a possibility of acceptance of Islamic economics in mainstream economics if methodological pluralism is accepted because "with this methodological stand, one should be ready to consider without prejudice 'unconventional' approaches which promise to make some interesting contributions for the solution of a problem at hand."

6. In this regard, an explanation provides by al-Attas (1981: 8) in how *tawhid* provides a unified and coherent vision of that multiplicity of realities and methodologies is very enlightening:

   Indeed, reason and experience are in Islam valid channels by which knowledge is attained - knowledge, that is, at the rational and empirical level of ordinary experience…at the spiritual levels, reason, and experience in a transcendental order… the rational has merged with the intellectual, the empirical with what pertains to authentic spiritual experiences such as 'inner witnessing' (*shuhud*), 'tasting' (*dhawq*), 'presence' (*hudur*), and other states of trans-empirical awareness. These are the levels in which knowledge means unification

7. Some expressions from the early prominent scholars who engaged in the Islamization of economics are as follows. Siddiqi (1981: 80) argues that "to abandon teaching of modern economic theories and their applications is neither possible and nor desirable. What is needed is a judicious selection of the more enduring elements in the corpus of modern economics and the handling of them in a critical manner." Naqvi (1981) also argues that Islamic economics should integrate what relevant knowledge is already available and then transmute it into a 'new frame of thought' where Islamic economics can selectively assimilate elements in modern economics that are not contradictory to Islamic economic axioms. Mannan (1983: 42) likewise argues "that in every system of thought, there are some assumptions and ideas in common with other systems of thought. It is through emphasis or de-emphasis or rejection, that an identity is established…in this respect, adopting or adapting any existing institution and practices of modern economics in an Islamic economics is not wrong for its development."

8. In Zarqa's (1987: 55) observation "so far, no clear research methodology in Islamic economics has been adopted. Research in the *fiqh* component of Islamic economics follows a methodology that derives from the *usul fiqh* and from the purport of *Shari'ah.* Research in the economic-analysis component, on the other hand, has been developed in the West and seeks to draw upon an inductive method."

9. Tibi (2001: 184) in a strong statement criticizes the misleading belief that tools of analysis are value-neutral. He says "it cannot be understood if Muslims feel able to borrow and use the content of Western science, its technological tools, while rejecting its context. It is wrong to separate technical tools from the social context and attitudes that produced them or from a particular worldview that binds it" (quoted from Bennet, 2005:125).

10. Yousif (2001:95) contends that such practice is permissive, rather than creative as it "did not stimulate further thought, spontaneity and creativity as expected, but lead to syncretism, confusion and deviation in social ideas and behavior instead."

11. Many critics could be found in the literature. Haneef (2005:41) for example says such approach is "modeled along neoclassical lines, working almost within the boundaries of neoclassical theory, with some adjustments to incorporate teachings/norms/values that reflected certain requirements of Islam" and Alatas (2006) criticizes Islamic economics as an empirical theory with "neo-classical guise" that "merely substituted Islamic terms for neo-classical ones, retaining the latter's assumptions, procedures and modes of analysis. As such, it has failed to engage in the analysis and critique of a highly unequal world economic order in which the gaps are ever widening."

12. This situation also similar to Blaug's observation (1992: xxvii) whereby: "too many writers on economic methodology have seen their role as simply rationalizing the traditional modes of argument of economists, and perhaps this is why the average modern economist has little use for methodological inquiries. To be perfectly frank, economic methodology has little place in the training of modern economists" (and likewise Islamic economists).

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Islamic economics: Still in search of an identity

Abdulkader Cassim Mahomedy

Lecturer, School of Economics and Finance, University of KwaZulu-Natal, Private Bag 54001, Durban, KwaZulu-Natal, Rep. of South Africa, e-mail: mahomedya@ukzn.ac.za

Abstract - The last few decades have seen a phenomenal growth of the emerging discipline of Islamic Economics and Finance. In this paper I trace the origins and birth of this nascent science, examining the various factors that gave impetus to its emergence and development. I contrast the different characterisations of the discipline as it has developed within the broader socio-political context and the reasons thereof. Despite the concerted efforts of the proponents of Islamic economics to shape for their discipline a distinctive paradigm they have had little success in doing so beyond arguing that it is underpinned by a strong moral ethic. By and large, its epistemological roots have remained firmly within the framework of Rationalism and methodological individualism and, consequently, it has not been able to shed itself of its neoclassical moorings, the very paradigm it originally set out to replace. I illustrate several of the contradictions apparent in the discipline as hitherto enunciated, and I critically analyse the reasons for some of these shortcomings. Finally, I conclude by arguing that if Islamic economics is to fulfil its raison d'être, its proponents must resolve its theoretical and practical difficulties by clearly expounding on its weltanschauung and develop its content and form appropriate to this worldview.

Keywords: Islamic economic thought, economic history

1. Introduction – The birth of the discipline

Muslim communities residing in the Middle East, North Africa and large parts of Asia had for several centuries attempted to pattern their lives according to the principles, values and norms of Islamic civilisation. Consequently, a number of Muslim scholars had documented several monumental works dating as far back as the 8th century (e.g. Abu Yusuf (d. 798)[1], Ibn Hazm (d. 1064)[2], al-Ghazali (d. 1111)[3], Ibn Taymiyya (d.1328)[4], Ibn Khaldun (d. 1406)[5], etc))[6] regarding the theory and practice of economics in Muslim societies. Almost all of these scholars, however, were not economic specialists as we understand the profession today, and accordingly, their works had analysed and examined economic issues from a multidisciplinary socio-political perspective. Until the beginning of the twentieth century much of this discourse incorporated various moral, social, and political factors, and there was not any particular emphasis on the economic variables that are of interest in the contemporary world. Consequently then, the field was never conceived as an isolated phenomenon and Islamic Economics remained primarily an integral part of the unified social and moral philosophy of Islam until the Second World War.

It has only been from the middle of the last century that scholars have begun to consider and analyse the emerging *discipline* of Islamic Economics with greater scrutiny. There were two interrelated developments that played a significant contributory role in the characterisation of the subject as a dedicated science: one socio-political and the other, epistemological.

With the colonial invasions of Muslim lands, many of the institutions[7] that formed an integral part of Muslim society were obliterated and supplanted with foreign ones that were alien and inimical to the culture of Islam. Subsequent to the political independence[8] of most Muslim countries after the War, social reformers realised the urgent need to revive and restore these Islamic institutions.[9] Their aspirations received a further boost from the general resurgence and activism that swept across the Muslim world, especially during the 1970s. There were strong calls by the intelligentsia of these countries for their economies to be restructured in the light of Islamic teachings (Behdad, 1994; Hefner, 2006). Given the competing forces for change that inevitably characterises any post-liberation period, it became imperative for Islamic scholars to clearly outline their vision of the kind of economic order that they hoped to establish.

On the intellectual front, Muslim social scientists were too keenly aware of the impact that secularism and its natural

corollary – the compartmentalisation of knowledge – has had on the social sciences in the Western world. They were convinced that any such dichotomy between the secular and sacred sciences in the Islamic scheme is untenable. Over the last four decades there has accordingly been a concerted effort to unify the body of all knowledge, a process which has become known in Islamic academic circles as the "Islamisation of Knowledge/Science." Islamising economics was thus an extension of this intellectual movement and is in fact considered to be one of its most important pillars (Haneef, 2007, Hefner, 2006). In a sense, then, it might also be seen as an important test case of this ambitious project. Chiefly among the proponents of this movement are the likes of Nasr (1968), al-Attas (1978, 1995), al-Faruqi (1982) and Choudhury (1990, 1995, 2006).

Against this background, key figures in the Islamic revivalist movement of the last century such as Sayyid Qutb of Egypt, Sayyid Mawdudi of Pakistan and Baqir al-Sadr in Iraq set the tone and popularised the idea through their writings[10] that Islam prescribes its own distinctive economic ideology. The impetus was thenceforth provided for scholars from across a broad spectrum of economists (both Western and Muslim), socio-political activists, Orientalists and (Islamic) legal experts to examine and analyse this somewhat newly delineated field of study. Since then, thousands of books, journal articles and pamphlets in many languages have been published in an attempt to establish the separate identity of the subject.

In addition, numerous Islamic economics conferences in various parts of the world have been hosted and a number of institutions such as the International Institute of Islamic Economics (Pakistan), the Centre of Research in Islamic Economics (Saudi Arabia), the International Institute of Islamic Thought (USA), and more recently, the Markfield Institute of Higher Education (UK) have been established to support the growth and advancement of this field. The stated commitment by the Islamic Development Bank based in Saudi Arabia to fund projects based on Islamic (finance) principles also played a pivotal role in giving life to some of the ideas espoused by Islamic economists. As a further expression of this drive, the Islamic Finance (and banking) industry has expanded at a rapid rate, extending its range of "Shariah-compliant" services across the globe.[11] It is from all of these developments that the nascent field of Islamic Economics as a dedicated social science has begun to grow and attract a great deal of attention in both Muslim and non-Muslim[12] countries.

But has this concerted effort on so many fronts produced the kind of enterprise that its proponents had envisioned? Of more recent particularly, the realisation has dawned among the various participants in this project that its objectives have hardly been achieved, both with respect to its intellectual development and its realisation in practice. The Islamic economists have had little success in articulating a sound and coherent theoretical paradigm for the discipline, let alone in demonstrating how it would find practical expression in the real economy. This paper traces out the various strands of the growth in the idea of an economics that is Islamic and the contradictions arising therefrom, and it then analyses the reasons for this apparent lack of coherence in the way in which the science has been cultivated.

2. State of the art
Islamic economics as a socio-political ideal

It is important to note at the outset that Islamic economics as a specialised field of study emerged at a time when conventional economics was the dominant paradigm in economic thinking in most parts of the world. As a new science in the making, and one that explicitly aimed at establishing a superior or at least a viable alternative vis-à-vis the subject matter, value-orientation, methodology, objectives and outcomes to that espoused by the Western world, much of its discourse has been located within the jargon and dialectic of the mainstream neo-classical paradigm. Partly as a result, there have been several pathways along which much of the literature on the character of Islamic economics has manifested itself. The specific orientation of the contributors to the field would thus also have been reflective of, and influenced by, their fields of specialisation, their expertise in its related sciences, their personal biases and ideological predispositions and quite decisively, the cultural and political milieu in which they lived. This phenomenon of the influence of the ideological element is, however, not unique to Islamic economics. Schumpeter (1949) demonstrates quite cogently why and how it conditions scientific thought even in the cases of logic, mathematics and physics and more so in the social sciences. Myrdal (1958) underscores even more emphatically the inevitability of value impregnation in scientific analysis.

At the politico-ideological level, a sizeable amount of effort, at the initial stages at least, has been dedicated to comparing the principles and practices of Islam vis-à-vis capitalism, communism and/or any political economy that may be drawn up as a result of the marriage of the two. In other words, Islamic economics is presented as a Third-Worldist ideology which is defined in terms of Capitalism and Communism, and also as that which the two Western ideologies are not (Nasr, 1989). The central thrust in most of these writings (Khan, 1951; al-Sadr, 1961; Ahmad, 1970; Siddiqi, 1975; al-Qadhafi, 1975; al-Faisal, 1986; Taleghani, 1982) was firstly, to denounce what they consider to be the inherent weaknesses of other economic orders and then to demonstrate why Islam is diametrically opposed to them. For example, it is asserted that both capitalism and communism are almost entirely hedonistic and materialistic in their outlook whereas Islam has a transcendental orientation. Similarly, capitalism, despite guaranteeing constitutional liberty for individuals, is condemned for its ruthlessness and exploitation (through, e.g., the institution of interest) whilst communism, regardless of its pietistical claims to a just and equal society, is singled out for violating man's basic freedoms.

Inevitably then, many of these writers, by concerning themselves primarily with refuting secular Western ideologies, described Islamic economics in terms of what it is not, rather than developing any positive content for it (Phillip, 1990). Notwithstanding this criticism, Islamic economists, then and even now, viewed this approach as critically important; given that the global political landscape of the post-colonial period was characterised by the competing economic paradigms of Capitalism in the west and Communism in the east, the Muslim world largely saw itself sandwiched both physically and ideologically between the two. Consequently, these works played a crucial role in two respects. It "weaned away the Muslim

masses from the lure of socialism and capitalism" and at the same time, it "restored confidence in their elite that their economic problems could be solved within the framework of Islamic teachings" (Siddiqi, 2004:10).

The second pathway along which Islamic economics has evolved, though in some respects paradoxical to the works mentioned above, is an attempt by some scholars to adopt an apparently more conciliatory approach to some of the values and practices of capitalism and/or socialism. On the one hand, some of these writers (Rodinson, 1966; Labib, 1969; Hosseini, 1988; al-Lababidi, 1980; Abdul-Rauf, 1984) assert that because Islam promotes (free) trade, guarantees the right to private enterprise/ownership, allows the reaping of profit in business transactions, etc., it shares a strong affinity with capitalism. Contra indicatively, there are others (Lewis, 1954; Abd-al-Hakim, 1953, Siba'i, 1960; Shariati, 1980) who argue, according to their understanding, that Islam justly represents the ideals of socialism in both theory and practice. This is so because, they claim, Islam aims towards the creation of an egalitarian and classless society, eschews the accumulation of wealth and instils in its adherents a strong sense of compassion, mercy and care for others.

The preceding analysis is not to suggest in anyway that these socio-economists were willing to unequivocally endorse the form of laissez-faire, unbridled 19 century capitalism, or conversely, the extreme variants of Marxism. In the case of the latter group for example, apart from Lewis (1954) who portrayed a close nexus between Islam and communism, all the others are avowedly anticommunists/anti-Marxists.[13] Consequently, it is not unusual for these scholars who have a predilection for the principles/ideals of either of these systems to designate their variation of it as either *Islamic* Capitalism or *Islamic* Socialism, respectively, to distinguish it from its non-Islamic varieties.[14]

Islamic economics as a 'science'

The third track along which Islamic economics has developed is the endeavour undertaken by its proponents to establish and anchor the discipline as a modern science by attempting to use primarily the methodology and tools of analysis employed in conventional economics. This literature is far more extensive and analytically rigorous than the preceding two categories. Given this orientation, it is not surprising that many of these writings have largely been produced by western trained (Muslim) economists or their counterparts who have received a similar education in their home country institutions, and to a lesser extent, Islamic jurists/legal experts (e.g., Usmani, 2000). These works can be classified more generally into those that deal with (Islamic) economics as a science and those that fall under the rubric of Islamic finance/banking, with the preponderance of literature being in the latter class. Some of the more renowned contributors in this group are the likes of Mannan (1970), Naqvi (1977, 1981), Siddiqi (1970, 2004, 2008), Chapra (1979, 1992, 1996, 2000; 2002), Bani-Sadr (1982), Ahmad (1978, 1980) and Choudhury (1986, 1993, 1995, 2006, 2008).

The key focus of most of this discourse is to demonstrate that a *homo Islamicus*, as part of an Islamic economy would behave differently to that of his (neoclassical) counterpart,

homo economicus. A society populated with h*omo Islamicus* participants would act both individually and collectively within the framework of certain ethico-politico-legal norms, e.g., justice, benevolence, self-sacrifice, etc. Such behaviour, it is argued, would lead to economic outcomes that are just, equitable and optimal.[15] So in contrast to neoclassical economics which is rooted in positivistic theory, the emphasis in most works in Islamic economics is on the normative: a thesis on the expected or preferred behaviour of human beings in their individual and/or collective capacities.

These professionally trained (Islamic) economists generally do not deny the postulates of scarcity, self interest, optimisation or even rationality. Rather, they argue that because Islam has a transcendental orientation, *homo Islamicus* is also motivated and/or can be constrained by other factors and hence his self interest and private gain would be tempered by, and subjected to, higher and nobler objectives. It is thus clear why Nasr (1989) has interpreted this approach as an attempt by these scholars to engage neoclassical economic thought in a dialogue and to imbue into Western materialism a sense of the sacred.

The above exposition on the different and seemingly disparate approaches used by scholars to flesh out the concept of Islamic economics does not signify that the field of study has no philosophical underpinnings of its own. There is a core set of axioms to which most Islamic economists more or less subscribe and adhere to. These are, for example, a belief in *Tawhid* (God's absolute Unity and Sovereignty), *Khilafah* (man's role as God's vicegerent on earth), the absolute ownership of everything resting with God, a relationship of co-operation and justice characterising human interrelationships, and the indispensable role of Revelation as a primary source of guidance for man in both his material and spiritual pursuits. On the basis of these axioms, scholars derive principles which they consider to be reflective of the objectives of the *Shariah* (Islamic Law), and they then set out to demonstrate how these objectives can and ought to be accomplished and actualised in an Islamic society.

3. Critique

The outcomes of the process of inference adopted by the Islamic economists, though ostensibly predicated on Revelation and apparently formulated around a set of values espoused by Islam, is not without its difficulties and contradictions both in thought and praxis. Firstly, different scholars may, and have indeed derived different sets of principles that also have a bias towards their own intellectual/cultural persuasions (see also Nasr, 1987). Even if we assume that the vast majority of Islamic economists hypothetically agree on a given set, what should the order of importance in the ranking of these principles be? In other words, should there be a primacy of one or more principles over others? Or is it theoretically sound, in the first place, to even conceive of a ranking? Is it possible for one or more principles so derived to be in conflict with (historically) established Islamic laws and practices? How ought this incongruence between the two be resolved, if and when it does arise?

Secondly, and as pointed out earlier, several scholars aver that Islam's economic order is essentially a capitalistic

one, with some (e.g., Rahman, 1964; Shams, 2004; el-Gamal, 2006; Fadel, (n.d); Farooq, 2007) claiming that even interest could also be legitimised in such a system. Yet there are others who assert that Islamic economics is strongly socialist in its orientation. Given the vast treasure-house of the Quraan and Prophetic tradition it is technically possible, with some stretch of imagination though, to also "torture this data long enough until it confesses to anything". Consequently, it is not uncommon to find scholars of greater or lesser reputation attempting to integrate a set of preconceived ideas into Islam. But what is remarkable in this context is that each group appears to be well-armed with appropriate Quraanic citations/Prophetic traditions to buttress its logic and justify its (opposing) standpoint.[16] How then, do the Islamic economists defend and resolve these apparent contradictions in the various characterisations of their field? What is even more telling is that despite some protestations, and vindication to this line of thinking (Rahman, 1979), most Islamic scholars have soundly rejected the appellation of Islam with either of these *isms* on several grounds, showing quite compellingly that the two are innately and manifestly incompatible with the core principles of Islam.[17]

Thirdly, Islamic economists are at pains to emphasise that *homo Islamicus* would behave in a manner more amenable and conducive to the goals of realising a prosperous society than his cousin *homo economicus* would. They contend that whilst some of his activities may need to be regulated by formal rules and regulations, desirable forms of behaviour such as altruism, the judicious use of both natural and produced resources, a work ethic aimed at excellence, and other codes of praise-worthy conduct would, in the main, be intrinsically motivated. But apart from a cursory mention of the transience of this world and the punishment-reward incentive (hoped for by well-behaved individuals) in the Hereafter, there is very little in the literature explaining how these norms would be actualised in practice. This failure on the part of Islamic economists has been very harshly criticised, particularly by Kuran (1983), Nasr (1986) and Choudhury (2000, 2008). Critically also, despite the primacy of the Man-God relationship in Islam there is almost no discussion on how this relationship is manifested in both belief and action with specific reference to economic behaviour.

Fourthly, proponents of Islamic economics have consistently emphasised that the founding of the science is not merely an intellectual exercise but has as its ultimate objective the realisation of an Islamic economic order. Even if the epistemological and procedural concerns highlighted above were to be assuaged, there still remains the contentious issue of formulating appropriate policy to implement and realise the envisaged system. On several issues of paramount importance identified in the literature, Islamic economists have been at variance with one other; at times, in fact, offering conflicting prescriptions. For example, socioeconomic justice and its assumed corollary, the eradication of poverty (or at least its alleviation) ranks very high on the list of imperatives in many writings on Islamic economics.[18] How would an Islamic economic system achieve this key objective?

Scholars like Chapra (1992) strongly argue that the market mechanism with some institutional constraints,

a progressive taxation system and the moral persuasion of individuals to avoid 'conspicuous' and 'wasteful' consumption is still the best route to realise this objective (à la 'Islamic Capitalism' again?). At the other extreme Husaini (1980), Engineer (1992), etc.[19] insist on widespread nationalisation of resources and even confiscation of excess wealth from private individuals (à la 'Islamic Socialism' as well?). Siddiqi (1978, 1981) and Naqvi (1977), on the other hand, seem to adopt a compromise stance by favouring interventionary monetary and fiscal policies and moderate amounts of State ownership of resources (à la Islamic 'Welfare State'?). There are still yet others like Bani-Sadr (1982) who trust neither the individual's moral conscience nor the State's hegemony to distribute wealth equitably, but who argue for a kind of decentralised communitarian ownership and management of resources.

Now if Islamic economics, as hitherto enunciated, is rooted in its religious practice and Divine sources then why is there hardly any unanimity on issues that its proponents argue are fundamental to its raison d'être? Why is there a lack of agreement and in many instances, inconsistencies and ambiguities on key policy prescriptions? How do the Islamic economists reconcile these profound differences that arise among themselves, more especially when God, The Most high so unequivocally proclaims in the Quraan that He "…has *perfected* your Religion (i.e. Islam) for you…" (Ch. 6, V.3) and elsewhere that He "… sent down upon thee the Book (i.e. The Quraan) as an *explanation for every thing*, a Guide, a Mercy and Glad Tidings to those who submit" (Ch. 16, V. 89)? These and similar other verses do not imply that Islam is intolerant to differences of opinion or that there is no scope for variation in its interpretation. The Qur'an, in fact, quite nonchalantly relates of divergences in verdicts issued by even the great prophets of the past, without castigating them in any way.[20]

Furthermore, differences in thought and praxis are not without any historical precedent in the other Islamic sciences as it was developed by Muslim scholars. It is only natural that any intellectual enquiry, any effort to build up its knowledge structure, by virtue of it being a human experience, would inevitably lead to differences by the participants of that process on various aspects of its academic discourse. To illustrate, well over a thousand years ago various distinct schools of law in Islamic legal (and also philosophic) thought had emerged and evolved with complex and highly sophisticated intellectual tools of analysis. But despite the rich variety of opinions expressed on innumerable issues there was almost always a general consensus on the essentials viz. fundamental principles and methodology. Seemingly, such a consensus is disappointingly lacking in Islamic economics.

That Islamic economists do actually have a lot to learn from this Islamic intellectual heritage is a point I will return to later. It is even conceivable that at some point in future there might also emerge various schools of economics within the discipline of Islamic economics itself. With the extensive writings of Choudhury[21], it already appears that the foundations have been laid for a distinct school based on his "*Tawhidi*" philosophy. But has 'mainstream' Islamic economics, in the first place, matured sufficiently enough for this to become a reality? Has its proponents been able to clearly articulate its basic philosophy coherently and

meaningfully so as to see its growth and development as a fully-fledged discipline? According to one prominent economist, Islamic economics is so entrenched "body and soul in mainstream economic doctrines that it has remained without (even) a distinctive birth-pang of its own" (Maurer, 2002: 652).

4. The need for intellectual clarity

Given some of the shortcomings alluded to above, one can easily discern from across the spectrum of cynics, neutral observers and (even leading) proponents that all is not well with Islamic economics. From amongst its most truculent critics, Kuran (1983, 1986, 1989, 1995a, 1995b, 1997), Philipp (1990) and Haque (1992) project the phenomenal growth in Islamic economics as part of a broad campaign by Muslims to preserve their culture and tradition. They aver that the discipline has no economic agenda as such and consequently dismiss the entire project and effort as an exercise in identity politics. In a similar vein, Behdad (1994, 1995, 2005) and Mehrdad (1993) argue that the idea of an "Islamised " economy in Iran only gained popularity in the wake of the Islamic Revolution but disappeared soon thereafter from the Iranian political agenda. Furthermore, both commentators emphasise the pervasive influence of Marxist thinking that characterised much of the debate and political discourse of the 1980s. Ultimately, however, Mehrdad contends, the reason for its failure in Iran was due to conflicting notions of what exactly constituted a "true" Islamic economic order.

Many in the West are also fascinated by the zest and conviction of the Islamic economists to establish an alternative economic paradigm for the adherents of the Islamic faith (Nienhaus, 1982, 2006; Wilson, 1983, 1998, 2007; Pryor, 1984; Pfeifer, 1997; Maurer, 2002; Sauer, 2002; Shams, 2004; Hefner, 2006; Asutay, 2007). Their general observation is that Islam's textual sources can indeed serve as a foundation for Islamic economic *thinking* but they are doubtful about claims, as yet, to a distinctive Islamic economic science. Nienhaus (1982), for example, bemoans the inability of proponents of Islamic economics to mesh their theoretical ideas with the theological basis of Islam and its epistemology. Like others, he is particularly critical of those who "add a type of cultural/folkloristic colouring to Western concepts" and then present them as being "Islamic".

What is most encouraging in many writings, though, is the acknowledgment on the part of Islamic economists themselves that "something has gone wrong" and that they need to reassess critically the reasons for their mission remaining unaccomplished (Nasr, 1986, 1989; Hosseini, 1988; Ali, 1990; Metwally, 1997; Choudhury, 1999, 2006; Akhtar, 2000; Chapra, 2000; Siddiqi, 2004, 2008; Kahf, 2004, Haneef, 2005, 2007). These writers have proffered various explanations for what Siddiqi (2008:1) calls the "collapse of the grand Islamic agenda". The reasons for it faltering range from a lack of resources to the more fundamental conceptual and epistemological contestations. Although some leading proponents such as Siddiqi and Kahf are still insistent that Islamic economics can and should remain within the purview of neoclassical economics, the vast majority of them are vehemently opposed to this (traditional) paradigmatic classification of this new area of study. It is because of this primary reason, they aver, that

Islamic economics has lost its purpose. There seems to be an increasingly acute awareness among both proponents and critics that Islamic economists have slavishly enslaved themselves to both the theoretical content and methodology of mainstream economics. In the words of Nasr (1991:388), the theoretical core of Islamic economics has "failed to escape the centripetal pull of western economic thought, and has in many regards been caught in the intellectual web of the very system it set out to replace".

Why is it then, that there are such strong sentiments in favour of treating Islamic economics separately from competing paradigms? Neoclassical economics, as it so often parades itself, is not value-free. By imitating Newtonian mechanics, adopting Bentham's rationalism and hedonism and assuming the unrealistic ideal world of perfect competition, its focus is exclusively on an abstract "economic man" who lacks social, ethical and political dimensions (Hosseini, 1990). By anchoring its philosophical and epistemological roots in methodological individualism and Rationalism it assumes that the behaviour of this simplistic economic man is driven only by self interest and conflict and that he is not a creature motivated towards any action due to habit, culture or norm. Consequently also, its methodology has of recent largely imitated the traditional reductionist approach of the natural sciences. Furthermore, in striving for sophistication and empirical evidence for its postulates, its increasingly extensive use of mathematical tools and econometric techniques have rendered it impervious to the very elements of human nature that gives the field of economics its legitimacy as a social science.

The Islamic faith, on the other hand has a *weltanschauung* which is distinct from that upon which neoclassical economics is predicated. It places at its core the overarching and deeply-embedded reality of the Unity of God, The Most High, and His Divine Will. The raison d'être of man's creation is the realisation and recognition of this Unity in the various socio-politico-economic contexts that man finds himself in. He is guided to this fulfilment through the agency of Prophethood and Revelation that God, The Most High had sent from time to time to the different nations of the world. Although the satisfaction of man's sensual needs are explicitly recognised and acknowledged, these are never to be regarded as exclusive or as ends in themselves. In fact, rather, it is through the purposeful use of the bounties of God, The Most High that man achieves his higher aims and objectives for which he was created.

If, indeed, the worldview of Islamic economics as briefly elaborated above, is different to that of mainstream economics, can it be epistemologically sound to assume that the theory and methodology of both would therefore necessarily concur or at least be compatible? Many Islamic economists, especially the likes of Choudhury, Nasr and Haneef, including some Western observers such as Nienhaus and Sauer, are convinced that they do not. And that is why they contend that as long as Islamic economics does not exorcise itself of the Western and foreign moorings in which it has been entrenched, it will dejectedly fail to achieve its objectives. This point is also alluded to by some of its most hostile critics when they demonstrate that, based on its current framework, there is nothing quite unique about Islamic economics for its proponents to lay claim to it as a distinct alternative.

5. Conclusion

The common thread that one clearly discerns from most of the critique is the belief that Islamic economics does indeed have the potential to make a valuable contribution to the science of economics. But in order for it to do so, its protagonists firstly need to expand the narrow conceptualisation of it being just interest-free economics. More importantly, they must transcend its current phase of exercises in apologetics and develop for it a character of its own.

To begin with, Islamic Economists need to clearly elaborate on how its philosophy and the worldview (*weltanschauung)* emanating therefrom meshes and correlates with economics. Given the primacy of man's relationship with God it needs to be demonstrated how this relationship shapes the individual and collective psyches of adherents to the Islamic faith and its consequent impact on economic behaviour and outcomes.

Next, but equally importantly, the epistemological framework of the discipline needs to be clearly articulated. The different modes of enquiry and investigation that are admissible as sources of knowledge, the relative importance and limitations (if any) of each, and the intellectual tools required to adopt them in an integrated manner has to be affirmed and clarified. In this regard, Islamic scholars have recourse to the most outstanding works of early epistemologists like al-Ghazali, ibn-Sina and ibn-Rushd,[22] and to the writings of contemporary scholars like Choudhury and al-Attas, among others.

Lastly, given the pivotal role that morals and ethics play in the Islamic scheme, Islamic economists have justifiably emphasised the normative nature of Islamic economics. But with regard to its positivistic contribution they have only paid relatively peripheral attention, though the Islamic sources are rich in this content as well. More seriously however, even with regard to the values and principles implied by its normative content, these have not been interpreted by the Islamic economists from the perspective of a transcendent/divine norm or ideal, as ought to have been the case, but rather from a humanistic perspective. It is therefore vital to delineate and redefine, if necessary, these ideals ontologically from its divine sources and expound on how one expects to see them manifested in an Islamic society, and further, to identify how they interact and integrate with its positivist content.

To encapsulate then: Islamic economics needs a conceptual framework formulated on the basis of its worldview; and then, to develop its content and form on its *own* terms and using its *own* distinct categories, if necessary. As (Pfeifer, 1997) remarks, if the discipline is able to resolve its theoretical and practical difficulties it could then justifiably takes its place alongside Western capitalism and its offshoots, with a distinctiveness of its own.

Notes

1. See, for example, his work *Kitab al Kharaj* in which he discusses topics such as economic development, taxation, etc.
2. See his magnum opus *Al Kitab al-Muhallābi'l Athār*.
3. See also his magnum opus *Ihya Ulum al-Din*. For a more detailed expose' on his economic thought refer to Ghazanfar and Islahi (1997) and Ghazanfar (2000).
4. Refer to his specific work *Al-Hisbah fi'l-Islam*. For a comprehensive account of Ibn Taimîyah's conceptualisation of economic phenomena see Islahi (1988).
5. See Spengler (1964) for an exhaustive account of the concepts and ideas in economics that were introduced by Ibn Khaldun and which only much later came to be elaborated upon by Smith, Laffer and others. Based on his significant writings and contributions to economics, especially in his celebrated work *Al- Muqaddimah*, several scholars regard him to be the real Father of Economics (Boulakia, 1971; Oweiss, 1988).
6. Islahi (2005) has undertaken an encyclopaedic review of not only the role and impact of medieval Muslim scholars in Islamic economic thought but also their influence in the evolution of mainstream conventional economics.
7. I use the word "institutions" throughout this paper in the broadest possible sense as detailed by Hodgson (1998), unless otherwise qualified.
8. The extent of this "independence" is still a thorny issue in Muslim political discourse and although quite intriguing, its detailed analysis is beyond the scope of this paper.
9. See Rahman (1979) for an instructive account of the challenges faced by reformers in this task.
10. See for example Mawdudi (1941/1978), Qutb (1948/1970) and al-Sadr (1961). For a critique on the contributions of each of these authors see Kuran (1997) and Chapra (2004), Shephard (1992) and Wilson (1998), respectively.
11. To the extent that the previous British Prime Minister, Gordon Brown, announced of his desire to see Britain as the gateway to Islamic trade and to make it the global centre for Islamic finance (BBC Business News-13 June 2006). More recently, even a country as stubbornly secular as France pledged to take steps "to make (Islamic banking) activities as welcome in Paris as they are in London and elsewhere." (Reuters – Agence France Presse (AFP) – 22 July 2008).
12. See also Wilson (2007).
13. See nevertheless, Hosseini (1988) on how Marxist thinking has influenced many of the Iranian clergy in their conceptualisation of several economic precepts!
14. See also (Brohi, 1975) for the conceptual difficulties that arise from these hybrid expressions.
15. In this context 'optimality' does not necessarily mean "efficiency' as the term is commonly understood in conventional economics.
16. See also Pryor (1985).
17. For a fuller discussion of these arguments refer to Siddique (1974).
18. See for example, Siddiqi (2004).
19. See also Siddiqi (1981).
20. See for example, al-Quraan: Ch. 21, V. 78–79.
21. See references for some of his works.
22. Better known as Algazel, Avicenna and Averroes, respectively, in the West.

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Islamic economics as a new economic paradigm

Necati Aydin

Department of Economics, College of Business Administration, King Saud University

1. Introduction

The more recent literature on Islamic economics is largely about Islamic financial instruments and institutions. It might give the impression that the main difference between conventional and Islamic economics is in the instrumental part, rather than fundamental aspects. Islamic economics is not about the prohibition of certain goods and services. It is a vastly different economic system whose answers to the core economic questions vary significantly. As is currently done, mimicking conventional economics and finance is only creating Islamic economics and finance by name. The essence and soul of the capitalist system is largely untouched. It is important to start from the foundation Islamic economics by redefining assumptions, developing new theories of microeconomics and macroeconomics, and offering testable models from the Islamic paradigm. As Nasr indicates, the theoretical works in Islamic economics has "failed to escape the centripetal pull of western economic thought, and has in many regards been caught in the intellectual web of the very system it set out to replace" (Nasr 1991, 388). Indeed, the differences between Islamic and capitalist financial institutions are getting more blurry every day. As Asutay (2007, 3–18) points out:

> "The realities of financial markets which prioritizes economic incentives rather than religious behavioral norms has forced Islamic finance to become part of the international financial system, in which it is recognized as heterogeneity of financial products deprived of their value system... the difference has been reduced to technicality, and the value system is no longer mentioned beyond describing the prohibition of riba by quoting verses in the Quran."

This paper is an attempt to present Islamic economics as a new economic paradigm based on the distinctive axiomatic feature of Islamic worldview. In order to that, the paper first outlines the free market capitalism within historical evolvement of the western worldview. Then, it outlines Islamic worldview from anthropological, epistemological, and teleological perspectives. Finally, it re-defines Islamic economics and presents its distinguishing axiomatic feature.

2. Crises of capitalism and need for new economic paradigm

With the fall of socialist regimes at the end of the last century, free market capitalism, which started in Europe a few centuries ago, has become the dominant system across the world. During and after the 2008 financial crisis, many people began to raise questions about the fate of capitalism. Even though it was not the first crisis of capitalism, it is the biggest one since the Great Depression. Three years later, we are still struggling to recover from the crisis. Indeed, with the ongoing debt crisis in Europe, we might see another global financial meltdown shaking the foundation of capitalism. Unlike many economists, I think that the 2008 financial crisis and the current debt crisis are essentially moral crises. It is a moral crisis with its roots going back as far as the Enlightenment. Adam Smith's famous metaphor of the "invisible hand" is well-known among economists. Indeed, it is an extremely powerful metaphor explaining the strength of the free market economy. According to Adam Smith, shaped by self-interested human nature, supply and demand is sufficient enough to deal with most if not all economic problems. However, as seen in the recent financial crises, the invisible hand without a moral compass could turn to a "stealing hand". In my view, the 2008 financial crisis was the greatest theft in the history of mankind. It was not seen as a theft perhaps because of the invisibility of the hand involved. In my recent paper on the 2008 financial crisis and capitalism, I argue that the 2008 crisis was essentially a moral crisis of capitalism with its roots going back as far as the Enlightenment (Aydin 2011). The paper suggests that during the crisis, the "invisible hand" of the free market turned to a "stealing hand" through market games driven by the irrational and irresponsible behaviors of politicians, creditors, and consumers.

Like any other disease, the real solution is only possible if we deal with its root causes rather than relieving its symptoms, such as high fever. Indeed, sometime temporary relief with general medicine could deceive the patient by giving a wrong signal and worsen the conditions in the long term. In 1929, when the free market system failed, we came to the understanding that government intervention is necessary sometimes to deal with economic crises. Similar to the Great Depression, the recent and ongoing financial crises could be another great opportunity to understand and fix a major flaw of free market capitalism. If the fix is not possible, this might mean a shift to new paradigm. This might be the case because capitalism has produced morally driven economic and financial crises as well as failed to deliver its promise of paradise in this world. I am talking about the crisis of happiness.

It was Easterlin (1974) who first came up with some quantitative signs of a happiness crisis in capitalism. In his

study which covered the years between 1946 and 1970, he found that despite a great increase in the real income per capita, there was not a significant change in subjective well-being. He later did a similar study for Japan and found that the average self-reported happiness level did not increase in Japan between 1958 and 1987, despite a five-fold increase in real income. Since this study, we have seen a surge in studies on happiness. Most of them confirm Easterlin's findings in terms of the impact of monetary wealth on happiness. A recent study shows that the case is no different for China, which has been experimenting with consumer culture for the last two decades. The study found that remarkable economic growth from 1994 to 2005, with real income per capita increase of 250%, ownership of color television sets rose from 40% of households to 82%, and the number of people with a telephone jumped from 10% to 63%. Yet, this did not translate into higher life satisfaction. Rather, the percentage of people who say they are dissatisfied has increased, and the percentage that says they are satisfied has decreased (Kahneman and Krueger 2006).

Easterlin's Paradox claims that the lack of a direct correlation between average life satisfaction to income per capita crosses nations. In other words, even though rich people report higher life satisfaction than the poor in a given country, wealth does not explain differences in self-reported life satisfaction across countries and in even in the same country over time. For instance, Frey (2008) finds that income per capita jumped in Japan by a factor of 6 between 1958 and 1990, while average life satisfaction remained unchanged at a level of 2.7 out of four point scale. Layard (2005) shows that "for countries above $20,000 a head, additional income is not associated with extra happiness." Nevertheless, "within a single country, at a given moment of time, the correlation between income and happiness exists and it is robust" (Bruni and Porta 2007).

Despite some evidence of its failure in providing happiness (Diener et al. 1997; Easterbrook 2003; Hamilton and Denniss 2006; Kasser 2002; Lane 2000), the globalization of consumer culture and materialistic values is rapidly displacing traditional values. Indeed, those questionable new values are spreading all over the world. They have entered every realm of human life, including even spiritual places like churches, synagogues, and mosques. They have turned a human being into a consumption machine. But not only does a consumer culture fail to bring happiness, it also fails to protect the environment. It has produced many environmental problems, including unchecked growth in the production of solid waste and in greenhouse gas emissions. Therefore, it is not sustainable in the long run (Aydin 2010). It is not just weapons of mass destruction; it is also the products of mass consumption that are threatening the future of all living beings on this planet. Indeed, while the former threatens the outer universe, the latter threatens the inner universe. With more and more consumption, people are no more, and sometimes even less, happy. This is neither desirable nor sustainable. In short, wealthy capitalist nations are currently experiencing a serious "happiness crisis". It is spreading around the world with the globalization of capitalism. Actually, it is more dangerous for capitalism than the current financial crisis because of its complexity. There are many studies presenting evidence for the existence of the happiness crisis without delving into its root causes (Lane 2000). In other words, they are discussing symptoms without

diagnosing the disease. Therefore, there is an urgent need to examine and modify or replace the existing dominant economic paradigm, which is based on always more consumption, in order to achieve more happiness while reducing consumption to sustainable levels.

Since both moral and happiness crises of capitalism could not be solved within the existing paradigm, according to Thomas Kuhn's (1970, 92) following statement, we need to develop a new paradigm:

"Scientific revolutions are inaugurated by a growing sense, again often restricted to a narrow subdivision of the scientific community, that an existing paradigm has ceased to function adequately in the exploration of an aspect of nature to which that paradigm itself had previously led the way. In both political and scientific development the sense of malfunction that can lead to crisis is prerequisite to revolution."

However, it is not easy for scientists to get out of the existing paradigm and offer solutions to crises from a new perspective. In Kuhn's (1970, 96) terms, "Normal research, which is cumulative, owes its success to the ability of scientists regularly to select problems that can be solved with conceptual and instrumental techniques close to those already in existence". Revolutionary research has to build upon new concepts and instruments; it has to offer something new and contradictory with the existing ones. This is the case because "scientific revolutions are here taken to be those non-cumulative developmental episodes in which an older paradigm is replaced in whole or in part by an incompatible new one" (Kuhn 1970, 92).

Communism, which emerged as the antithesis of capitalism failed to be an alternative due to its misunderstanding of human nature. It wrongly associated the problems of capitalism with "private ownership" and established its foundations on "collective ownership", which killed the individual incentive. Seeing religion as poison for people, the system attempted to create a caring society based on strictly secular values. In the end, the system collapsed from its own contradictory maxims. With the recent global financial crisis of capitalism, there is ongoing search for a possible alternative paradigm. Islamic (moral) economics could attract great attention if it could go beyond the existing frame of conventional economics. For that matter, if Islamic economics offers an alternative paradigm, it has to contradict the existing ones. It has to offer new "conceptual and instrumental techniques". It has to be a non-cumulative, rather than cumulative development of the existing knowledge. In my view, Islamic economics based on Islamic anthropological, epistemological, and teleological perspectives could form an alternative paradigm over time. In this paper, I attempt to outline the distinctive features of an Islamic worldview and its consequences for Islamic economics.

It is important to note dissident voices of Islamic economists on the need for a new paradigm in economics. For instance, Zubair Hasan (1992) claims that the basic features of the capitalistic system were evolving during the era of Muslim Spain in Europe even before it emerged in England. In my view, this judgment is the result of equating the free market system with capitalism. Indeed, it is possible to claim that the Prophet of Islam himself was functioning within

a capitalist economic system if we see private property and free enterprise as the defining features of capitalism. Hasan argues that Islamic economists make mistakes by comparing the ideals of the Islamic system with the realities of capitalist system, not its ideals (Hasan 2011). Therefore, he considers their writings as being a sort of apple-orange comparison; he calls for a step-by-step approach to Islamizing economics rather than a comprehensive approach (Hasan 1998).

3. The evolution of western materialist worldview

Aristotle's Eudonic happiness model

How can we live a good life? This is a simple, but powerful question which has been dealt with by many minds throughout human history. Aristotle is one of the first people who tried to answer this question in a systematic way. Not counting the divine scripts, his book of Nicomachean Ethics was the first written attempt to find an answer to this age-old question. Even though it is a first ethics book, it is still an essential one in its field. Aristotle also examines "oikonomia" which literally means the management of the household in his book "Politica". In one of his major papers, Karl Polanyi (1971, 78–115) argues that Aristotle is the first person to discover the economy.

Aristotle uses an analogy to understand the mission or function of our life in this planet. He begins with an example of a craftsman who works for an end: "Every craft [techne] and every line of inquiry [methodos], and likewise every action [praxis] and decision [proairesis], seems to seek some good; that is why some people were right to describe the good as what everything seeks" (Aristotle 1999, 1094a 1–5).

According to Aristotle, we all aim at an end in our actions and thought. Particularly as a rational being, we deliberately choose means for an end in our life: "Deliberation is about the actions he can do, and actions are for the sake of other things; hence we deliberate about things that promote an end, not about the end (Aristotle 1999, 1112b 32–35).

However, there are two types of end products we are aiming for. One is intermediate and the other is final. We value intermediate ends because of their contribution to final ends. In other words, anything is good if it serves the final end, which is also called the "final good" or "highest good". Aristotle agrees that there could be multiple goods; however, they could be ordered in a hierarchical manner. In other words, some goods are sought not for the sake of themselves alone, but for something else. For instance, health is good by itself and because of its role in reaching happiness.
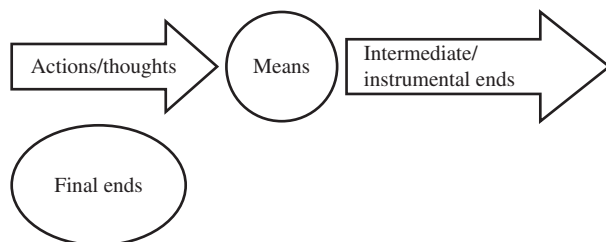
Figure 1. Final ends.

For Aristotle, the final or highest good is the end for whose sake everything else is done. Even though he accepts multiple goods, he argues that there is one final good everyone seeks for. This is happiness (eudaimonia). Aristotle provides two reasons for his argument of the final good/end: completeness (final), and self-sufficiency. In other words, everything is desired for something else while happiness is desired for itself. It is complete and sufficient requiring no other things. The happy person needs nothing more because happiness is self-sufficient: "The 'self-sufficient' we posit as being what in isolation makes life desirable and lacking in nothing, and we think that happiness is like this and moreover most desirable of all things, it not being counted with other goods: clearly, if it were so counted in with the least of other goods, we would think it more desirable, for what is added becomes an extra quantity of goods, and the larger amount of goods is always more desirable (Aristotle 1999, 1097b, 14–21).
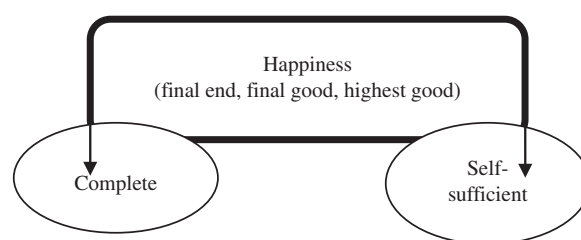
Figure 2. Happiness as final end.

If the highest good is happiness, then one needs to know what happiness is: "But presumably the remark that the best good is happiness is apparently something [generally] agreed, and we still need a clearer statement of what the best good is. Perhaps, then, we shall find this if we first grasp the function of human beings. For just as the good, i.e. [doing] well, for a flautist, a sculptor, and every craftsman, and, in general, for whatever has a function and [characteristic] action, seems to depend on its function, the same seems to be true for a human being, if a human being has some function" (Aristotle 1999, 1097b 23–29). He then raises the question about the kind of life we are supposed to live to reach the highest good. His response is that we should live according to our nature. As a rational being, he argues, the function of our life is "the activity of the soul in accordance with reason, or not apart from reason" (Aristotle 1999, 1098a 8). "Each function is completed well by being completed in a way in accord with the virtue (arête) proper to that kind of thing" (Aristotle 1999, 1098a 16–18).

Aristotle attempts to define happiness by distinguishing three different traits of the soul: affections, capacities and dispositions (Aristotle 1999, 1105b 20). He argues that happiness is not pleasure even though it comes with pleasure. Happiness is virtue. In other words, happiness is to live a virtuous life. For that matter, happiness is not knowledge of what is virtuous. It is living in accordance with virtue. Therefore, it is not thought, it is action. It is not affection and capacity as well: "we are neither called good nor called bad, nor are we praised or blamed, insofar as we are simply capable of feelings. Further, while we have capacities by nature, we do not become good or bad by nature" (Aristotle 1999, 1106a 8–12). In Aristotle's terms, happiness "is activity in accord with virtue" (Aristotle,1999, 1098b 31).

Capacities and knowledge are not sufficient to be virtues and happy if they are not translated into actions. A great person who spends all of his time asleep will not be considered virtuous even if he knows and embraces every kind of virtue. "Presumably, though, it matters quite a bit whether we suppose that the best good consists in possessing or in using virtue that is to say, in a state or in an activity [that actualizes that state]. For someone may be in a state that achieves no good if, for instance, he is asleep or inactive in some other way but this cannot be true of the activity. For it will necessarily act and act well. And just as Olympic prizes are not for the finest and the strongest, but for the contestants since it is only these who win the same is true in life; among the fine and good people, only those who act correctly win the prize" (Aristotle 1999, 1098b, 32 – 1099a, 6).
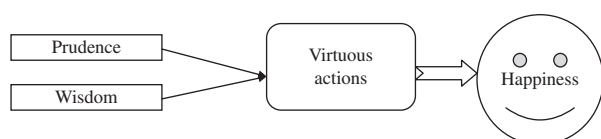
Figure 3. Achieving happiness.

If happiness is the highest good which could be achieved through virtuous actions, then one needs to know what is virtue and how to be virtuous: "since happiness is a certain sort of activity in accord with complete virtue, we must examine virtue; for that will perhaps also be a way to study happiness better (Aristotle 1999, 1102a, 5–8). According to Aristotle, virtue is excellence in life. Excellence is moderation. Excellence can be known through "practical intelligence" or what is called prudence (rationally acquired knowledge about what is good) and wisdom (theoretical knowledge of necessary truths). That is why Aristotle says that "one has all the virtues if and only if one has prudence" (Aristotle 1999, 1145a, 2). Whoever employs his mind in a proper way will understand that living well is living in moderation. He will assign the proper weight to each virtue considering their contribution to the final good, happiness. If the person fails to do so, he will not be considered wise or prudent. In other words, living well is to act wisely in terms of making choices for the final good. It is to stay away from excessiveness and deficiency. It is striking the means. It is a balance between a deficiency and an excess of a trait. For example, courage is the mean between fearfulness and foolhardiness, confidence the mean between self-deprecation and arrogance, and generosity the mean between stinginess and wastefulness.

Figure 4. What is happiness?

Knowing what is good is not sufficient to be good or to have a good life. In Aristotle's view, actions in line with virtue are necessary for a happy life. Then, the question is whether one needs to have external means to accomplish a happy life. Even though, according to Aristotle, happiness is a merit for the human soul rather than the body, it is still important to have the means to be happy. According to Aristotle, "it is impossible or not easy to perform fine actions if one is without resources" (Aristotle 1999, 1099a,
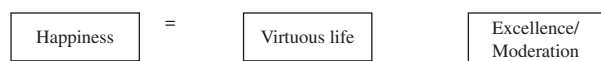
33). He does not necessarily mean wealth or consumer goods. He means education and moral training to learn about virtue and moderation as a way to a happy life. For that matter, eudonia means human flourishing more than a pleasant experience which is associated with happiness. In Aristotle's writings, human excellence is imbued with pleasant feeling; they are inseparable.

Aristotle does not value a life pursuit of sensual or egoistic pleasures. In his view, people generally pursue three types of pleasures in their lives: sensual, egoistic (or pleasure of honor), and intellectual (contemplative) pleasures. The first type is unique to animals while the second one is common among politicians. However, the third one, which is the highest and most worthy one, is unique to human beings. Even though Aristotle considers the highest pleasure in contemplative/virtuous life, he does not think that pleasure is the highest goal. In other words, his happiness model is not hedonic, it is eudonic. Indeed, he argues that bad pleasures could even lead to an unhappy life: "most people are deceived, and the deception seems to come about because of pleasure; for it appears a good thing when it is not. So they choose what is pleasant as something good, and they avoid pain as something bad" (Aristotle 1999, 1113a, 35). Aristotle is not against good pleasure: "the pleasure belonging to a worthwhile activity is good, while that related to a worthless one is bad; for appetites, too, are praiseworthy when they are for fine things, and worthy of censure when they are for shameful things (Aristotle 1999, 1175b, 25). Therefore, it is important to use practical wisdom to identify "bad/misleading pleasures". It is important to pursue pleasure in virtuous actions, not vice.

Kant's pragmatic anthropology and secular morality

Kant built his anthropological view upon the Aristotelian arguments. Both of them employ teleological reasoning to explore the best form of human life. His main contributions are in the definition of morality and the concepts of innate predispositions. For Kant, the highest good is not happiness, it is morality. However, the borderline between Kant's moral and Aristotle's happy life is not quite clear. Indeed, Aristotle's concept of happiness is very much identical to Kant's concept of morality. They both are defining virtuous life. While Aristotle believes that moral (or virtuous in his term) life brings happiness, Kant thinks that morality and happiness are two different ends. Happiness is the end for pragmatic disposition while moral character is the end for moral disposition. Kant puts great emphasis on education in the development of predispositions. His concept of proportional development of the predispositions is similar to Aristotle's moderation, or golden mean. Both Aristotle and Kant consider deficiency and excessiveness are not good.

Kant was very interested in understanding who we are and what are the universal elements of our nature, if any. He believes that it is almost impossible to really know human nature. He argues that a human changes his behavior as soon as he realizes that he is being observed. For that matter, it is not possible to know human nature through objective observation. Despite challenges, Kant still focused a great deal on drawing a picture of human nature

(Wilson 2006). He suggests that human nature consists of four natural dispositions:

1. Predisposition to animality.
2. Technical predisposition.
3. Pragmatic disposition.
4. Moral disposition.

Kant argues that the default state for human beings is the animal disposition. Human beings develop humanity from animality through education. Indeed, he says that "human beings can only become human beings by education" because "with education is involved the great secret of the perfection of human nature."(Wilson, 2006, 27).

He further argues that human beings guided by moral laws are the final end point of nature. This means that everything else is contingent ends to our beings. "The sum total of what pragmatic anthropology has to say about human destiny and the character of their development is this: they are destined by their reason to live in a society with others and in it to cultivate themselves, to civilize themselves, and to make themselves moral by the arts and sciences. No matter how strong their animal tendency to yield passively to the attractions of comfort and well-being, which they call happiness, they are still destined to make themselves worthy of humanity by actively struggling with the obstacles that cling to them because of the crudity of their nature. Human beings must, therefore, be educated to the good" (Wilson 2006, 36).

According to Kant, education has four missions through which to disclose human potential and assist with excellence in civil and moral life:

1. Education should provide discipline to train the animal predisposition. Discipline is the means to preserve the species. Discipline helps individuals to be freed from the effect of animal impulses and subject to "the laws of humanity" (Wilson 2006, 51). Otherwise, the animal urges will lead to a life without any rules. While animals have instincts to preserve their species, human beings are helpless. They need to be educated on how to take care of their offspring. Kant argues that a person without education could procreate, but could not preserve his progeny. He gives an example of a fifteen-year-old without any education whatsoever. Such a person, in Kant's view, could pursue his animal predisposition and conceive a baby, but could not preserve his family (Wilson 2006, 49).

2. Education should help individuals to gain skills to meet their needs and desires. Kant argues that this person needs the help of other humans to gain technical and pragmatic skills. The end of technical predisposition is culture and cultivation. Through the culture of passing knowledge to new generations, human beings disclose their potential skills and invent tools to be used for various ends.

3. Education should teach prudence to help individuals in making good choices for their happiness. Prudence is the "skill in the choice of means to one's own greatest well-being" (Wilson 2006, 53). Prudence is built upon the development of the previous two predispositions. The person learns how to apply his developed skills in his own best interests in relationship to other people. For that matter, Kant does not have any problem with use of other people as a means for our ends, as long as it is by mutual consent. Indeed, he defines prudence as the skill of "using other men for his purposes" (Wilson 2006, 39). However, he warned his students of cunning people who would deceive them in order to use them as mere means.

4. Education should help individuals to be citizens of the world by implanting a love for moral laws for their ultimate benefits as a unique species. Kant's morality is based on the maxims which could be universalized. In other words, if something is still good if it is universally implemented, then it is moral. Otherwise, it is immoral. In Kant's terms, moral actions are "those which are necessarily approved by everyone, and which may at the same time be the aim of everyone" (Wilson 2006, 41).

Similar to Aristotle, Kant thinks that moral character is acquired through actions, not just thought. The four missions of education mentioned above correspond to the four natural dispositions.

Kant thinks that luxury is an obstacle for moral advancement because it creates the desire for having more of what others have (Wilson 2006, 33). Kant is against the selfish and egoist pursuit of possessions. In his view, the egoist wants to use the world as the means to his ends while the moralist becomes the means to the world's ends (Wilson 2006, 35).

Evolvement and Outcome of Natural Dispositions in Kant's Anthropology

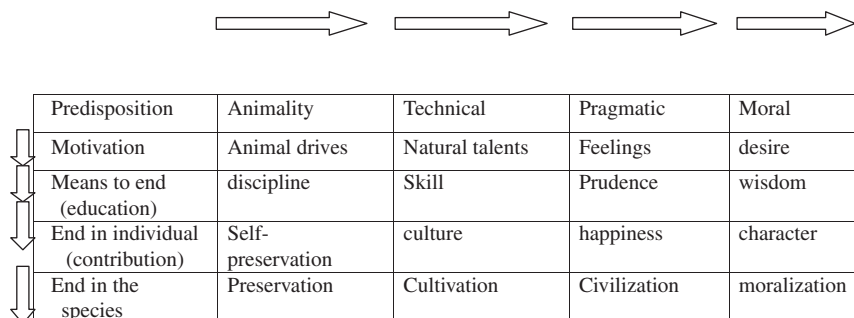| Predisposition	Animality	Technical	Pragmatic	Moral
Motivation	Animal drives	Natural talents	Feelings	desire
Means to end (education)	discipline	Skill	Prudence	wisdom
End in individual (contribution)	Self-preservation	culture	happiness	character
End in the species	Preservation	Cultivation	Civilization	moralization

Figure 5. Evolvement and outcome of natural dispositions in Kant's anthropology.

In his analysis of Kant's anthropology, Wilson argues that "equality among human species is essential to happiness, but the fact is that everyone strives to gain superiority over the next person in order that they do not gain hated superiority over oneself" (Wilson 2006, 53). Thus, no one could truly be happy until they submit to universal moral laws and discipline their inclinations.

Kant perceives wisdom as different from and superior to prudence. He defines wisdom for human beings as "nothing other than the inner principle of will to follow moral laws" (Wilson 2006, 55). Through gaining wisdom one can gain character. In other words, wisdom helps us to understand that we could not survive and excel as an individual. We need to live in a civil society and follow moral laws in order to accomplish our highest ends as individuals and species. Wisdom puts restrictions on prudence in terms of seeking personal happiness. Wisdom relates the individual to the world and makes him think about the whole destiny of the human species. Where prudence leads the individual to seek his well-being within society through employing his skills in making money and pursuing personal happiness, wisdom disdains the individual from pragmatic goals and guides him toward a happy life in line with the universal moral laws.

"Prudence is the capability of choosing the best means to happiness. Happiness consists, however, of the fulfillment of all inclinations. In order to be able to choose well, one must be free. Prudence, however, is frustrated by everything that makes us blind, and precisely for that reason by affects" (Wilson 2006, 33).

Kant believes that people need the knowledge of the world which consists of knowledge of physical nature and human nature. He further argues that "everything refers to human beings … knowledge of the world is knowledge of human beings" (Wilson 2006, 37).What he means is to understand human nature and the relationship between the nature and human beings. Thus, nature outside and nature within help the advance towards real humanity. He views human beings as the final ends of all beings because "only in man, and even in him as a moral subject, do we find unconditioned legislation regarding purposes" (Wilson 2006, 46). In other words, only humans set final purposes and use nature to reach them.

The final end of human beings is to live in accordance with his nature. Wisdom is the means to get the morality. Even though human beings have predispositions for such development, they need education. For that matter, Kant believes that the human being is not the rational animal, but rather the animal with the potential of becoming rational. If he is not educated, the default mode is animality, without prudent and wise choices. To be rational means to choose the right means for good ends. Choosing discipline will help the preservation of the species while gaining skills will help to create tools for a convenient life. On the other hand, being prudent and wise would help to achieve a civilized and moral society. It is reaching the ideal humanity which is possible through the proportional development of the four natural dispositions. The underdevelopment or overdevelopment of these dispositions will lead to failure in achieving the ideal of humanity (Wilson 2006, 87). Kant writes in the Doctrine of Virtue that "human beings have

a duty to themselves to be useful members of the world, since this also belongs to the worth of humanity in their own person, which they ought not to degrade" (Wilson 2006, 58).

The enlightenment project

The emergence of capitalism in Western Europe coincided with the Enlightenment. Indeed, one could claim that capitalism is the economic pillar of the Enlightenment project. Therefore, we need to examine the Enlightenment in order to understand capitalism as a materialist economic system. The Enlightenment was a project to release human minds from the chains of churches in the Dark Ages. In his famous essay entitled "What is Enlightenment?" Immanuel Kant (in Gregor 1996) described the Enlightenment simply as freedom to use one's own intelligence. The Enlightenment thinkers believed that humans are generally good and perfectly rational. Therefore, they should shape their destiny, not the dogmas of churches. The thinkers ultimately succeeded in gaining freedom for human minds. Their victory helped to remove darkness in Europe and replaced it with the light of human minds. They did not stop there. They expanded their wars against all religions assuming that they were no different from Christianity in the Dark Ages. Indeed, they labeled religions as myths. Of course, in the age of reason, there was no room for myths. Ironically, even though they fought against the ancient mythos, they created modern ones. They put logos against mythos.

Figure 6 outlines the key components/pillars of the Enlightenment project. First, it was a project against Christian trinity. As historian Peter Gay (1996) asserts, the Enlightenment broke through "the sacred circle," whose dogmatic teaching had confined thinking. In C. Wright Mills words, "Once the world was filled with the sacred – in thought, practice, and institutional form. After the Reformation and the Renaissance, the forces of modernization swept across the globe and secularization, a corollary historical process, loosened the dominance of the
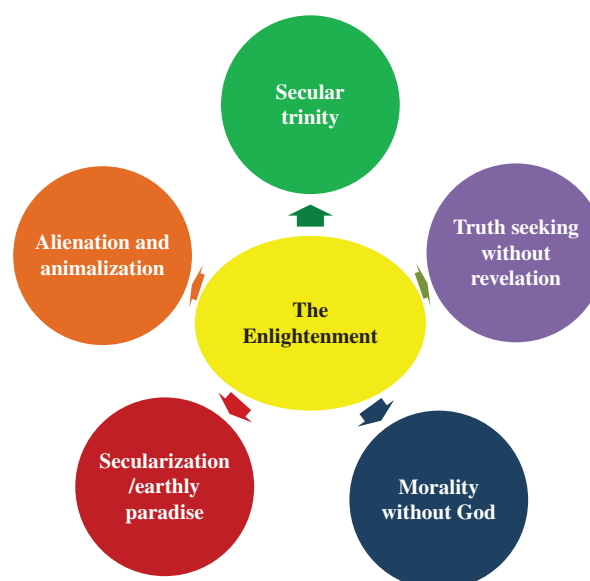
Figure 6. The pillar of enlightenment.

sacred. In due course, the sacred shall disappear altogether except, possibly, in the private realm" (Mills 1967, 32–33).

Most Enlightenment thinkers had difficulty in embracing the logically inconsistent Trinitarian idea. They came up with an alternative explanation to explain the reality. I call it "secular trinity" because it mimics the Christian trinity to a large extent. It consists of causation, nature, and chance. In other words, rather than explaining the reality as the work of Father, Son, and Holy Ghost, the Enlightenment thinkers offer deterministic cause-effect chains, Mother Nature, and chance as the determining forces behind the reality of the universe. Second, the Enlightenment was a project of truth seeking without revelation. For the Enlightenment thinkers human minds were the only source of knowledge. No need to seek guidance from divinely-guided individuals because in reality there is no evidence for any divine being. Third, since God was dead, there would be no need for morality based on revelation. However, as strongly articulated by Kant, even without God, it is still possible to reach moral principles through reasoning (Reath and Timmermann 2010). Thus, the Enlightenment is a project of morality without God. Fourth, since God is dead, no need to aim for paradise in the hereafter. We are left with no option but to establish a worldly paradise. In this regard, a liberal capitalist economic system has been seen as a great tool to accomplish such a goal. Finally, the Enlightenment is a project of alienation and animalization because, as argued by Karl Marx, capitalism alienates humans and treats them as a sort of robot, or thinking animal.

The Enlightenment project also re-defined the purpose and meaning of life for individuals. It asked individuals to act free from the restrictions of churches and to do whatever they consider to be best for their interests. The main purpose is not to please God anymore; rather, it pleases the desires of animal souls. The Enlightenment thinkers reject the idea of being a servant to God. Instead, they turn humans into the masters of the universe. The ultimate purpose is to gain control over nature, rather than living with her in harmony. The measure for morality is not the divine revelation anymore. It is the internal compass of pain and pleasure, or pure reason. Indeed, Bentham suggests that the utility calculation should be the yardstick for everything including what is good and what is bad (Bentham 2007, 14).

The Enlightenment is a secular trinity project rejecting the trinitarian theology in favor of the three gods of secular science. This is mainly based on the reality that we cannot live without god(s). If we do not have one, we must invent one. The Enlightenment finds it to be irrational to embrace the Father, the Son, and the Holy Spirit. However, it replaces them with the gods of nature (the Mother), cause-effect (the Son), and chance (the Holy Spirit). It ascribes all objects and events in the universe to these three gods. The mechanistic worldview is the natural by product of this "secular trinity".

The Enlightenment is a reductionist project compartmentalizing the universe in order to divide it among the three gods of secular science. It tries to explain each compartment as the product of causes, nature, or chance, based on its reductionist reasoning. It attempts to reduce everything to small fragments and ascribe to them to a simple material cause. It ignores the indivisible unity and interdependency of everything in the universe.

The Enlightenment project is designed to make people believe in themselves instead of believing in god(s). It turns the human "self" into a kind of "inner god". It promotes "self-belief", "self-help", "self-actualization", "self-motivation", "self-confidence", and "self-sufficiency". It boosts the self by ascribing its accomplishments to the self. It transforms the self to the "inner god".[1] It sets the goal of conquering and mastering the universe for the inner god by defeating, controlling, or stealing from nature.[2] However, it does not understand that the life of the "inner god" depends on the life of nature.[3] In Horkheimer and Adorno's terms, "the system the Enlightenment has in mind is the form of knowledge which copes more proficiently with the facts and supports the individual most effectively in the mastery of nature"(Horkheimer and Adorno 1976, 83).

While the Enlightenment turns the self to an "inner god", it also makes him the slave of his desires (I will call it the "elephant"). He does everything to serve his desires. He sacrifices everything, even his own life, for the desires of his elephant. Indeed, a capitalist consumer views the ultimate goal in life to be the fulfillment of his/her desires. The common saying of "life is fun" in capitalist American society reflects this philosophy of life for many people. The overwhelming majority who embrace this philosophy work very hard during the week in order to have fun over the weekend. That is why some of them choose to end their lives once they lose their ability to gain expected pleasures.[4]

The Enlightenment is a project of discovering the "outer universe" while denying or dismissing the "inner universe." In fact, it has enlightened the outer universe while darkening the inner universe. However, it does not know that the comprehension of the outer universe is only possible through an enlightened inner universe. In Schuurman's terms, "the Enlightenment represents the religion of the closed material world that is blind to the non-material dimensions of reality" (Schuurman 2008, 75).

Capitalism as economic pillar of the enlightenment project

The Enlightenment project relies on capitalist ideology to create an earthly paradise. Capitalism pursues this goal through market mechanisms. However, capitalism is not the market mechanism. It is a worldview that relies on the market mechanism. Capitalism is much more than a free market system. It is an ideology that makes money (capital) the central purpose of life for all individuals. In Karl Marx's terms, "Money degrades all the gods of man – and turns them into commodities. Money is the universal self-established value of all things. It has, therefore, robbed the whole world – both the world of men and nature – of its specific value. Money is the estranged essence of man's work and man's existence, and this alien essence dominates him, and he worships it" (Marx and Lederer 1958). In this sense, the main goal of a capitalist person is to accumulate/gain money wealth. For such a person, money is considered as a god that can open any door. In Marxist terms, capitalism is an ideology, which has turned money into the god of the world. It is a secular ideology, which promises to build a "technological paradise" in this life, not in the next life as promised by many religions. We can call capitalism a secular religion in this context. Capitalism relies on the

magical power of the free market mechanism to fulfill its promise of earthly paradise.

The fathers of free market capitalism were strongly influenced by the Enlightenment thinkers. Indeed, the laissez-faire capitalism aims for freedom of the market from any government intervention. It relies on the assumption that individuals follow their self-interest. According to Adam Smith, it is part of human nature to act on self-interest: "Every man is, no doubt, by nature first and principally recommended to his own care; and as he is fitter to take care of himself than of any other person, it is fit and right that it should be so. Every man, therefore, is much more deeply interested in whatever immediately concerns himself, than in what concerns any other man" (Smith 1976, 82–83). From his understanding of human nature, Smith concludes that "it is not from the benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regard to their own interest" (Smith 1976, 26–27). In the "Wealth of Nations", Smith argues that in order to enhance wealth, every man should be "free to pursue his own interest his own way, and to bring both his industry and capital into competition with those of ... other(s)"(Smith 1990, 687).

If self-interested individuals are allowed to make their own decisions, they will do whatever is best for them. The market mechanism determines what and how much to produce if we simply let everyone act based on his or her "self-interest". Individuals will demand and supply the optimum amount of goods and services for their self-interest. Thus, supply and demand driven by self-interest work like an invisible hand pushing the market mechanism towards an efficient production and consumption. Since society is nothing other than the collection of individuals, overall what is good for each individual is also good for society. In other words, Adam Smith assumes no dichotomy between private and social interests. Therefore, he suggests that the invisible hand driven by supply and demand alone should decide on production and distribution of goods and services. There is very limited, if any, role for the government hand to get involved in this process.

While Adam Smith establishes his theory of supply and demand on self-interested human nature, Bentham shapes his utility theory on pleasure-seeking and pain-avoiding human nature: "Nature has placed mankind under the governance of two sovereign masters, pain and pleasure. It is for them alone to point out what we ought to do, as well as to determine what we shall do ... They govern us in all we do, in all we say, in all we think: every effort we can make to throw off our subjection, will serve but to demonstrate and confirm it. In words a man may pretend to abjure their empire: but in reality he will remain subject to it all the while" (Smith 1976, 14). This means that we do not need to do anything other than letting individuals to follow their nature for utility maximization through exchanges in the market. The end result will be good for both individuals and society as a whole.

As Frey and Stutzer (2002, 1), the pioneering researchers in the field of economics happiness, say "everyone want to be happy ... Economic activity – the production of goods and services – is certainly not an end in itself but only has value in so far as it contributes to human happiness".

The mainstream happiness model in capitalism is based on Bentham's hedonistic model, Aristotle's eudonic model. In his book called "Introduction to the Principles of Morals and Legislation", Bentham argues that the utility principle is the main determinant of human behaviors. Every individual acts according to the utility principle and tries to maximize their utilities by calculating the expected pain and pleasure of their behaviors.

Even though Polanyi gave credit to Aristotle for being the first to write on economics, it is obvious that Aristotle did not foresee modern free market capitalism in which luxury consumption and pursuit of bodily desires become the symbol of a happy life. He did not imagine that rational human beings would subject themselves to a hedonic calculus of maximizing pleasures. He would expect that prudent people would limit their sensual desires for the sake of intellectual and virtues ones rather than inflating them. Aristotle argues that those who pursue bodily pleasures will be occupied with wealth accumulation and could have no time to seek virtue: "those who fix their aim on the good life [and] seek the good life as measured by bodily enjoyments, so that inasmuch as this also seems to be found in the possession of property, all their energies are occupied in the business of getting wealth" (Aristotle 1944, 1257b).

While Aristotle distinguishes between natural and excessive desires, the modern economy views the role of the market as to satisfy any kind of desire. It actually turns everything to marketable objects. The ultimate goal is to invent "pleasure pills" or "experience machines" with no side effects because nothing else matters other than the experience of pleasure. In Vicenti's terms, "the homo oeconomicus seems to be thrown into the world, its existence has no final end, apart from death, and each end is meant to be overcome and to be turned into another means to constitute an open chain of means-ends"(Visenti 2011). In Aristotle's view, hedonistic happiness is not even worthy of being called a good life. Indeed, Aristotle calls a life dedicated to pleasure the life of "grazing cattle" (Aristotle 1999, 1095b, 21).

4. The Islamic worldview

As discussed, free market capitalism did not emerge in vacuum. It is the product of the western materialist worldview. In order to identify any differences between Islamic economics and its counterparts, it is important to understand the Islamic worldview which is based on the Quran, hadiths, and views of Muslim scholars. Islam is not a marginal religion dealing with the spiritual life alone. It is a religion providing guidance and well-being for both this life and the hereafter. Therefore, the word falah (real well-being) and its derivatives have been used in the Quran many times. In the five time daily azan (call to prayer), people are also invited to falah. Islam aims to achieve its goal through its value-based and God-centered moral and spiritual worldview. It is important to recognize the overlapping goals between the worldviews of major religions. Islam is not a completely new religion. It is considered to be the last chain of Abrahamic religions. Therefore, it is not surprising to see that Christianity and Judaism have many values in common with Islam. However, the Enlightenment movement in Europe deviated from these values and embraced a secular, value-neutral, materialist worldview.

Epistemological perspective

Choudhury claims that Islamic economics relies on an epistemological paradigm which is significantly different from the western secular paradigm. He suggests that Islamic economics should be based upon the Islamic paradigm which requires different "methods" and "methodology" in terms of gathering and analyzing data about reality. He asserts that "the prevailing Islamic socio-scientists" are distant from "any substantive reference to the Quranic worldview, its epistemology of oneness of the divine laws (tawhid), the causal understanding of unification of knowledge in world-systems by the epistemological methodology embedded in ontology and ontic learning domains" (Choudhury 2007, 76). He strongly criticizes current efforts in Islamic economics due to its lack of epistemological foundation and necessary data. He argues that the existing literature on Islamic economics has become trapped in the neo-classical framework which is based on secular western epistemology. He discusses the different views of tastes and preferences to support his argument. Neo-classical economics takes consumer tastes and preferences as exogenous in its economic models, while Islamic economics provides certain values to guide tastes and preferences. Therefore, according to Choudhury, Islamic economics should focus on endogenizing preferences and tastes through interactive learning.

As Choudhury states, "if the Islamic worldview is premised on its distinctive epistemology, ontology, and the unified ontic (evidential) way of organizing the world-system, then such a revolutionary doctrine cannot be accumulative in thought as normal science. It must be distinctive and out of the ordinary lineage of normal thinking …. The Islamic worldview shares this (Kuhnian) attribute of scientific revolution. Without fundamental invocation, there cannot be a substantive theory and premise for Islamic economics and finance, and thereby, the construction of the Islamic worldview and world-system" (Choudhury 2007, 76–77).

Choudhury argues that the irrelevance of ethics in economic theory in general and macroeconomics in particular is due to the inability of explaining preferences and tastes through endogenous models (Choudhury 2004). "Preferences and menus at both the individual and aggregate level are formed of bundles of such independently and exogenously assigned behavior … The dynamic and complex nature of learning preferences remains foreign to economic and financial theory … The tawhidi epistemological, ontological and ontic methodology thoroughly replaces the missing issues of unity of knowledge in learning and process at the microeconomic and economy-wide levels" (Choudhury 2007, 78).

Unity of knowledge

While the materialist worldview relies on the light of the human mind alone, the Islamic worldview relies on both reason and revelation. Islam does not ask people to shut down their minds and blindly follow the divine message. Indeed, it is important to note that the very first message from God to the Prophet Muhammed (pbuh) (and humanity) was not "believe!" or "worship!" – it was "iqra! (read!)". It is reported that the Archangel Gabriel came to the Prophet when he was in isolation in a cave. The angel commanded him to "read" ("recite"). The prophet replied

"I cannot read". At this time the Archangel took Muhammad (pbuh) in his arms and pressed him until it was almost too much to bear. He then released him and said again "read" ("recite"). "I cannot", replied the prophet, at which the Archangel embraced him again. For the third time the Archangel commanded Muhammad (pbuh) "read", but still he said he could not. He was embraced one more time. The prophet was saying that he does not know how to read.

The repetition of the command was indeed an instruction of how and what to read (recite). The first "read" refers to the necessity of the divine light; the second "read" refers to necessity of the divine instruction; and the third "read" refers to the book of the universe. In other words, the angel was implicitly saying to the Prophet, you could read (recite) the book of the universe with the divine light of the Quran under the divine instruction. On releasing him the third time, however, the Archangel Gabriel said explicitly what and how to read: "Read in and with the Name of your Lord, Who has created – Created human from a clot clinging (to the wall of the womb). Read, and your Lord is the All-Munificent, Who has taught (human) by the pen – Taught human what he did not know" (Quran 96:1–5).

By referring to the creation of the human, the message was clear on where to start reading the vast book of the universe. In other words, following divine guidance, we should start reading ourselves first. Then, we could accurately read the universe. We should read ourselves only in the name of God, meaning with His infinite light and guidance. In this regard, the Quran is a "study guide", which shows how to read ourselves and the book of the universe. However, the Quran is not deluded regarding the human response. It accurately predicts how people will respond to this divine call: "No indeed, but (despite all His favors to him), human is unruly and rebels. In that he sees himself as self-sufficient, independent (of his Lord). But to your Lord, surely is the return (when everyone will account for their life) (Quran 96:6–8). In other words, seeing himself as self-sufficient is the primary cause of the human denial of God. This is also the primary source of the Western dialectic, as suggested by Dooyeweerd.

From an Islamic point of view, as seen in Figure 7, it can be said that God makes himself known to humanity through His words and works. If we listen to the divine revelations and read His works in the universe, we will know His attributes. We should begin our reading from ourSELVES because the knowledge of the self will help us to know God. Once we understand that we are absolutely impotent and needy, we will realize that nature could not produce anything on her own. Everything from an atom to galactic systems is the work of God and under His control at every moment. He is not the god of gaps. He is the God of everything at every moment according to the Quran. Therefore, becoming a believer is nothing more than the recognition of and participation to the universal submission. In this regard, belief is not a blind acceptance; it is an affirmation and bearing witness (shahadah) to the manifestation of God.

As shown in Figure 7, the oneness of God (tawheed)[5] becomes the source of ontological-epistemological knowledge in the Islamic worldview. In other words, the tawheedi paradigm provides the unity between the
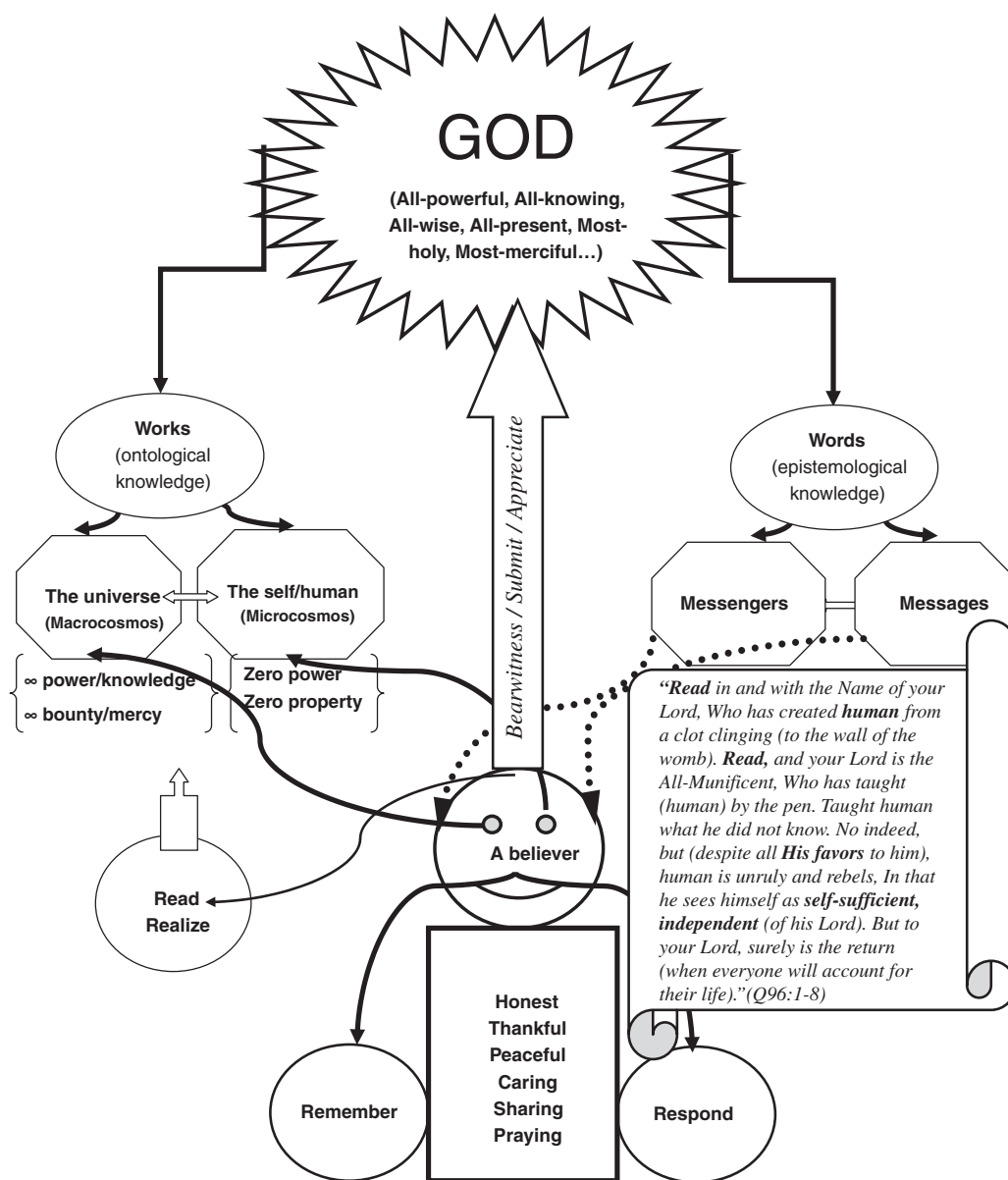
Figure 7. Tawheedi paradigm and ontological-epistemological unity of knowledge.

ontological and epistemological level of reality. Therefore, there is no dichotomy between the revealed knowledge and reasoned knowledge.[6] While the former comes from the divine words (al-kalaam), the latter comes from the divine power (al-kudrah). They are just the different expressions of the same reality which comes from the One (al-ahad and al-waheed). Due to the unity of knowledge in the Islamic worldview, no contradiction is expected between genuine scientific and religious truth.

In Nursi's view, the universe is made in the form of a comprehensible book which makes its author known. For that matter, while authentic revelation is the word of God, true science is nothing but a description of the works of God. There should not be any dichotomy between the words and works of God. We try to understand how everything works and what their meanings are. Modern science reveals the

mysteries of the universe and explains how they work. Even though atheist scientists deny the existence of God, their real scientific works reveal evidence for the existence of God. As it is eloquently said by a Muslim scholar, "the universe is not the property of materialistic science, which has used the universe in a destructive way precisely because it has been unable to discover its meaning" (Mermer 2007 85).

From the Islamic perspective, divine books such as the Quran come from the infinite knowledge of God while the book of the universe comes from the infinite power of God. They both have a similar message confirming each other. According to Nursi, secular scientists make the invisible chapters of the book of the universe visible, but claim them to be meaningless script because they do not know how to read it. As Richard Feynman (1963–1965, 7) says, scientists "cannot make the mystery go away

by explaining how it works". They "will just tell you how it works". In Nursi's view, the divine revelation solves the mystery. In other words, under the light of authentic revelation and through the instruction of the prophets, we could read those scripts and learn more about the names and attributes of its author. For that matter, the first divine command to prophet Muhammed (pbuh) is valid for all believers. Reading the book of the universe under light of the Quran helps us know "the mind of God".

Indeed, the Quran encourages the human mind to study the book of the universe in several hundred verses. It calls our attention to the divine acts in his creatures such as cows, honeybees, sheep, ants, gnats, spiders, stars, the sun, the moon, etc. It asks us reflect on natural events such as the alteration of day and night, the movements of the sun, the moon, and the stars. However, the Quran presents everything in the universe as purposeful acts of God. It explicitly negates the secular trinity. It presents God as the real and only cause behind everything. In other words, in a Quranic perspective, as our inner self cannot be god, the nature, cause-effect, and chance also cannot be god. They are just a veil covering the divine power. As Nursi says, powerless, contingent, and ignorant causes could not be responsible for any result. For instance, an apple tree is not the cause of an apple. It cannot produce even a single apple because it does not have the knowledge, power, and wisdom to do so. Even if all scientists work together they cannot produce an apple. So, how can ignorant, blind, deaf, and unconscious molecules in an apple tree do it? In Nursi's view, an apple tree and an apple are created together. They are always associated with each other. However, one is not the cause of the other. We are confusing the association with causation. This is like seeing the association between a light switch and bulb light and claiming that the light switch is the cause of the light that the bulb produces.

From the Islamic perspective, we are expected to unveil reality by using our mind under the guidance of the divine light. Then, we will see that everything is directly created and maintained by the divine power. In other words, God is not the first cause. He is the only cause. He is the real cause. He does not need to use any means including the cause-effect chain or nature. He directly runs everything in the universe. "All that are in the heavens and on the earth entreat Him (in their needs). Every (moment of every) day, He is in a new manifestation (with all His Attributes and Names as the Divine Being)" (Quran 55:29). "So, All-Glorified is He in Whose Hand is the absolute dominion of all things ..." (Quran 36:83). His wisdom requires an apparent cause as a veil to his power. He is not the god of gaps. He is the god of everything. Indeed, there is no gap for anything else. Thus, the mechanistic worldview based on cause-effect chains is not a description of reality. Perhaps, the quantum worldview, which nullifies the deterministic worldview, is much closer to reality.

In Nursi's view, the story of Adam (pbuh) in the Quran shows that we could even go beyond the ranks of angels if we read the inner and outer universes under the divine guidance. This is because Adam was given comprehensive knowledge of everything while angels had only partial knowledge. He was able to recite the names of God meaning that he understood himself and God in the most comprehensive way, while angels had only a limited understanding of God

and reality. As the children of Adam, we can also study the inner and outer universes to disclose our potential and learn the reality of everything. We should value studying human nature as much as we value the outer universe. Since knowing the inner universe is the key to knowing everything, we should begin from the inner universe. We should read them under the divine instruction and light.

As discussed, the Enlightenment project rejects any heavenly God, but embraces the earthly one. It has created a "secular trinity" which consists of nature, cause-effect, and chance. It has also turned the human self to an inner god. In Nursi's view, the main error stems from its understanding of human nature. In order to correct this mistake, we need to begin with ourselves. We need to discover our inner universe. Once we do that, we will understand that we are not self-sufficient, but contingent. Therefore, we cannot do it by ourselves. We need to rely on the divine power and mercy at every moment. We are infinitely needy creatures. Our life depends on the entire universe. Our desires are as big as our imagination. However, we have absolutely no power to fulfill our needs and desires. We are like a completely paralyzed person. In reality, we cannot even feed ourselves because we do not have control over our digestive system. It is the divine power working within us. It is the divine mercy providing everything for us. Therefore, we should give up arrogance and become truly humble. We should give up complaining and become truly thankful. We should give up serving our desires and ego, and become a true servant of God. The Quran clearly states the purpose behind the creation of human beings: "I have not created the jinn and humankind but to (know and) worship Me (exclusively)" (Quran 51:56). As described by Ghazali, the transcendental achievement would be possible through God-centric life: "The purpose of life is to reach the "martaba" the status of tawhid (oneness of Allah), understand it, inculcate it in his being to follow His dictates to reach the pedestal of the Akhlaqe Alaia (the grandeur of conduct). It would mean a singular achievement of transcending from the "bashariat" (being a human being: fallible) to the "maqame haqiqat" i.e. the position of verity and the truth sublime"(Ghazzali 2001, 747).

Anthropological perspective

As explained before, Aristotle sees wisdom as the means to gain the most desired outcome in life, which is virtue. In order to gain wisdom, one needs to know oneself first. In Aristotle's terms, "Knowing yourself is the beginning of all wisdom". From the Islamic perspective, knowing self is even more important, as the Prophet says, "he who knows himself knows his Lord". In other words, knowing self is the key to knowing God. However, as Gazzhali points out, knowing oneself is not an easy job. Human nature is composed of complex characteristics. It contains animal characteristics in terms of eating, drinking, sleeping, and reproducing. It contains beast-like characteristics, like harming others for his benefits. It contains satanic and angelic characters. Each of these potential characters is developed through certain nutrition: "Each one of these qualities has its own distinct food that nourishes it, sustains and promotes its growth, resulting in the promotion of goodness and the approved behavior" (Ghazzali 2001, 2). In other words, a human conveys a propensity to become animal, Satan, and an angel. Animal are two kinds, good

and bad ones. If a person only pursues animal desires, he would be like a good animal. If he pursues his interests at the cost of others, he will become like beast. The goal is to become like angels "to behold the glory of Allah" and to be "freed from immoral sensual pleasures and arrogant anger on your fellow men" (Ghazzali 2001, 4). Every person has the potential to become like an animal, beast, Satan, or an angel.

Human nature

Since ancient Greece, there have been many explorations about human nature in the Eastern and Western worlds. In the twentieth century, Carl Jung tried to define the "collective unconscious" of humanity through what he called "archetypes" (Jung and Hull 1980). Indeed, Jung argued that we are all connected with our fellow humans and with nature through the collective unconscious. In this regard, Jung's archetypes are like a big ocean which connects individual islands of human society. The key elements of human nature presented in this paper are both similar to and different from Jung's archetypes. They are similar in the sense that both are universal. The residents are not like archetypes. However, they could be considered the source of some of Jung's archetypes.

Inspired largely by the writings of some Muslim scholars such as Al-Ghazali[7] and Nursi, I recently developed a new theory of human nature: "A Grand Theory of Human Nature (GTHN)", using the palace and resident metaphors that follow (Aydin 2012). If we compare the human body to a luxury recreational vehicle (RV), the following elements of human nature would be the companions on this vehicle: King, Judge, Wazir, Elephant, Showman, Dog, and Driver. The King is the spiritual heart, that is, the source of love and inspirational knowledge. The Judge is the conscience that is the source of positive feelings after performing "good things" and negative feelings experienced after doing "bad things". The Wazir (prime minister) is the mind. The Elephant is the animal spirit, which is the source of animalistic desires. The Showman is the self-centric ego that pursues power and possession to show its importance to others. The Dog is an inner drive for protection of personal belongings with the potential to oppress others for their possessions. The Driver is the deciding self (free will) that drives that the vehicle under the influence of the residents.

The king: The spiritual heart

Metaphorically speaking, the spiritual heart of an individual is like the King in a human vehicle. He has the capacity for love, compassion and inspiration. He also has certain needs and desires for the fulfillment of his potential and he takes actions to acquire what he needs and desires.

Gazhali describes inner self as the essence of what we are. It can be seen by the eyes of Batin. The heart (or soul) is the core of human existence. Everything else is subservient to the heart who is the king of the human vehicle/city: "The heart is the rider of the body. Its purpose is for the rider to ride its mount. The horse is for the rider and not the rider for the horse"(Ghazzali 2001, 44). According to Ghazali, "the heart is in control of the whole body." This is because of the fact that all desires emerge from the heart. For instance, "when the heart is in anger, the entire body starts

perspiring. Similarly, when the heart inspired sexually the relevant organs of the body are stirred and affected. Also when the heart thinks of eating, the agility in the lower portion of tongue is aroused to serve him. Hence, it is evident that the heart has superintendence over the entire body" (Ghazzali 2001, 29). The key qualities of the heart could be summarized as follows:

First, the King has almost infinite capacity to love. He needs/desires beauty, perfection, and benefits in his lover(s). This is because the fact that the nature of love is satisfied by beauty, perfection, and benefit. The King uses his capital of love to make attachments in his search for lover(s). From his perspective, life is a journey of making attachments to satisfy these needs. Attachments can be made with material and/or immaterial things such as money, property, lovers, friends, nature, and God. However, according to Ghazali, the King finds true satisfaction only with the knowledge, submission, and love of God: "the heart is the knight-rider of the body. The rest of the body is official of this force. Its principal duty is the attainment of the 'marafat of Allah' the perception and acquisition of His sublime beneficence due to the inherent characteristics bestowed by Him in the man's heart to this effect. It throbs in His love. All the time it is vocal, reciting His praise, that He alone, He alone is worthy of being worshipped. Only He, it is continuously intoning, has the power to grant mercy or levy punishment on His people … Thus, in whole-heartedly striving to possess the 'marafat' of Allah is the key to this goal" (Ghazzali 2001, 4). This is the case because "The 'marafat' of Allah is the food of the soul, as meals taken by man are nourishment for his body" (Ghazzali 2001, 4).

Second, the King has the capacity for compassion, which is the source of empathy for the well-being of other individuals. For example, compassion for children, the elderly, and the poor comes from the King. Through exercising compassion, he makes us care about those who need help and desires to share our resources with them. He receives pleasure from exercising this compassion and feels pain when not able to exercise compassion.

Third, the King has the capacity for inspiration. The King demonstrates curiosity for the life and the world around him. This is the source of learning about the arts and sciences. Concentration and contemplation of objects of amazement or novelty inspire the King to gain knowledge. The King seeks the company of people, objects and events that provide inspiration.

In short, it is difficult to substantiate the value of life without the King's attachments; therefore, the King is given a high priority and all other residents of the vehicle ultimately serve him. GTHN suggests that individuals should take care of the needs and desires of the inner King first. This requires awareness of what the King desires and protection from compromise of these desires. No wonder that Harvard psychiatrist, George Vaillant, who directed a 72-year longitudinal study known as the Grant Study, which aimed to identify a formula for a happy and successful life, declared that "Happiness is love, full stop" (Joshua Wolf Shenk 2009).

According to Ghazali, the heart and its kingdom are provided to reach to the highest of high (allayi illiyin).

He must consider this world a temporary house and the hereafter a permanent residence. He should use all of his forces under the command of the king to reach his final destination. If they all follow the command of the heart, there will be peace and happiness in life's journey. Otherwise, there will be chaos and misery.

The judge: The human conscience

Conscience, which is defined as the ability to distinguish right from wrong, is like an inner judge in the human vehicle. The Judge makes judgments about an individual's decisions in life. If we treat someone unfairly, the inner judge causes us to be aware of this injustice and feels guilty for being unfair to others. A recent experiment by the Brain Research Center of the Russian Academy of Sciences (2009) confirms the existence of an inner judge mechanism present in human beings. According to the director of the center, "There is a mechanism in our brain which informs us that we have done something wrong. This mechanism launches the phenomenon known as remorse. And it is actually our remorse which makes us hate our conscience. That is why a lot of people try to get rid of it. And the most popular and available way to get rid of conscience is alcohol."

Central to the Judge is the notion of equity or fairness. Akerlof and Kranton (2000; 2002; 2005) conducted several studies to find out how people understand the concept of fairness. These studies concluded that most participants conceptualized "fairness" as "living up to what they think they should be doing to make other people happy". The Judge is affected by perceived unfairness in his community or broader society. He desires "fairness" in relationships and seeks equitable social arrangements in which the individual trusts and is trusted by other members of society. Feelings of inner peace exist when community norms and social policy reflect values consistent with those of the Judge. In order to make the inner Judge happy, an individual must develop a code of ethical behavior and consider fairness in every action.

The wazir: Mind

Mind, which consists of intellect, logic, and memory, serves as Wazir to the King, the ruler of the human vehicle. If the Elephant described below is in power, the Wazir will serve him by providing guidance on available choices for pleasure. Thoughts that are deemed logical and rational also serve as guidance to the King (heart) and the Judge (conscience). However, if the Wazir is pre-occupied with helping the Elephant, he may not have the resources to serve the King and the Judge. The Wazir has the capacity of reasoning and memorization. His fulfillment comes with gaining knowledge by comprehending objects in the environment and through events that he experiences. The Wazir acts to learn, reason, and contemplate the inner and outer universes.

The Wazir is thirsty for knowledge and meaning. He asks questions and enjoys learning their answers. He performs the role of making rational decisions for the King and other residents such as the Elephant and Judge. However, he has no power to endorse his decisions and may be silenced if the Elephant is too strong. When this analogy is applied to free market capitalism, individuals often exhibit behaviors that are dominated by the Elephant despite attempts at guidance from the Wazir.

The elephant: Animal spirit

The Elephant is an animal spirit in the human vehicle. In traditional Islamic literature, it is known as nafs. Al-Ghazzali calls it "horse"; he argues that if we spend all our time looking after it and feeding it, we would never get anywhere. Instead we should train it and give it just enough attention so that it can carry us where we want to go (Ghazzali and Winter 1997). I prefer to call it the Elephant because of its similarities to what is described by Jonathan Haidt in his book titled "The Happiness Hypothesis". Haidt suggests that we have a divided self, which consists of a rider and an Elephant. The rider is the reasoning part of the mind and the Elephant is the part seeking pleasure. To Haidt, "the rider is an advisor, or servant, not a king, president, or charioteer with a firm grip on the reins" (Haidt 2005). Haidt defines life as a constant struggle between the elephant and the rider. However, according to Haidt, it is the elephant that is in control, not the rider, "It is really the elephant holding the reins, guiding the rider. The rider becomes a lawyer fighting in the court of public opinion to persuade others of the elephant's point of view" (Haidt 2005, 21–22).

The Elephant has the capacity for sensual experience through using the five senses. He needs and/or desires many things such as food, drink, sleep, sex, etc. His fulfillment is determined by the acts of eating, drinking, sleeping, sexual activity and so on. Nursi, (1996a; 1996b; 1996c) wrote extensively on what the Elephant desires and how to train/control him. In his view, the Elephant is addicted to pleasure. The Elephant pursues instant gratification and selects present pleasure over any greater reward that could be achieved through deferment. Blind to the future, he wants to gain pleasure and avoid pain now with no ability to conduct long-term cost and benefit analysis. He is never satisfied with what he has and always asks for more. Due to the phenomenon known as "hedonic adaptation", he is very adaptable to his current situations. He ceases to appreciate what he has and always looks for new sources of pleasures. He resists limits and without external restraint will consume anything and everything that provides instant gratification. He collaborates with the Showman and consumes "positional goods and services". Indeed, according to Haidt, the Elephant is concerned with "prestige, not happiness" (Haidt 2005, 22). In Nursi's view, one of the key purposes of religion is to provide restraint and to control of the Elephant, guide and train him.

The showman: The self-centric ego

The self-centric ego is like a showman in the human vehicle. He enjoys working for the Elephant because of the recognition he receives from the latter's activities. He is motivated by acts that acquire recognition, identity, fame, etc. and frequently compares his own possessions with those of others. However, if the Showman gains too much power in the vehicle, he will act like a dictator trying to control other people and nature. Indeed, he might even claim to be a sort of God. Relying on his assumed power, he will attempt to oppress others for his interests. He will not accept his imperfection and impotence. He will become a selfish creature as defined by Haidt: "We are shaped by individual selection to be selfish creatures who struggle for resources, pleasure, and prestige, and we were shaped by group selection to be hive creatures who long to lose ourselves in something larger" (Haidt 2005, 21–22).

In the modern consumer society, individuals are in a continuous process of constructing their personal identity through consuming material goods as social and cultural symbols. Cushman said that the "empty self" of a consumer is constantly in need of "filling up" through material consumption (Cushman 1990). Companies are quite successful in providing positional goods and services to conspicuous consumers. They do not sell "just" products; they sell brands, prestige, visions, dreams, associations, status, etc. (Klein 2001).

The dog: The oppressive ego

The Dog is an inner drive for the protection of personal belongings with potential to oppress others for their possessions. If unchecked by moral and religious values, he will act like a dictator trying to control other people and nature. Indeed, he might even claim to be a sort of God. Relying on his assumed power, he will attempt to oppress others for his interests. He will not accept the innate impotence and neediness. According to Ghazali, the power of anger (quvate ghazab) is "like a hunting dog". It is given "to suppress the devil in man" in two ways (Ghazzali 2001, 733):

- By remaining in the confines of the code of conduct of the Shariat.
- By overcoming the savage, the sensual and self-aggrandizing urges.

Ghazali elaborates on the outcome of being overtaken by the Dog as follows: "then the damaging traits that will develop in you will be those of being rash and unmindful of consequences, impurity, bragging, arrogance, wanton flaunting of your faults, taunting and torturing others, picking up flights and squabbles with others." On the other hand, "if you prevail over this dog of destruction, you will acquire the added qualities of patience, suavity, forgiveness, stability, bravery, tranquility and saintliness" (Ghazzali 2001, 15).

The driver: The deciding self

The observing/deciding self is like a driver in the human vehicle. He is the source of self-awareness and serves as a conduit for relationships with other human beings and the external environment. He is the reference point for knowing everything including other beings and God (Al-Ghazzali 2007; Nursi 1996c). He is in charge of the vehicle. He is aware of his possessions and protects them from intruders. As shown in Figure 8, the Driver pursues self-esteem, awareness, and identity formation.

Teleological perspective

From the Islamic point of view, as everything in the universe is created for certain purposes, a human being is also created for certain purposes. The main purpose of the human is not to boost the self, turning him to an inner god. The purpose is also not to serve the Elephant, as in becoming his slave. Rather, the purpose is to understand our nature embedded with infinite impotence and poverty, and act accordingly. It is to disclose our almost infinite potential by relying on the divine power and mercy through understanding our true nature. In other words, the purpose
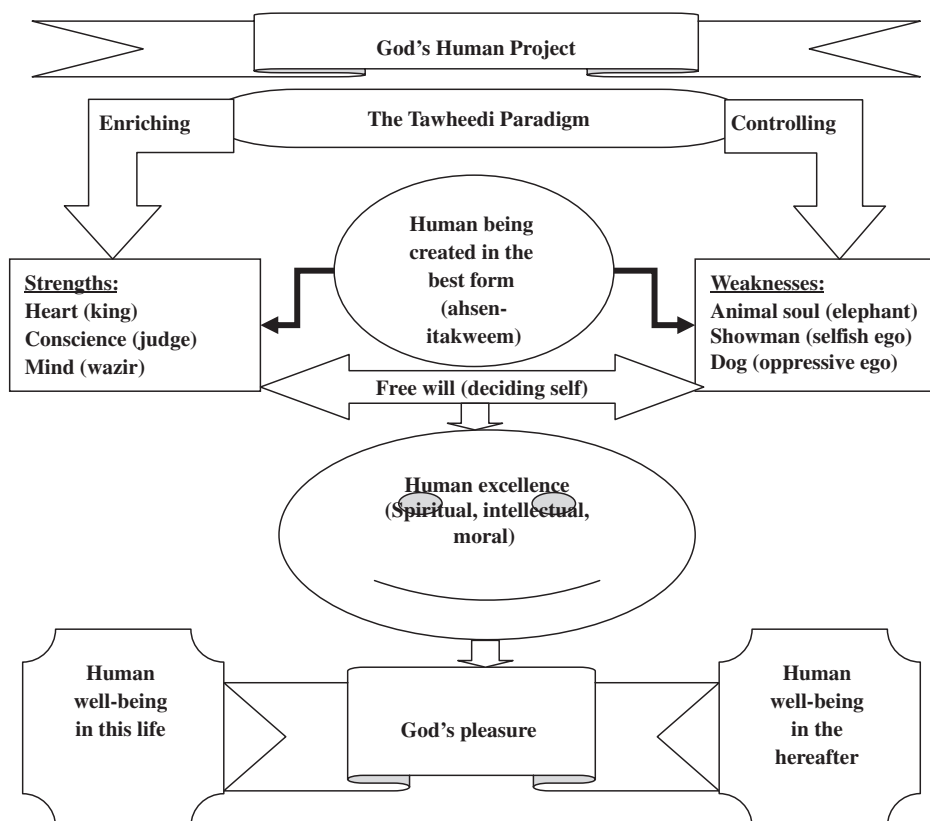

Figure 8. God's human project.

is to excel spiritually, intellectually, and morally and be "insan-i kamil" (a perfect human) by disclosing our human potentiality as much as we can.

A story told by the 13th century poet Rumi fits well in explaining what the Enlightenment has done to human potential. In his masterpiece Mathnavi Ma'navi "Spiritual Couplet", Rumi compares the human to a goose's egg along with many hen's eggs placed under a hen for incubation. Even though the chick from the goose's egg will become a goose, if she imitates her siblings, she can only walk. However, if she becomes aware of her potential, she can walk on the ground, swim in the water, and fly in the air. Similarly, if we truly become aware of the key elements of our nature, we can have many different experiences and reach a higher level of enjoyment in our life.

God's human project

From the Quranic perspective, a human being is a (perhaps the) major project of God. The Islamic worldview is built upon this project. The Quran provides detail information about the initiation of the project and its expected outcome. "Remember (when) your Lord said to the angels: "I am setting on the earth a vicegerent." The angels asked: "Will you set therein one who will cause disorder and corruption on it and shed blood … He said: "Surely I know what you do not know" (Quran 2:30). In another verse, the Quran states that human beings were created in the best form (ahsan-i taqwim): "Surely we have created human of the best stature, as the perfect pattern of creation" (95:5). This refers to the potential in human beings. Indeed, the Quran clearly indicates that human beings are potentially superior to all creatures, even angels. Therefore, when Adam was created, the angels were asked to "prostrate before Adam! They all prostrated, but Iblis Satan did not; he refused, and grew arrogant, and displayed himself as an unbeliever." (Quran 2:34) The superiority of Adam was not coming from wealth, pleasure, fame etc. It was coming from his ability to learn the truth about God in a comprehensive manner. "(Having brought him into existence,) God taught Adam the names, all of them. Then (in order to clarify the supremacy of humankind and the wisdom in their being created and made vicegerent on the earth), He presented them (the things and beings, whose names had been taught to Adam, with their names) to the angels, and said, 'Now tell Me the names of these, if you are truthful (in your praising, worshipping, and sanctifying Me as My being God and Lord deserves)'" (Quran 2:31). The angels acknowledged that they could not gain knowledge as much as a human could. The Quran (95:5) also warns about the failure of not using the great potential given to human beings by saying that he will "reduce him to the lowest of the low". The only way out from such failure is be among "… those who believe and do good, righteous deeds" (Quran 95:6).

From the Islamic perspective, the ultimate purpose of life is to excel in virtuous and sincere deeds in order to fulfill the mission of vicegerent and earn God's pleasure. This means that human beings should be guided in terms of how to live a good life and fulfill this divine mission. However, the guidance does not come from the secular mind; it comes from the mind enlightened by the divine revelation. As seen in Figure 8 below, God's human project will succeed if we enrich our heart, conscience, and mind,

and control our weaknesses, namely animal soul, and selfish and oppressive ego through the teaching of the Tawheedi paradigm. Nursi defines the tawheedi paradigm on five pillars: tawhid (oneness of God); nubuvvah (prophethood), hereafter (akhirah); adalah (justice); and obedience to God (ibadah). The last one is not just praying, it is living wholly according to the divine guidance. God's human project is built upon these pillars. They help human beings to control their negative sides and to disclose their positive sides in fulfilling their mission as vicegerent and to reach to the highest of the high, going even beyond angels. If we fulfill our mission by following our nature, we will excel and reach to the highest of high. If we fail to do so, we will fall to the lowest of the low. For that reason, the Quran praises the Prophet Muhammed in terms of his character: "You are surely of a sublime character, and do act by a sublime pattern of conduct" (Quran 68:4).

The success of the project is not measured by material outcomes. It is measured by spiritual, moral, and intellectual outcomes. Ghazali outlines the outcome of a good and a bad life as follows: "Beware that your acts and deeds will create in you a corresponding trend of character which will make you or mar you. Indeed nothing but the good emerges out of the good. Vice versa, if you are obedient to the swine of desire, you will have similar habits of profanity, shamelessness, avarice, flattery, dirtiness and that of being happy over the wickedness of the others. However if you succeed in suppressing the swine; getting the better of him, you will be crowned with the qualities of contentment, grace, wisdom, piety and selflessness etc." (Ghazzali 2001, 14).

Ghazali gives the example of a person who aims to go to Kabah by camel. Of course, the person has to take care of the camel to a certain extent in order to complete his journey successfully. However, if he acts as if his main job is to serve the camel, he will perish on his way without reaching the destination. The relationship between body and soul is like that of a rider and camel. The rider aims to go to Kabah (Ghazzali 2001, 78). He will take care of his camel to realize his goal. If he spends all of his time serving the camel, but making no progress, he would be considered foolish. In another place, Ghazali again refers to the kingdom metaphor to explain the purpose of life: "Allah thus gave man the heart and its kingdom to reign over. He provide him with the army – the force to do so, also the wherewithal to ride, in order to make him rise to the higher grounds of grandeur" (Ghazzali 2001, 9).

For that matter, life is not fun even though there is room for fun in life. Rather, life is a test. "We have surely made whatever is on the earth as an ornament for it (appealing to humanity), so that We may try them (by demonstrating it to themselves) which of them is best in conduct. Yet, We surely reduce whatever is on it to a barren dust-heap (and will do so when the term of trial ends)" (Quran 18:7–8). Therefore, material possessions cannot be the goal in life; they can only be a means of accomplishing the ultimate goal of disclosing our potential. For a believer "the present, worldly life is nothing but a play and pastime, and better is the abode of the Hereafter for those who keep from disobedience to God in reverence for Him and piety…" (Quran 6:32). The purpose of life is to pursue God's pleasure by fulfilling our mission as desired and designed rather

than pursuing self-pleasure. However, from the Islamic perspective, well-being in this life and in the hereafter will be realized as by product of God's pleasure. Ghazali points out the hapless pursuit of happiness in sensual pleasure as follows: "some people think that they have been made to eat, drink and fulfill their urge for the other sex. People of this kind wither away all their life in such hapless pursuits" (Ghazzali 2001, 17).

5. Islamic economics as a new economic paradigm

Islamic economics has been a key subject matter among a diverse pool of Muslim scholars, such as commentators of the Quran, jurists, historians, and social, political, and moral philosophers. In last few decades, discussions on Islamic economics have intensified. Muslim economists have been discussing the need for Islamic economics as a new discipline. Even though there is a great consensus among scholars that the Islamic worldview differs from its secular counterpart, "the debate on 'nature' of and 'need' for Islamic economics and finance as an alternative paradigm is not settled yet" (Iqbal et al. 2007, 4). Despite significant progress in the discussion, there is still argument even on the very definition of Islamic economics.

There groups of people who write on Islamic economics. The first group of scholars is those who attempt to present the Islamic economic system as an alternative system to capitalism and/or socialism. They are in favor of radical changes rather gradual modification of the existing system. The second group acknowledges that Islamic economics should be a distinct system, but they do not think that Muslim scholars are ready to present such a comprehensive alternative system. Therefore, they are in favor of gradual reformation of conventional economics. The third group consists of critics of Islamic economics who do not see any potential for Islamic economics to be a distinct model. For instance, Timur argues that Islamic economics is not a genuine answer to the world's economic problems, but an invented device to protect "Islamic civilization against foreign cultural influences" (Kuran 1995, 156). In my view, Timur and other skeptics of Islamic economics do not understand the distinctive features of the Islamic worldview. They see the efforts towards Islamic economics as capitalism minus interest plus zakah, or socialism minus state control plus God. They do not think Islamic economics could be defined as something unique. In this section, I would like to discuss the definitions of Islamic economics suggested by leading scholars of the first two groups mentioned above. Then, I will present my own definition based on the Islamic worldview outlined in this paper.

Conventional economics

Marshall, in his famous book "Principles of Economics" published in 1890, defines economics as follows:

> "Political Economy or Economics is a study of mankind in the ordinary business of life; it examines that part of individual and social action which is most closely connected with the attainment and with the use of the material requisites of wellbeing. Thus it is on the one side a study of wealth; and on the other, and more important side, a part of the study of man."

It means that the main subject matter of economics, irrespective of whether it is capitalist or Islamic, is the allocation of scarce resources to produce and distribute goods and services in order to fulfill the needs and wants of human beings. Thus, need and want fulfillment of human beings are at the final end of economic activities. However, the challenge arises from the scarcity of resources versus the unlimited wants of human beings. Economists are supposed to help with finding the answers to three core questions: what, how, and for whom to produce? Even conventional economics is divided over how to answer the questions above. Positive economics deals with those questions without taking any norms into consideration while normative economics tries to find out universally desired answers. In other words, positive economics aims for efficiency in production and distribution while normative economics considers value judgments above efficiency.
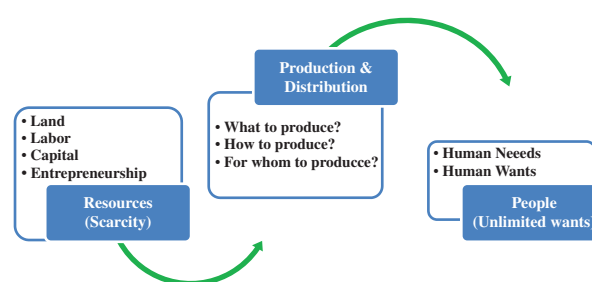
Figure 9. Basis of economics.

Due to the scarcity of resources and the unlimited nature of human wants, the core questions are same for every kind of economics, capitalist, socialist or Islamic. However, the answers to those questions depend on worldviews. In general, we could talk about two main worldviews:

1. Materialist and secular.
2. Spiritual and religious.

The materialist and secular worldview rejects the spiritual realm of the human being and the universe. There is nothing beyond the material world. The life is strictly limited to this world. There is no room for belief in the hereafter. For that matter, the primary concern of materialist people is the acquisition of material goods and the enjoyment of physical satisfactions, and as a consequent rejection of or indifference to the spiritual, aesthetic, or ethical things (Stuart 1989, 19). This is same for the socialist economic system. Despite disagreement between the two, in reality, the capitalist and socialist systems are two twins who prefer different means to the same ends. In other words, both capitalism and socialism see human pleasure as the final ends. The disagreement is about how to produce goods and services for human pleasure and who to please among human beings. Well-being is defined in a purely materialist and hedonist sense. While free market capitalism envisions the fulfillment of social interests within the free pursuit of self-interests, socialism gives priority to social interests. Both capitalism and socialism aim for a "worldly paradise" through the material well-being of people. The disagreement is in the tools they suggest for the final end.

Islamic economics

Even though Islamic economics overlaps with conventional economics in terms of dealing with scarce resources in order to fulfill the needs and wants of human beings, it differs significantly in the way it answers the core questions and defines human needs and well-being. Islam recognizes the spiritual, moral, and social needs of human beings in addition to material needs. In Islamic economics, human well-being is not defined from a hedonic perspective; rather it is defined from a spiritual, moral, and social perspective. Even though Islamic economics is for free market in general, it does provide certain filters to avoid the madness and unfairness of the market. Thus, the answer to "what to produce" is determined by a comprehensive understanding of human nature and needs, not by self-interest. Self-pleasure is not the final end, it is the by-product of God's pleasure.

There are many competing definitions of Islamic economics. I would like to discuss several of them here. Hasannuzzaman is one of the first people who attempted to come up with a comprehensive definition: "Islamic economics is the knowledge and application of injunctions and *rules of the Shariah that prevent injustice* in the acquisition and disposal of material resources in order to provide satisfaction to human beings and enable them to perform their obligations to Allah and the society" (emphasis added) (Hasanuzzaman 1984, 52) This definition is quite vague. It does not specify which rules and knowledge are relevant to Islamic economics. Islamic economics is defined mainly on the concept of justice. It is not clear whether the author would consider capitalism or socialism as acceptable economic systems if they are modified to prevent injustice.

For Mannan, the defining feature of Islamic economics is its values: "Islamic economics is a social science which studies the economic problems of a people imbued with the *values of Islam*" (emphasis added) (Mannan 1987, 18). However, he does not elaborate on the relevant values and how their involvement will create Islamic economics as a distinct field. For Khurshid Ahmad, Islamic economics is "a systematic effort to try to understand the economic problem and man's behavior in relation to that problem *from an Islamic perspective*" (emphasis added) (Ahmad 1992, 19). Again, the definition does not provide any hint on how the Islamic perspective requires Islamic economics to be distinct. Likewise, the following definitions portray Islamic economics as something shaped by Muslim scholars within the Islamic perspective, but do not say how it differs in terms of answering the core questions: "the Muslim thinkers' response to the economic challenges of their times. In this endeavor they were aided by the *Quran and the Sunnah as well as by reason and experience*" (emphasis added) ((Siddiqi 1992, 69). "Islamic economics is the representative *Muslim's behavior* in a typical Muslim society" (emphasis added) (Naqvi 1994, 176).

For Khan, the distinctive feature of Islamic economics is well-being through co-operation and participation; however, he does not elaborate on the implications of his definition for the nature of the Islamic economic system: "Islamic economics aims at the study of human falah [well-being] achieved by organizing the resources of the earth on the *basis of cooperation and participation*" (emphasis

added) (Khan 1994, 33). Although Hasan expands the preceding definition by highlighting the multiplicity of wants and scarcity of resources, he does not go far enough to outline the distinctive nature of the Islamic economic system: "Islamic economics is the subject that studies human behavior in relation to a *multiplicity of wants and scarcity of resources* with alternative uses so as to *maximize falah* that is the well-being both in the present world and the hereafter" (emphasis added) (Hasan 2011, 21).

Umar Chapra provides the most comprehensive definition: "The primary function of Islamic economics, like that of any other body of knowledge, should be the realization of human well-being through the actualization of the maqasid. Within this perspective Islamic economics may be defined as that branch of knowledge which *helps realize human well-being through an allocation and distribution of scarce resources that is in conformity with Islamic teachings* without unduly curbing individual freedom or creating continued macroeconomic and ecological imbalances" (emphasis added) (Chapra 1996, 30).

To me the distinctive features of Islamic economics come from the Islamic worldview, particularly its ontological, epistemological, and teleological differences from the materialist worldview. Therefore, it is important to highlight the multi-dimensional well-being goals and morally guided market mechanism in the definition: "Islamic economics foresees an economic system based on the Islamic worldview aiming to realize spiritual, moral, intellectual, social, and material well-beings of individuals in this life and the hereafter through allocation and distribution of scarce resources in a morally guided market system." Thus, the answers to the core questions could be as follows: what to produce? Produce goods and services which help human beings to excel spiritually, intellectually, morally, and socially. What to produce? Produce the basic goods and services for everyone, but others for those who could afford more. Accumulate spiritual, moral, and social capital in addition to physical and financial capital. How to produce? Produce through an efficient and fair market mechanism.

6. Desired outcome in Islamic economics versus conventional economics

In this section, I will present the key distinguishing features of Islamic economics. As well-argued by Aristotle, the ultimate end or final good is what we should care about. For that matter, it is important to understand how the final good in Islamic economics differs from that of in conventional economics. I would like to make this comparison through examining three happiness models. The first one, G-donic model, is the path to happiness through the Islamic worldview; the second, the eudonic model, is the path to happiness through Aristotelian philosophy; the third, the hedonic model, is the path to happiness through a capitalist utilitarian prescription. The eudonic model has already been discussed, so I will outline the other two models before making a comparison between the three.

G-donic happiness model

The G-donic happiness model is based on a comprehensive understanding of human nature from the Islamic

perspective. Understanding and commanding our inner nature are very important in the pursuit of happiness. As Toynbee argues, "the command over non-human nature, which science has in its gift, is of almost infinitely less importance to Man than his relations with himself, with his fellow man, and with God" (Toynbee and Somervell 1946, 99). In fact, the authors go to the extent of saying that "a crushing victory of science over religion would be disastrous for both parties; for reason as well as religion is one of the essential faculties of human nature."

As Buddha says, "there is no way to happiness. Happiness is the way." I call it the "happiness highway". In this regard, happiness is not a destination to reach. It is the experience while driving on the happiness highway. Happiness is the by-product of living according to the God's pleasure. Using the analogy in the section on human nature, we can define happiness as overall life satisfaction for the residents of the RV while driving on the straight path (sirattal mustakim). In other words, happiness is to drive the RV to under the collaborative command of the King (heart), Judge (conscience), and Wazir (mind). It is to drive towards excellence in sincere spiritual, intellectual, and moral intentions and actions. It is to keep the Elephant (animal soul), Dog (anger), and Showman (egoistic self) under the command of the King, Wazir, and Judge.

While the G-donic model provides guidance to nourish the heart, mind, and intellect, it also highlights the danger of being slave to the animal soul, ego, and anger. It warns people that, if not trained, the Elephant, Showman, and Dog will dominate the RV and urge certain irrational actions despite any objection from the King, Wazir, and the Judge. The G-donic model provides nourishment for the King, who has the capacity for love, compassion and inspiration. It guides people on how to find authentic and lasting love in life for the fulfillment of the King. It discusses the role of loving mates, children, friends and jobs in the pursuit of happiness. The G-donic model notes that the inner Judge (conscience) always makes judgment about what we do to others. If we treat someone unfairly, he causes us to be aware of this injustice and to feel guilty for being unfair. If we treat others fairly, we receive spiritual pleasure experienced through the fulfillment of the judge.

The G-donic model presents the food station for the Wazir who is thirsty for knowledge and meaning. Finding meaning in life is very important for the Wazir because, as the navigator, he needs to know where to go. Life without meaning is like driving without knowing the destination. The G-donic model also offers a guide on how to keep the animal soul, showman, and god under control. It suggests moderation in consumption and warns about the poisons present in some food. It makes some recommendations for pleasure maximization under restraints of the "law of diminishing marginal utility", "adaption principle", and the "hedonic treadmill".

Based on the GTHN, it is not possible for a person to discuss "happiness" in the singular form because there are many "residents" (selves) who are competing within the human "vehicle". When we say "I am happy", who do we mean is happy: the Dog, the King, the Judge, the Wazir, the Elephant, or the Showman? Of course, we could make a collective statement on behalf of all the residents if they all experiencing the same level of happiness. In this regard, happiness is not a destination; it is experience on the highway of life. We can summarize the overall subjective wellbeing of the residents as a happiness matrix.

The happiness matrix captures six different dimensions of the human experience as represented by the residents of the vehicle. For instance, happiness for the King depends on how one fulfills the needs/desires of love, compassion and inspiration. Love pursues beauty, perfection and benefits. Life for the King in this regard is a journey of making attachments. The number, intensity, and duration of attachments produce spiritual or esthetical pleasures. As the King gains pleasure by making attachments through love, compassion, and inspiration, he also suffers from any detachments that occur. Like the King, each resident of the human vehicle experiences pains and/or pleasures from daily activities. Therefore, we will define happiness as a function of subjective well-being for all residents in the matrix as shown below:

$$H = \Sigma\, w_i\, h_i(X_i) = w_1\, h_1(K) + w_2\, h_2(J) + w_3\, h_3(W) + w_4\, h_4(E) + w_5\, h_5(D) - w_6\, h_6(S)$$

"There is no way to happiness. Happiness is the way"
Buddha

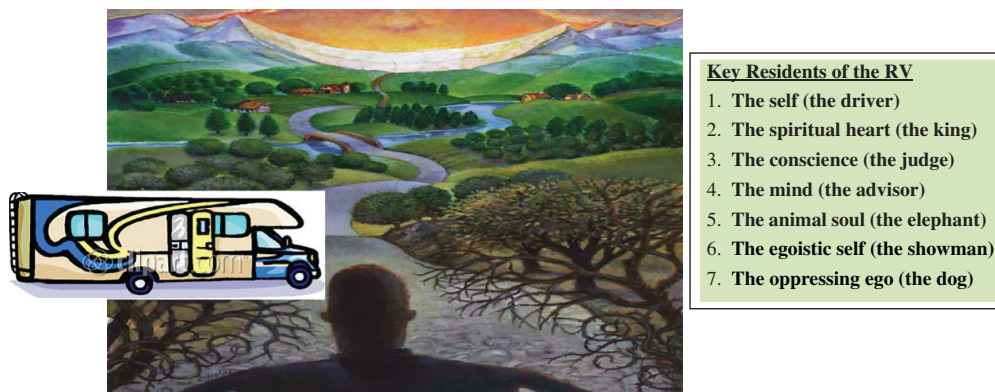| Key Residents of the RV |
| --- |
| 1. **The self (the driver)** |
| 2. **The spiritual heart (the king)** |
| 3. **The conscience (the judge)** |
| 4. **The mind (the advisor)** |
| 5. **The animal soul (the elephant)** |
| 6. **The egoistic self (the showman)** |
| 7. **The oppressing ego (the dog)** |

Figure 10. Key residents of the RV.

where H is one's overall with satisfaction with life; w_i is the weight of specific happiness variable in one is overall happiness with life; h_1 is one's happiness function with the King; h_2 is one's happiness function with the Judge; h_3 is one's happiness function with the Wazir; h_4 is one's happiness function with the Elephant; h_5 is one's happiness function with the Dog; and h_6 is one's happiness function with the Showman. In Nursi's view, overall life satisfaction is maximized when the needs and desires of first five are fulfilled in the balanced way while the effect of the last one (the Showman) is minimized.

In the G-donic model, authentic happiness is possible if individuals listen to the voices of all residents of the human vehicle and try to fulfill their needs and desires in a balanced manner. One cannot achieve true happiness by listening to only one resident while disregarding the others. By knowing each resident in terms of their needs, desires, and dangers an individual can attempt to find that balance. In many ways, the residents of our body are quite similar to the members of a family living in the same house. As the entire family's peace and happiness is possible if each family member lives in peace and prosperity, the inner peace of a person is also possible if each resident of his vehicle lives in peace and prosperity. Making one family member happy and leaving the rest of the family in misery is not true happiness for the family. Likewise, making one resident of the human vehicle happy, but neglecting the others, is a recipe for discontent. Therefore, it is important to define the happiness function for each resident separately based on the relevant variables in the matrix shown above.

In order to achieve overall happiness, each resident's happiness should be considered. Prioritizing the needs and desires of residents in case of scarcity and conflict allows harmony. For instance, if we spend too much time earning money for sensual pleasure, we will have less time left for pursuing other pleasures. Furthermore, things that give pleasure to one resident might be painful for the other. For instance, drinking too much alcohol might create sensual pleasure, but it kills intellectual pleasure. Thus, overall happiness requires effort to balance the needs and desires of all residents. In short, from the Islamic perspective, authentic, pure, and lasting happiness is only possible if one listens to the voices of all the residents of the vehicle and attempts to fulfill their needs and desires in a balanced way. One cannot be truly happy if s/he listens only to one of residents while disregarding the others.

Hedonic happiness model

Since the Enlightenment, particularly in the West, the quest for happiness has been mainly through material consumption. As Jeremy Bentham says, the goal of human beings is to maximize pleasure and minimize pain. Capitalist ideology provides a utility calculator in order to assist people in making estimates towards maximizing their utility through material consumption. The simple formula for happiness is defined as follows: the more you consume, the happier you will be. Indeed, the global market economy based on the capitalist ideology has been very successful in producing more wealth and in creating opportunities for people to consume more. Living in a global consumer culture, people have gone far beyond purchasing goods and services to fulfill their essential needs. They have almost turned into "consumption machines" to produce happiness.

The capitalist ideology based on the utility principle which produces "popular culture" and the "consumer society" views self (ego) and animal spirits as the main elements of human nature. Indeed, the system relies on these pillars. For instance, Adam Smith, the father of capitalist ideology, explains the "invisible hand" behind the market mechanism based on the concept of "self-interest". In his terms: "It is not from the benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regard to their own interest" (Smith 1990, 26–27). Inspired by Adam Smith and Jeremy Bentham, the capitalistic ideology uses market mechanisms to please animal spirits and boost human egos. Therefore, it undermines many elements of human nature. It reduces humanity to the animal level of life experience. It destroys most of his positive potentials.

In my view, self-interest relies on two key elements of human nature. "Self" refers to "ego" and "interest" refers to the desires of "animal spirits". According to Adam Smith, the market mechanism determines what and how much to produce if we simply let everyone act based upon his or her "self-interest". Individuals will demand and supply an optimum amount of goods and services to boost their ego (or make up their images) and fulfill the desires of their animal spirits. Thus, supply and demand driven by the interests of self (ego) and animal spirits will work like an invisible hand pushing the market mechanism toward the most efficient production and consumption. Therefore, the role for government is limited to a few areas such as security, national defense, and justice. Furthermore, the free market mechanism could even provide some of those services if it is allowed to be so. The ultimate purpose is to let the market system produce all goods and services, if possible. Perhaps, with strong lobbying power, the market system could even run the government.

Free market capitalism uses money to fulfill the desires of the Elephant, the Showman, and the Dog. The system turns everything into commodities. As argued by Karl Polanyi (1957), during the pre-capitalist era, "economic" relations and practices were "embedded" in non-economic social relationships, such as kinship, communal, religious, and political relationships. The main motive behind economic activity was not money. People used to seek the achievement of prestige or the maintenance of communal solidarity. However, in the modern "market society", the main purpose is to make money. Even human beings and nature are treated as market commodities in the form of labor and land.

Capitalism commercializes everything, including human values and relationships because of its lack of understanding of true human nature. It replaces authentic and lasting love with fake and fast love. It kills friendship for the sake of making more money. It replaces long-lived family life with short-lived dating. However, what free market capitalism offers is far from satisfying the King. The King also enjoys real and authentic attachments rather than superficial ones. It is not the King; it is the Elephant who wants sensual and sexual love. The King wants emotional and eternal love. Indeed, some ancient philosophers hate sensual and sexual love because they think "(…) love is attachment.

Attachments, particularly sensual and sexual attachments, must be broken to permit spiritual progress" (Haidt 2005, 128). They think the love of self is an impediment to love of neighbors, love of truth, love of God, love of beauty. "They all know that virtue resides in a well-trained elephant" (Haidt 2005, 160).

Free market capitalism does not recognize the desires of the inner Judge. Therefore, the system does not consider fairness in determining prices and wages. However, the lack of fairness and confidence hurts people and diminishes their subjective well-being. It is one key factor driving both financial and happiness crisis. Akerlof and Kranton (2000; 2002; 2005) conducted several studies to find out what people think about fairness. They reported that people generally consider it an insult if others think they are not fair. At the same time, they get upset if others do not act fairly to them. People cannot reach authentic happiness if fairness and confidence are missing.

Free market capitalism has turned people into selfish creatures as described by Haidt: "during the twentieth century, as people become wealthier and the producer society turned gradually into the mass consumption society, alternative visions of the self arose – a vision centered on the idea of individual preferences and personal fulfillment" (Haidt 2005, 176). The capitalist system makes it very difficult for people to gain self-control because of the temptation of their animal spirits. However, social psychologists who study self-control argue that it is "one of the most precious endowments of the human self", mainly because many problems such as depression, aggression, teenage pregnancy, obesity, gambling, and poor school performance are directly related to weak self-control (Muraven et al. 1998).

Comparisons of three happiness models

Again using the RV metaphor, each resident has different tastes. The Elephant pursues sensual and emotional pleasures by pursuing fun, food, and flirting. The Showman and Dog pursue egotistical pleasure through image making and power. The Wazir pursues intellectual pleasure. The King and the Judge receive emotional and spiritual pleasures through love, compassion and belief. The Dog pursues control over things. However, the pleasure of one resident could be pain for another. Authentic happiness can be possible if all residents pursue their own pleasures without harming the others.

In the G-donic model, happiness is not a destination; it is a state of being while driving spiritual, moral, and intellectual excellence. It is the progress made toward excellence on the straight path. Happiness is the by-product of living according to human nature and fulfilling his/her mission according to the divine project. This will result in God's pleasure. The Quran clearly states that God's pleasure is highest good:[8] "God has promised the believers, both men and women, Gardens through which rivers flow, therein to abide, and blessed dwellings in Gardens of perpetual bliss; and greater (than those) is God's being pleased with them. That indeed is the supreme triumph." (Quran 9:72) Believers are called to do everything only for God's pleasure. For instance, when the rich believers help the poor, they are asked to say the following to them: "We feed you only

for God's sake; we desire from you neither recompense nor thanks (we desire only the acceptance of God)" (Quran 76:9). Believers are asked to say the following: "My Prayer, and all my (other) acts and forms of devotion and worship, and my living and my dying are for God alone, the Lord of the worlds" (Quran 6:162).

The G-donic model is fundamentally different from the hedonic happiness model. While the former puts God's pleasure as the highest good in the pursuit of happiness, the latter sees self-pleasure as the ultimate purpose. True and lasting happiness can be possible if the needs and desires of all residents are met in a balanced way. In the hedonic model, the Elephant, Showman, and/or Dog are in charge of the RV. Indeed, all other residents work hard to please them. People become the slave of their desires only. They generally pursue their sensual pleasure. They think life is "just" fun. They sacrifice virtues for their instant pleasures if their virtues contradict their animal desires. The problem is that the Elephant and the Showman are greedy and, therefore, never satisfied. They are also blind to the future, and therefore, they focus on short-term pain and pleasures, rather than the long-term ones. Furthermore, some of their desires could be harmful to other residents. Therefore, pleasing them alone cannot bring anyone happiness.

The G-donic model differs from the eudonic happiness model as well, despite major overlaps between the two:

- In Islam the pleasure of God is the highest good, not happiness.
- In Islam virtuous actions are important, but they have to be for the divine pleasure. For instance, courage is praised virtue in Islam. However, courage against enemy for the sake of fame is not praiseworthy.
- In the eudonic model, practical reason alone is sufficient to know what is virtuous and how to live a virtuous life. In the Islamic model, the human mind guided by the divine mind determines and practices virtuous actions to gain the divine pleasure.
- For the eudonic model, it is important to have the necessary external prosperity in order to be virtuous because thought or intentions are not sufficient. Actions are necessary. In the Islamic model, intention alone could be sufficient if external means are not accessible.

For Aristotle, happiness is the highest good because it is complete and self-sufficient. From a secular perspective, it is true to consider happiness as the final end; however, it is hard to claim it is the highest good or self-sufficient. According to Aristotle, practical reason clearly indicates that the ultimate purpose of human life is to act in rational manner. The rationality would direct us to moderation to live a good life. There are two crucial problems with such reasoning:

1. Aristotle perceives the human mind as the sole source of virtue. In reality, the human mind could fail to determine virtue. In other words, what is thought in a society to be virtue might not be real virtue.
2. If life is limited to this world, it would be hard to justify virtuous actions for oneself. Since everything will soon be annihilated, the ultimate result of human endeavors will be nothing. The human mind

Table 1. Hedonic, Eudonic and G-donic happiness functions.

	Hedonic	**Eudonic**	**G-donic**
Final End	Self-pleasure	Happiness	Pleasure of God
Means to End	Consumption	Virtue/Excellence	Sincerity (ihklas) in intention and virtuous actions
Guidance	Self-interest and rationality	Prudence and wisdom of human mind	Prudence and wisdom guided by the divine mind
Ideal Life Style	Always more	Moderation	Moderation
External Prosperity	Extremely important	Important if needed for virtuous actions	Important but not necessary
Education/Training	Means for prosperity	Means for virtue	Means for sincerity and virtue
Pleasure	Ultimate goal	Byproduct of virtue	Byproduct of divine pleasure

does not see any goodness in effort for nothing. Gaining excellence to be decayed in the grave is not satisfactory.

For Aristotle, happiness is a qualitative trait. It is overall satisfaction from life as a result of virtuous actions. However, it would be a mistake to say that happiness is not measurable from the Aristotelian perspective. As the happiness level could vary throughout life for a person, it could also vary from person to person. We could define Aristotelian happiness as the function of virtue, actions, and external prosperity. And, for that matter, we could define the hedonic (H_H), eudonic (H_E), and G-donic (H_G) happiness functions as follows:

H_H = f (self-interest, pragmatic mind, external prosperity, consumption).

H_E = f (practical wisdom/prudence, virtue, virtuous actions, required external prosperity).

H_G = f (revelation, practical wisdom/prudence, virtue, sincerity, virtuous and sincere actions if possible, external prosperity)

7. Concluding remarks

This paper attempts to make a strong case for Islamic economics as an alternative paradigm to deal with the crises of capitalism. It paints the Western worldview in which free market capitalism emerged and flourished. Then, it re-defines Islamic economics based on distinctive worldview of Islam, particularly from anthropological, epistemological, and teleological perspectives. The paper also discusses some distinguishing features of Islamic economics, particularly that of pertaining happiness.

Even though free market capitalism has been very successful in the use of scarce resources, the paper argues strongly that the ultimate outcome of capitalism is not progress toward human excellence, rather it is regress toward animality. This is why the system has failed to bring authentic happiness. Indeed, the more progress it makes, the more it takes us away from such happiness. This reminds us the Seneca's opening words in De Vita Beata:

"To live happily, my brother Gallio, is the desire of all men, but their minds are blinded to a clear vision of just what it is that makes life happy; and so far from its being easy to attain the happy life, the more eagerly a man strives to reach it, the farther he recedes from it if he has made a mistake on the road; for when it leads in the opposite direction, his very speed will increase the distance that separates him."

It is important to note that, despite a few decades of work, we are still at the beginning of a long path to present Islamic economics as a viable paradigm. There are many tasks ahead:

1. We need to go beyond the existing paradigm and to create our own concepts and models whenever necessary.
2. We need to begin from microeconomics.

As Yalcintas (1986, 38) pointed out over two decades ago "construction of microeconomic theory under Islamic constraints might be the most challenging task for Islamic economics." We need to establish "a separate theory of consumer behavior and a separate theory of firm in the context of Islamic economics" (Ahmad 1986). This should not be just the relabeling of the existing microeconomics literature. As Chapra suggests, it should reflect "the radical differences in the worldviews of Islamic and conventional economics" (Chapra 1996, 50).

3. We need to examine the existing empirical and theoretical studies to gather evidence for new concepts and models of Islamic economics.
4. We need to conduct experimental and empirical studies to gather data and to test economic assumptions and models from the Islamic perspective.

Most existing papers on Islamic studies do not offer any scientifically acceptable evidence for their arguments. Therefore, they are more rhetorical rather than scientific. The famous motto attributed to Lord Kevin puts measurement as the yardstick for scientific knowledge: "When you can measure what you are speaking about, and express it in numbers, you know something about

it; but when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meager and unsatisfactory kind; it may be the beginning of knowledge, but you have scarcely in your thoughts advanced to the state of Science, whatever the matter may be."[9] We now have more measurement tools to gather qualitative data in order to test concepts, assumptions, and models from Islamic economics.

Notes

1. "Man's likeness to God consists in sovereignty over existence, in the countenance of the lord and master, and in command. Myth turns into enlightenment, and nature into mere objectivity. Men pay for the increase of their power with alienation from that over which they exercise their power. Enlightenment behaves toward things as a dictator toward men. He knows them in so far as he can manipulate them. The man of science knows things in so far as he can manipulate them." (Horkheimer & Adorno, 1976).

2. The following excerpt from Francis Bacon reflects the mindset of the Enlightenment thinkers on the power and purpose of gaining knowledge: "no doubt the sovereignty of man lieth hid in knowledge; wherein many things are reserved, which kings with their treasure cannot buy, nor with their force command; their spials and intelligencers can give no news of them, their seamen and discoverers cannot sail where they grow. Now we govern nature in opinions, but we are thrall unto her in necessity; but if we would be led by her in invention, me should command her in action." (Bacon, 2008).

3. For the comparison Islam and the Enlightenment in terms of their understanding of human nature, science, and technology, please refer to my following article: "Human Nature vs. the Nature of Science and Technology," in Henk Jochemsen (ed.) "Our Common World. A Cultural Dialogue between Christians and Muslims about the Role of Technology in Our Global Society," Rozenberg Publishers, March 2010.

4. The well-known movie, The Matrix, is a good description of the world created by capitalism. The Matrix is defined as follows by a key actor in that movie: "It is an illusionary world. …It is all around us. Even now in this room. You can see it when you look out of your window, or when you turn on your TV. You can feel it when you go to work, when you go to church, when you pay your taxes. It is the world that has been pulled over your eyes to blind you from the truth…. That you are a slave…. Like everyone else, you were born into bondage, born into a prison that you cannot smell or taste or touch. A prison for your mind."

5. Tawhid is the epistemology of the Oneness of God which becomes the foundation of the unity of knowledge. God is the source and beginning of all knowledge. In other words, "this is to accept the divine roots of knowledge as the primal foundation of all knowledge, hence of all configurations of world-systems." (A. Choudhury, 2007, p.24).

6. "… while from the point of view of the One, the Absolute, there is no 'otherness' or 'separation'. All things are one, not materially and substantially but inwardly and essentially. Again it is a question of

realizing the levels of reality and the hierarchy of the different domains of being." (S. H. Nasr, 1997, p.30).

7. Here is how Ghazali describes the element of human nature: "The body is like a city. The hand and the feet are like workmen in this city. The desire is its prime-mover. The anger is the city 'Kotwal' i.e. it's police chief. The heart is its king and the reason it's Wazir the Prime Minister. The king needs all of them to run the government but the lust which is a strong motivating force, is evil and provocating. On the other hand, the Ration which is like the wise Wazir always apposes him, so the funds of the government are not misappropriated or usurped. The anger, like mischief mongering city 'Kotwat', the chief of the police is always diversive and reactionary. He tends to be sadistic. Under the circumstances, the king, who is above them all; takes stock of things firmly, consults his 'Wazir', and does not allow matters to go out of his hand. It clearly indicates that desire and anger play their respective subversive roles and to nip the evil in the bud becomes the prime duty of the king. That is the position of the heart." (I. Ghazzali, 2001, pp. 9–10).

8. The following Hadith carries the similar message: "Abu Sa'eed al-Khudree (ra) relates that the Prophet said: "Allah, the Lord of Honour and Glory, will call the inmates of Paradise, 'O Residents of Paradise!' They will respond, 'Here we are, our Lord, and all good is in Your Hands. 'He will ask them: 'Are you now pleased?' They will answer: 'Why should we not be pleased, our Lord? When You have bestowed upon us such bounties which You have not bestowed on any of Your other creation. 'He will then say to them: 'Shall I not bestow upon you something even better than that?' The inhabitants of Paradise will inquire: 'What could be better than that?' Allah will say, 'I bestow upon you My Pleasure and shall never thereafter be displeased with you'" Bukhari and Muslim.

9. The shorter version of this motto is posted on the wall of the Social Science Research Building at the University of Chicago.

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The effect of scarcity thinking on human wants among Muslims: Exploring the ideological orientation of the concept of scarcity

Amir Wahbalbari[1], Zakaria Bahari[2], Norzarina Mohd-Zaharim[3]

[1]PhD, Economics, School of Social Sciences, Universiti Sains, Malaysia, Email: wahbelbari@yahoo.com,
Tel: +60133440907
[2]Senior Lecturer, Centre for Islamic Development Management Studies, School of Social Sciences, Universiti Sains,
Malaysia, Email: bzak@usm.my, Tel: +6046532664
[3]Developmental Psychologist, School of Social Sciences, Universiti Sains, Malaysia, Email: norzarina@usm.my,
Tel: +6046532801

Abstract - Mainstream economics postulates the concept of scarcity as a defining notion, while heterodox economics denies the proposition of scarcity. In contrast, there is no clear stand among Islamic economists towards the concept of scarcity. This paper explores the concept of scarcity ideologically and examines empirically the effect of scarcity thinking on human wants. The concept of scarcity is one of the unresolved issues in Islamic economics. Conceptually, this paper aims to explore and uncover the ideological basis of the concept of scarcity in the writings of Malthus and Robbins with reference to the Islamic perspective. In so doing, analysis of texts was performed. In contrast to positivism, which relies on sensible observation, this paper attempts to analyze the concept of scarcity and abundance from the perspectives of critical realism. Critical realism goes beyond the *Seen phenomena* to include elements from the *Un-Seen reality*. Empirically, this paper attempts to explore the effect of scarcity thinking on human wants among Muslims. With reference to social psychology and specifically to commodity theory, scarcity enhances desires in people. Consequently, this paper attempts to abstract scarcity thinking out of the concept of scarcity that defines mainstream economics. Scarcity thinking means that there is not enough for everyone to go around. In doing so, this paper has constructed a measurement strategy around Scarcity Thinking, Human Wants and Islamic Religiosity. The quantitative data used for this empirical research was collected through a questionnaire administered on 345 Muslim individuals working within the Federal Territory of Kuala Lumpur, Malaysia. A measurement and structural model were formulated through adopting the structural equation modeling approach (using AMOS version 18). This paper concluded that Scarcity Thinking enhances Human Wants significantly and has the opposite relationship to Islamic Religiosity. One major implication of this paper is that the concept of scarcity of mainstream economics reflects scarcity thinking in which Scarcity thinking is causing a dissonance between Islamic Religiosity of moderation in expenditure and excessive buying behavior of Human Wants. Therefore, the concept of scarcity and its thinking state inflates human wants and contradicts the Islamic worldview of cooperation and obedience.

Keywords: scarcity thinking, religiosity, human wants, social psychology, heterodox economics

1. Introduction

A student attends the first lecture in economics and learns that economics is the study of the allocation of scarce resources to meet unlimited wants. He learns that scarcity is a primary concept in economics. If scarcity did not exist, then he wouldn't be studying economics. According to mainstream economics, the science of economics exists in order to provide the theoretical and practical tools to solve the problem of scarcity. The concept of scarcity as it is taught in economics refers to the limited resources that fall

short of satisfying the unlimited human wants (Samuelsson and Nordhaus, 2010).

In contrast, heterodox economists in their movement to oppose mainstream economics consider the objects of study of mainstream economics, such as preferences-utility, marginal products, demand curves, rationality, relative scarcity, and homogeneous agents, as ill-defined and having no real world existence (Lee, 2011). Likewise, institutional economics is one of the heterodox economics streams. Dugger and Peach (2006) have explored the writings of early insituitional economists that convey abundance rather than scarcity. Affluence can be achieved either through producing much or desiring less, in which the gap between means and ends can be reduced by industrial productivity (Sahlins, 1972). Furthermore, Daoud (2010) in his emphasis on the crucial role of socio-cultural mechanisms argued that Malthus and Robbins postulated that scarcity is natural, universal and ignored the possibility of both the state of abundance and sufficiency. In addition, Matthaei (1984) considered scarcity a social product that can be abolished through social, economic and change process.

From another perspective, scarcity has been the object of inquiry in the field of social psychology. Research in social psychology has found that people tend to desire scarce commodities more than comparable available commodities because the acquisition of scarce commodities reveals feelings of personal uniqueness (Brock, 1968).

This paper is classified into six sections. The second section reviews the literature of scarcity from the perspective of heterodox economics and social psychology in addition to exploring the ideological orientation of the concept of scarcity. The third section introduces the conceptual framework while the fourth presents the method and results. The fifth and sixth sections present the discussion and conclusion.

2. Literature review
The ideological orientation of the concept of scarcity

Malthus (1798) introduced the theory of population. In his famous essay, *The Principle Of Poulation as it Affects the Future Improvement of Society*, Malthus mentioned some core principles among which were: Food is necessary for human existence and human population, if unchecked, tends to grow faster that the power in the earth to produce subsisitence. However, Malthus' population principle had a preliminary ideology and thought that influenced Malthus to advocate his thoeory and policy recommendations. According to Hunt (1979), Malthus's population theory was to have an influential-intellectual impact. Its normative orientation convinces that poverty is inevitable and that nothing can be done to eradicate it and moreover, poverty is due to the weakness or moral inferiority of the poor.

> Suppose that by a subscription of the rich the eighteen pence a day which men earn now was made up five shillings, it might be imagined, perhaps, that they would then be able to live comfortably and have a piece of meat every day for their dinners. But this would be a very false

conclusion … The receipt of five shillings a day instead of eighteen pence would make every man fancy himself comparatively rich and able to indulge himself in many hours or days of leisure. This would give a strong and immediate check to productive industry, and, in a short time, not only the nation would be poorer, but the lower classes themselves would be much more distressed than when they received only eighteen pence a day (Malthus, 1826:61).

Despite the impact of Malthus's principle on theories of economic development, Malthus' population principle was criticized severely with the contemporary understanding of the concept of scarcity arising from its relative basis, not from its absolute basis. The concept of scarcity as it is taught in contemporary economics refers to the limited resources that fall short of satisfying the unlimited human wants. Lionel Robbins used the term scarcity but he meant the relative term as we will see from his interpretation of scarcity in his definition formulation. In his book, Robbins (1945) postulated the relationship between means and ends where he claimed that the quality of scarcity in goods is not an absolute quality. According to him, scarcity does not mean mere infrequency in occurrence but it means limitations in relation to demand.

> From the point of view of the economist, the conditions of human existence exhibit four fundamental characteristics. The ends are various. The time and the means for achieving these ends are limited and capable of alternative application. At the same time the ends have different importance. Robbins (1945:12).

Importantly, the derivation of these four fundamentals was the result and reflection of Robbins' thought, perception and ideology towards the behavior of human being and the nature of resources. Hence, such fundamentals and ideology set the establishment for Robbins' standard definition of the science of economics as "*the science which studies human behavior as a relationship between ends and scarce means which have alternative uses*" Robbins (1945: 12). Unlike Malthus who focuses on the aspect of limited resources, Robbins' scarcity focuses more on the competing ends, which are known as unlimited human wants (Daoud, 2010).

> Here we are, sentient creatures with bundles of desires and aspirations, with masses of instinctive tendencies all urging us in different ways to action. But the time in which these tendencies can be expressed is limited. Robbins (1945: 13).

The relativity of the concepts of needs and wants is considered to be one of the contrasting aspects between absolute scarcity and relative scarcity. Needs are the desires which take the form of a "must" urgency in obtaining goods and services such as clothing, medicine, food and shelter in order to achieve satisfaction. Needs are a basic organic part of wants while wants include needs but go beyond them; wants are needs plus some residual desires that do not correspond to needs (Uyar & Raiklin, 1996). Keynes has differenciated between needs and wants by classifying them into absolute and relative needs. Absolute needs are the must-fullfilled needs while relative needs are needs that imply supperority as it has appeared in Keynes writings.

Now it is true that the needs of human beings may seem to be insatiable. But they fall into two classes-those needs which are absolute in the sense that we feel them whatever the situation of our fellow human beings may be, and those which are relative in the sense that we feel them only if their satisfaction lifts us above, makes us feel superior to our fellows. Needs of the second class, those which satisfy the desire for superiority, may indeed be insatiable; for the higher the general level, the higher still are they. But this is not so true of the absolute needs-a point may soon be reached, much sooner perhaps than we all of us are aware of, when those needs are satisfied in the sense that we prefer to devote our further energies to non-economic purposes (Keynes 1972:326).

From the above statement, it becomes apparent how wants or needs in its relative sense induce human insatiablity in which consumpsion becomes subjective to the dynamic standard of living from period to period. In our contemporary time where consumerisim has widely spread across the world through globalization and in fact relative scarcity induced people to consume more for the sake of social prestige and wants fulfillment. In addition, Kasser (2002) showed how widespread materialism has prevailed in our contemporary time as people have started to compromise on community and family values for the culture of consumerism. Relevantly, neo-Malthusians criticize widespread materialism and consumerism by incorporating religious teachings into their argument. They advocate simple living as part of a higher level of existence; that stress cooperation, fulfillment in work, and spiritual development. The widespread consumerism is attributed to the human greed of freely choosing individuals and the only way to overcome it is through elevating consciousness to a higher, non-material level (Matthaei, 1984).

Despite the apparent differences between absolute and relative scarcity, both Malthus and Robbins shared common views pertaining to the nature and the tendency for human desires to be limitless. Excessive human wants contradicts the religious teaching of promoting simplicity and moderate standard of living. Accordingly, Malthus ended his first essay with a sanctimonious appeal to religion and God's Will.

Life is, generally speaking, a blessing…. The partial pain, therefore, that is inflicted by the supreme creator, while he is forming numberless beings to a capacity of the highest enjoyments, is but as the dust of the balance in comparison of the happiness that is communicated, and we have every reason to think that there is no more evil in the world than what is absolutely necessary as one of the ingredients in the mighty process. (Hunt, 1979:68 quoting Malthus, 1798)

Similarly and in his ideological orientation, Robbins didn't differ much from Malthus in terms of looking at nature as niggardly and scarcely.

Here we are, sentient creatures with bundles of desires and aspirations, with masses of instinctive tendencies all urging us in different ways to action. But the time in which these tendencies can be expressed is limited. The external world does not offer full opportunities for their complete achievement. Life is short. Nature is niggardly. Our fellows have other objectives. Yet we can use our lives for doing different things, our materials and the services of others for achieving different objectives Robbins. (1945:13).

These ideologies and views contradict the religious worldview of abundance creation. One possible explanation of these divergent ideologies from religion lies on the rise of secularism. According to Rothbard (1995), the rise of the secular group contributed significantly to the decline of scholasticism in the sixteenth century where their decline was attributed partly to the scholastic favor for the banning of usury. Indeed, St. Thomas Aquinas was the famous Scholastic thinker whose economic views were against usury. But such views were not welcomed by secular businessmen, and it was against the overall interests of secularism, so they attacked it severely until it was eclipsed by the Renaissance movement. Furthermore, Whitehead (2001) stressed the conflict that arises between science and religion when he stated that the death of religion comes with the repression of high hopes of adventure. According to him, religion obstructs the science from exploring adventure. Even when he discussed Christianity, he mentioned that the general belief among Christians in the early days was that the world was coming to an end in the lifetime of people then living. However, such belief, according to Whitehead, was proved to be mistaken and it resulted in controversies that always put religion in the wrong and science in the right. Releventaly, Whitehead (2001) was referring to the eighteenth and ninteenth century in which secularism was in its stage of growth. Consequently, secularism had an influential impact on the ideologies of early and recent economists such as Thomas Robert Malthus and Lionel Robbins. Therefore and due to the influence of secularism, Malthus and Robbins seemed not to consider religion in their ideological framework.

3. Scarcity from the perspective of Heterodox economics

Heterodox economics has emerged in response to the dissatisfaction with the methodological individualism of mainstream economics that base its knowledge inquiry on deductive mathematical approach. It is worthwhile to define heterodox economics in order to get deeper insight on its approach of studying economics. "Heterodox economics refers to a specific group of theories aimed at explaining it, to economic policies recommendations predicated on the theories, and to a community of economists engaged in this theoretical and applied scientific activity" (Lee, 2011:6). Furthermore, it approaches economics with different epistemological stand, relying more on critical realism, and Lee (2011: 10) elaborates on the nature of heterodox microeconomics approaches.

… delineation of heterodox microeconomic theory takes the form of theory creation. Scientific theory creation requires a methodology for the task and the methodology is the method of grounded theory, and its philosophical foundation of realism, critical realism, and epistemological relativism.

Interestingly, heterodox economists consider the objects of study of mainstream economics, such as preferences-utility,

marginal products, demand curves, rationality, relative scarcity, and homogeneous agents, are ill-defined, have no real world existence. Not only that, they tend to consider economics as the science of the social provisioning process. In addition, the methods used by the researchers to study the objects and address the problems and issues need to be grounded in the real world (Lee, 2011).

Furthermore, institutional economics is one of the heterodox economics streams. Dugger and Peach (2006) have explored the writings of early insituitional economists that convey abundance rather than scarcity. Abundance is mainfested clearly in the writings of early economists such as Adam Smith, Veblen and Mill. Instituitonal economists presented an alternative definition of economics that doesn't indicate scarcity. They follow Allan Gruchy's definition of economics as "the science of the social provisioning process" (1987:21). They refer to Adam Smith, Karl Marx, Thorstein Veblen, and John Maynard Keynes as "abundance economists." In general, instituitional economists consider the era of industrial revoluton as the era of abundance creation. John Stuart Mill (1848) summarized most of the mentioned aspects by the institutional economists. He argued that abundance can be achieved through expansion of man's power over nature, more preservation of property, increasing business capacities and spreading cooperation.

In fact heterodox economics view economics as nothing but a historical science of the social provisioning process. It inquires the factors that are part of the process of social provisioning. The structure and use of resources, and the structure and change of social wants are among the factors that inquired by heterodox economics. Therefore, the resulted abundance creates a surplus that to be used for social provisioning, that is for consumption, private investment, government usage, and exports (Lee, 2011).

Moreover, affluence can be achieved either through producing much or desiring less, in which the gap between means and ends can be reduced by industrial productivity (Sahlins, 1972). Furthermore, Daoud (2010) in his emphasis on the crucial role of socio-cultural mechanisms mentioned that Malthus and Robbins tend to postulate that scarcity is natural and universal, in which they ignore the possibility of both the state of abundance and sufficiency. In addition, Matthaei (1984) considered scarcity a social product that can be abolished through social, economic and change process. According to Daoud (2011) deflating human wants can overcome scarcity and realize relative abundance. In his analysis, he referred to the ethical practice of the Modus Vivendi of Material Simplicity (VMS).[1] The Buddhist ethical practice of VMS enables people to deflate their wants and make their material resources abundant relative to their wants (Daoud, 2011). As a result, relative abundance creates surplus and that surplus plays a vital role in enhancing the process of social provisioning.

Nonetheless, for relative scarcity to be abolished and relative abundance to be realized, human wants should be decreased. Therefore, this paper explores the factors that make human wants unlimited. The next section integrates the perspective of social psychology on scarcity and attempts to uncover the factors that increase, inflate and accelerate human wants.

Scarcity from the perspective of social psychology

Brock (1968) proposed a commodity theory in which he stated that people may desire scarce commodities more than comparable available commodities because the acquisition of scarce commodities reveals feelings of personal uniqueness. Similarly, Cialdini (2001) has found that perceived scarcity has an effect on human judgment as items and opportunities become more desirable to people as they become scarce. Accordingly, Knishinsky (1982) who was Cialdini's former PhD student has found respondents who were told that there would be a shortage of Australian beef in the near future purchased twice the amount of beef as compared to respondents who were not given such information.

Following Brock's (1968) commodity theory, Lynn (1991) did a meta-analysis to show that scarcity enhances the value of anything that can be possessed in which the scarcer a commodity is, the more valued or desirable it becomes. As a result, Lynn's (1991) meta-analysis results supported commodity theory and suggest for marketers to manipulate the perceived scarcity of the products and services to increase their perceived value. He demonstrated examples of practices like advertising a product's scarcity, producing limited editions of products, distributing products through exclusive outlets, prestige pricing of products and services, and restricting maximum order sizes for products and promotional offerings to increase perceived value of such products and services.

Furthermore Verhallen and Robben (1994) have designed an experiment in which participants had to evaluate three recipe books and to choose one of them. In doing so, information was provided about the contents of the books and their availability. Results from the analyses of variance for the uniqueness data reveal that participants preferred a book of limited availability due to market conditions to books that were accidently unavailable or of unlimited availability. According to the perception of the participants, books of limited availability due to market circumstances were perceived as more costly and more unique than books that were accidentally unavailable or abundantly available.

Likewise, Aggarwal et al. (2011) have observed the tendency of scarcity to create a sense of urgency among buyers that stimulate an increase in the quantities purchased, shorter searches, and greater satisfaction with the purchased products. In carrying their experiment, Aggarwal et al. (2011) have hypothesized that, compared with an unrestricted promotional offer, a restricted promotional offer (scarcity message) will have a greater impact on consumer purchase intentions. The result obtained from ANOVA reveals evidence of a significant impact of the restrictive promotion on participants' purchase intentions, and therefore the hypothesis was supported.

In contrast to the above studies that examined scarcity effect by single test, Wu and Hsing (2006) have used SEM (Structural Equation Modelling) to develop and examine how scarcity influences consumer's value perception and purchase intent through the mediation of assumed expensiveness, perceived quality, perceived symbolic benefits and perceived monetary sacrifices. According to Wu and Hsing (2006), the reason behind the adaptation

of SEM is to develop an enhanced conceptual model that can overcome the shortcomings of using single statistical tests. The single test approach is not sufficient to explain scarcity's value-enhancing effect. However, their results were consistent with the previous studies that adopt a single test approach in which the perception of scarcity enhances consumer's value perception and willingness to buy.

Another study that attempts to demonstrate cross-national differences in proneness to the scarcity effect was conducted by Jung and Kellaris (2004). In their study, they hypothesized that the magnitude of the scarcity effect will vary across cultures such that the effect will be more pronounced in a lower-context culture (US) versus a higher-context culture (France). Results from ANOVA tests indicate that a scarce brand was perceived as more desirable across the American and French participants.

Critically speaking, there are two identified implications from the findings of social psychology with regard to the scarcity effect on enhancing desirability and expenditure among people. The first implication appears in the form of the tendency of scarcity to create scarcity thinking among people. Several conceptual studies have examined the concept of scarcity from the mental state of human thinking. Such a state of thinking is known as scarcity thinking or mentality. Scarcity thinking means that people believe in scarcity, that they evaluate their life in terms of what it lacks. With scarcity thinking, the focus is on what a person does not have, and this continues to be his or her experience of life. Scarcity thinking is best mainfested as there is not enough to go around (Covey, 1989). With scarcity thinking, people tend to consume more than what they need and to become protective of what they have. If the object is believed to be scarce, it will be valued, kept, hoarded, sought and consumed. With scarcity thinking, no matter how much a person has, it is never enough even if he/she has it in abundance (Johnson, 2005; Thomas, 2007).

The second implication of the scarcity effect is that people tend to consume and spend excessively whenever they have enhanced desires. Nonetheless, most religions have conveyed and advocated moderation in spending and minimization of human desires. Given the fact that God has ordered human beings to behave in a moderate way and to decrease their human desire, one of the main objectives of this paper is to *examine the effect of scarcity thinking in enhancing human wants among Muslims.* This research has been conducted in Kuala Lumpur, where Islam is considered to be the dominant and official religion. Therefore, this paper explores the effect of scarcity thinking on enhancing human wants among Muslims, in which Islamic Religiosity is considered to be the determinant measure of the Islamic behavior among Muslims.

4. Scarcity's enhancement of desirability (S-E-D) model

Following his (1991) meta-analysis, Lynn (1992) has studied the effect of scarcity on enhancing desirability among people. In that study, Lynn (1992) postulated that scarcity's enhancement of desirability is mediated by assumed expensiveness, thus several empirical

relationships should be investigated. Firstly, people should believe that scarce things cost more than available ones. Secondly, scarcity on the economic market should enhance desirability more than does nonmarket scarcity. Thirdly, thoughts about price should strengthen scarcity's enhancement of desirability. Lastly, blocking assumptions about expensiveness should weaken scarcity's enhancement of desirability. He presented a model of scarcity effects referred to as the Scarcity Enhancement Desirability (S-E-D) model. The S-E-D model posits assumed expensiveness, attributed quality and perceived status as mediators of scarcity's effect on desirability. Lynn's study concluded that scarcity's enhancement of desirability may be explainable to people's informal or naive economic theories. People might desire scarce products more than available ones because they believe that scarce goods are expensive, of high quality and good investments. In the theoretical framework of the S-E-D model, commodity theory and the theory of psychological reactance, besides downward social comparison theory and need-for-uniqueness theory, explain the scarcity enhancement desirability (Lynn, 1992).

5. Conceptual theoretical framework

In the conceptual theoretical framework of this paper, there is one independent variable, one mediator and one dependent variable. As it is shown in the below diagram, Islamic Religiosity is the independent variable, Human Wants is the dependent variable while scarcity thinking acts as a mediator.

Furthermore, the conceptual theoretical framework is represented by *commodity* and *cognitive dissonance* theories and the *Islamic principle of moderation*. Theoretically and firstly, *commodity theory* deals with the psychological implications of scarcity. It postulates that that "any commodity will be valued to the extent that it is unavailable" (Brock, 1968:246). Moreover, *cognitive dissonance theory* states that there is a tendency for individuals to seek consistency among their cognitions such as his beliefs and opinions. When there is an inconsistency between attitudes or behaviors, something must change to eliminate the dissonance (Festinger, 1957). The Islamic principle of moderation is manifested in Al-Quran (25:67) and in his interpretation of this verse, Al-Sabouni (1981:370) stated: "When they spend neither extravagantly nor in niggardly manner which is considered the fifth attribute of God's servants. However, they spend in a middle way." Convincingly, Islam unequivocally discourages its followers to cross the limits and follows extremes (Chaudhry, 1999).

In the Scarcity Enhancement Desirability (S.E.D) model, commodity theory and the theory of psychological reactance beside downward social comparison theory and need-for-uniqueness theory explain the Scarcity Enhancement Desirability (S.E.D) model that was formulated by Lynn (1992). However, this paper refers to the Islamic principle of moderation to explain the indirect path from Islamic Religiosity to Human Wants. Moreover, the relationship between scarcity thinking and Human Wants is best explained by commodity theory. Furthermore, the theory of cognitive dissonance explains the path from Islamic Religiosity to Human Wants through the mediator effect of scarcity thinking.

6. Human wants

A want is something that is desired. It is said that every person has unlimited wants, but limited resources. Thus, people cannot have everything they want and must look for the most affordable alternatives (American Psychological Association, 2007). Human wants are frequently associated with the concept of scarcity that postulate resources are limited but human wants are unlimited. According to Raiklin and Uyar (1996), the desires which take the form of urgency in acquiring goods and services to fulfil satisfaction are called needs while wants include needs but go beyond them to reflect social and cultural status. Both "needs" and "wants" belong to the realm of personal consumption which is the ultimate goal of the productive and distributive efforts of all economic systems, capitalist or otherwise. Both needs and wants are characterized with desires to satisfy and fulfil the acquisition of goods and services through consumption. Witt (2001: 26) stated that:

> Basic wants are part of the human genetic endowment. They can be satisfied temporarily either singularly or in more or less complex combinations by consuming appropriate items in suitable quantities, and the desire to satisfy the wants motivates the corresponding activity.

Based on the above quotation, human wants are manifested through consumption. The social relations that were central in political economy were replaced by the concept of the economic man who is driven by insatiable consumer desires (Gagnier, 2000). According to Pindyck & Rubinfeld (2001) the theory of consumer behavior describes how consumers allocate income among different goods and services to maximize their satisfaction. Given the fact that human wants are best described by consumption, the items of the construct of Human wants are constructed in such a way that tend to measure expenditure and shopping behavior.

7. Scarcity thinking

Scarcity thinking is best mainfested as *there is not enough to go around*. Covey (1989: 219) demonstrates:

> People with a "Scarcity Mentality" (p. 219) believe that there isn't enough for everyone – that only a select few will be rewarded with jobs, love, power, money, talent, promotions, gifts, recognition, or other rewards. These people do not trust others and do not share joy in others' accomplishments, believing that someone else's success will take away from their own. In a sense, they dam up their emotions behind a wall of mistrust, preventing the flow of good will from them to others. This creates more negativity and resentment, which reinforces their view that the world is a challenging place and their belief that, "I'd better get mine while I have the chance, because it won't come again."

From the above quotation, the scarcity way of thinking or mentality affects the human behavior. The items of the scarcity thinking are conceptualized from the literature of scarcity thinking as it is postulated by Covey (1989), Thomas (2007), and Johnson (2005).

8. Islamic religiosity

In this paper, the items that measure Islamic Religiosity will be cited from the Religious Personality' subscale of the Muslim Religiosity-Personality Inventory (MRPI) developed by Krauss et al. (2006). Psychometric results of the scale reveal that the scale is reliable, valid and relevant for use with multiple faith groups as Malaysia such as Buddhists, Christian, Hindus, and Muslims. The MRPI is categorized into two main subscales: *Islamic Worldview* and *Religious Personality*. Islamic worldview is measured or assessed through the Islamic creed (*aqidah*), which details what a Muslim should know, believe and inwardly comprehend about God and religion as laid down by the *Qur'an* and the tradition of the Prophet Muhammad. The Religious Personality includes behaviours, motivations, attitudes and emotions that aim to assess personal manifestation of the Islamic teachings and commands. This construct is represented by item statements relating to the formal ritual worship or 'special *ibadat'*, that reflects one's direct relationship with God; and the daily *mu'amalat,* or the religiously-guided behaviours towards one's family, fellow human beings and the rest of creation i.e., animals, the natural environment, etc. known as the general worship or 'general '*ibadat'* (Krauss et al., 2006).

9. Research method

Data was collected through a structured questionnaire. This study was conducted in Kuala Lumpur, Malaysia. The rationale behind selecting Kuala Lumpur as the study area is because it is the home to a large number of migrants from other states within Malaysia and foreign countries. Non-probability sampling techniques using purposive sampling method were adopted because this research is exploratory. According to Adler and Clark (2010), the desirable sampling method in exploratory research is purposive sampling. Furthermore, 450 questionnaires have been distributed to selected Muslim employees from different professional lines, such as banks, private companies, hotels and other organizations. The rationale behind selecting Muslim employees is that they must earn fixed monthly income so that they can posses the purchasing power to spend and shop. The questionnaire[2] was divided into two parts. The first part gathered data on the demographic characteristics of the target sample. The second part consists of three sections to measure Islamic Religiosity (independent variable), scarcity thinking (mediator) and Human Wants (dependent variable).

All the responses were measured on a 4-point "Likert" scale with no midpoint, known as forced choice with 1 "Strongly Disagree" and 4 "Strongly Agree." Upon the completion of the data collection, 345 out of the total of 440 distributed questionnaires were considered usable. The remaining 95 questionnaires comprised omitted and missed data that exceed 25 percent from the total number of items. Following the guideline of Sekaran and Bougie (2010), these questionnaires were excluded from the usable questionnaires. Nonetheless, there was slight missing data in the usable questionnaires, accounting for 2–3 percent of the total number of items. Based on the suggestions of Sekaran and Bougie (2010), a similar response pattern imputation was adopted to deduce a logical answer to the missing response questions.

10. Results

Firstly, Table 1 presents the demographic factors of the sample. Using SPSS (version 20), the obtained data were further subjected to data cleaning, test of adequacy and reliability tests using the kolmogorov-smirnov, KMO and Bartlett's test of Sphericity, and the Chronbach Alpha tests respectively. The exploratory factor analysis has loaded each latent construct into several factors. Human Wants were loaded into two factors, which are shopping and expenditure; Islamic Religiosity (R) was loaded into three factors which are Obedience, Cooperation, Commitment; Scarcity Thinking has loaded into three factors which are Lack, Conflict, and Mistrust. As a result, these loaded factors are represented and measured directly by measurement items. This is known as *first order measurement model*.

11. Second order measurement model

In confirming the measurement model, the three constructed dimensions of Islamic Religiosity, scarcity thinking and Human Wants are labeled as second order measurement model because they are measured indirectly through the first order factors.

For model estimation, a second order measurement model was performed based on structural equation modeling using AMOS software (Version 18.0). In addition, the Normed chi-square (i.e., CMIN/DF), the Comparative Fit Index (CFI) and the Root Mean Square Error of Approximation (RMSEA) were adopted in evaluating the model. According to Hair et al. (2010), the threshold of fit indices of a given measurement model with sample size > 250 and observed variables (items) within the range between 12 and 30 items are as follows: CFI is .90 and RMSEA is 0.07. For CIMN/DF,

a value of less than 3 is considered a good value for model fit to the data (Bagozzi and Yi, 1988).

The second order measurement model of the three latent variables showed that the overall fit of the model to the data appear as χ^2 (264) = 404.465. The CFI was found to be .945, which is above the threshold value of .90. Also, the Normed chi-square was 1.735, which is considered acceptable as it is below the cut-off 3. Similarly, the RMSEA value for the second order measurement model was .039, which falls below the threshold of .07.

Based in the Goodness of Fit Indices, there is no doubt that the second order measurement model shows encouraging fit to the data. Following the recommendation of Hair et al. (2010), items IR5, IR6 and ST8 showed factor loading below 0.50 and were excluded from the model in order to improve the model fit to the data. Accordingly, and as it is apparent in Figure 1, the revised second order measurement model revealed great model fit to the data as it appears as χ^2 (198) = 300.043, CFI = .958, RMSEA = 0.039 and CIMN = 1.515.

12. Second order structural model

Bootstrapping is one of the non-parametric methods of resampling (Kline, 2010). The method of bootstrap was used because this study used purposive sampling. The structural model was estimated by means of maximum likelihood estimate (MLE) using the AMOS version 18 software. The test of the overall model fit yielded a Chi Square 300.052 with 199 degrees of freedom and a p-value of less than 0.001. Results presented in Table 2 reveal the regression weight, which shows that all relationships were statistically

Table 1. Distribution of respondents according to their background characteristics.

	Demographic Variables	Frequency	Percent
Gender	Male	60	46.4
	Female	185	53.6
Age	20–25 yrs	102	29.6
	26–30 yrs	111	32.2
	31–40 yrs	85	24.6
	41–50 yrs	40	11.6
	51 and above	7	2
Marital status	Single	176	51.0
	Married	161	46.7
	Divorced	7	2.0
	Widow	1	0.3
Income	1000–2500	123	35.7
	2501–4000	163	47.2
	4001–8000	49	14.2
	8001 and above	10	2.9
Job sector	Government	115	34
	Private	226	66
Qualification	Secondary school	123	35.7
	Diploma	65	18.8
	University Degree	116	33.6
	Master	37	10.7
	PhD	4	1.2
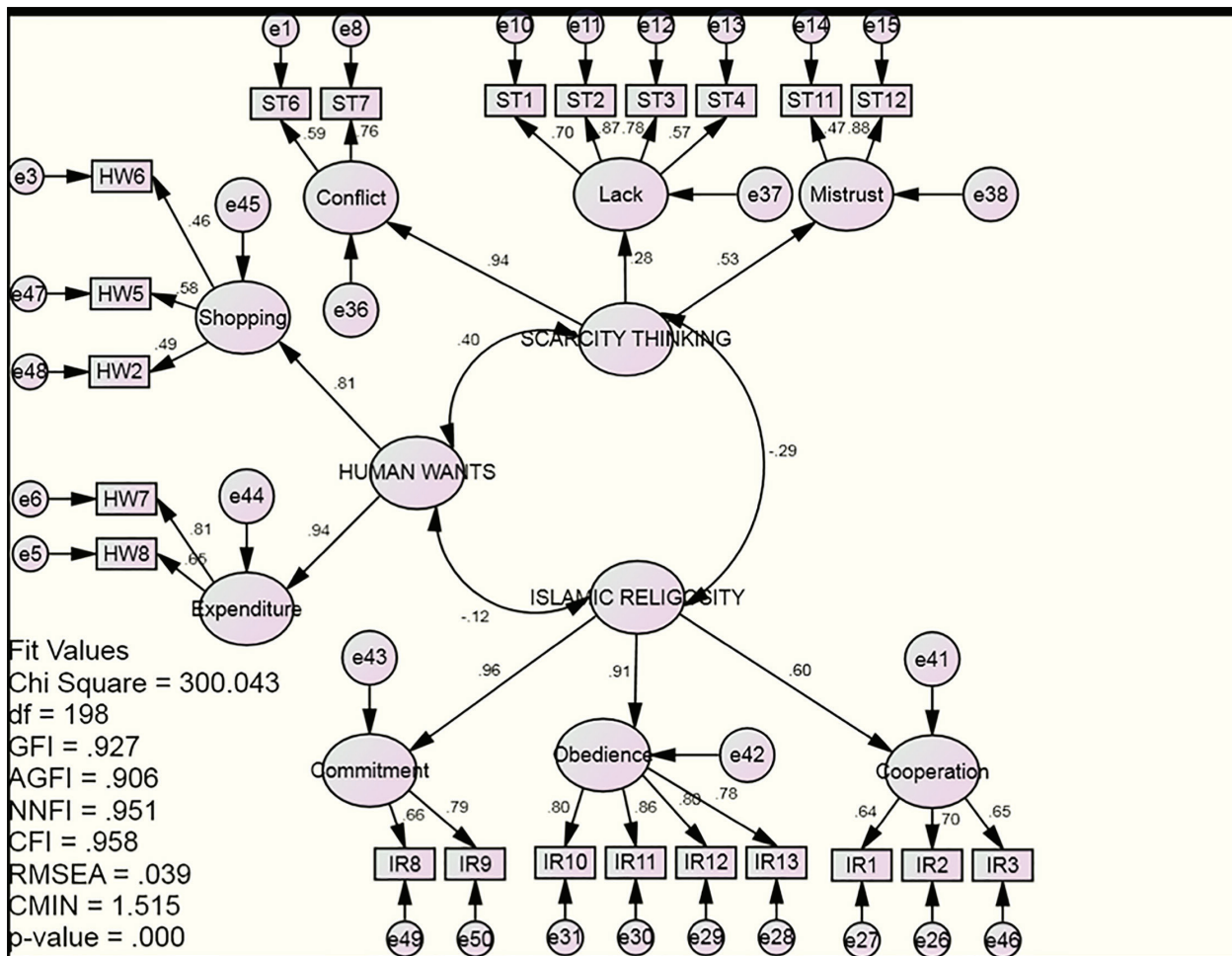
Figure 1. Second order measurement model.

Table 2. Regression weights: (Second order structural model).

			Estimate	S.E.	C.R.	P	Label
SCARCITY THINKING	<---	ISLAMIC RELIGOSITY	–0.345	0.099	–3.483	***	
HUMAN WANTS	<---	SCARCITY THINKING	0.335	0.119	2.825	0.005	

significant. It has been found that Islamic Religiosity has an inverse relationship to scarcity thinking. The critical ratio between IR and ST is –3.483, and its absolute value is greater than the threshold of 1.96 at p-value < 0.05.

Furthermore, results also show direct relationship between scarcity thinking and Human Wants . The critical ratio between ST and HW is 2.825 which exceeds 1.96 at p-value <0.05. All the fit indices were above the recommended values. The Comparative Fit Index (CFI) = 0.958, the Root Mean Square Error of Approximation (RMSEA) was 0.038 and CIMN/DF = 1.508 as it is shown in Figure 2.

In the analysis of SEM, bootstrapping is also considered as one of the methods that can be used to test mediation

(Bollen and Stine, 1990; Shrout and Bolger, 2002). One of the main objectives of this paper is to examine whether scarcity thinking mediates the relationship between Islamic Religiosity and Human Wants. One of the bootstrap methods that test for mediation effect is the bias-corrected bootstrap. When the mediated effect is nonzero, the bias-corrected bootstrap is accurate in computing confidence interval for the meditational effect (Efron, 1987). Meaning, for evidence of mediation, the p-value must be statistically significant from the null hypothesis that claims no meditational effect.

Table 3 presents the estimate section of AMOS output which reveals that the standardized indirect effect is – 0.021 and the standard error of the indirect effect (bootstrap standard
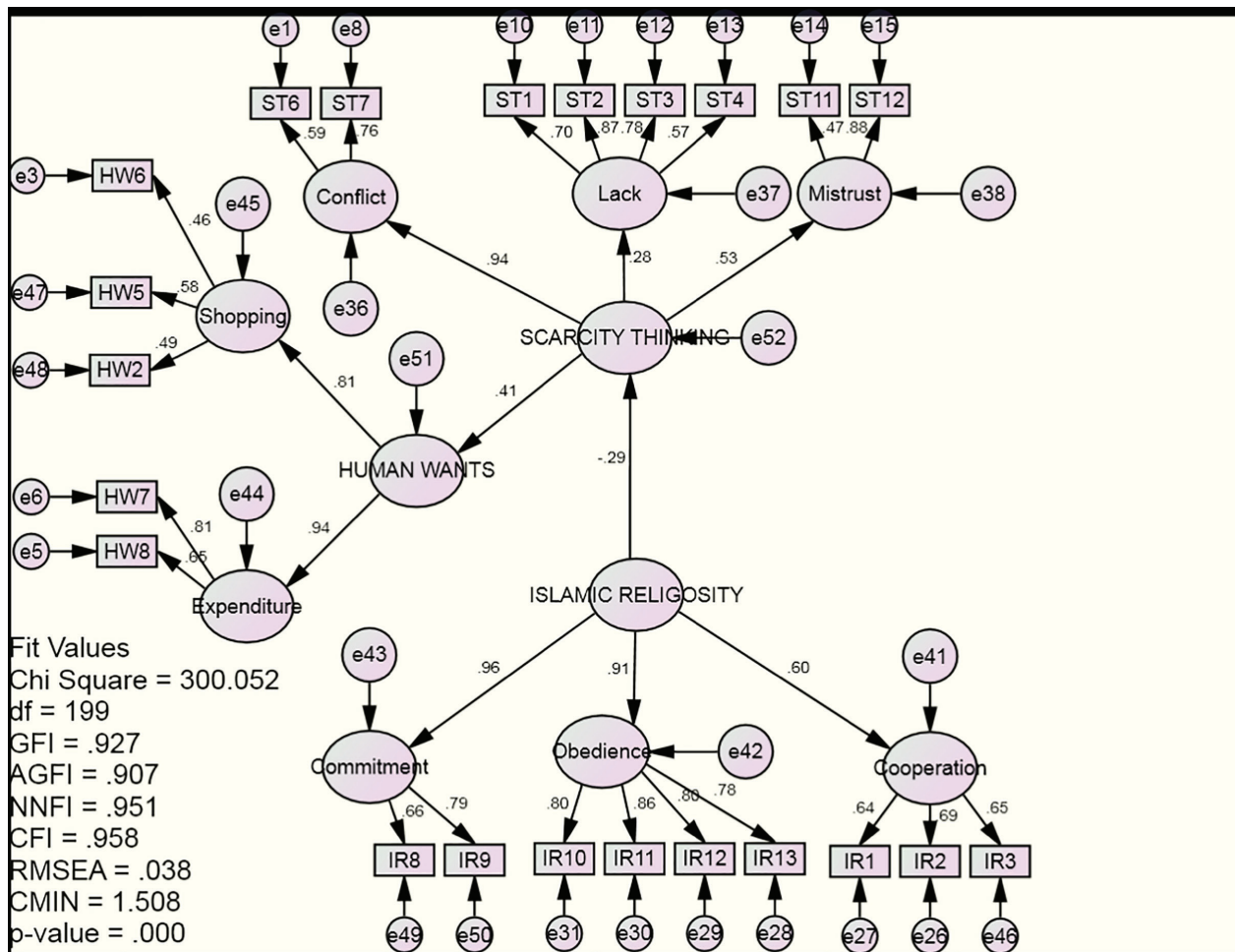
Figure 2. Second order structural model.

error) is 0.062. In order to determine the significance of mediation effect, the p-value must indicate significance. The bias-corrected percentile method presents two-tailed significance for the indirect effects, in which the p-value for the indirect effect is equal to 0.023, indicating evidence of significant mediation of scarcity thinking between Islamic Religiosity and Human Wants . Therefore the path between Islamic Religiosity to Human Wants is mediated by scarcity thinking.

13. Discussion

In this section, the discussion is classified into two parts. The first part discusses the concept of scarcity from the perspective of critical realism while the second part discusses the effect of scarcity thinking on human wants in the context of a society that assume Islam in its practices.

The concept of scarcity: Searching the perspective of critical realism

In contrast to positivism, critical realism is meant to acknowledge both the creativity of man's mind, and the existence of patterns in events that are not created by man's mind (Barbour, 1966). As a result, *the existence of patterns*

in events that are not created by man's mind can explain the possibility to integrate the belief of revelation into the discourse of economics. Revelation represents the unseen reality, in which it postulates God's power in creating and providing provisions to living creatures. Accordingly, such unseen reality of revelation could reflect the existence of abundance in contrast to the widespread perception of scarcity. This paper utilizes the wide scope of critical realism to explain the Islamic interpretation of what is known as *the Seen World* (عالم الشهادة) and *the Unseen World* (عالم الغيب).

A.L.M. * This is the Book; in it is guidance sure, without doubt, to those who fear Allah. * Who believe in the Unseen* And who believe in the Revelation sent to thee, and sent before thy time, and (in their hearts) have the assurance of the Hereafter (Qur'an, 2: 1–4).

This book, which is in no doubt, as it guides the righteous people; those who fear God, believe in the Unseen and in revelation (Al-Sabouni, 1981: 32). On the contrary, both Malthus and Robbins were depending on their observation and they were not incorporating the unseen elements into their views on nature. From a critical realism perspective, "knowledge of objects is mediated by ideas which are in

Table 3. Standardized Indirect Effects – Two Tailed Significance (BC), Bootstrap standard error, Indirect Effects – Lower Bounds (BC), Indirect Effects – Upper Bounds (BC).

Standardized Indirect Effects

	Islamic Religiosity (IR)	Scarcity Thinking (ST)	Human Wants (HW)
Scarcity Thinking (ST)	0.000	0.000	0.000
Human Wants (HW)	−0.152	0.000	0.000

Bootstrap Standard Error

	Islamic Religiosity (IR)	Scarcity Thinking (ST)	Human Wants (HW)
Scarcity Thinking (ST)	0.000	0.000	0.000
Human Wants (HW)	0.139	0.000	0.000

Indirect Effects – Lower Bounds (BC)

	Islamic Religiosity (IR)	Scarcity Thinking (ST)	Human Wants (HW)
Scarcity Thinking (ST)	0.000	0.000	0.000
Human Wants (HW)	−0.616	0.000	0.000

Indirect Effects – Upper Bounds (BC)

	Islamic Religiosity (IR)	Scarcity Thinking (ST)	Human Wants (HW)
Scarcity Thinking (ST)	0.000	0.000	0.000
Human Wants (HW)	−0.032	0.000	0.000

Indirect Effects – Two Tailed Significance (BC)

	Islamic Religiosity (IR)	Scarcity Thinking (ST)	Human Wants (HW)
Scarcity Thinking (ST)	–	–	–
Human Wants (HW)	0.011	–	–

some sense distinct from the objects of knowledge" (Losch, 2009: 88 quoting Roy Wood Sellars, 1927). Meaning, critical realism claims that an entity *can exist independently of our identification of it*. Saying that *an* entity *can exist independently of its identification* implies that it can exist without someone observing, knowing, and constructing it (Fleetwood, 2005). Furthermore, critical realism prioritizes and emphasizes ontology over epistemology (Fleetwood, 1999). According to Lawson (2012), mainstream economics often commits the error of the epistemic fallacy. Epistemic fallacy means that a statement about ontology can always be reduced to the statement of epistemology. As a result, Robbins (1945), who advocates the concept of scarcity, committed the error of epistemic fallacy by claiming and asserting that nature is niggardly.

Here we are, sentient creatures with bundles of desires and aspirations, with masses of instinctive tendencies all urging us in different ways to action. But the time in which these tendencies can be expressed is limited. The external world does not offer full opportunities for their complete achievement. Life is short. Nature is niggardly. Our fellows have other objectives. Yet we can use our lives for doing different things, our materials and the services of others for achieving different objectives Robbins. (1945: 13).

According to Robbins, the object of knowledge is nature. From a critical realism perspective, the ideas mediate the objects of knowledge. For example Robbins claims that nature is niggardly. However, and from the perspective of critical realism, Robbins' idea of "nature is niggardly" is distinct from the object of identification, which is the surrounding nature. Therefore and from the perspective of critical realism, nature is not necessarily niggardly as nature acts as an independent entity from Robbins' idea towards nature.

On the contrary, the Quran presents several verses[3] that promote abundance in nature. Likewise, a believer who is inspired by the Qura'nic postulation of abundance might hold an idea of abundance in nature and s/he might claim that nature is abundant and plenty despite the fact that s/he realizes limitation in resources. Consequently, ideas about nature can be secular ideas or religious ideas depending on the worldview and perspective of the viewer. Therefore, the concept of scarcity cannot be universal as it is subjective to different humans' interpretations towards nature.

For a critical realist, an entity is said to be real if it has causal efficacy; has an effect on behavior; makes a difference. There are four modes of reality: materially real, ideally real, artificially real and socially real (Fleetwood, 2005). In this paper, the focus is directed only on materially real

and ideally real for explaining the elements of the *Seen and Un-Seen* world. Materially real refers to material entities like oceans, the weather, the moon and mountains that can exist independently of what individuals or communities do, say, or think. This can be referred to as the *Seen World*. In contrast, ideally real refers to conceptual entities like discourse, language, genres, tropes, styles, signs, symbols, ideas, beliefs, meanings, understandings, explanations, opinions, concepts, representations, models, theories and so on.[4] Such ideally real can be referred to as the *Un-Seen* world and in this context; the researcher limits the discussion to the entity of belief as the reference to it represents the religious belief of revelation.

In his explanation of the Islamic worldview of the *Seen* and *Un-Seen* world, Al-Attas (2003) interprets the following Quranic verse: "So I do call to witness what ye see, And what ye see not" (Qur'an, 69: 38–39). According to him, in Islam, the worldview is not merely the mind's view of the physical world and of man's historical, social, political and cultural involvement. The Islamic worldview, according to him, is not based upon philosophical speculation formulated mainly from observation of the data of sensible experience, of what is visible to the eye; nor is it restricted to the universe, which is the world of sensible experience, the world of created things. The worldview of Islam includes both worldly life and the Hereafter, where worldly life must be in harmony with the Hereafter. At the end, the Hereafter has ultimate and final significance. Obviously, there is a strong relationship between the *Un-Seen* world, the *Hereafter* and *Revelation* in which the belief in the *Hereafter* will be determined through the belief in the *Revelation*. *Revelation*, in turn requires the belief in the *Un-Seen* world. Consequently, those who deny *Revelation* will certainly deny the existence of the *Unseen world* and automatically ignore the *Hereafter* whereas those who believe in *Revelation* will believe automatically in the *Un-Seen* world and then, of course, the *Hereafter* (Wahbalbari, 2010). Therefore, we see our environment including the earth, sea, river, lakes, mountains and the apparent sky; however, we do not see God, although many people believe in God.[5] Therefore, God is unseen because we do not see him. Likewise, God who is unseen creates the abundant resources and provisions that are unseen. As a result, Robbins falls into the trap of attributing scarcity and niggardliness to nature as he excluded religion from his discourse, which leads him to ignore *Revelation* and by ignoring revelation the belief in the *Un-Seen* World disappeared from his framework (Wahbalbari, 2010). However, critical realism can explain the existence of revelation as an independent entity from our sensible observation. Accordingly, critical realism also can explain the aspect of the *Un-Seen* world, which is denied from the perspective of positivism. There are various verses in the Quran that postulate the belief in abundance and in God's power to give provision and sustenance despite the fact that we do not see the resources abundantly. Consequently, the belief of abundance in nature acts as a mediating idea between the object of knowledge (nature) and the human mind. Therefore and based on critical realism, resources are considered to be abundant even though they appear in proportion and finite quantities, assuming that we look at them from the Islamic perspective of abundance. As a consequence, abundance thinking rather than scarcity thinking will prevail.

Relevantly, scarcity thinking is often contrasted with abundance thinking. Several conceptual studies have been consistent with the religious belief of abundance that postulates abundance thinking or mentality. "Abundance Mentality as that there is plenty out there and enough to spare for everybody" (Covey, 1989: 220). Even corporations and organizations are coaching abundance thinking. As Johnson (2005) stated, abundance is the state in which there is more than one as there are pelntiful resources available to everyone. Furthermore, he postulates a philosophy of shared abundance that teaches that a world of giving is a world of receiving and a key principle of Shared Abundance is that all resources are available to all; and the more you give, the more you will receive; and the more you share, the more you will receive abundance by sharing. Abundance thinking or mentality causes cooperation and generous behavior. It is not surprising to find that both religious teachings and abundance thinking postulate cooperation and generous collective behavior among human beings. As a result, people cooperate with each other through the act of support, motivation, giving donation and charity. Nevertheless, the mainstream postulate of the concept of scarcity creates scarcity thinking. The next subsection discusses the effect of scarcity thinking on human wants.

14. The Effect of scarcity thinking on human wants

Results have revealed direct relationship between scarcity thinking and Human Wants. This result resembles the findings of the relevant literature of social psychology on the effect of scarcity in enhancing desirability and expenditure among people [Brock, 1968; Cialdini (2001; Aggarwal et al., 2011; Knishinsky (1982); Lynn (1991); Lynn, 1992); Verhallen and Robben, 1994]. Several conceptual studies have claimed that scarcity thinking stimulates people to consume more than what they need and to become protective of what they have and as a result scarce objects will be valued, kept, hoarded, sought and consumed [Johnson, 2005; Thomas, 2007]. Therefore, the above empirical result proves those conceptual studies that have examined the implication of scarcity thinking on human behavior.

Furthermore and before explaining the path from Islamic Religiosity to scarcity thinking, it is worthwhile to explain the first order factors that explain Islamic Religiosity. The exploratory factor analysis has revealed three factors for Islamic Religiosity, which is obedience, cooperation and commitment. Firstly, the Islamic perspective of obedience appear in the form of obedience to God, the Prophet of Islam and the Authority of the state. "O ye who believe! Obey Allah, and obey the Messenger, and those charged with authority among you" (Al-Quran, 4:59). Obedience has been a subject of inquiry in social psychology. According to Milgram (1963), obedience is one of the fundamental elements in the structure of social life in which some system of authority is a requirement of all communal living through submission, to the commands of others. Moreover, Milgram (1963) was interested in examining and investigating how far people would go in obeying an instruction if it meant to harm another person.[6] He found that people are likely to follow orders instructed by an authority figure, even to the extent of killing an innocent human being. Obedience implies that a person obeys a rule, order and command even

if it goes against his/her desire and wants. From the Islamic perspective, the greatest form of obedience is reflected on the full submission to God's orders and commands. The story of prophet Ibrahim and his son Ismail demonstrated the highest model for obedience and submission to God's commands.

> He said: "I will go to my Lord! He will surely guide me!. "O my Lord! Grant me a righteous (son)!" So We gave him the good news of a boy ready to suffer and forbear. Then, when (the son) reached (the age of) (serious) work with him, he said: "O my son! I see in vision that I offer thee in sacrifice: Now see what thy view is!" (The son) said: "O my father! Do as thou art commanded: thou will find me, if Allah so wills one practising Patience and Constancy!" So when they had both submitted their wills (to Allah, and he had laid him prostrate on his forehead (for sacrifice), We called out to him "O Abraham!"Thou hast already fulfilled the vision!" – thus indeed do We reward those who do right. For this was obviously a trial- And We ransomed him with a momentous sacrifice: And We left (this blessing) for him among generations (to come) in later times: "Peace and salutation to Abraham!" Thus indeed do we reward those who do right? for he was one of our believing Servants (Al-Quran, 37: 99–111).

The objective of the divine's test on Ibrahim was not to sacrifice his son Ismail, but to determine the level of their obedience and submission to God's commands. Because Ibrahim and Ismail were obedient through the submission of their wills to God's will, God has rewarded Ibrahim with a momentous sacrifice instead of sacrificing his son Ismail. The above verses revealed two crucial facts. The first fact is that this worldly life is nothing but a test and trial from God on human being. The second fact demonstrates obedience to God through full submission to His orders and commands. Therefore, obedience is the effect of the divine test and trial on human beings. Accordingly, Islam in itself is nothing but a full submission to God's orders, rules and commands (Al-Sabouni, 1981).

Another factor that explains Islamic Religiosity is cooperation. Cooperation is central to human existence and social behavior (Argyle, 1991). Moreover, human beings are social and are disposed to cooperate (Tuomela, 2000). However, mainstream economics replaces the social relations that were central in political economy with the concept of the economic man. The economics man seeks to maximize his self interest as he is driven by insatiable consumer desires (Gagnier, 2000). Nonetheless, there are several verses from the Quran that promote and advocate cooperation: "Help ye one another in righteousness and piety" (Al-Quran, 5: 2). Cooperation is manifested clearly in several verses in Al-Quran through the act of spending charity for the poor and needy.

> And the likeness of those who spend their wealth Seeking to please Allah And to strengthen their souls, is as a garden, high And fertile: heavy rain Falls on it but makes it yield a double increase of Harvest, and if it receives not Heavy rain, light moisture Sufficeth it, Allah seeth well whatever ye do (Al-Qur'an, 2: 265).

In examining the empirical relationship between Religiosity (R) and scarcity thinking, it has been found

that Islamic Religiosity (R) has an inverse relationship with scarcity thinking. The finding reveals that scarcity thinking goes against the Islamic Religiosity. Consequently, the three extracted factors of lack, conflict, and mistrust that represent scarcity thinking construct have no reference in the Quran and Islam. Instead of scarcity, most religions propagate abundance. It was found in Genesis (17:6), God promised Abraham, "I will make thee exceeding fruitful and I will make nations of thee." Likewise and according to the Old Testament, God is supposed to have been resource optimist (D'Oyly & Mant, 1839). "Let us make man in our image, after our likeness and let them have dominant over the fish of the sea and over the fowl of the air and over every living thing that moveth upon the earth." (Genesis 1:26, 28). In addition, "The Almighty did not seem worried about the limitations of the earth's resources for Abraham's descendents as God also said "I will multiply thy seed as the stars of the heaven and as the sand which is upon the sea shore" (Genesis 22:17). Similarly, Al-Quran goes in parallel with Genesis and Old Testament. "And there is not a thing but its (sources and) treasures (inexhaustible) are with Us; but We only send down thereof in due and ascertainable measures" (Qur'an, 15: 21). It has been proven empirically that Islamic Religiosity has an inverse relationship with scarcity thinking and therefore scarcity thinking does not promote the Islamic worldview of cooperation and abundance.

In addition and as stated earlier, several verses in Al-Quran postulate moderation in expenditure and condemnation of excessive desires. "Those who, when they spend, are not extravagant and not niggardly, but hold a just (balance) between those (extremes); (Qur'an, 25: 67). Furthermore, the following verse condemns excessive desires "But after them there followed a posterity who missed prayers and followed after lusts soon, then, will they face Destruction" (Al-Quran, 19: 59). Then there were a people who follow their desires and lust and they will be in great loss, destruction and in the state of evil (Al-Sabouni, 1981).

Supporting the above literature, this paper has found that the relationship between Islamic Religiosity and Human Wants is indirect (see Table 3). This result reveals an opposite relationship between Islamic Religiosity and Human Wants, which explains the Islamic principle of moderation that condemns extravagance and excessive desires. It also indicates the significance of religious belief in determining buying behavior. Accordingly, Mokhlis and Spartks (2007) have confirmed that highly religious individuals are less likely to make impulsive purchase decisions. In addition, Essoo and Dibb (2004) have discovered that devoutly religious consumers are less demanding in their shopping behavior than casually religious consumers. However, Bailey and Sood (1993) have examined the effects of religious affiliation on consumer behavior in Washington DC and they found that Muslims tend be imperious and impulsive shoppers. Indeed, the level of religiosity tends to vary among Muslims as people vary in terms of their religious beliefs. People might believe in moderation in their expenditure but at the same time they spend excessively in their shopping, which raises a tradeoff between religious beliefs and buying behavior. Such tradeoff is termed as dissonance in the literature of social psychology. According to Festinger (1957), dissonance occurs most often in situations where

an individual must choose between two conflicting beliefs or actions. When these two conflicting beliefs have equal attractions, the extent of the dissonance between them will be greater. Consequently, obedience to God's orders and commands in terms of moderation in expenditure explains Islamic Religiosity while excessive shopping and buying behavior explains Human Wants. Accordingly, the dissonance will be created when the person demonstrates obedience in terms of moderation in expenditure and at the same time s/he spends excessively whenever s/he goes for shopping. Then, the question arises, what is causing the dissonance?

One possible answer for the above question could lie on examining the mediation effect of scarcity thinking between Islamic Religiosity and Human Wants. As has been discussed previously, scarcity thinking enhances Human Wants while at the same time; scarcity thinking shows an inverse relationship with Islamic Religiosity. The test of mediation provides evidence for scarcity thinking to mediate the relationship between Islamic Religiosity and Human Wants. Meaning, scarcity thinking is causing the dissonance between the Islamic Religiosity of Obedience in terms of moderation in expenditure and the extravagant buying behavior of Human Wants. As a result, scarcity thinking acts as the source of dissonance between the Islamic Religiosity (that is explained by obedience to God's order of Moderation) and Human Wants (that is explained by extravagant shopping and buying behavior) among Muslims.

Convincingly, Mokhlis and Spartks (2007) in addition to Essoo and Dibb (2004) have confirmed that highly religious individuals are less likely to make impulsive purchase decisions and less demanding in their shopping behavior than casually religious individuals indicates that the more religious the individuals are, the less likely they are to experience dissonance of scarcity thinking and vice versa. Indeed, the theory of cognitive dissonance explains the mediation effect of scarcity thinking on the relationship between Islamic Religiosity and Human Wants among Muslims.

Nonetheless, Festinger (1957) have presented three ways to eliminate dissonance: to reduce the importance of the dissonant beliefs, to add more consonant beliefs that outweigh the dissonant beliefs, or to change the dissonant beliefs so that they are no longer inconsistent. As it was mentioned previously, scarcity thinking causes the dissonance between the Islamic Religiosity of Obedience and Human Wants of excessive shopping and expenditure. In order to eliminate the dissonance of scarcity thinking, Muslims have to reduce, eliminate the scarcity thinking and revive their beliefs towards God. In doing so, abundance thinking should overcome the scarcity thinking as there are numerous verses in the Quran that postulate abundance rather than scarcity.

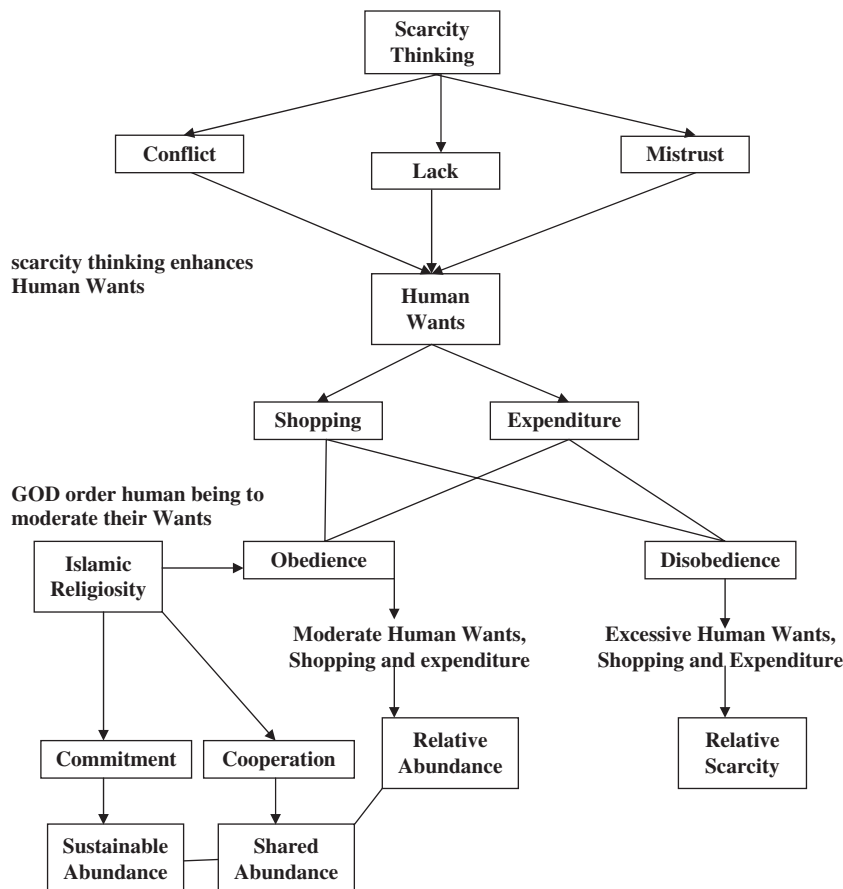In contrast to abundance thinking, scarcity thinking implicitly indicates that God does not provide enough

Figure 3. Towards a holistic model of scarcity thinking, Islamic religiosity and human wants.

resources to fufill the unlimted Human Want that He Imputed on His creatures. This was clearly stated in the writings of Malthus and Robbins.[7] However, God has the power that makes Him continuously creating resources and provisions in abundance. But because of the nature of this worldly life that is characterized as the world of test and trial upon human beings, God expands and restricts the resources. "See they not that Allah enlarges the provision and restricts it, to whomsoever He pleases? Verily in that are Signs for those who believe" (Qur'an, 30: 37). Do not they see God's Power in enlarging and restricting the provisions so that they do not give up if they are poor in which the fact of God power is the sign for those who believe in God's wisdom (Al-Sabouni, 1981). Therefore, reviving the belief in God and in His power of creation and provisions helps Muslim to reduce and eliminate the dissonance of scarcity thinking.

15. Towards a holistic model of scarcity thinking, Islamic religiosity and human wants

As has been discussed previously, scarcity thinking is explained by *lack, conflict* and *mistrust,* which in turn enhance Human Wants through excessive *shopping* and *expenditure*. Moreover, the elements of *obedience* to God's order and commands, *cooperation* behavior and *commitment* to follow the teachings of Islam represent *Islamic Religiosity*. In the model of scarcity thinking and Human Wants, two scenarios are presented.

The first scenario represents the *disobedience* of Muslims to God's order of moderation, which results in excessive *shopping* and *buying* behavior. As a result, resources don't meet the unlimited Human Wants and as a consequence, *Relative Scarcity* prevails as a product of *disobedience* to God's order through following excessive desire. In contrast, the second scenario (see Figure 2) reflects the *obedience* of Muslims to God's order for moderation. As a result, the available resources fulfill the moderated and regulated Human Wants and as a consequence, *Relative Abundance* prevails as a product of obedience to God's orders and commands. Furthermore, such *Relative Abundance* is shared through the mechanism of *cooperation*.

Several verses in the Quran obligate and recommend spending charity and donation for the poor. Lastly, *commitment* to obedience and cooperation create sustainable abundance. The historical case of the Islamic state during the period of the caliph Omer Ibn Abdul-Aziz confirms the possibility of realizing abundance. The caliph, who was obedient to God propagated and conveyed obedience and cooperation for his citizens. As a result, abundance was realized, poverty was eradicated and there was no evidence of poor people to receive charity and donations (Najeebabadi, 2001). This historical case confirms the finding of Matthaei (1984) that scarcity is a social product that can be abolished through social, economic and change process. Obedience to God's order of moderation in expenditure and wants can abolish relative scarcity. Human wants can be easily moderated and with the belief in God's Power that creates abundance, the dissonance of scarcity thinking will be reduced. Likewise, by reducing the dissonance of scarcity thinking, Human Wants will be moderated.

Consequently, the belief in God's creation of absolute abundance and in His power to expand and restrict the resources stimulates Abundance Thinking. As a result, Abundance Thinking promotes obedience and cooperation that can overcome scarcity thinking. The findings of Daoud (2010) question the postulation of mainstream economics that relative scarcity is universal whereby they ignore the possibility of realizing sufficiency and abundance. As was stated in the beginning of this section, God tests human beings by expanding and restricting their resources. The outcome of this divine test appears as a phenomenon that might exhibit scarcity or abundance at certain point of time and place. From the Islamic perspective, such phenomenon is temporary and not permanent as God tests human beings by the means of good and evil. "…and we test you by evil and by good by way of trial. To Us must ye return" Al-Quran, 21: 35).

16. Summary and conclusion

To summarize and conclude, this paper has explored the concept of scarcity ideologically and examined the effect of scarcity thinking on human wants among Muslims. Conceptually, this paper has integrated critical realism in explaining the *Seen* and *Un-Seen* world as it does not have any contradiction with the religious belief of revelation. In contrast, positivism, which is adopted by mainstream economics, restricts and reduces knowledge inquiry to sensible observation and therefore does not incorporate revelation in the discourse of economics. Nonetheless, critical realism can explain the possibility of the existence of revelation as an independent ideally-real entity that mediates the knowledge of abundance from nature. At the same time, critical realism can refute the scarcity postulate as it tolerates revelation to play a role in the analysis. Therefore, abundance can be rationalized if it is viewed from the perspective of critical realism. Empirically, it has been found that scarcity thinking enhances Human Wants, while at the same time it shows an inverse relationship with Islamic Religiosity. The test of mediation provides evidence for Scarcity Thinking to mediate the relationship between Islamic Religiosity and Human Wants. This indicates that Scarcity Thinking is the source of dissonance between the Islamic Religiosity (that is explained by obedience to God's order of moderation) and Human Wants (that is explained by excessive shopping and buying behavior). Scarcity Thinking indicates that God does not provide enough resources to fufill the unlimted Human Wants that He Imputed on His creatures. However and from the Islamic perspective, God has the power that makes Him continuously to create resources and provisions in abundance. However, God expands and restricts the resources to human beings because He is testing them in this worldly life. Therefore, reviving the belief in God and in His power of creation and provisions helps Muslim to reduce and eliminate the dissonance of Scarcity Thinking. Eliminating and reducing the dissonance of scarcity thinking helps the Muslims to moderate human wants and by moderating human wants in relation to the available resources, relative abundance will be realized. Al last, the concept of scarcity of mainstream economics and its state of Scarcity Thinking enhances Human Wants. Nevertheless, Human Wants if not moderated in relation to the available resources will create relative scarcity.

Therefore, the mainstream postulate of relative scarcity is not universal but a phenomenon that can be abolished by moderating Human Wants and reducing the dissonance of Scarcity Thinking. Furthermore, Islamic Religiosity in the form of the belief in God's creation of abundance in addition to obeying His rule of moderation in expenditure reduce and eliminate the dissonance of Scarcity Thinking. Hence, Scarcity Thinking is responsible for accelerating and making Human Wants to be unlimited. This paper suggests a future research such as a cross-sectional study that attempts to compare the relationship between Islamic religiosity, scarcity thinking and human wants across different Muslim societies. Moreover, this paper suggests further research that can attempt to test the relationship between religiosity, scarcity thinking and human wants in the contexts of societies that adhere to different religious faiths such as Christianity, Buddhism and Hinduism.

Lastly, the concept of scarcity as it is postulated by mainstream economics tends to clash with the Islamic worldview as it doesn't have any reference in Islam. Relative scarcity can act as a phenomenon in economic activities but not as the defining concept of economics in general and Islamic economics in particular. Finally, this paper calls for isolating the concept of scarcity from economics in general and Islamic economics in particular. Hopefully by doing that, abundance will be realized, poverty will be eradicated and sustainable development will be achieved.

Notes

1. For further discussion on Modus, see Daoud, A. (2011). The Modus Vivendi of Material Simplicity: Counteracting Scarcity via the Deflation of Wants. *Review of Social Economy*, *LXIX*(3), 276–305.
2. The questionnaire is available from the authors upon request.
3. Refer to (Qur'an, 14: 32–34) and (Qur'an, 15: 21) for the Qur'anic promotion of abundance.
4. For further explanation of the modes of reality, see Fleetwood (2005).
5. According to Fleetwood (2005) God may or may not be real, but the *idea* of God is real because the *idea* of God makes a difference to people's actions.
6. For further illustration of Milgram experiment, refer to Milgram, S. (1963). Behavioral study of obedience. *The Journal of Abnormal and Social Psychology* 67(4), 371.
7. Robbins (1945) claims nature to be niggardly while Malthus (1798) questioned "How can God who is good, wise and omnipotent will scarcity on His creatures?"

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The transmission of monetary policy through conventional and Islamic banks

Sajjad Zaheer[1], Steven Ongena[2], Sweder J.G. van Wijnbergen[3]

[1]Corresponding author. University of Amsterdam. Amsterdam School of Economics, University of Amsterdam Valckenierstraat 65–67, 1018 XE Amsterdam, The Netherlands Phone: +31 20 5254236, Fax: +31 20 5254254, E-mail: s.zaheer@uva.nl
[2]Center – *Tilburg University* and CEPR. Department of Finance, Tilburg University PO Box 90153, 5000 LE Tilburg, The Netherlands. Phone: +31 13 4662417, Fax: +31 13 4662875, E-mail: steven.ongena@uvt.nl
[3]University of Amsterdam. Amsterdam School of Economics, University of Amsterdam. Valckenierstraat 65–67, 1018 XE Amsterdam, The Netherlands. Phone: +31 20 5254206, Fax: +31 20 5254254, E-mail: s.j.g.vanwijnbergen@uva.nl

Abstract - We investigate the differences in banks' responses to monetary policy shocks across bank size, liquidity, and type, i.e., conventional versus Islamic, in Pakistan between 2002:III and 2010:I. We find that following a monetary contraction, small banks with liquid balance sheets cut their lending less than other small banks. In contrast large banks maintain their lending irrespective of their liquidity positions. Islamic banks, though similar in size to small banks, respond to monetary policy shocks as large banks. Hence ceteris paribus the credit channel of monetary policy may weaken when Islamic banking grows in relative importance.

Keywords: monetary policy, Islamic banking, Pakistan

JEL Classification: E5, G2

1. Introduction

Islamic banking is one of the fastest growing segments of the global financial sector. It is currently and expanding at a rate of approximately 20% per year. In some countries the share of the Islamic financial sector has now reached a size and a level of development such that the financial arrangements it offers are a full-fledged alternative to those in the conventional financial sector. The countries where this has happened include Malaysia, Iran and the Gulf Cooperation Countries, i.e., Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates. Some Asian countries like Bangladesh, Pakistan and Indonesia are also experiencing a phenomenal increase in Islamic finance. Moreover, a number of western countries are now facilitating Islamic banking. And to tap this growing market, large conventional banks that have fairly recently opened an Islamic window include Barclays, BNP Paribus, Citi Group, Deutsche Bank, Standard Chartered and the Royal Bank of Scotland.

The total volume of Islamic finance was estimated to roughly equal $1 trillion in 2010 (Standard & Poor's 2010). Commercial banking comprised the largest share, i.e., 74 percent (International Financial Services London 2010). Investment banking accounted for 10 percent. The remaining part consists of *Sukuk* (Islamic bonds) and *Takaful* (Islamic Insurance). Assets of the largest 500 Islamic banks increased by 29 percent, to $822 billion, in 2009, around the same time that the rest of the world's financial system contracted, and many of the financial institutions were deleveraging their positions. The reason for this starkly different development resides in the fact that Islamic banking tenets do not allow the banks to charge interest and to be involved in the sales of debt instruments. Therefore, Islamic banks did not invest in the kind of instruments that were badly affected during the financial crises, namely derivatives, conventional securities and toxic assets. Banning short selling of shares after the crisis was a further reflection of Islamic finance as it stopped dealers from selling the assets that they do not own. A key question this brisk growth poses to academics and policymakers alike is whether the transmission of monetary policy through the so-called bank-lending channel will be altered in strength when the Islamic segment of the banking sector becomes even more important.[1] Indeed, the potency of the bank lending channel crucially depends on the ability of

the central bank to affect bank loan supply, i.e., whether banks cannot attract (time) deposits perfectly elastically or do not consider the loans granted and securities held in portfolio as perfect substitutes.

Islamic banks may be, on the one hand, unable or unwilling to "buy" wholesale time deposits at a fixed rate and may not consider their Islamic loans substitutable for any of the securities they would hold in their portfolio. This may make the transmission of monetary policy shocks through the Islamic segment of the banking sector more potent. On the other hand, Islamic banks singularly attract deposits and lend under interest free arrangements, likely entered for religious reasons by depositors and borrowers (Khan and Khanna (2010); Baele, Farooq and Ongena (2010)). These contractual and motivational features on both their liability and asset sides may allow Islamic banks to shield themselves from monetary policy shocks. Consequently, whether Islamic banks transmit monetary policy differently than conventional banks is an empirical question we aim to address in this paper.

Following Bernanke and Blinder (1992), who find that a monetary contraction is followed by a significant decline in aggregate bank lending, Kashyap and Stein (2000) analyze if there are important cross-sectional differences in the way that banks respond to monetary policy shocks. In this way controlling for loan demand, they find that following a monetary contraction, small banks with liquid balance sheets cut their lending less than other small banks. Brissimis, Kamberoglou and Simigiannis (2003), de Haan (2003), Kaufmann (2003), Loupias, Savignac and Sevestre (2003), Worms (2003), and Gambacorta (2005), for example, also find that liquidity positions of banks play a significant role for the way banks respond to a monetary shock in various European countries. Kishan and Opiela (2000), Jayaratne and Morgan (2000), Ashcraft (2006) and Black, Hancock and Passmore (2009) similarly examine the differentiation across bank capitalization, core deposits, bank holding company status and bank business strategies, for instance.

We follow the seminal paper by Kashyap and Stein (2000) by investigating the cross-sectional differences in the way that banks respond to monetary policy shocks not only across bank size and liquidity, but also across bank type, i.e., conventional versus Islamic, in Pakistan between 2002:II and 2010:I. The country and sample period provide a unique setting to analyze this differential response. Pakistan may be one of the few countries in the world where both well-developed conventional and Islamic banking sectors have co-existed for a considerable period, formally since 2002 when Islamic Banking was re-introduced in Pakistan. Out of 40 banks that grant business loans, six are Islamic.

As in Kashyap and Stein (2000) we find that following a monetary contraction, small banks with liquid balance sheets cut their lending less than other small banks, and that large banks maintain their lending irrespective of their liquidity positions.

Islamic banks, and this is the main contribution of our paper, though similar in size to small banks, respond to monetary policy shocks much like large banks. Hence, *ceteris paribus,* the expected growth in the Islamic segment of the banking

sector in many countries may lead to a weakening in the potency of the credit channel of monetary policy there.

Khwaja and Mian (2008) also analyze lending by banks in Pakistan. They examine the drop in lending by different banks to similar firms following shocks to banks' liquidity induced by unanticipated nuclear tests that took place in 1998 in Pakistan. They find that banks pass their liquidity shortages to firms, but firms with strong business or political ties can turn to alternative sources in the credit market. In contrast, we focus on the monetary policy shocks responding to foreign capital inflows that followed this period and assess the differential transmission through the conventional and Islamic segments of the banking sector. Other studies that focus on the banking sector in Pakistan include Khwaja and Mian (2005), Mian (2006), and Zia (2008), for example.

The remainder of this paper is organized as follows. Section 2 discusses the relevant institutional framework in Pakistan after 2001. Section 3 describes the data and introduces the econometric specification and Section 4 discusses the results. Section 5 concludes.

2. Pakistan after 2001
Monetary conditions
Following 9/11 there was a substantial inflow of capital in Pakistan. Workers' remittances especially those from the US, UK, Saudi Arabia and UAE increased tremendously. Spurred by the privatization of major public sector corporations by the Government of Pakistan foreign direct investment (FDI) also boomed.

The growing inflow of remittances and FDI caused an appreciation in the local currency, the Pakistan rupee (PKR), against most other currencies. Prior to 2001, Pakistan had faced severe shortages in foreign reserves because of the nuclear tests in 1998 (Khwaja and Mian (2008)). The inflow of foreign capital was initially therefore welcomed. The State Bank of Pakistan (SBP), the nation's central bank, reacted to the inflow of foreign funds by purchasing US dollars and by increasingly accumulating these and other foreign reserves. Its aim was clearly also to curb the appreciation of the rupee against most other currencies to safeguard the competitiveness of Pakistanis exports. The purchase of dollars by the central bank almost inevitably caused the money supply to expand, despite attempts to sterilize the increase in money supply through the open market sales of government securities.

As a result, the financial markets in Pakistan became saturated with excess liquidity and in August 2003 the interest rate on government securities for example dropped to as low as 1.27 percent. It is only after 2005 that monetary policy started to tighten in response to inflation, inexorably following the relentless monetary expansion during the preceding years.

Since monetary policy during most of the analyzed time-period simply responded to this unique and large external shock, i.e., the concurrent inflow of remittances and FDI, our analysis will rely on the changes in the three-month treasury bill rate as a most straightforward indicator of

monetary policy. The use of variations in the short-term interest rate as a measure that proxies the change in the stance of monetary policy is fully in line with the literature analyzing the credit channel at the micro level.[2] The use of a three-month interest rate follows many articles in Angeloni, Kashyap and Mojon (2003) for example that analyze European data. Replacing the changes in the three-month interest rate with the changes in the overnight interbank interest rate or with the changes in the six-month Treasury bill rate yields very similar results, maybe not surprisingly as the correlation between all interest series is very high.

3. Islamic banks

Preferably, Islamic banking is equity-, rather than fixed-interest-, based with profit and loss sharing on both the liability and asset side of a bank's balance sheet. Depositors in Islamic banks are for all practical purposes shareholders that receive no guarantee with respect to the face value of their "deposits". In principle, they fully share in the profits and losses of the bank in which they have their deposits. Similarly, on their asset side Islamic banks deploy an array of deferred sales and profit and loss sharing arrangements to finance household consumption or firm investment. In many respects, Islamic banks are not unlike conventional mutual fund banks (e.g., Cowen and Kroszner (1990)).

Islamic banks seek funding through transaction deposits and investment accounts. *Transaction deposits* are similar to conventional banks' demand deposits, i.e., cash can be withdrawn at any time by writing a check or by accessing an automatic teller machine (ATM), and the bank guarantees the nominal value of the deposit. However, Islamic banks cannot lend the funds to projects that are *Haram*, i.e., not permissible under Islamic jurisprudence related to alcohol, pork, sex, etc., or dealing with interest payments (*Riba*), gambling (*Maysar*), or excessive uncertainty (*Garrar*). In general, Islamic banks aspire to be more conservative in lending.

Investment accounts are the equivalent of the conventional savings accounts. However, these accounts do not offer a fixed interest rate, but rather involve profit and loss sharing between bank and depositors. Although consequently the face value of the investment deposits is not ensured, Islamic banks invariably observe due diligence in financing various projects.

Joint venture financing arrangements constitute the most principled form of financing households and firms. However, in the early stages of their development, Islamic banks often adopt asset-backed fixed return arrangements, mainly deferred payment sales (*Murabaha*) and operational leases (*Ijara*), to finance household consumption, car purchases and real estate. In Pakistan these two types cover approximately 80 percent of the total financing provide by Islamic banks (as of December 2004), which has decreased to about 60 percent over time (as of December 2009).[3]

4. Monetary conditions and Islamic banks

The first Islamic bank in Pakistan was established in 2002 as a response to the (until then) unmet market demand for Islamic financial products (Source: *Financial Sector Assessment*, SBP, 2004). Islamic banking quickly observed sharp growth, as new and established banks entered the market by designing and offering suitable contracts to collect deposits from and extend credit to households and enterprises.

The main problem immediately faced by the Islamic banks was the absence of a government security designed in accordance with Islamic principles, for use as a safe investment or to fulfill the liquidity requirements set by the SBP. In the absence of such an Islamic government security, Islamic banks had no immediate base rate to price their *Murabaha* and *Ijara* contracts. Instead, they use the Karachi Interbank Offer Rate (KIBOR) (Source: *Handbook of Islamic Products*, SBP, 2009). However, the KIBOR is largely determined by the rate on short-term government securities such as the three-month Treasury bill, which is set in fortnightly auctions. Because fixed return modes cover a large part of the total financing that is provided by Islamic banks, for the estimation of the strength of a lending channel the three-month Treasury bill rate can also be used as an indicator of the monetary policy stance.

The balance sheet data in Table 1 provide a first glimpse of the crucial differences between large and small conventional banks and Islamic banks in terms of liquidity for example. A large bank is defined as a bank with more than two hundred billion PKR (around 2.5 billion US dollar) in assets. According to this definition there are six large banks, representing around sixty percent of all banking assets. We label the remaining banks as small banks. By assets, all Islamic banks are small banks.

Liquidity is defined as the sum of cash, balances with Treasury banks and balances with other banks (as in Loupias, Savignac and Sevestre (2003) for example). Although the cash reserve requirement for both conventional and Islamic banks remained same through the entire sample period, liquidity varies noticeably across bank type. Small conventional banks are on average more liquid than large conventional banks during the period of easy monetary policy in 2003. However, the situation is reversed during the period of tight monetary policy after 2005. Hence, contractionary monetary policy creates more liquidity problems for small banks than for large banks. This is due to the fact that the large banks have relatively more options for nonreversible financing like debt or equity instruments.

In comparison with conventional banks Islamic banks have the higher fraction of their assets in cash and balances with Treasury and other banks. This is also the case in many other countries where Islamic banks are present (Beck, Demirgüç-Kunt and Merrouche (2010)). The explanation may be straightforward: In the early stages of their existence, Islamic banks had fewer immediate investment opportunities in comparison with their conventional counterparts.

Most of their liquidity remained in the form of cash and balances with other financial institutions. This is mainly due to the absence of a *Shariah* compliant instrument called *Sukuk* (Islamic bond), Islamic banks initially did not have any alternative investment option in securities. This is evident from the low fraction of their assets in investments in 2003 (Table 1). The first compliant instrument was issued by a public sector enterprise only in 2005 but it could

Table 1. Balance sheet items for conventional banks and Islamic banks. Balance sheet items for conventional banks and Islamic banks as a percentage of assets and liabilities, and indicated items.

| | Conventional Banks | | | | Islamic Banks | |
| | Large Banks | | Small Banks | | | |
	2003	2009	2003	2009	2003	2009
Assets						
Cash and Balances With Treasury Banks	10	10	9	6	12	8
Balances With Other Banks	4	3	4	2	12	7
Lending To Financial Institutions	7	3	11	4	0	16
Call Money	8	11	14	13	0	0
Repurchase Agreements	86	84	75	66	0	2
Other	6	6	11	21	0	98
Investments – Net	36	25	22	31	7	16
Market Treasury Bills	69	51	49	67	0	5
Pakistan Investment Bonds	19	9	43	14	0	2
Other	12	40	8	19	100	93
Advances – Net	37	52	50	45	64	44
Other Assets	6	8	5	12	4	9
Liabilities						
Borrowing From Financial Institutions	5	6	22	17	12	4
Deposits and Other Accounts	84	78	66	64	69	80
Time Deposits	18	28	23	38	42	42
Saving Deposits	50	36	54	33	46	31
Current Accounts	31	36	23	28	12	26
Subordinated Loans	0	1	1	1	0	0
Other Liabilities	5	4	6	7	4	5
Equity	5	10	6	10	15	10

Source: State Bank of Pakistan.

not fulfill the large investment appetite of Islamic banks. So until 2008, and in the absence of any Islamic government security, Islamic banks held cash to fulfill the statutory liquidity and cash reserve requirements (SLR).

Holding only cash resulted in higher opportunity costs for Islamic banks than for conventional banks. Realizing that Islamic banks were at a cost disadvantage compared to conventional banks in meeting the SLR, the SBP relaxed it for Islamic banks. While their cash reserve requirements are the same, Islamic banks, on average, have been required to hold ten percent less in SLR than the conventional banks. Currently Islamic banks need to hold nine percent of the total demand and time deposits for SLR purpose, whereas conventional banks are liable to maintain nineteen percent of demand and time deposits (Table 2). Therefore, and in order to make our analysis comparable across bank type, we take the liquidity variable equal to the first two liquidity items, i.e., cash and balances with Treasury and other banks, for which the requirements and the opportunities are likely most similar for conventional and Islamic banks.

Table 2. Statutory cash and liquidity reserve requirements. Statutory cash and liquidity reserve requirements as a percentage of time and demand deposits.

Dates	Cash Requirements All Banks	Liquidity Requirements Conventional Banks	Islamic Banks
Until 2006	5	15	6
Feb 15, 2006	5	15	8
July 18, 2006	5	15	8
July 18, 2006	7	18	8
June 31, 2008	8	18	8
May 22, 2008	9	19	9
Oct 17, 2008	6	19	9
Nov 1, 2008	5	19	9

In the absence of a risk-free Islamic instrument, Islamic banks also benchmarked their fixed-return contracts, *Murabaha* and *Ijara*, to the conventional interest rate charged in the interbank market, which is usually based on the Treasury-bill rate. However, the loan supply of Islamic banks is less likely to react to changes in monetary policy because as said they have fewer investment opportunities and are more likely to sit on a lot of spare liquidity. In addition, since Islamic banks assets are only indirectly linked to the policy rate, Islamic banks are less affected by the changes in monetary policy.

5. Bank lending channel in Pakistan

The structure of a country's banking system is likely to determine the strength of the response of bank lending to monetary policy shocks. The size of the banking sector and its market concentration, the fraction of banking assets that are liquid, and the banks' capitalization could be crucial in establishing the potency of the bank lending channel.

State and foreign ownership of domestically operating banks will also be important in determining the impact of domestic monetary policy on bank loan supply. State owned banks, that are mostly publicly guaranteed, likely attract new funds elastically to offset the impact of monetary contractions for example (Ehrmann, et al. (2003)). Similarly, foreign banks with close links to their parent institutions and global bank networks are likely to absorb the impact of domestic monetary policy without altering their domestic loan supply (foreign banks with most of their funding in their home country may contract lending relatively more following contractionary monetary policy in their home country).

This section presents salient features of the banking system in Pakistan, such as the importance of banks within the financial system and corporate finance, the market structure, the heterogeneity of the banks, their overall performance and the role of the state in the banking system. Each of these features may determine the potency of the bank lending channel. Tables 3 and 4 provide many of the statistics we now discuss, while Table 5 summarizes how the various characteristics we will discuss determine the potency of the bank lending channel in Pakistan.

Importance of banks within the financial system

Banks play a central and still expanding role in the financial system of Pakistan. In the wake of reforms, that started during 1990s and which included bank privatizations and interest rate liberalization for example, the total assets of the banking system increased during the last decade, both in absolute value and as a share of the total assets of the financial system, from 65 percent in 2002 to 74 percent in 2009.[4]

In contrast, the share of nonbank financial institutions and the Central Directorate of National Savings decreased from 6.2 to 5.6 and from 25 to 17 percent, respectively. The latter category of financial institutions comprises various national saving schemes through which the government mobilizes household savings by offering various debt instruments at varying maturities and constitutes a major source of nonbank borrowing for the government. The minute share of microfinance and insurance institutions increased slightly.

In general, global macroeconomic and political developments remain favorable to the Pakistani banking sector. Yet, total private sector credit granted by banks over gross domestic product (GDP) expanded briskly until 2005, but then leveled off, and for the first time dropped in 2007, corresponding to the tightening of monetary conditions and suggestive of the existence of a lending channel in Pakistan.

Table 3. Financial intermediation in Pakistan in 2002–2009.

	2002	2003	2004	2005	2006	2007	2008	2009
As a Share of Total Assets of Financial Sector								
Microfinance Institutions	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2
Nonbank Financial Institutions	6.2	6.6	7.0	7.6	7.8	8.0	7.6	5.3
Insurance	3.8	3.8	3.8	3.9	4.1	4.6	4.4	4.4
Central Directorate of National Savings Institutions	24.9	25.0	21.7	18.0	16.1	14.6	14.8	16.6
Banks	65.0	64.5	67.3	70.4	71.9	72.7	73.0	73.5
As a Percent of Gross Domestic Product								
Microfinance Institutions	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Nonbank Financial Institutions	4.6	4.9	5.2	5.6	5.7	5.9	5.0	3.4
Insurance	2.8	2.9	2.8	2.9	3.0	3.4	2.9	2.8
Central Directorate of National Savings Institutions	18.2	18.8	16.1	13.3	11.7	10.8	9.8	10.8
Banks	47.7	48.3	50.1	51.8	52.4	53.9	48.1	47.6
All	73.3	75.0	74.4	73.7	72.9	74.1	66.0	64.7
Private Sector Credit	18.0	19.9	22.6	26.3	27.8	28.5	27.6	22.8

Source: State Bank of Pakistan.

Table 4. Banking structure in Pakistan in 2002–2009.

	2002	2003	2004	2005	2006	2007	2008	2009
Public Debt and Stock Market Financing								
Domestic Debt Securities Issued by the Corporate Sector, in% of GDP	0.19	0.05	0.08	0.16	0.04	0.07	0.25	0.02
Domestic Debt Securities Issued by the Corporate Sector, in% of Bank Loans to Corporate Sector	1.50	0.30	0.40	0.60	0.20	0.30	0.90	0.10
Stock Market Capitalization, in% of GDP	14	20	30	42	36	49	14	20
Bank Performance								
ROE (Profit after Tax over Capital and Reserves), in%	21	35	31	37	36	23	11	13
Cost Income Ratio, in%	67	59	63	72	71	68	70	72
Measures of Banking Sector Concentration								
Herfindahl-Hirschman Index	973	912	850	762	745	739	736	712
Coefficient of Variation	1.7	1.6	1.5	1.4	1.4	1.4	1.4	1.4
Assets of Largest 5 Banks, in% of Total Bank Assets	61	59	56	54	52	52	52	51
Assets of Large Banks (Assets > 200 bln. PKR), in% of Total Bank Assets	n/a	n/a	65	64	60	58	59	57
State Ownership								
Assets of the Public Sector Banks, in% of Total Bank Assets	52	49	27	26	26	27	25	26

Source: State Bank of Pakistan.

Table 5. Factors determining the potency of the bank lending channel. This table provides the factors that determine the potency of the bank lending channel and the direction of their impact.

Factor	Strengthening	Weakening
Importance of the banking sector		
Importance of bank financing	✓	
Investors protection and capital markets	✓	
Bank dependence	✓	
Structure of the banking system		
Concentration and size		✓
Financial strength	✓	
State influence	✓	
Foreign ownership and bank networks	✓	
Regulatory requirements		
Capital adequacy		✓
Deposit insurance	✓	
Bank failures	✓	

Importance of banks for the financing of corporations

Banks around the world are very important in fulfilling the financing needs of the corporate sector. Public debt and equity play, for most firms and even in financially well-developed countries, only a minor role in financing corporate activities.

Debt and equity markets are often found to be less developed and subject to more intense market imperfections in emerging economies. This is also the case in Pakistan. The issuance of public debt is very limited, and especially small firms rely heavily on bank debt. Bond market capitalization has even decreased over time in nominal terms. Stock markets continue to play a modest role in corporate sector funding. Stock market capitalization has shown an upward trend, but still the market is relatively thin, dominated by a handful of commercial banks' stocks, and mainly driven by the demand from foreign investors.

In sum, banks play a dominant role as financial intermediaries in Pakistan. If the supply of bank loans to firms changes following changes in monetary policy, firms likely will be affected as for most firms financing alternatives may not be readily available.

Performance of the banking sector

The transmission of monetary policy will also depend on the performance of the banks. Stronger banking sector results in a weaker effect of monetary policy on the loan supply (Cecchetti (1999)). The financial strength of the

banking system can be measured through asset quality, capital adequacy, liquidity and the earnings of the banking system.

The first half of the sample period is characterized by an increase in the stability and expansion regarding banking system. Banking business remained profitable and return on equity (ROE) for example grew until 2006. Similarly, the cost – income ratio dropped until the same year.

However, after the tightening of monetary policy started in 2005, performance of the banking sector weakened and in subsequent years there was a rise in non-performing loans and a resultant erosion of capital. The banking sector in Pakistan is clearly not immune to contractionary monetary policy shocks, as bank balance sheets are affected by the increasing interest rates.

Relationship lending

A strong relationship with a bank may insulate an individual firm to some extent from the cut in bank lending that follows a contractionary monetary policy. This shielding may not only be vis-á-vis other firms that have no relationship, but also across time if banks would intertemporally "subsidize."

If firms engage multiple banks, firms can switch if one bank is affected more by contractionary monetary policy than the others (Detragiache, Garella and Guiso (2000)). Large firms are mostly immune from any type of financing shortage by switching among banks when needed (Khwaja and Mian (2008)). Small firms however are often unable to substitute between banks, or between bank and other type financing.

Market concentration and size structure

Informational frictions in the banking sector are important for the lending channel to operate. If market players in the interbank markets are facing significant informational asymmetries, then distributional effects are likely to occur between banks that are confronted with informational issues to various degrees. Size criterion is used as standard in literature as a proxy to measure the informational opaque situation of banks. Small banks, in general, are considered to be more exposed to informational frictions than large banks. Therefore, the external finance premium for the former category is probably higher than for the latter group.

The banking market is characterized by a steadily decreasing concentration during the sample period. The Herfindahl-Hirschman Index (i.e., the sum of market shares squared) decreased from 973 in 2002 to 736 in 2008, while the C-5 (the market share of the five largest banks by total assets) dropped from 61 to 52 percent. The group of the largest banks (with total assets more than 200 billion PKR) slipped from 65 percent in 2004 to 52 percent in 2008. As concentration dropped, competition may have intensified, possibly making the bank lending channel more potent.

State influence in the banking sector

Before the financial reforms in 1990s, the Pakistani financial system was mainly characterized by high government borrowing, bank-level credit ceilings, directly controlled interest rates, and directed and subsidized loan supply.

Public ownership of banks was introduced in the 1970s and lasted until the early 1990s, making the state all dominant in the banking sector. In 1990 there was not a single domestic private bank.

However, due to additional privatization of state-owned banks during the sample period studied, the influence of the state has been waning. The fraction of assets of state-owned banks over total assets of the banking system halved from 52 percent in 2002 to 26 percent in 2009 potentially strengthening the banking lending channel of monetary policy transmission.

Deposit insurance

There is no deposit insurance in Pakistan. Rather, deposits are in principle indirectly insured only by the continuous supervision by the regulatory authority. Detailed prudential regulations have been issued to avoid different types of risks a bank could be exposed to. Moreover, stringent liquidity requirements are in place to restrain banks to take excess leverage.

Therefore, in absence of explicit deposit insurance the lending channel may be more potent, because the lack of certainty about the nominal value of deposits makes depositors feel unsafe about their money. Consequently, following a tightening of monetary policy, deposits may be withdrawn and banks compelled to cut lending.

Bank failures

There were few bank failures in Pakistan during the 1990s. Some institutions became involved in scandals and failed due to imprudent banking. The *Mehran Bank* scandal is well-known, for example. Some banks were involved in a few scandals causing depositors to feel insecure. Furthermore, some cooperative societies also collected deposits from the people with a promise of higher returns than the ongoing market rates. These societies inevitably failed and caused a loss for their depositors.

Due to these incidents in the past, there may be a higher occurrence of rumors and a abrupt contraction in deposits following a tighter monetary policy. Furthermore, fraud and forgeries independently affect deposits, which in turn affect lending of the banks. Data related to such cases indicate a significant increase in such cases during the last few years (Source: *Financial Stability Review* 2008–09, SBP).

Foreign banks and bank networks

In case any liquidity problem arises, due to a decrease in demandable deposits, foreign banks and banks in networks can resort to their head office or holding company to cover the liquidity shortage. Under this scenario, the potency of the bank lending channel of domestic monetary policy transmission becomes weaker. The role of foreign banks has been limited in Pakistan, i.e., they account for only ten percent of total banking sector assets. There are some implicit bank networks in Pakistan in that ownership of

some banks is common. There is also foreign ownership in some large banks. However, evidence strongly suggests banks in Pakistan do pass shocks to their liquidity position to their borrowers (Khwaja and Mian (2008)). This evidence, combined with the weak role of foreign banks and bank networks, makes it more likely that tight monetary policy eventually leads to the loss of deposits by the banks and a contraction in lending.

6. Data and econometric specification

The main source of data is the Quarterly Report of Conditions (QRCs) of all banks submitted to the State Bank of Pakistan (SBP). The data set covers the whole population of all banking institutions that is operational in the financial system and incorporates their QRCs' figures. The time period is from 2002:III to 2010:I at a quarterly basis. There are 40 banks, of which six are Islamic Banks.

We lose observations because: (1) Some banks start operating after 2002:III; (2) we employ up to four lags of quarterly growth rates; (3) some banks merge and following Kashyap and Stein (2000) we remove banks' observations in any quarter in which they are involved in a merger; (4) we remove observations for which the loan growth rate is more than three standard deviations from its sample mean; (5) there are missing values in the dataset. We are left with 756 bank – year: quarter observations that can be used in the estimations.

The methodology, in general, is based on an assessment of the differences in the response of individual banks to a monetary policy shock according to their liquidity positions. We follow the one-step regression methodology, as in Kashyap and Stein (2000):

$$(1) - \Delta \log(L_{it}) = c_i + \sum_{j=1}^{m} \alpha_j \Delta \log(L_{it-j}) + \sum_{j=0}^{m} \mu_j \Delta R_{t-j} + \Theta T_t \cdot$$
$$+ \sum_{k=1}^{3} \rho_k Quarter_{kt} + X_{it-1} \left(\eta + \sum_{j=0}^{m} \phi_j \Delta R_{t-j} \right) + \varepsilon_{it}$$

whereby,

c_i = bank i specific fixed effect,

$\Delta \log(L_{it-j})$ = the quarterly change in the logarithm of the total amount of the loans granted to the private sector by bank i in year: quarter t–j,

ΔR_{t-j} = the quarterly change in the three-month Treasury bill rate in year: quarter t–j,

T_t = time trend,

$Quarter_{kt}$ = dummy for quarter k in year: quarter t, and

X_{it-1} = liquid assets (i.e., cash and balances with the banks) over total assets of bank i in year: quarter t.

m is set to equal four, i.e., one calendar year. This corresponds to the number of lags used in other papers assessing the potency of the credit channel in other countries.

The main hypothesis is that contractionary monetary policy affects the illiquid banks more than the liquid banks, as the latter can offset any decrease in deposits by reducing their liquid assets. Consequently, our main coefficient of interest is the sum of interaction terms of liquidity X_{it-1} with the monetary policy measure ΔR_{t-j}, i.e., $\Sigma \phi$.

Equation (1) is first estimated for the entire banking sector to evaluate the potency of the aggregate bank lending channel. Large banks are possibly less influenced than small banks by monetary shocks because of their ability to raise time deposits, which – irrespective of their internal liquidity positions – would make their lending less dependent on monetary policy shocks. Islamic banks may also be less affected. Therefore, we also estimate Equation (1) including dummies both for large banks and Islamic banks. Both dummies are interacted then with all coefficients, except the trend, quarter, and province shares. These shares replace the bank-specific effects and are constructed by calculating for each bank the relative number of branches it has in each province.

In robustness, and to further control for the business cycle and loan demand, we also include change in the industrial production index (IPI). Equation (2) equals:

$$(2) - \Delta \log(L_{it}) = c_i + \sum_{j=1}^{m} \alpha_j \Delta \log(L_{it-j}) + \sum_{j=0}^{m} \mu_j \Delta R_{t-j}$$
$$+ \sum_{j=1}^{3} \phi_j \Delta IPI_{t-j} + \Theta T, + \sum_{k=1}^{3} \rho_k Quarter_{kt}$$
$$+ X_{it-1} \left(\eta + \sum_{j=0}^{m} \phi_j \Delta R_{t-j} + \sum_{j=0}^{m} \phi_j \Delta IPI_{t-j} \right) + \varepsilon_{it}$$

To check for endogeneity between lag dependent variable and the error term we use a Hausman-Wu test with the 5th to 8th lag in level of the dependent variable as the set of instruments. The result shows that the lagged dependent variable in both equations (1) and (2) is not correlated with the error term.

7. Results
All banks

Table 7 presents the results of the baseline regression, i.e., Equation (1), estimated using the observations of all banks. The purpose is to assess the potency of the bank lending channel for the overall banking sector. The table shows the sum of the estimated coefficients. The coefficients for provinces, quarter dummies and time trend are not shown. All estimates are in percentage terms and robust to White's adjusted standard errors.

The estimated coefficients confirm that the bank lending channel is operational in Pakistan. The sum of the estimated coefficients on the changes in the three-month Treasury bill rate equal –5.83***.[5] Hence, an increase in the interest rate by one percentage point decreases loan growth by 5.83 percentage points.

To identify that this decrease in loan growth actually represents a contraction in the supply of credit and not a reduction in the demand for credit, we interact the

Table 6. Descriptive statistics. This table provides the definitions, means, standard deviations, minimum and maximum of all variables used in the estimations. All variables are expressed in percent. The number of bank–year: quarter observations equals 756.

Variable Name	Definition	Bank Type	Mean	Standard Deviation	Minimum	Maximum
Small Bank	= 1 if the bank has average total assets below 200 bln. PKR and is a conventional bank, = 0 otherwise	28 banks	0.70	0.46	0	1
Large Bank	= 1 if the bank has average total assets exceeding 200 bln. PKR and is a conventional bank, = 0 otherwise	6 banks	0.15	0.36	0	1
Islamic Bank	= 1 if the bank is classified as an Islamic Bank, = 0 otherwise	6 banks	0.15	0.36	0	1
$\Delta \log(L_{it})$	Change in the log of private sector loans	All Banks	4.2	12.6	−57.7	140.8
		Small Banks	17.4	14.3	−23.6	55.3
		Large Banks	22.5	10.6	7.0	48.0
		Islamic Banks	4.0	13.8	−57.7	140.8
$\sum\limits_{j=1}^{4} \Delta \log(L_{it-j})$	Change in the log of private sector loans, sum of last four quarters	All Banks	20.4	36.0	−95.7	280.6
		Small Banks	18.5	38.0	−95.7	280.6
		Large Banks	3.8	7.7	−10.7	31.1
		Islamic Banks	5.9	10.7	−12.4	63.0
X_{it}	Liquid assets to total assets	All Banks	16.0	14.8	3.0	92.2
		Small Banks	16.1	16.7	3.0	92.0
		Large Banks	12.3	3.3	5.8	25.5
		Islamic Banks	22.5	10.6	7.0	48.0
ΔR_t	Change in three month treasury bill rate		0.4	0.7	−0.7	2.5
$\sum\limits_{j=0}^{4} \Delta R_{t-j}$	Change in three month treasury bill rate, sum of last four quarters		1.7	2.0	−4.4	5.5
ΔIPI_t	Change in the industrial production index		1.4	10.1	−18.0	21.8
$\sum\limits_{j=0}^{3} \Delta IPI_{t-j}$	Change in the industrial production index, sum of last four quarters		7.5	12.2	−19.5	25.1

Table 7. Loan growth, all banks. The dependent variable is $\Delta log(L_{it})$ which is the quarterly change in the logarithm of the total amount of the loans granted to the private sector by bank i in year: quarter t. The independent variables are: $\Delta log(L_{it-j})$ which is the quarterly change in the logarithm of the total amount of the loans granted to the private sector by bank i in year: quarter $t-j$, ΔR_{t-j} is the quarterly change in the three-month Treasury bill rate in year: quarter $t-j$, and X_{it-1} is the liquid assets (i.e., cash and balances with the banks) over total assets of bank i in year: quarter t. The estimations use 756 bank – year: quarter observations. *** Significant at 1%, ** significant at 5%, * significant at 10%.

(Sum of) Estimated Coefficients	(1) Baseline	(2) R = KIBOR	(3) R = Six-month Treasury bill rate	(4) With Bank Province Shares	(5) With Industrial Production
$\sum_{j=1}^{4} \Delta \log(L_{it-j})$	0.34***	0.36***	0.33***	0.40***	0.34***
$\sum_{j=0}^{4} \Delta R_{t-j}$	–5.83***	–3.69***	–5.12***	–5.95***	–5.04***
$\sum_{j=0}^{4} X_{it} * \Delta R_{t-j}$	20.71*	15.01	15.42	19.22	19.20
$\sum_{j=0}^{3} \Delta IPI_{t-j}$					0.19
Quarter Dummies, Trend	Yes	Yes	Yes	Yes	Yes
Bank Fixed Effects	Yes	Yes	Yes	No	Yes
Bank Province Shares	No	No	No	Yes	No

measure for bank specific liquidity with the interest rate (as in Kashyap and Stein (2000)). The sum of the estimated coefficients on this interaction term equals 20.71*. Consequently, banks with a higher level of liquidity contract lending less following a monetary shock (we discuss the economic relevancy of similar estimates in the next table).

To check the robustness of these estimates we replace the three-month Treasury bill rate with the KIBOR in Model (2) and the six-month Treasury bill rate in Model (3). The sum of the estimated coefficients on the changes in the interest rates equal –3.69*** and –5.12***, respectively, while the sum of the estimated coefficients on the interaction term with liquidity equal 20.71 and 15.42. Individual liquidity coefficients are insignificant for all specifications.

To control better regional effects Model (4) replaces the bank fixed effects with bank province shares, i.e., for each bank the number of branches it has in each province divided by the total number of branches it has. To control better for business cycle and loan demand Model (5) includes the change in industrial production. Results are mostly unaffected.

Large and Islamic banks

We now assess the role played by large and small (conventional) banks, and Islamic banks in the bank lending channel. We interact dummies for Large and Islamic banks with all independent variables (except with for the trend, season and province shares). Table 8 exhibits the results for various specifications.

The baseline Model (1) indicates especially the small banks make the bank lending channel operational, a finding also present in Kashyap and Stein (2000). An increase in the three-month Treasury bill rate of one percentage point decreases the loan growth of small banks by 7.17*** percentage points in a year. The sum of the estimated coefficients on the interaction terms of liquidity and interest rates equal 25.06***.

To assess if the estimated coefficients also have economically relevant implications, we need to calculate the response in lending by similarly sized banks, but different liquidity positions, to a monetary policy shock. Using the liquidity distribution of small banks in 2010:I, we consider a bank at the 9th decile as a 'liquid' bank and at the 1st decile as an 'illiquid' bank. The liquidity ratios according to this criterion are 24 and 5 percent, respectively. Under this scenario, a one percentage point increase in the interest rate reduces the lending by an illiquid bank 4.5 percentage points more than the lending by a liquid bank over one year time period. This is calculated through multiplying ϕ by liquidity differential of the liquid and illiquid banks i.e. $25.06 \times (0.24 - 0.05)$.

The estimated results for the large banks are different. The sum of the estimated coefficients on the change in interest rate is positive, i.e., 7.06*, but only marginally significant. Hence, large banks are not sensitive to changes in monetary policy due to their ability to fund their lending from the market other than deposits. The sum of the interaction terms of liquidity and the interest rate is now negative, as in Kashyap and Stein (2000), but insignificant. Using the

Table 8. Loan growth, across bank type. The dependent variable is $\Delta\log(L_{it})$ which is the quarterly change in the logarithm of the total amount of the loans granted to the private sector by bank i in year: quarter t. The independent variables are: $\Delta\log(L_{it-j})$ which is the quarterly change in the logarithm of the total amount of the loans granted to the private sector by bank i in year: quarter $t-j$; ΔR_{t-j} is the quarterly change in the three-month Treasury bill rate in year: quarter $t-j$, and X_{it-1} is the liquid assets (i.e., cash and balances with the banks) over total assets of bank i in year: quarter t. The estimations use 756 bank – year: quarter observations. *** Significant at 1%, ** significant at 5%, * significant at 10%.

(Sum of) Estimated Coefficients	Bank Type	(1) Baseline	(2) R = KIBOR	(3) R = Six-month Treasury bill rate	(4) With Bank Province Shares	(5) W/Industrial Production
$\sum_{j=1}^{4}\Delta\log(L_{it-j})$	Small	0.36***	0.39***	0.35***	0.43***	0.36***
	Large	0.15	0.29**	0.17	0.15	−0.02
	Islamic	0.08	0.06	0.07	0.21***	−0.04
Difference from Small Banks	*Large*	−0.21	−0.10	−0.18	−0.28**	−0.38
	Islamic	−0.28*	−0.33**	−0.28*	−0.23	−0.40**
$\sum_{j=1}^{4}\Delta R_{t-j}$	Small	−7.17***	−4.26***	−6.36***	−7.12***	−7.16***
	Large	7.06*	4.99	6.74**	4.43	9.12***
	Islamic	2.05	3.85	0.46	−2.95	11.25*
Difference from Small Banks	*Large*	14.23***	9.25**	13.10***	11.60***	16.28***
	Islamic	9.22*	8.12**	6.82*	4.17	18.41***
$\sum_{j=0}^{4}X_{it}*\Delta R_{t-j}$	Small	25.06**	18.24*	19.52	22.88*	25.84**
	Large	−39.20	−28.83	−39.47*	−17.40	−47.55*
	Islamic	−31.83	−27.29*	−26.38	−19.90	−48.08**
Difference from Small Banks	*Large*	−64.26**	−47.08	−59.00**	−40.28*	−73.39***
	Islamic	−56.90***	−45.54**	−45.91***	−42.78**	−73.91***
Quarter Dummies, Trend		Yes	Yes	Yes	Yes	Yes
Bank Fixed Effects		Yes	Yes	Yes	No	Yes
Bank Province Shares		No	No	No	Yes	No

difference between small banks and large banks coefficient there is 11.6 percent gap in the level of lending across liquid and illiquid large versus small banks one year after a monetary shock.

All in all, these findings are very similar to those in Kashyap and Stein (1995), i.e., tight monetary policy decreases the loan growth of small banks but may actually increase credit granted by large banks in the short run. Romer and Romer (1990), Bernanke and Blinder (1992), and Christiano, Eichenbaum and Evans (1996) also show that credit reacts sluggishly or initially even expands following a monetary tightening. In Pakistan this effect is also present due to the response of the large banks.

Islamic banks are equivalent to small banks in terms of asset size and as Islamic banks use the conventional interest rate as a key benchmark, one can expect that the bank lending channel will also operate through Islamic banks. However, since Islamic banks were expanding during the sample period, their deposit growth may have been less affected by tight monetary policy. Also, share of their fixed deposits in total deposits is higher than conventional banks. Using panel data of bank deposits across all commercial banks in Pakistan, Khan (2010) also found that Islamic banks enjoy substantially higher deposit growth rates than other banks including the crises period of 2008. Moreover, the liquidity position of the Islamic bank makes them less susceptible to a change in the interest rate.

The results indeed show that the loan growth of Islamic banks is not affected by changes in the interest rate. The sum of the estimated coefficients equals, 2.05, positive but not statistically significant. Similarly, the sum of the estimated coefficients on the interaction terms of bank liquidity and changes in the interest rate equal –31.83, which is negative and insignificant. In both cases Islamic banks are statistically different from small banks with an estimated difference that equals 9.22* for the changes in the interest rate and 56.90*** for the interaction term, but similar to the large banks.

As before, and to check the robustness of these estimates, we replace the three-month Treasury bill rate with the KIBOR in Model (2) and the six-month Treasury bill rate in Model (3), and introduce bank province shares and the change in industrial production in Models (4) and (5). Results are mostly unaffected and document that even though Islamic banks are small (in terms of asset size), their response in lending to a monetary policy shock is similar to that of the large banks in the sample.

8. Conclusion

We investigate the differences in banks' responses to monetary policy shocks across bank size, liquidity, and type, i.e., conventional versus Islamic, in Pakistan between 2002:III to 2010:I. We find that following a monetary contraction, small banks with liquid balance sheets cut their lending less than other small banks. In contrast large banks maintain their lending irrespective of their liquidity positions. Islamic banks, though similar in size to small banks, respond to monetary policy shocks like large banks. Hence the credit channel of monetary policy may weaken when Islamic banking grows, with their current

portfolio under conventional monetary policy, in relative importance.

However, if there are (1) *sukuk* issuance that can be used as a monetary policy indicator for Islamic banks, (2) more investment opportunities available for Islamic banks, (3) an efficient Islamic interbank market, and (4) a competitive Islamic banking industry then the credit channel through Islamic banks may start gaining in potency to the extent that some Islamic banks remain small and hence face funding constraints.

Notes

1. This bank balance sheet channel may be operational because of agency problems between banks and their providers of funds depositors, other debt-holders and equity holders (Bernanke (2007)). Gertler and Kiyotaki (2010) formalize this channel modeling financial intermediation as in Gertler and Karadi (2010) but include liquidity risk as in Kiyotaki and Moore (2008). The agency problems between banks and their borrowers (firms and households) give similarly rise to the firm balance-sheet channel (Lang and Nakamura (1995); Bernanke, Gertler and Gilchrist (1996); Bernanke, Gertler and Gilchrist (1999)). Gertler and Gilchrist (1993) and Oliner and Rudebusch (1996) for example find that, following the dates of monetary contractions identified in Romer and Romer (1989)), the ratio of bank loans to small versus large manufacturing firms falls. Gertler and Gilchrist (1994) show that, even after controlling for differences in sales between these firms, the differences in the behavior of small and large firm debt remain. If for firms bank loans are imperfectly substitutable with public financing, and prices adjust imperfectly, monetary policy affects real activity through the so-called credit channel.

2. See Jayaratne and Morgan (2000), Kashyap and Stein (2000), Kishan and Opiela (2000), Ashcraft (2006) and Black, Hancock and Passmore (2009) among others. On the other hand, Bernanke and Blinder (1992) and Christiano, Eichenbaum and Evans (1996) use vector auto regressions to identify monetary policy shocks. However Kashyap and Stein (2000) find very similar results using either the variation in the federal funds rate, the Boschen and Mills (1995) index or the Bernanke and Mihov (1998) measure.

3. These two products are mainly replaced by another fixed-return scheme called diminishing *Musharikah* (i.e., "diminishing partnership"), in which the partner in an asset (a house for example) not only pays rental payments to the bank but over time also buys the share owned by the bank.

4. The banks also own shares in nonbank financial institutions, insurance companies, brokerage houses, and financial advisory services further underlining their central role in the financial system (Source: *Financial Stability Review* 2007–08, SBP).

5. As in the Tables we star (the sum of) the estimated coefficients according to their significance levels. *** Significant at 1%, ** significant at 5%, * significant at 10%.

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The importance of the Islamic banks in the monetary transmission mechanism in Malaysia

Zamrah Hasin[1], M. Shabri Abd. Majid[2]

[1]Kulliyyah of Economics and Management Sciences, International Islamic University Malaysia
[2]Faculty of Economics, Syiah Kuala University, Banda Aceh, Indonesia, E: hannanan@gmail.com,
T: +6282160229553.

Abstract - Monetary policy influences the real economy through various channels, including bank lending. Currently, Malaysia is operating under dual banking systems: conventional and Islamic banking. The latter has the distinctive feature of interest-free. Hence, this study aims to empirically explore the relevance of Islamic banks' financing in channeling the monetary policy effects to the real economy. To achieve this objective, the study relies on an autoregressive distributed lag (ARDL) bound testing approach and innovation accounting approach and uses quarterly data spanning from 1991:Q1 to 2010:Q4. The study documents that Islamic financing channel for monetary transmission exists in Malaysia. Islamic financing is unequally distributed to economic sectors in response to monetary policy shock. Furthermore, the findings also reflect that Islamic banking, as operating a dual banking system, is not spared from the interest rate and monetary conditions of the country. This clearly shows the behavior of Islamic banking, which cannot shun the interest rate while its operation delinks from the interest rates. In designing monetary policy, the central bank should consider Islamic financing as an alternative or complement channel for monetary transmission, since this channel is just as active as conventional lending channel.

Keywords: Islamic banks, monetary transmission mechanism, autoregressive distributed lag, Malaysia

Introduction

The monetary policy conducted by central banks targets to influence the overall performance of the economy in order to achieve its objectives. The common objectives of monetary policy are: sustainable economic growth, stable price, full employment, and exchange rate stability. To achieve such objectives, central banks set an intermediate target, i.e. monetary aggregate or interest rate that are strongly linked to economic activities. For example, during a boom period, a central bank conducts tight monetary policy by raising interest rates or using other monetary policy tools, i.e., increase of statutory reserve requirement (SRR) or selling bonds, to reduce inflation. Following the increase of the interest rate, the price of loans increases which in turn encourages investors not to borrow. As a result, investment spending declines, thereby causing aggregate demand to decrease. Hence, output falls.

The channel of monetary transmission in affecting economic activities is also important and much relevant to the effectiveness of monetary policy. The above description has illustrated the mechanism of monetary transmission through the interest rate channel. The interest rate is used to influence the decision of investors in borrowing and making investments. Investment spending is part of GDP; lower investment spending will reduce aggregate demand, thereby causing the economic activities to decline. However, the interest rate channel is not the only channel that monetary policy can transmit through. There are also other channels that can be conduits for monetary transmission, such as bank lending, exchange rate, asset price and balance-sheet channels.

Bank lending is one of the conduits through which monetary policy can be transmitted. In a boom period with high inflation, a central bank might implement tight monetary policy by increasing the statutory reserve requirement (SRR) in order to reduce inflation. Upon this regulation, bank reserve decreases, causing fewer bank loans to be made available. Thus, investment spending declines, because of which fewer number of investors will be getting loans. Consequently, aggregate demand decreases, affecting output to decline. In this channel, banks play an important role as financial intermediaries that have

specialized knowledge in making credit that costs them less than other sources. In market imperfection, there are some borrowers who depend on loans of banks. In other words, loans are perceived as imperfect substitutions for another type of credit, i.e., raising money in capital markets. Hence, the reduction of loans leads to the decline in investment spending, and consequently output decreases.

Bank lending channels have captured the attention of many economists and researchers. There is substantial literature in this area for developed countries, such as those by Bernanke and Blinder (1992), Gertler and Gilchrist (1993), Kashyap and Stein (1997), and Brissmis et al. (2001). Many studies document evidence supporting the existence of the bank-lending channel in many countries. Altunbas et al. (2002), for example, has found the bank-lending channel in Europe. Also, many aspects of the bank-lending channel have been analyzed, among them are: the issue of sensitivity of bank lending based on different size, capital strength and liquidity on monetary policy (Brissmis et al., 2001; Gambacorta, 2005; Worm, 2001), and also the issue of sectoral effects of monetary policy (Dale and Haldane, 1995; Dedola and Lippi, 2001; Arnold and Vrugt, 2002).

Furthermore, many studies on monetary transmission for developing countries were also conducted by those such as Arena et al. (2006), Agung (1998) and Ramlogan (2004). Various channels of monetary transmission are investigated in those countries. The results vary from one country to another, yet all of these studies seem to suggest the existence of credit channel (Ramlogan, 2004; Huang and Pfau, 2008; Ahmad, 2008). Some studies also document the factors affecting the activeness of the bank-lending channel, i.e., size, liquidity and origin of banks (Arena et al., 2006; Agung, 1998). However, these studies mainly focus on bank lending from conventional banking system only.

Unlike other countries, Malaysia is operating under the dual banking system, namely conventional and Islamic banking systems. This makes Malaysian banking system unique. Therefore, the bank-lending channel in Malaysia can be viewed in two aspects. The first aspect is the traditional lending channel through conventional banks, while the second one is the financing channel, through Islamic banks.

However, both conventional and Islamic banks provide similar products and services, but with different underlying contracts. Deposit and financing are based on loan contracts in conventional cases. In contrast, Islamic banks provide deposit and financing based on Islamic contracts such as *wadi'ah, mudarabah, musharakah and murabahah*. The reason such practices are exercised is that the interest is prohibited by Islam. Such practices help avoid the elements of interest. Thus, this unique feature of Islamic banking has brought a new avenue to the banking industry, and it affects all parties involved in the industry including depositors, investors, borrowers and also those in economic and social welfare organizations.

Like conventional banks, Islamic banks are under supervision and regulation of the central bank of Malaysia, Bank Negara Malaysia (BNM). Therefore, BNM has the power to control and influence the Islamic banks, as it has

the control on conventional banks. For example, deposits from Islamic banks is subject to SRR and also liquidity requirement ratios (LRR). An increase (decrease) of SRR will affect bank reserve to (decrease) so that banks' financing will reduce (increase). Based on the theoretical background of the bank-lending channel, it is questionable whether monetary policy can be passed through the Islamic financing channel or not? If yes, how strong it is?

In this light, both bank lending and Islamic financing channels are investigated. In terms of bank-lending channels, existing studies show that monetary transmission through them is active; for example, Goh and Yong (2007), Kassim and Majid (2009), Kassim (2006) and Sayuti (2009). Few other studies, such as Domac (1999), Ibrahim (2005) and Karim et al. (2006) focus on the distributional effects of monetary policy in Malaysia. These studies seem to suggest the disparities in the effects of monetary policy on bank lending and economic sectors.

With regard to the Islamic financing channel, there are hardly any studies. This may be due to the recentness of the establishment and improvement of Islamic banking systems in Malaysia. The limited existing studies, however, investigate mainly to prove the existence of Islamic financing channels for monetary transmission in Malaysia (Said and Ismail, 2007; Sukmana and Kassim, 2010; Sayuti, 2009). Other than documenting the presence of Islamic financing channels for monetary transmission in Malaysia, they do not employ methodologies such as the VAR model, or structural VAR model, in producing empirical results (Sayuti, 2009; Said and Ismail, 2007; Kassim, Majid and Yusof, 2009). Then, there are few studies that analyze the causality between interest rate and Islamic financing by using the Toda-Yamamoto approach. The results show strong causality between the interest rate and Islamic financing (Ibrahim and Sukmana, 2011). Nevertheless, no study explored the distributional effects of monetary policy on Islamic financing. This aspect still thus demands further investigating.

To this end, the present study may fills up the space left by reexamining the current Islamic financing channels relying on different methods—the ARDL model, for instance. The study also would take the challenge of exploring distributional effects of monetary policy on Islamic financing as well as economic sectors. The study expects to produce findings that would enrich the literature along these lines.

Specifically, this study aims at investigating whether or not there exists any Islamic financing channel in Malaysia; analyzing the distributional effects of monetary policy on the Islamic financing provided for various economic sectors such as agriculture, manufacturing and construction, and assessing the sensitivity of various economic sectors to monetary policy stance and Islamic financing change.

The remainders of the study are organized in the following manner: Section 2 provides the review of literature on the bank-lending channel. Section 3 is devoted to discuss methodology employed in this study, while Section 4 discusses the empirical results and findings of the study. Finally, Section 5 concludes and summarizes the major findings of the study.

2. Monetary transmission mechanism

Monetary transmission mechanism is one of the economic topics of research that has been explored by many researchers. This may be because of the importance and the dynamic of the matter itself. Understanding the monetary transmission mechanism would give the central bank the most effective channel in conducting monetary policy and in affecting economic activities. This is perhaps the challenging task for many central banks since there are many channels that could be conduits for monetary transmission.

Channels of monetary transmission mechanism

The objectives of monetary policy are to achieve its targets such as sustainable economic growth and instituting stable price. It is important for policy makers to understand monetary transmission mechanisms in order to influence economic variables. The channels of monetary transmission have been well established at least in theory. For the purpose of this research, four channels of monetary transmission will be discussed.

Interest rate channel

A monetary transmission mechanism with interest rate channel has been established for over fifty years. The mechanism is based on the basic Keynesian IS/LM model in mainstream economics (Mishkin, 1996). This channel is also known as money view. In money view, monetary policy stance can influence economic variables via interest rate. The mechanism of this monetary transmission can be illustrated as below, assuming that it is monetary contraction:

$$M\downarrow \Rightarrow i\uparrow, I\downarrow \Rightarrow Y\downarrow$$

When monetary contraction is implemented, it affects real interest rate, causing it to increase. High real interest rate would increase the cost of borrowing to investors. Therefore, the investment spending falls, which cause the decrease of aggregate demand thereby causing economic output to decrease.

Bank lending channel

Monetary policy can be transmitted through the bank-lending channel. In this channel, banks as financial intermediaries play a crucial role. To understand this channel, two assumptions must hold. Firstly, monetary policy must have the ability in influencing bank loans. Secondly, there is no perfect substitutability between retail bank deposits and other sources of funding for banks. The following schematic will show the mechanism.

$$M\downarrow \Rightarrow \text{deposit}\downarrow \Rightarrow \text{bank loan}\downarrow \Rightarrow I\downarrow \Rightarrow Y\downarrow$$

When the central bank conducts monetary contraction, bank loans decrease in response to the fall in the bank reserve. Therefore, supply of bank loans to investors decreases, leading to decline in investment spending. As a consequence, output will decrease.

Asset price channel

Under the asset price channel, there are two conduits that monetary policy has to pass-through: Tobin's q theory of investment and wealth effects. However, these two channels are almost the same except that the Tobin's q channel will affect investment decisions, while wealth effect channel will involve the consumption decision.

Tobin's q theory can be the channel for monetary transmission affecting economic variables through the valuation of equities. Tobin defines q as "the market value of firms divided by the replacement cost of capital" (Mishkin, 1996). If the value of q is high then the company will invest more because the value of the firm is higher than the replacement cost of capital and otherwise. The schematic of this channel can be presented as below.

$$M\downarrow \Rightarrow P_e\downarrow \Rightarrow q\downarrow \Rightarrow I\downarrow \Rightarrow Y\downarrow$$

From the above schematic, money supply decreases in the economy because of monetary contraction. Individuals would have less money than they want. Therefore, in order to smooth their consumption they will try to sell their assets—securities for instance. This will decrease the demand for stock thereby leading the price of stock to decrease. Hence, the q value of firms falls. Firms will reduce their investments, which will cause output to fall.

Under wealth effect, monetary transmission goes through wealth effect on consumption. Based on the life-cycle hypothesis model, consumption spending is determined by lifetime resources. If the value of wealth increases permanently, this would also increase the consumption of individuals. The following schematic presents the mechanism.

$$M\downarrow \Rightarrow P_e\downarrow \Rightarrow W\downarrow \Rightarrow C\downarrow \Rightarrow Y\downarrow$$

Monetary contraction affects the value of stock prices, causing them to decline. Since most of the financial asset is common stock, the decrease of stock price leads to decrease of wealth. Therefore, the individual will decrease their consumption. As a result, because of the decrease in aggregate demand output will fall.

Exchange rate channel

With an open economy, the country has to involve international transactions. To accommodate international trade, the exchange rate has to be preset. Under flexible exchange rate systems, the impact of change in interest rate can be absorbed by the exchange rate (Mishkin, 1995). Therefore, monetary transmission can also pass-through the exchange rate which affects economic variables such as inflation and output. The schematic of the exchange rate channel is presented below.

$$M\downarrow \Rightarrow i, \uparrow I\downarrow Y \Rightarrow \downarrow$$

From the schematic above, when monetary policy contraction is implemented, the real interest rate increases, which makes the domestic real interest rate relatively higher than the foreign real interest rate. Consequently, the funding from foreign investors will flow into the country, and the exchange rate will appreciate causing the price of exported products to be relatively higher than other foreign competitors. Therefore, as a result of decrease in aggregate demand, output will decline.

There have been many studies on the monetary transmission through the bank-lending channels. Most of the studies support the presence of the bank-lending channel. Nevertheless, the effectiveness of this channel is still conclusive.

Among the early empirical studies on the bank-lending channel is Bernanke and Blinder (1992). They investigate the sensitivity of supply of reserve of the banks in the US on the federal fund rate shock as a monetary policy by employing the VAR model from 1959 to 1978. The finding shows that monetary policy contraction works in part by affecting the composition of bank assets. During tight monetary policy, banks will sell securities to smooth their loan supply. Nevertheless, over time banks will arrange a new loan and terminate the old loan in response to such monetary policy.

Cetorelli and Goldberg (2008) examined monetary policy through the bank-lending channels of two different categories of banks, namely domestically-oriented banks which do not have international operation, and global-oriented banks. Their study showed that monetary policy only passes through domestically-oriented banks while global-oriented banks rely on internal capital markets in smoothing their liquidity. Therefore, they concluded that the bank-lending channel in the US would be diminishing in strength if banking becomes more globalized.

Agung (1998) used bank level data from Indonesia spanning from 1983 to 1995 to investigate the responses of different bank classes to monetary policy changes by employing VAR model. The study concluded that monetary contraction does not influence the lending of state banks, but does so to the lending of small banks. Besides, credit for investment and working capital from small banks decline more than state banks during tight monetary policy. However, consumer loans fall for all bank types.

Yusof (2006) examined the monetary policy channels in affecting aggregate and sectoral output in Asian countries, namely Malaysia, Indonesia, the Philippines, Singapore and Thailand. The study employed the cointegration and VECM approach. The most effective variable in effecting output is M1 for Malaysia and the Philippines, M2 for Indonesia and Thailand, and bank-lending for Singapore. Nevertheless, only the impact of monetary policy on sectoral output of Malaysia is significant. The results indicated that agriculture and manufacturing services, and construction sectors are affected most by M1, M2 and credit lending, respectively.

Said and Ismail (2005), investigated the bank-lending channel in Malaysia and also attempted to examine the size and capital strength of banks for the effectiveness of the channel. They used bank level data and applied fixed effect cross-sectional models with GLS estimation. The results supported the presence of the bank-lending channel, but they seemed to suggest that size and capital strength are irrelevant on the performance of the channel. Ghazali (2005) conducted a similar study but with different methods. The study used aggregate data of loans over the period from 1982 to 1999 and employed the Granger causality approach. The findings showed that there is strong causation running from bank liabilities to bank assets, while the result also indicated significant causation, running from the credit variables to the performance of the economy.

Sayuti (2009) employed the structural VAR model under small open economy framework. The study documented the presence of the bank-lending channels in Malaysia. In the same vein, Goh and Yong (2007) used bank level data and employed Autoregressive distributed lag (ARDL) model in finding the evidence for the existence of bank-lending transmission in Malaysia before and after the structural shift in interest rate. The results are different in these two periods. Before the shift, tight monetary policy influenced loan supply, which in turn supported the bank-lending view. However, it had a limited strength after the shift, which indicated to the reduced effectiveness of the channel.

A similar study by Kassim (2006) applied multivariate causality analysis based on VECM and Toda-Yamamoto method, and Variance decomposition. The overall results showed the presence of bank-lending channels in Malaysia. Besides, the study also showed that smaller banking institutions are more sensitive to monetary change than larger banking institutions.

In addition, Karim et al. (2006) analyzed the impacts of monetary policy on commercial banks in Malaysia, lending to various economic sectors by using VAR model. The results showed that the tight monetary policy has a negative impact on bank lending to economic sectors. Meanwhile, bank lending to economic sectors also responds differently to monetary policy shocks. A similar study by Ibrahim (2005) also confirmed potential disparities in the effect of monetary policy on real sectoral activities in Malaysia.

Said and Ismail (2007) analyzed the role of Islamic banks in the transmission of monetary policy in Malaysia. He employed fixed effect model with GLS estimation and used 15 commercial Islamic bank balance sheets. The study showed the presence of financing channels in Malaysia. On the other hand, Sayuti (2009) employed the structural VAR model in investigation of monetary policy transmission through the Islamic financing channel in Malaysia. The study confirmed the results of earlier studies.

Sukmana and Kassim (2010) analyzed the effects of Islamic financing and deposits in monetary transmission on real economy. They found that Islamic financing and deposits can be the conduits in liking the monetary policy indicator to economic activities. In addition, Ibrahim and Sukmana (2011) evaluated the dynamic interactions between Islamic financing and macroeconomic and financial variables using Toda-Yamamoto causality test and innovation accounting approach. The results suggested strong causal influences of interest rate, but not of real stock price and real production, on Islamic financing.

Kassim, Majid and Yusof (2009) investigated the impact of monetary policy shocks on conventional and Islamic banks in Malaysia. The study employed VAR model with monthly aggregate data. The finding showed that the impact of monetary policy change is more sensitive for Islamic banks than the conventional banks.

To summarize, the existing studies seem to agree that the Islamic financing channel is active in Malaysia. However, there are other issues which are yet to be investigated such as distributional effects of monetary policy on Islamic financing to various economic sectors and the effectiveness of the channel in respect to size, capital strength and liquidity of Islamic banks. To fill up the space left, the present study takes up the challenge of exploring the issue of distributional effects of monetary policy on Islamic financing as well as economic sectors. The study would also reinvestigate to prove the presence of Islamic financing channels in Malaysia.

3. Empirical framework

Data

This research attempts to examine whether Islamic financing can be the channel for monetary transmission or not and also to analyze the distributional effects of monetary policy in the context of Malaysia. The study utilizes quarterly data from 1999.Q1 to 2010.Q4. The study uses five main variables, namely interest rate, total Islamic financing and eight sectoral Islamic financing, economic growth (proxied by real Gross Domestic Product (GDP) and eight sectoral GDP, inflation rate and real

effective exchange rate. Table 1 describes the data and their sources.

Methodology

To accomplish the objectives of the study, various techniques and methods were employed. The study cautiously chooses the methods and approaches that are most suitable to the purposes and objectives of the study as well as to the data.

To simplify the analysis, the analysis is divided into three systems, namely aggregate system, financing system and output system. This is purposely made in order to answer each of the objectives of the study. The aggregate system refers to a five-variable system consisting of interest rate, real exchange rate, Islamic financing, inflation rate and GDP. This system is designed to examine the existence of the transmission of monetary policy through the Islamic financing channel. Meanwhile, the financing and output systems are designed to analyze the distributional effects of monetary policy on Islamic financing and economic sectors. Each system consists of eight sub systems. The financing system refers to a six-variable system consisting of interest rate, real exchange rate, total Islamic financing less financing to the sector under consideration (i.e., total financing less financing given to agriculture sector

Table 1. Data description.

Variable	Description	Abbr.	Source
Monetary Policy	Interbank overnight money rate	*Int*	IMF
Financing	Total Islamic financing	*Fnc*	BNM
	Islamic financing for primary agriculture sector	*Fag*	BNM
	Islamic financing for mining and quarrying sector	*Fmi*	BNM
	Islamic financing for manufacturing sector	*Fma*	BNM
	Islamic financing for electricity, gas and water sector	*Fel*	BNM
	Islamic financing for wholesale and retail trade, hotels and restaurants sector	*Fwh*	BNM
	Islamic financing for construction sector	*Fco*	BNM
	Islamic financing for transport, storage and communication sector	*Ftr*	BNM
	Islamic financing to finance, insurance and business services sector	*Ffi*	BNM
Output	Aggregate gross domestic product	*Gdp*	BNM
	Output in agriculture, forestry and fishing sector	*Gag*	BNM
	Output in mining and quarrying sector	*Gmi*	BNM
	Output in manufacturing sector	*Gma*	BNM
	Output in electricity, gas and water sector	*Gel*	BNM
	Output in wholesale and retail trade, accommodation and restaurants sector	*Gwh*	BNM
	Output in construction sector	*Gco*	BNM
	Output in transport, storage and communication sector	*Gtr*	BNM
	Output in finance, insurance, real estate, and business services sector	*Gfi*	BNM
Inflation Rate	Consumer price Index, 2005 base year	*Inf*	IMF
Exchange Rate	Real effective exchange rate	*Rex*	IMF

Note: The BNM data are from the *Monthly Statistical Bulletin* (various issues) while the IMF data are from *International Financial Statistics* CD-ROM. BNM = Bank Negara Malaysia; IMF = International Monetary Fund; Abbr = Abbreviation.

(*sfga*)), financing to the sector under consideration (i.e., financing providing to agriculture sector (*fga*)), inflation rate and GDP. Similarly, the output system refers to a six-variable system consisting of interest rate, real exchange rate, total Islamic financing, inflation rate, GDP less the sector under consideration and the output for the sector under consideration. The inclusion of aggregate financing and output (by less the amount of interested sector) into disaggregate systems is meant to increase the likelihood shocks in the monetary policy similarly across sectors (Ibrahim, 2005).

As a requirement for the time series analysis, it is necessary to examine the property of time series, i.e., the stationary properties. This is very critical to avoiding spurious regression. In this study, we employ augmented Dickey-Fuller (ADF) unit root test, which was developed by Dickey and Fuller (1979). The test may be estimated in three different forms to allow various possibilities. The regressions are as follows:

1. The regression with intercept
$$\Delta Y_t = \beta_1 + \delta Y_{t-1} + \sum_{i=1}^{m} \propto_1 \Delta Y_{t-1} + \varepsilon_t \qquad (1)$$

2. The regression with intercept and trend
$$\Delta Y_t = \beta_1 + \beta_2 T + \delta Y_{t-1} + \sum_{i=1}^{m} \propto_1 \Delta Y_{t-1} + \varepsilon_t \qquad (2)$$

3. The regression without intercept
$$\Delta Y_t = \delta Y_{t-1} + \sum_{i=1}^{m} \propto_1 \Delta Y_{t-1} + \varepsilon_t \qquad (3)$$

where T is trend, Δ is difference operator and ε is pure white noise error term.

This requires us to test the significance of δ whether the time series is stationary or otherwise. In each form, the hypotheses are as below.

Null hypothesis: $H_0: \delta = 0$ (i.e. the time series is non-stationary)

Alternative hypothesis: $H_0: \delta < 0$ (i.e. the time series is stationary)

The next step of analysis is to conduct a cointegration test. The test examines the existence of long-run equilibrium relationships among variables. In this regard, the autoregressive distribution lag (ARDL) framework for cointegration which is introduced by Pesaran, et al. (2001) is adopted. There are numerous advantages of the ARDL approach. Firstly, it employs only one single reduced form equation. Secondly, it does not require pre-testing variables. This means that the cointegration test is applicable to underlying regressors regardless of its integration, whether purely I(0) or purely I(1) or mixture of both. Thirdly, the ARDL is also applicable for small number of observations. Fourthly, it avoids the larger number of specification made in the conventional cointegration (Duasa, 2007). Lastly, it takes sufficient of lags to capture the data generating process whereby it estimates $(p+1)^k$ number of regressions to obtain optimal lag-length for each variable, where p is the maximum lag and k is the number of variables in the equation (Karim and Majid, 2010). Having a small number of observations of 48 as well as considering the advantages of ARDL, it justified that the study employ the ARDL approach for cointegration test.

The ARDL involves estimating the conditional error correction version of the ARDL model relating to dependent variables and its determinants. The process of cointegration test is applied to all three systems in our analysis. To conserve space, only the ARDL model for aggregate system is shown below:

$$\Delta \text{fnc} = \alpha_0 + \sum_{i=1}^{p} \lambda_{1i} \Delta fnc_{t-1} + \sum_{i=1}^{p} \lambda_{2i} \Delta int_{t-1}$$
$$+ \sum_{i=1}^{p} \lambda_{3i} \Delta rex_{t-1} + \sum_{i=1}^{p} \lambda_{4i} \Delta inf_{t-1}$$
$$+ \sum_{i=1}^{p} \lambda_{5i} \Delta gdp_{t-1} + \varnothing_1 \text{fnc}_{t-1} + \varnothing_2 \text{int}_{t-1}$$
$$+ \varnothing_3 \text{rex}_{t-1} + \varnothing_4 \text{inf}_{t-1} + \varnothing_5 \text{gdp}_{t-1} + \varepsilon_t \qquad (4)$$

where Δ is the difference operator, *fnc* is total Islamic financing, *int* is overnight interest rate, *rex* is real exchange rate, *inf* is inflation rate, *gdp* is aggregate output, ε_t is white noise error term and p is the optimal lag length.

In order to test cointegration, the null hypothesis $H_0: \varnothing_1 = \varnothing_2 = \varnothing_3 = \varnothing_4 = \varnothing_5 = 0$ (i.e. there is no cointegration among variables) is tested against the alternative hypothesis $H_1: \varnothing_1 \neq \varnothing_2 \neq \varnothing_3 \neq \varnothing_4 \neq \varnothing_5 \neq 0$ (i.e. there is cointegration among variable or there exists the long-run relationship among variables.). The F-test has a non-standard distribution. Therefore, the critical value bounds are generated. The critical value bound consists of the critical values for I(0) and I(1) series which are referred as lower bond and upper bound respectively. If the calculated F-statistics exceed their respective upper critical values, we conclude that there is evidence of long-run relationship and that the null hypothesis cannot be accepted, and vice versa. Narayan (2005)'s critical value bounds are used as the study has a small sample size.

Following the cointegration test, the study extent its aggregate system analysis to long-run and short-run dynamic. Accordingly, the following long-run model is estimated.

$$fnc_t = \alpha_1 + \sum_{i=1}^{p} \beta_{1i} fnc_{t-1} + \sum_{i=1}^{p} \gamma_{1i} int_{t-1} + \sum_{i=1}^{p} \delta_{1i} rex_{t-1}$$
$$+ \sum_{i=1}^{p} \theta_{1i} inf_{t-1} + \sum_{i=1}^{p} \sigma_{1i} gdp_{t-1} + \mu_t \qquad (5)$$

In addition, the short-run dynamics based on ARDL specification is derived by constructing an error correction model as below:

$$\Delta fnc_t = \alpha_2 + \sum_{i=1}^{p} \beta_{2i} \Delta fnc_{t-1} + \sum_{i=1}^{p} \gamma_{2i} \Delta int_{t-1} + \sum_{i=1}^{p} \delta_{2i} \Delta rex_{t-1}$$
$$+ \sum_{i=1}^{p} \theta_{2i} \Delta cpi_{t-1} + \sum_{i=1}^{p} \sigma_{2i} \Delta gdp_{t-1} + \psi_t \text{ECM}_{t-1} + \zeta_t \qquad (6)$$

where ECM_{t-1} is the error correction term.

To further investigate the presence of the Islamic financing channel, the study explores further by conducting multivariate causality tests. This test enables to see the direction of causality between variables, i.e. causality relationship between monetary policy and Islamic financing. To this end, the vector error-correction model (VECM) for aggregate system is formed as below;

$$
\begin{bmatrix} \Delta fnc_t \\ \Delta int_t \\ \Delta rex_t \\ \Delta inf_t \\ \Delta gdp_t \end{bmatrix} = \begin{bmatrix} k_1 \\ k_2 \\ k_3 \\ k_4 \\ k_5 \end{bmatrix} + \sum_{i=1}^{p} \begin{bmatrix} n_{11i} & n_{12i} & n_{13i} & n_{14i} & n_{15i} \\ n_{21i} & n_{22i} & n_{23i} & n_{24i} & n_{25i} \\ n_{31i} & n_{32i} & n_{33i} & n_{34i} & n_{35i} \\ n_{41i} & n_{42i} & n_{43i} & n_{44i} & n_{45i} \\ n_{51i} & n_{52i} & n_{53i} & n_{54i} & n_{55i} \end{bmatrix} \begin{bmatrix} \Delta fnc_{t-1} \\ \Delta int_{t-1} \\ \Delta rex_{t-1} \\ \Delta inf_{t-1} \\ \Delta gdp_{t-1} \end{bmatrix}
$$
$$
+ \begin{bmatrix} \lambda_1 \\ \lambda_2 \\ \lambda_3 \\ \lambda_4 \\ \lambda_5 \end{bmatrix} [ECM_{t-1}] + \begin{bmatrix} \varpi_{1t} \\ \varpi_{2t} \\ \varpi_{3t} \\ \varpi_{4t} \\ \varpi_{5t} \end{bmatrix} \tag{7}
$$

where k is constant term, n is coefficient of lagged independent variables, λ is error-correction coefficient and ϖ is error term.

4. Empirical results

The results will be reported step by step as the study progresses. It starts with unit root test's results and is followed by cointegration's results. For extension of aggregate system analysis, a long-run model and short-run dynamic derived from the ARDL model as well as multivariate causality analysis are included.

Unit root tests

Table 2 summarizes the results of the ADF unit root test for the data series. The results may be classified into five cases. Firstly, almost all the data series are not significant at level, but they are significant at first difference. Secondly, some data series are significant with intercept, at level and also significant at least at 5% level at first difference. They are *fma, fel, gmi, sfag, sfma, sfco*, and *sftr*. Thirdly, there are four data series namely *fco, gag, gfi* and *sgmi* under this case. The variables are only significant with trend and intercept at log level with 1% significance level except for *fco* at 5% significance level.

Fourthly, for *fag, fmi* and *sffi*, their null hypotheses are rejected at log level with intercept, and trend and intercept at 1% significance level. For *sfwh*, it is also under this group but slightly different in term of significance level. The series is significant at 5% level with intercept and at 10% level with intercept and trend. At first difference, the series are also significant at least at 10% level. Lastly, two data series are found to be non-stationary, both in level and in first difference, i.e., *gco* and *gwh*. Therefore, the study decided to drop these variables in the analysis because they do not suggest any stationarity at first difference despite of being dependent variable in the ARDL model.

Cointegration tests

To examine the existence of the long-run relationship among variables, the study adopts a bound testing approach and Autoregressive distributed lag (ARDL) model for cointegration testing. This framework was originally proposed by Pesaran, et al. (2001). The advantages of the ARDL model are that it is applicable for underlying regressors, which are purely I(0), or I(1), or a mixture of both. It is also able to deal with even small sample numbers (Duasa, 2007). In the present case, the variables are a mixture of I(0) and I(1) with an observation number of only 48. Therefore, it is justified to apply the ARDL model for cointegration testing in the study.

To be consistent with our objectives, we report the results into three tables, namely Tables 2, 3 and 4., each representing the aggregate, financing, and output system respectively. The aggregate system refers to a five-variable system consisting of total Islamic financing, overnight interest rate, real exchange rate, inflation rate and GDP.

The financing system is a six-variable system consisting of Islamic financing to sector under consideration, overnight interest rate, real exchange rate, inflation rate, economic growth and total Islamic financing less the financing of sector under consideration. Due to the deletion of *fag* and *fmi* in the previous section, the total financing sub-systems are left to be only six, namely *fmas, fels, fwhs, fcos, ftrs* and *ffis*.

Like the financing system, the output system is a six-variable system consisting of output sectors under consideration, overnight interest rate, real exchange rate, inflation rate, and GDP less the output of sector under consideration. There are only six sub systems for output, namely *gags, gmis, gmas, gels, gtrs* and *gfis* since *gco* and *gwh* are dropped from the analysis in the previous section.

In each table the computed F-statistics for each lag length are presented. The last column of each table also includes the critical value bounds for unrestricted intercept and no trend, which were obtained from Narayan (2005), for sample sizes between 30 and 80. If the F-statistics exceed their respective upper critical values at any lag-length, it implies that there exists the long-run relationship among variables and vice versa.

Table 3 shows calculated F-statistics from lag length 1–6 for the aggregate system. At lag length, 1–5 are found to be significant at least at 5% level. This implies that the null hypothesis of no cointegration cannot be accepted at a 5% level. Therefore, there is a cointegration relationship among the variable in aggregate system, implying that the variables tend to move together in the long run.

Table 4 presents the ARDL cointergration's results for a financing system. The calculated F-statistics of all financing sub-systems, except *fcos*, are found to be higher than their upper bound critical value, at least at 10% level of significance with at least one lag length, if not all. The null hypothesis of no cointegration can be rejected at a 10% level. This implies that *fmas, fels, fwhs, ftrs* and *ffis*, have long-run relationships among the variables in the system. Regarding to *fcos*, it is found that there exists no cointegration. Hence, and since it is not consistent with the other systems, it was dropped from the analysis.

Table 5 shows the result of ARDL cointegration tests for output systems. Only *gags* is not significant at all levels and at all lag lengths. The remaining, namely *gmis, gmas, gels, gtrs* and *gfis,* are found to be significant at least at 10% level with at least one lag length, if not all. Their null hypothesis of no cointegration is rejected at 10% level of

Table 2. Unit root tests summary statistics

Variable	Augmented Dickey-Fuller					
	Level			1st difference		
	Intercept	Trend & Intercept	None	Intercept	Trend & Intercept	None
Int	−2.321	−2.254	0.038	−10.109***	−9.626***	−10.382***
Fnc	−2.501	−2.228	2.696	−3.863***	−4.303***	−2.476**
Fag	−4.863***	−4.466***	1.703	−7.966***	−8.505***	−7.517***
Fmi	−5.212***	−6.231***	0.627	18.402***	18.357***	18.230***
Fma	−5.144***	−2.985	2.992	−4.542***	−5.687***	−3.336***
Fel	−2.619*	−2.595	0.876	−6.866***	−5.575***	−6.776***
Fwh	−1.240	−1.551	2.890	−7.599***	−7.574***	−3.521***
Fco	−2.663	−3.738**	3.309	−6.578***	−6.543***	−5.593***
Ftr	0.083	−1.586	2.232	−6.299***	−6.450***	−5.928***
Ffi	−1.033	−2.855	3.107	−7.687***	−7.622***	−6.361***
Gdp	−0.793	−2.079	2.787	−4.363***	−4.319***	−3.065***
Gag	−0.273	−3.961**	1.424	−6.789***	−6.804***	−8.625***
Gmi	−2.699*	−2.550	1.840	−4.986***	−5.115***	−4.778***
Gma	−0.740	−2.222	1.438	−7.614***	−7.555***	−3.816***
Gel	−1.155	−2.568	4.037	−10.374***	−10.331***	−2.103**
Gwh	−0.161	−2.358	2.154	−2.538	−2.516	−1.310
Gco	0.409	−0.826	1.471	−1.827	−2.401	−1.212
Gtr	−1.345	−2.564	2.491	−3.579**	−3.533**	−2.330**
Gfi	−1.588	−4.895***	3.182	−9.695***	−9.719***	−8.325***
Inf	0.468	−2.489	4.657	−5.415***	−5.416***	−4.069***
Rex	−2.226	−1.536	0.350	−5.069***	−5.000***	−5.110***
Sfag	−4.513***	−2.892	2.681	−3.717***	−4.268***	−2.223**
Sfmi	−2.538	−2.239	2.657	−3.824***	−4.284***	−2.473**
Sfma	−3.921***	−2.022	2.763	−10.215***	−11.321***	−2.600**
Sfel	−2.593	−2.171	2.561	−3.642***	−4.157**	−2.332**
Sfwh	−4.375***	−3.406*	6.122	−11.205***	−12.635***	−1.621*
Sfco	−2.673*	−2.361	2.609	−3.762***	−4.308***	−2.418**
Sftr	−2.628*	−2.423	2.700	−3.904***	−4.284***	−1.594
Sffi	−5.075***	−5.476***	2.618	−3.772***	−4.248***	−1.553
Sgag	−0.932	−1.991	2.617	−4.151***	−4.126**	−2.976***
Sgmi	−0.506	−4.524***	3.042	−4.226***	−4.154**	−2.635***
Sgma	−0.709	−2.555	2.746	−4.034***	−3.986**	−2.701***
Sgel	−0.789	−2.084	2.756	−4.349***	−4.304***	−3.079***
Sgwh	−1.230	−2.766	2.823	−6.756***	−6.732***	−3.328***
Sgco	−0.850	−2.012	2.722	−4.301***	−4.265***	−3.052***
Sgtr	−0.760	−2.064	2.766	−4.413***	−4.366***	−3.146***
Sgfi	−0.688	−1.824	2.859	−4.775***	−4.705***	−3.482***

Note: *,**,*** denote significance at 10%, 5% and 1% level respectively. Critical values are based on MacKinnon (1996). Lag lengths are based on Schwarz Info Criterion (SIC) with maximum lag of 10.

significance. This provides evidence that each output sub-system, except *gags*, is cointegrated implying that the long-run relationship among the variables in the system exists. Like *fcos*, the study had to drop *gags* from the analysis since the system is not cointegrated, that is because it will not consistent with the present analysis.

Cointegrating regression results (Long-run model)
In order to serve the objective of the study, the aggregate system analysis was extended and the long-run relationship

of aggregate systems was investigated. If the variables have long-run relationships, then the long-run model can be constructed. In the previous section, the study found evidence of cointegration in the aggregate system. This implies that there is a long-run relationship among the variables in the aggregate system. Hence, the long-run model can be established. Table 6 presents the long-run model using the ARDL approach. By estimating it, the study follows Majid and Yusof (2007), Majid (2007) and Karim and Majid (2010) in identifying the maximum lag order. The lag order of 1 is chosen as it reveals the highest F-statistics value (see Table 3). The ARDL (1,0,0,0,0) is selected based on Schwarz Bayesian Criterion (SBC).

In the long-run model, it seems that overnight interest rate has a negative relationship with Islamic financing. If the interest rate increases by one percent, the Islamic financing will decrease by 0.04 percent. This suggests that interest rate as a proxy of monetary policy can affect Islamic financing and it proves the existence of the active of bank-lending/financing channel for monetary transmission. This result is also consistent with many studies (Said and Ismail, 2007; Sayuti 2009; Sukmana and Kassim, 2010).

The model also indicates a positive relationship between the real exchange rate and Islamic financing. A one percent increase in real exchange rate will increase Islamic financing by 0.28 percent. The explanation for this could be indirect. When the currency depreciates (i.e., real exchange rate index increases), the domestic good becomes cheaper

Table 3. ARDL cointegration test for aggregate system.

Lag	F-statistics	Bound critical values (unrestricted intercept and no trend)
1	9.121***	
2	4.845**	
3	5.209**	k = 4 & n = 48
4	4.748**	1% ; 4.306–5.874
5	4.841**	5% ; 3.136–4.416
6	3.653	10% ; 2.614–3.746

Notes: *,**,*** denote significance at 10%, 5% and 1% level respectively.
The critical value bounds are obtained from Narayan (2005).

Table 4. ARDL cointegration test for financing system.

Lag length	F-statistics						Bound critical values (unrestricted intercept and no trend)
	fmas	*Fels*	*fcos*	*fwhs*	*ftrs*	*ffis*	
1	4.082*	3.456	2.035	3.473	1.919	4.267**	K = 5 & n = 48
2	2.375	4.272**	2.501	3.025	1.725	3.950**	1% ; 3.955–5.583
3	4.320**	2.180	1.871	3.526	1.217	3.635*	5% ; 2.900–4.218
4	5.985***	8.087***	1.164	4.769**	3.070	3.652*	10% ; 2.435–3.600
5	2.529	2.326	1.923	1.263	8.769***	6.580***	

Notes: *,**,*** denote significance at 10%, 5% and 1% level respectively.
The critical value bounds are obtained from Narayan (2005).

Table 5. ARDL cointegration test for output system.

Lag Length	F-statistic						Bound critical values (unrestricted intercept and no trend)
	gags	*gmis*	*gmas*	*gels*	*gtrs*	*gfis*	
1	1.159	3.606*	2.725	3.624*	2.501	2.321	K = 5 & n = 48
2	0.781	2.443	0.775	1.216	1.959	8.319***	1% ; 3.955–5.583
3	0.501	1.858	1.633	1.734	2.176	2.155	5% ; 2.900–4.218
4	0.753	4.245**	2.104	3.311	7.245***	2.520	10% ; 2.435–3.600
5	0.656	1.419	6.893***	3.146	9.679***	1.708	

Notes: *,**,*** denote significance at 10%, 5% and 1% level respectively.
The critical value bounds are obtained from Narayan (2005).

Table 6. Long-run model.

Dependent variable	Independent variables			
	int$_{t-1}$	rex$_{t-1}$	inf$_{t-1}$	gdp$_{t-1}$
Fnc	−0.041***	0.284**	−0.294	0.254***
	(0.009)	(0.105)	(0.194)	(0.086)

Notes: *,**,*** denote significance at 10%, 5% and 1% level respectively.
Standard error is in parentheses.

Table 7. Error correction model.

Independent variables	Coefficient	Standard Error
Δint	−0.058**	0.024
Δrex	0.236	0.201
Δinf	−1.333**	0.502
Δgdp	0.242**	0.088
Δc	−2.432***	0.753
Ecm$_{t-1}$	−0.077***	0.024
Diagnostic tests		
R²	0.919	
Adj-R²	0.895	
DW	2.175	
χ² LM	7.068	
χ² RESET	3.702*	
χ² Norm	6.022**	
χ² Hetro	9.172***	

Notes: *,**,*** denote significance at 10%, 5% and 1% level respectively. LM is Lagrange multiplier test of residual serial correlation. RESET is Ramsey's RESET test of functional form. Norm is Jarque-Bera test of normality. Hetro is White test for heteroscedasticity. DW is Durbin-Watson statistics.

than foreign goods, thereby causing net export to increase, and hence in aggregate demand (Mishkin, 1996). This, in turn, raises the demand for money thereby increasing Islamic financing. For the GDP, it also shows a positive relationship with Islamic financing. When GDP rises by one percent, Islamic financing will increase by 0.25 percent. When aggregate output increases, it raises the demand for credit thereby causing the financing to increase. This may infer that Islamic financing cannot turn away from the fluctuation in the real economic activities (Ibrahim, 2005).

In conclusion, the findings seem to suggest that overnight interest rate, real exchange rate and GDP are linked to Islamic financing over the long run. We could see at least in the long run, the direction of relationship of the variables with Islamic financing where interest rate is shown to have positive relationship while real exchange rate and GDP are evidently opposite.

Error correction model (ECM)

This section turns to short-run dynamics of Islamic financing. The error correction model (ECM) is established based on the ARDL model by retaining the lag length of 1 as suggested in the previous section. The ECM of the ARDL (1,0,0,0,0) based on SBC is reported in Table 6.

Except real exchange rate, the coefficients of variables are significant at least at the 5% level. The sign coefficients of these variables are the same as the long-run model. The Islamic financing still evidently has a negative relationship associated with interest rate, whereby it positively links with GDP. Here coefficient of inflation rate appears to be significant while it failed in the long-run model. The inflation rate seems to have a negative relationship with Islamic financing. The findings seem to suggest that monetary policy, i.e., overnight interest rates, together with GDP, are linked to the change of Islamic financing at least in the short-run. The explanation for the first could be that, contraction monetary policy may reduce the availability of Islamic financing by means of raising statutory reserve requirements. On the other hand, during recession when aggregate demand decreases, it results in a decrease of demand for financing.

The coefficient of the ECM is negative and highly significant at 1%. This confirms the existence of stable long-run relationships among the variables. The coefficient of ECM is −0.077 indicating slow rate of convergence to equilibrium. It implies that a deviation from the long-run equilibrium following the short-run shock is corrected by 7 percent after one quarter. Table 7 also provides the diagnostic test. The underlying ARDL equation fits very well at adjusted R² = 0.895 while DW is more than 2. We find no evidence of serial correlation, but fail for functional form, normality and heteroscedasticity tests.

Multivariate causality test

To produce more evidence for aggregate system, multivariate causality analysis is conducted. The VECM approach makes us differentiate between short- and long-run forms of Granger causality. Here, the F-statistics of lagged difference independent variables indicate the short-run causal effects while the t-statistic of the lagged error correction terms shows the long-run causal effects (Yusof, 2003).

Table 8 reports multivariate causality analysis. The findings show that at least one way of Granger causality is active for all variables, namely Islamic financing, interest rate, real exchange rate, inflation rate and GDP. At the same time, the error correction for all variables also seems to be negatively significant at least at the 5% level of significance. This implies that the variables appear to bear the brunt of short-run adjustment to long-run equilibrium.

Based on Table 8, it seems that the causation may run from overnight interest rate to real exchange rate to GDP to inflation rate to Islamic financing then go back to overnight interest rate. We also can see the causation from Islamic financing to GDP and return back to overnight interest rate. At the same time, overnight interest rate may also directly affect GDP thereby causing Islamic financing to then turn to the interest rate. In short, it can be seen here that Islamic financing can cause the GDP at least in the short

Table 8. Multivariate causality analysis.

| Dependent variable | Independent variable F-statistic | | | | | Coefficient |
	Δfnc	Δint	Δrex	Δinf	Δgdp	Ecm$_{t-1}$
Δfnc	–	0.003 [0.954]	0.042 [0.836]	8.151*** [0.006]	5.153** [0.028]	−0.077*** (−3.190)
Δint	4.851** [0.013]	–	1.745 [0.194]	1.484 [0.230]	3.815* [0.058]	−0.207** (−2.551)
Δrex	0.919 [0.407]	5.071** [0.030]	–	1.344 [0.253]	5.220** [0.027]	−0.180** (−2.166)
Δinf	2.318 [0.111]	0.077 [0.782]	2.106 [0.154]	–	3.824* [0.057]	−0.134** (−2.481)
Δgdp	3.806** [0.030]	7.052** [0.011]	3.077* [0.087]	7.979*** [0.007]	–	−0.515*** (−3.869)

Notes: *,**,*** denote significance at 10%, 5% and 1% level respectively.
Figure in the parentheses is t-statistics.
Figure in the bracket is probabilities for the F-statistics.

run, implying that the financing channel can be a conduit for a monetary policy to influence the aggregate demand although the causal effect from interest rate to financing is not significant in this test.

5. Conclusion

The findings suggest clearly that there is monetary transmission through Islamic financing, although it shows only in a short period. Islamic financing seems to be able to influence the output, which reconfirms the existence of its channel. Regarding disaggregate analyses, it suggests that Islamic financing is disproportionate in its distribution. It is found that Islamic financing is unequally distributed to economic sectors in response to monetary policy shock. The most affected sectors for Islamic financing are electricity, gas and water while finance, insurance and business service sectors are the least affected. The findings also found that monetary policy shock and financing shock unevenly affect economic sectors. It seems to show that the mining and quarrying sector is the most sensitive to these two shocks in comparison to the remaining sectors.

The results from the study seem to suggest that Islamic financing channel for monetary transmission exists in case of Malaysia. The cointegration results first indicate that there is long-run relationship among the variables: monetary policy, Islamic financing, GDP, exchange rate and inflation. Based on the ARDL model, it was proved that the interest rate has a significant negative relationship to Islamic financing in the long-run model. In addition, based on the multivariate causality analysis, the study showed that there is a bi-directional causality between Islamic financing and GDP. In the short run, an increase in Islamic financing can significantly cause GDP to increase and vice versa. In the meantime, the long-run model derived from the ARDL model also shows the similar results. To an increase in GDP, Islamic financing also increases in the long run. These evidences seem to imply that while Islamic financing influences economic activities, it is also affected by the

fluctuation of the economy. All in all, it could be inferred that monetary transmission through Islamic financing exists in Malaysia. Monetary mechanisms stem from tight monetary policies affecting the quantity of Islamic financing, toward decrease, thereby causing economic activities to decline. Furthermore, the findings also reflect that Islamic banking, as it operates in a dual banking system, is not spared from the interest rate and monetary conditions of the country (Ibrahim and Sukmana, 2011). When interest rate increases, it affects Islamic financing, causing decrease. This clearly shows the behavior of Islamic banking which cannot shun away from the interest rate while its operation delinks from the interest rates.

From the study it could be suggested that in designing monetary policy, the central bank may consider Islamic financing as an alternative or complement channel for monetary transmission since this channel is just as active as the conventional lending channel. This means that the BNM can use monetary policy by influencing Islamic financing to overcome the recession and inflation in the economy (Said and Ismail, 2007). In addition, the study may suggest that Islamic banking follow the pricing strategy in competing with conventional banking, since the evidence shows that Islamic banking experiences similar risks, i.e., interest rate exposure and monetary conditions, as conventional ones (Ibrahim and Sukmana, 2011).

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Economic sectors sensitivity to Islamic and conventional monetary instrument: Case study in Indonesia

Raditya Sukmana

Department of Islamic Economics, Faculty of Economic and Business, Airlangga University, Surabaya, Indonesia

Abstract - The purpose of monetary policy is to affect the economic activity through various channels of monetary transmission. One of the transmission channels is via Islamic banking through financing to various sectors of the economy. The change of monetary instruments certainly affects economic sectors differently. Given the dual monetary system (Islamic and conventional) in Indonesia, it is interesting to see how those rates influence each of the economic sectors. This is important for the government in designing future economic programs by determining the specific sectors which must be prioritized. This paper aims to investigate the sensitivity of the economic sectors in response to the change in the Islamic and conventional monetary rate. The paper relies on the unit root test, the co-integration test, and impulse response functions, focusing on the period from May 2006 to February 2011. The data used is from monthly economic sectors for Islamic and conventional systems, Islamic monetary rates, and conventional monetary rates. The results show that Islamic banks play important roles in the monetary transmission process in the Indonesian economy. In particular, specific economic sectors react differently to both Islamic monetary instruments as well as conventional monetary instruments.

Keywords: monetary policy, Islamic monetary rate, conventional monetary rate

1. Introduction

The important question on monetary policy is whether it affects output. Monetarist would argue that money is the most important factor affecting the output. Conversely, Keynes would argue that other variable, such as government expenditure, would also affect the real output. However, recently, there is consensus among monetary economists and policy-makers that monetary policy does have real effects, at least in the short run (Alam and Waheed, 2006). Hence, debate on this relationship (money and output) seems to be decreasing in number. However, the discussion remains on the different aspect of the relationship between monetary policy and output.

Specific aspect that need to be put in attention nowadays is how sensitive is the economic sector on the shock of the monetary policy. Previous studies have shown that economic sector responds differently to the shock of the monetary policy. Studies on this issue are important as they give a detailed picture to the central banks of the characteristics of the economic sector. Having this important information, central banks may treat different economic sectors differently.

For example, tight monetary policy aiming to reduce capital flight might, to some extent, provide advantage to the manufacturing companies which import raw material as exchange rates will be no longer be depreciating. However, increase in policy rates certainly will lower demand for loans (by the trader) as the borrower would not be able to pay back the loan. Therefore, information on the sensitivity of the sectors is important.

Moreover, the results of this paper can add to our understanding of the nature of the transmission mechanism. Many economists have called for a disaggregated analysis of monetary transmission mechanism (Alam and Waheed, 2006). The initial attempt to discover the monetary transmission at the disaggregated level is detailed by Bernanke and Gertler (1995). They adopt a vector autoregressive (VAR) model to seek the different effect of monetary policy on components in the final expenditures.

Another study on this issue was done by Gertler and Gilchrist (1993). They conclude that the output of the smaller firms in the US is more sensitive to monetary shocks as compared to large firms. Ganley and Salmon (1997) has

attempted to examine a similar issue. They found out that the construction sector is the most interest-sensitive sector. This is followed by the manufacturing industry, services, and agriculture.

Ibrahim (2005) found out that sectors of manufacturing, construction, and finance insurance, real estate and business service sectors seem to decline more than aggregate production in response to the interest rate shock in the case of Malaysia. Carlino and DeFina (1998) seek the sensitivity in the area of monetary policy shocks. They found evidence that New England, Mideast, Plains, the Southeast and the Farwest respond to monetary policy changes in ways that closely approximate the US average response.

Arnold and Vrugt (2002) attempt to measure the effect of monetary policy shocks on regional and sectoral output for the Netherlands. They have documented the variation in the regional and sectoral transmission of monetary policy across 132 region-sector combinations. They found out that regional effects of monetary policy are significantly related to industrial composition. Moreover, they found that sectoral effects account for most of the variation in interest coefficient.

Alam and Waheed (2006) evidenced that manufacturing, wholesale and retail trade and finance and insurance sectors seem to decline more on the shock of the interest rate. They argue that those sectors are the driving force behind the aggregate fluctuation.

The structure of this paper is as follows. The following section describes background of the Islamic banking industry in Indonesia. Following it, it explains the data and empirical framework. Next is to discuss the estimation results and end with the conclusion.

2. Islamic banks in Indonesia

Although the Muslim population in Indonesia reaches more than 70%, the establishment of Islamic banks was relatively late as compared to in the neighbouring country, Malaysia. The first Islamic bank, namely Bank Muamalat Indonesia (BMI), which was established in November 1, 1991, was highly supported by the then President of Indonesia, Suharto. Up to the current time, Indonesia, unlike Malaysia, does not have an Islamic Banking Act. The existing Islamic banks are under the revision of the conventional banking act, which mentions that banks have been allowed to operate other types of systems that do not rely on interest. Besides Islamic banks, there exist also the Islamic Rural Banks and Islamic Banking Units.

Eight years after the establishment of the first Islamic bank, the second bank known as Bank Syariah Mandiri was established. It was a conversion of the conventional bank, Bank Susila Bakti. In the same year, Islamic Banking Units were established. These were units within conventional banks that offered Islamic banking products. However, the difference between Malaysia and Indonesia is that Malaysia uses Islamic windows, whereby within the office of conventional banks, there exists a different counter for Islamic banking products. In Indonesia, conventional banks would normally have a separate building as well as separate management.

In terms of the number of Islamic Banks that existed in the last seven years, there was steady growth (see Table 1). In 2000, there were only three Islamic banking units, namely: Bank IFI Syariah, Bank Jabar Syariah, and Bank BNI Syariah. The third Islamic full-fledged bank, namely Bank Syariah Mega Indonesia was established in 2004.

Bank Muamalat performed well in its early years. In the second year of its existence, deposits increased from 20,800 million Rupiah, in 1992, to 60,320 million, in 1993. Similarly, financing also increased very significantly, from 32,650 million Rupiah to 92,000 million Rupiah in the subsequent year (Table 2). The following years, BMI was able to maintain good performance. However, the Asian crisis in 1997 created damage to the banking system. Not only did the conventional banks suffer, Islamic Banks were also affected. Table 2 shows that in 1998, Islamic banking assets, financing and deposits were declining very significantly. Growth of those three indicators shows contractions of 18.3%, 30.5%, and 15.4% respectively.

At that time, Bank Indonesia had to increase the interest rate significantly to prevent further deterioration of the Rupiah due to capital flight. Consequently, this high interest rate caused the withdrawal of funds from the Islamic banks to conventional banks. This kind of situation, known as the displacement commercial risk, had to be faced by Islamic banks. It is the risk whereby depositors withdraw their money from Islamic banks and put it in the conventional banks due to more attractive interest rates given by their conventional counterparts. Nevertheless, in 1999, Islamic banks were able to recover. Asset, Financing and Deposit increased to 44.5%, 8.05% and 34.7%, respectively.

Table 1. Number of Islamic banking institutions in Indonesia.

Year	Islamic Bank	Islamic Banking Unit
1992	1	0
1993	1	0
1994	1	0
1995	1	0
1996	1	0
1997	1	0
1998	1	0
1999	2	1
2000	2	3
2001	2	3
2002	2	6
2003	2	8
2004	3	15
2005	3	19
2006	3	20
2007	3	26

Source: Bank Indonesia, Shariah Banking Development Report 2007.

Table 2. Performance of Islamic banks in Indonesia.

Year	Asset[a]	Financing[b]	Deposit[c]	Growth (%) Asset	Growth (%) Financing	Growth (%) Deposit
1992	120,880	32,560	20,800			
1993	166,960	92,000	60,320	38.12	182.56	190.00
1994	246,080	188,800	132,880	47.39	105.22	120.29
1995	394,400	285,920	275,680	60.27	51.44	107.47
1996	515,200	310,480	396,560	30.63	8.59	43.85
1997	586,720	456,160	463,440	13.88	46.92	16.87
1998	479,200	317,040	391,920	−18.33	−30.50	−15.43
1999	692,800	342,560	528,080	44.57	8.05	34.74
2000	1,790,168	1,271,162	1,028,923	158.40	271.08	94.84
2001	2,718,770	2,049,793	1,806,366	51.87	61.25	75.56
2002	4,045,235	3,276,650	2,917,726	48.79	59.85	61.52
2003	7,858,918	5,530,167	5,724,909	94.28	68.78	96.21
2004	15,325,997	11,489,933	11,862,117	95.01	107.77	107.20
2005	20,879,874	15,231,942	15,582,329	36.24	32.57	31.36
2006	26,722,030	20,444,907	20,672,181	27.98	34.22	32.66
2007	36,537,637	27,944,311	28,011,670	36.73	36.68	35.50

Note: [a,b,c] are in Million IDR.
Source: Bank Indonesia Shariah banking statistics, various issues and Harahap and Basri (2003).

The growth of Islamic banks in Indonesia, however, increased significantly in the nominal term, yet did not increase in terms of the percentage share of the total banking asset. In 2000, total Islamic banking assets amounted to Rp 1,790,168 million and that amount accounted for only 0.17% of total banking assets. 2004 marked the year in which the proportion of Islamic banking assets out of total banking assets reached beyond 1% (Shariah Banking Statistics, August 2004). Comparing the percentage share of the total banking assets between Malaysia and Indonesia, Malaysia is still far ahead of Indonesia. Currently, Islamic banking assets in Malaysia are over 10% out of total banking assets, whereas in Indonesia they are around 2%. This is of no surprise given the fact that Islamic banking in Malaysia was established ten years earlier than that of Indonesia.

In terms of the economic sectors, which were financed by Islamic banks, there exist two sectors which dominated the Islamic bank financing portfolio. These sectors include: business services sector and trade, restaurants and hotels sectors. The former sector accounted for about Rp 4.5 trillion, and Rp 8.4 trillion in 2005 and 2007, respectively. Meanwhile the trade, restaurant and hotels sector as the second biggest sector financed by Islamic banks accounted for about Rp 1.7 trillion and Rp 4.1 trillion in 2005 and 2007, respectively. The sector that was least financed by the Islamic banks was the utilities sector, which accounted for Rp 66 billion in 2005 and Rp 165 billion in 2007 (see Table 3).

In terms of the types of financing contract in Islamic banks, it has been dominated by the buy and sell concept or *Murabahah*. This figure is more or less same as what

has existed in Malaysia. Financing in Indonesia is still dominated by *Murabahah*. In 2000, this contract amounted to Rp 775,721 million (see Table 4) whilst the profit sharing concept which uses of *Musyarakah* and *Mudharabah* were Rp 31 billion and Rp 378 billion respectively. Interestingly, over the last four years, the composition mix has changed in that while the trend of the proportion of *Murabahah* showed a decrease, the profit sharing concept showed an increasing trend. This is because Islamic banks have been able to extend the use of the profit sharing concept to the cooperative societies even though they extend the funds to their members using the *Murabahah* concept. Although it is Shariah-compliant, the *Murabahah* concept is almost similar to that of conventional bank lending. Hence in order for Islamic banks to be differentiated from conventional banks, they should emphasize and implement more the profit-sharing concept.

3. Data and empirical framework
Data

In an attempt to examine the sensitivity of the economic sector funded by banks supported by major studies such as Ibrahim (2005), Ganley, J. and C.Salmon (1997), Alam, T and Waheed, M (2006), the study analyzes a model comprising variables representing the real economy and monetary policy. Focus variables being considered are economic sectors funded by both banks (Islamic and conventional banks). In view of this, the following model is being considered:

IPI = f(ISMONIST/CONMONINST, economic sectors)

Table 3. Direction of Islamic financing in Indonesia (in Million IDR).

Sectors	2005	2006	2007
Agriculture, Forestry and Agricultural Facilities	687,281	701,044	837,037
Mining	395,043	374,581	510,669
Manufacturing	933,295	939,713	1,371,254
Water, gas and Electricity	66,082	17,158	165,990
Construction	1,548,151	1,637,027	2,370,638
Trade, Restaurants and Hotels	1,715,810	3,041,050	4,151,785
Transport, Cargo Storage and Communication	1,261,178	1,165,429	1,568,781
Business Services	4,503,918	5,457,711	8,424,724
Social Services	1,208,165	1,456,391	1,904,390
Others	2,951,510	5,654,803	6,639,043
Total	15,270,433	20,444,907	27,944,311

Source: Bank Indonesia, Shariah banking statistics various issues.

Table 4. Islamic bank financing by type of contracts (in Million IDR).

Type of Contract	2000	2001	2003	2005	2007
Musyarakah	31,739	53,593	305,997	1,898,389	4,406,360
Mudharabah	378,604	402,623	794,244	3,123,759	5,577,912
Murabahah	775,721	1,420,401	3,955,815	9,487,318	16,552,869
Istishna	74,583	167,893	295,960	281,676	350,995
Others	3700	3834	151246	440,800	1,056,175

Source: Bank Indonesia, Shariah banking development report, 2006 and 2007.

where IPI is industrial production index, IPI is being used as a proxy for economic output or GDP as the data is not available in the monthly form. Overnight interbank rate for a conventional bank is adopted as a proxy for the conventional monetary instrument (CONMONINST). Meanwhile, the Islamic overnight interbank rate is used as a proxy for the Islamic monetary policy (ISMONINST). All variables are in the natural logarithm form, except both monetary rates.

Nine economic sectors which are funded by conventional banks are agriculture, mining, manufacturing, electricity, construction, trade, transportation, finance, and service. Meanwhile, economic sectors funded by Islamic banks are ten, namely agriculture, mining, manufacturing, electricity, construction, trade, transportation, business service, social service and others. The period covered by this study started from June 2006 to February 2011 (58 observations). All data are sourced from the Bank Indonesia Website

Empirical framework

As in any time series estimation procedure, we undertake the pre-tests to determine the unit root properties as well as the degree of integration of the variables involved in the study before more rigorous investigation techniques are adopted. As such, the following steps are undertaken: first, the unit root and cointegration tests, followed by impulse response functions (IRF). The details of the tests are elaborated in the following sections.

Unit root tests

The unit root test is very important in the context of time series analysis so as to check the level of stationarity of the data. Utilizing non-stationary data in a model will result in a spurious regression, whereby the result show that the relationship between the variables of X and Y is significant, whereas a priori there should be none. In order to test for the order of integration of the variables, two types of unit root tests are employed in this study, namely the Augmented Dickey Fuller (ADF), and Phillips-Peron (PP).

Cointegration tests

Cointegration is said to exist if two (or more) series are linked to form an equilibrium relationship spanning the long run, even though the series themselves may contain stochastic trends (non-stationary). They will nevertheless move closely together over time and the difference between them will be stable (Harris, 1995).

The above definition implies that even though examining non-stationary variables may result in spurious regression, if the residual of the model is found to be stationary, then the variables are said to have co-movement in the long run or they may have a long term equilibrium relationship. Hence the regression is meaningful. There are at least two types of cointegration tests, namely the Engle-Granger (EG) and Johansen and Juselius (JJ) tests. In this study, the

JJ method is being adopted due to various weaknesses that are well-known in the EG testing.

The JJ procedure is able to prevent the use of two-step estimator and can test for the presence of multiple cointegrating vectors. The JJ procedure is nothing more than a multivariate generalization of the DF test. The key important thing in this procedure is the determination of the rank matrix (π). Rank π is equal to the number of independent cointegrating vectors. If rank π=0, then the matrix is null, hence the standard VAR model in first differences is employed. If rank π is of rank n (number of variables) then the vector is stationary. If rank of π=1, there is a single cointegrating vector and the component of πx_{t-p} is the error correction factor (Enders,1995). In other cases whereby 1< rank π < n, there are multiple cointegrating vectors.

At this point in time, it is necessary to outline the VAR order selection or the selection of relevant lag length in the modelling of VAR. Some of the criteria used in selecting the VAR lag length for each variable are, among others, the Akaike's Information Criterion (AIC) and the Schwarz Criterion (SIC). The lag length used should be long enough to confine the dynamics of the system. However, it should not be too long to exhaust the degree of freedom.

Impulse response function

An IRF measures the time profile of the effect of shocks at a given point in time on the (expected) future values of variables in a dynamical system (Pesaran and Shin, 1998). The approach is well-suited because not only does it allow for the relative strength of various shocks to be quantified in terms of their contributions to variations in a particular variable of interest, but it also enables the pattern and direction of the transmission of shocks to be traced. In the context of this study, we are interested to analyze the responses of the objective variables, namely IPI, Islamic deposit and Islamic financing to a shock in the monetary policy variable which is the overnight rate. Meanwhile,

Table 5. Unit root tests.

	ADF				PP	
	Level		1st Diff		Level	1st Diff
	LL	Trend & itcp	LL	Trend & itcp	Trend & itcp	Trend & itcp
	AIC	Itcp	AIC	Itcp	Itcp	Itcp
liconst	1	−1.88	0	−9.23***	−2.39	−9.25***
	2	−0.69	0	−9.31***	−0.77	−9.33***
litrade	1	−2.82	0	−12.6	−3.4**	−11.91***
	1	−2.16	0	−12.4***	−2.09	−11.65***
libusserv	0	−2.3	0	−8.04***	−2.36	−8.05***
	0	−0.31	0	−8.12***	−0.31	−8.13***
lisocserv	4	−1.46	3	−4.74***	−2.47	−9.72***
	4	−1.02	3	−4.76***	−1.12	−9.76***
liothers	1	−1.29	0	−10.3***	−2.36	−10.2***
	1	0.6	0	10.3***	0.06	10.17***
lagri	0	−3.24*	0	−8.74	−3.23*	−9.55***
	0	−0.64	0	8.81***	0.52	0.96***
lmanuf	6	−2.62	10	−3.20*	−1.57	−8.63***
	6	1.16	10	−2.87*	0.60	−8.65***
lconst	1	−2.28	9	−4.26	−1.70	−5.54***
	4	−1.46	3	−4.99***	−1.57	−5.46***
ltrade	0	−3.13	1	−7.35***	−3.03	−8.98***
	2	−0.97	1	−7.38***	−0.95	−9.02***
lfin	1	−1.3	0	−11.54***	−1.84	−11.18***
	1	−1.62	0	−11.52***	−1.67	−11.1***
Conmoninst	6	−1.92	5	−3.28*	−4.44***	−29.47***
	6	−1.96	5	−3.28**	−4.47***	−29.97***
ismoninst	0	−2.85	0	−8.51***	−2.82	−15.12***
	0	−2.89**	0	−8.53***	2.91**	−10.72***
lipi	0	−5.43***	10	6.51***	−5.44***	−16.61***
	1	−1.70	10	6.63***	−2.48	−15.6***

*,**,*** are significant in 10%, 5%, 1% respectively.

the VDC analysis shows the fraction of forecast error variance of a variable attributed to shocks in other variable particularly to make inferences about the relative strength of innovations in the variable of interest. It is a method of providing a literal breakdown of the change in the value of a variable in a given period arising from changes in the same variable and in other variables during previous periods. The VDC, which is termed as an out-of-sample causality tests, partitions the variance of forecast error of a certain variables into proportions attributable to innovations (or shocks), and each variable in the system including its own, can provide an indication of these relatives.

4. Empirical results and analysis

Unit root test results

In an attempt to examine the economic sectors, we found difficulty in a number of sectors as well as many optimal lags, while the number of observations are relatively small. To solve this problem, we narrow down the number of the economic sectors and select the five biggest economic sectors funded by Islamic bank as well as the conventional banks. Seven selected economic sectors funded by Islamic banks are business services, others, trade, hotel and restaurant, construction, social service, while those funded by conventional banks are trade, manufacturing, finance, agriculture and construction.

The results of the unit root tests are presented in Table 1. It was conducted in the log level and first difference, and in both cases it uses intercept, and trend and intercept.

It can be seen that most of the variables are stationary in the first difference or simply are I(1) process. In the case of LIPI, both ADF and PP tests (using trend and intercept) show that it is I(0) process, while based on the intercept, the result shows that it is I(1). Other variables, such as Islamic monetary instruments, show I(1) in ADF and PP (with trend and intercept), while using intercept it is found to be stationary. All other variables are I(1) in ADF or PP, either in trend and intercept or intercept alone.

Based on these tests, in general, it can be concluded that all the variables are I(1) process. Confirming the data suitability by unit root test for VAR approach, we continue to examine whether there exists long-run equilibrium among the variables by conducting the JJ cointegration test.

Cointegration test results

The lag length used in conducting the cointegration test was based on criteria that is commonly used in many empirical studies such as AIC. Based on the optimal lag length selection criteria, the chosen lag length is four. The results of cointegration tests based on lag four are shown in Table 6. The cointegration test results (for the Islamic monetary instrument) suggest that there exist long-run co-movement among the variables. Based on the Trace statistics, there exist four cointegrating equations as shown by the value of Trace statistics, which are greater than the 5 percent critical value (248.3 > 124.4, 169.8 > 94.15, 102.3 > 68.5, 52.19 > 47.21). Similarly, the Max-Eigen statistics show that there are three cointegrating equations

Table 6. Cointegration test for Islamic monetary instrument.

Model	Null Hypothesis	Trace Statistic	5 % Critical value	Max Eigen Statistic	5 % Critical value
$r \leq 0$	0.778988	248.3856	124.24	78.49606	45.28
$r \leq 1$	0.727394	169.8896	94.15	67.58583	39.37
$r \leq 2$	0.618479	102.3037	68.52	50.10664	33.46
$r \leq 3$	0.381385	52.19711	47.21	24.97416	27.07
$r \leq 4$	0.338632	27.22294	29.68	21.49909	20.97
$r \leq 5$	0.100471	5.723849	15.41	5.505949	14.07
$r \leq 6$	0.004182	0.2179	3.76	0.2179	3.76

Table 7. Cointegration test for Islamic monetary instrument.

Model	Null Hypothesis	Trace Statistic	5 % Critical value	Max Eigen Statistic	5 % Critical value
$r \leq 0$	0.795925	248.0378	124.24	82.64184	45.28
$r \leq 1$	0.672521	165.3959	94.15	58.04928	39.37
$r \leq 2$	0.609019	107.3466	68.52	48.83306	33.46
$r \leq 3$	0.446335	58.51358	47.21	30.74216	27.07
$r \leq 4$	0.292103	27.77142	29.68	17.96375	20.97
$r \leq 5$	0.161689	9.807669	15.41	9.171054	14.07
$r \leq 6$	0.012168	0.636614	3.76	0.636614	3.76

since the values are greater than the 5 percent critical value (78.49 > 45.28, 67.58 > 39.37, 50.1 > 33.46, 21.49 > 20.97).

The normalized cointegration equation is represented as follows:

LIPI = −0.011 ISMONIST + 0.237 LIBUSSERV
SE   (0.00435)   (0.117)

        − 0.14 LIOTHERS + 0.17 LITRADE
SE   (0.04)   (0.09)

        − 0.75 LICONST + 0.902 LISOCSERV
SE   (0.136)   (0.133)

From the model above, it can be inferred that there are associations between variables and the real output. The negative sign of ISMONINST would mean that when Islamic monetary instrument increases, the IPI would decrease. This can be explained by theory which says that in an attempt to slow down an economy, the central bank can raise the policy interest rate. trade, hotel and restaurant and social service shows positive significant to the IPI.

For the conventional monetary instrument, it shows that, based on the trace statistics, there are four integrating equations as shown by the value of trace statistics, which is greater than 5 percent critical value (248 > 124, 165.3 > 94.15, 107.3 > 68.5, 58.5 > 47.21). max value reveals three co-integrating equations (82.6 > 45.28, 58.04 > 39.37, 48.8 > 33.4, 30.7 > 27.07)

The normalized cointegration equation is represented as follows:

LIPI = 0.0003 CONMONINST − 0.037 LTRADE
SE   (0.002)   (0.144)

        − 0.486 LMANUF − 0.089 LFIN
SE   (0.100)   (0.012)

        + 0.39 LAGRI + 0.22 LCONST
SE   (0.13)   (0.06)

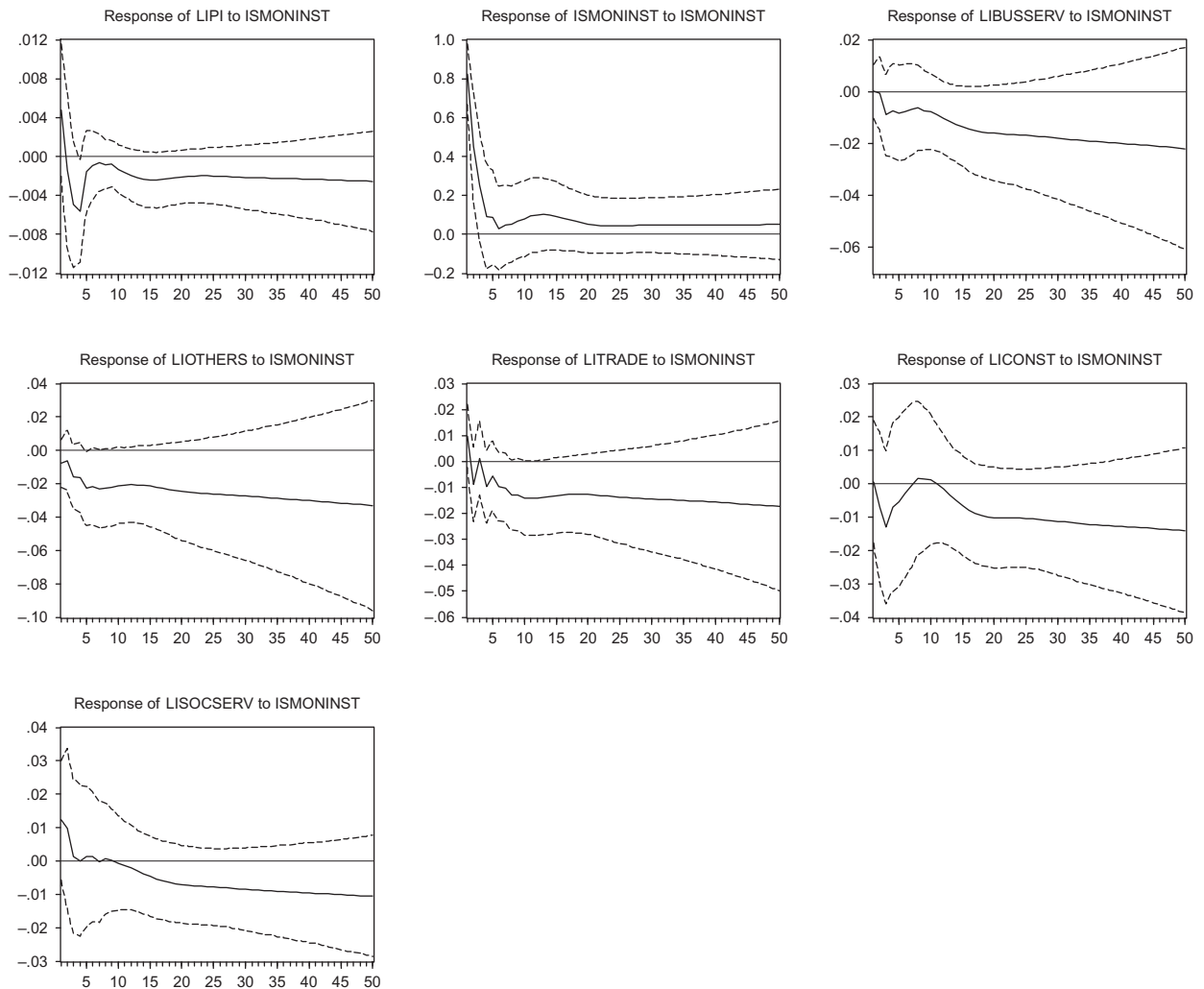Response to Generalized One S.D. Innovations ± 2 S.E.

Figure 1.   Impulse response function responses of IPI and economic sectors on the shock of Islamic monetary instrument.

The model above shows that the conventional monetary instrument is not significant in explaining the LIPI. The coefficient of CONMONIST, which is 0.0003 and the standard error, which is 0.002, resulted to the t statistics of 0.15. Certainly this is below even 10% critical value. Hence the CONMONINST is not significant.
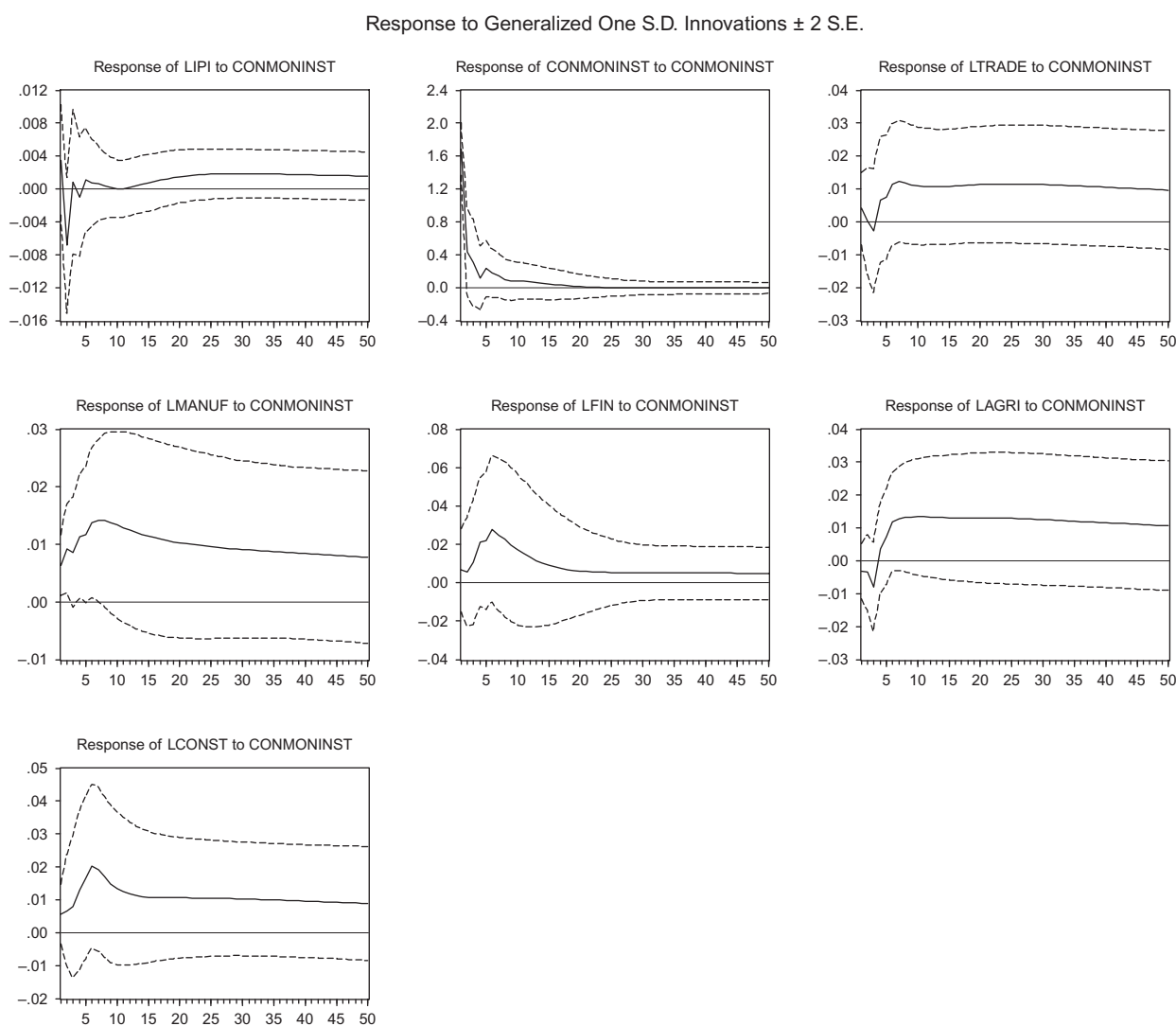
Impulse response functions

The IRFs allow for the analysis of the impact of a shock of both monetary policy indicators on the respective variables. In the context of this study, the IRF shows the magnitude and timing of the responses of the objective variables which is the economic sectors to a shock in the monetary policy variables (ISMONINST and CONMONINST). This enables a comparison of the extent of responses of the objective variables to the policy shocks. In all cases, the IRFs are reported over the 50-month period. In determining whether the economic sectors are sensitive to the shocks of the monetary policy, we analyze the nexus of shocks

originating from the monetary policy indicator to the real economy as well as the five respective economic sectors.

In the case of the shock of the Islamic monetary instrument (ISMONINST) to the output as represented by LIPI, as shown in Figure 1, it reveals that LIPI response is negative. This implies that if ISMONINST increases, the overall economic activity will decrease. This supports the theory that if the central bank adopts tight money policy (the increase in rate), it affects the ability of the firms to payback the financing. Hence firms are reluctant to renew or extend the financing from the Islamic banks.

Having known the relationship of the Islamic monetary policy to the output in general, it is interesting to see the response of the specific sector to the shock of the ISMONINST. The same figure reveals that the response of sector of others (LIOTHERS) is negative to the shock of the Islamic monetary policy (ISMONINST). It means that if central bank decides to decrease the Islamic monetary

Response to Generalized One S.D. Innovations ± 2 S.E.

Figure 2. Impulse response function responses of IPI and economic sectors on the shock of conventional monetary instrument.

rate, then the performance of this sector is increasing. Other sectors that respond significantly to the shocks of Islamic monetary rates are trade, hotel and restaurant sector (LITRADE). Similar to others (LIOTHERS), this sector responds negatively to the shock of ISMONINST. This implies that if central bank decides to increase the ISMONINST (tight monetary policy), then the trade sector will decrease. In contrast, we observe the insensitivities of social service, business service, and construction.

Having discussed the impulse response of the Islamic monetary instrument. It is interesting to see the response of the economic sectors on the shock of the conventional monetary instrument (CONMONIST). From Figure 2, we see that the shock of CONMONINST does not influence the IPI. This means that whenever the IPI increases or decreases, this does not affect the performance of the overall economy as indicated by the IPI. In the case of the specific sector, Figure 2 reveals that only the manufacturing sector has responded positively to the shock of the CONMONINST. This means that if CONMONINST is increasing, it is followed by an increase in the manufacturing sector. The probable explanation can be seen from the argument by Miranda (2007, p269). She mentioned that:

> "In addition, the appreciation of the exchange rate could generate higher GDP growth through indirect pass-through, as the appreciation will encourage consumption and investment. Indeed, at a certain level, exchange rate appreciation would support export of manufacturing products with high import content."

This implies that if rupiah depreciate to the US dollar it discourages the consumption and investment. Demand of loan by manufacturing companies certainly will drop. Central banks would not let rupiah depreciate even further as this will affect the other firm, which has different characteristics. In order to do so, central bank will increase the policy rate so as to encourage the consumption and investment by companies. The objective is to strengthen the rupiah against the US dollar. By increasing the policy rate, investment is expected to increase particularly for the manufacturing sector with high import content. In other word, for this type of manufacturing, they prefer to have appreciation in rupiah as opposed to its depreciation. In the case of rupiah deteriorating, the central bank tends to increase the policy rate so as to reduce the capital flight that leads to the strengthening of the rupiah. When the rupiah

strengthens, this firm is at an advantage and continues to borrow funds from banks. This may be the reason for most of the positive response by the manufacturing sector to the shock of the CONMONINST. Other sectors would not seem to significantly respond to it.

5. Conclusion

The present paper discusses the sensitivity between sectoral economics activities and the monetary policy rate in a multivariate framework in an attempt to seek the answer to an important question: Are monetary policy shocks affecting sectoral economics differently? This paper is important particularly for countries that are keen to adopt the dual banking system, as in the case of Indonesia.

Sectoral economic activities in this case refer to the sector which is funded by Islamic banks as well as conventional banks. The monetary policy rate adopted in this study is an Islamic monetary instrument (ISMONINST) as well as a conventional monetary instrument (CONMONINST). Technically, we would seek the response of the LIPI as representing the overall economic activities to the shock of ISMONINST and CONMONINST, and moreover, we extend the discussion by looking at the response of the specific sector on the shock of both monetary policy rates. This study adopts Vector AutoRegressive concepts whose data starts from June 2006 to February 2011 (58 observations).

The result of the sensitivity of the economic sector to the Islamic monetary instrument shows that generally LIPI responds negatively to the ISMONINST. This means that when ISMONINST increases, overall economic activities as represented by LIPI decrease. This is consistent with the previous findings by Sukmana and Kassim (2010) in the case of Malaysia – that Islamic banks play a role in transmitting the monetary policy to the real sector. Their study shows that monetary policy supports the real effects.

In the context of the specific economic sector funded by Islamic banks. Two sectors responded significantly, namely other sectors and trade, and the hotel and restaurant sector. Other sectors are defined as individual customers who are seeking financing from Islamic banks for their own consumptive purposes, such as housing and motor vehicle financing. The result above implies that individual customers are very sensitive to the Islamic rate. Whenever Islamic monetary rate is high, customer may

Table 8. Islamic financing based on type of contracts (%).

Type of Contract	2000	2001	2002	2003	2004	2005	2006	2007
Musyarakah	0.025	0.026	0.018	0.055	0.111	0.125	0.114	0.158
Mudharabah	0.298	0.196	0.152	0.144	0.179	0.205	0.199	0.200
Murabahah	0.610	0.693	0.709	0.715	0.665	0.623	0.617	0.592
Salam	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Istishna	0.059	0.082	0.067	0.054	0.027	0.018	0.016	0.013
Qardh	0.000	0.000	0.000	0.000	0.009	0.008	0.000	0.000
Others	0.008	0.002	0.053	0.032	0.009	0.021	0.053	0.038

Source: Bank Indonesia, Shariah banking development report, various issues.

alter their financing from Islamic banks to borrowing from conventional banks. They tend to look for a cheaper price. In actual fact, this is happening.[1] The unloyal customers can also be found in the case of liability side of the Islamic banks. This is called displacement commercial risk. It is a risk whereby depositors will choose banks which offer attractive rates of return. For instance, when interest rates increase, Islamic bank customers will withdraw their funds and deposit into conventional banks. A study done by Sukmana and Kassim (2010) reveals that displacement risk in Malaysian Islamic banks really exists. They argue that in the case where interest rates on deposits are relatively attractive as compared to the profit rates given to Islamic bank depositors, one would likely see a significant deposit migration from Islamic banks to conventional banks. This suggests that the Islamic bank depositors, whether Muslims or non-Muslims, tend to have profit motive in their saving behavior.

The second sector which demands attention is the trade, hotel and restaurant sector. This sector responded negatively to the shock of the Islamic monetary instruments (ISMONINST). This means that if ISMONINST increases, this sector decreases. It is argued that among three subsectors of trade, hotel and restaurant, we believe that trade is the dominant among them. Moreover, given the consistent highest proportion of murabahah (see table 8), there is high probability that the subsector of trade is using the contract of murabahah.

If this is the case, then it implies that this sector is very volatile. It means that whenever Islamic monetary instrument increases (expensive), traders would seek other, cheaper loans that are from conventional banks.

Given this fact, it is necessary to start with equity based contracts such as mudharabah, and musyarakah, as compared to the debt-based contract, such as murabaha. Equity based contracts are believed to give fairness not only to the trader but also to the Islamic bankers. Whenever the customer gains a lot of profit, the customer has to also share this profit with the Islamic banker according to the pre-agreed ratio. Conversely, if customer is in loss, he has to also share with the Islamic bank according to the contributed capital. This is typical of musyarakah (equity based contract). For the case of conventional monetary instruments, it is shown that the manufacturing sector is sensitive to the movement of the conventional monetary instrument.

The general conclusion is that, as the central bank, it is necessary to look into the characteristic of the economic sector. The sensitivity of the economic sector responds differently on the shock of ISMONINST and CONMONINST. For the sector that produces exported products, central banks should consider the movement of the exchange rate before imposing a certain level monetary rate. For the companies in this sector, appreciation of the rupiah should be maintained at the level (by monetary rate) that does not significantly affect other manufacturing companies that have a lot of imported products.

Moreover, sectors that are financing others demand greater attention. This is because the individual is believed to be dis-loyal to the Islamic banks. They are still looking at the best rate for financing (profit motive). Long term projects need to be undertaken in order to shift from the profit-motivated individual to religiously-motivated individual.

Note

1. Discussion held between the author and some Islamic bankers reveal that Islamic banking customers are not very loyal.

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Public sector funding and debt management: A case for GDP-linked sukuk

Dr Abdou Diaw[1], Prof. Dr. Obiyathulla Ismath Bacha[2], Dr. Ahcene Lahsasna[3]

[1]International Centre for Education in Islamic Finance (INCEIF), E-mail: abdoulkarimdiaw@yahoo.com
[2]INCEIF, E-mail: obiya@inceif.org
[3]INCEIF, E-mail: hasan@inceif.org

Abstract - Despite the huge amount of wealth in the hands of Muslims, most countries with a Muslim majority population fall in the category of developing nations. The development of infrastructure has been proved an effective means for economic growth and poverty reduction. Usually governments have recourse to conventional debt financing to undertake infrastructure projects. However, this form of financing is unsuitable in an Islamic framework due to the prohibition of interest. Moreover, the recurrence of sovereign debt crises over the last few decades stresses the importance of debt management that helps avoid the high costs of these forms of catastrophe. Debt indexation to some indicators from the real economy (like GDP or commodity price) has been identified as an effective means for the reduction of sovereign default. Such an idea has the property of strengthening the linkage between the real and the financial sectors of the economy, and allows risk-sharing between the parties involved in the transaction. In spite of the convergence of such an idea with the spirit of Islamic finance, the sukuk market has not yet taken advantage of it. The objective of this paper is, therefore, to propose an innovative model of sukuk for financing non revenue generating public sector projects whose return is linked to the GDP development of the issuing country. The paper examines the potential benefits and obstacles of the GDP-Linked Sukuk (GLS) model, which is based on forward ijarah, as well as its risk-return profile. Furthermore, a framework for pricing GLS is proposed. Based on a sample of countries from five regions of the Muslim world, the theoretical properties of the GLS are validated through a backtesting method. The model is shown to be a new asset class between the traditional debt and equity instruments and offers interesting diversification opportunities. Besides its theoretical contribution, the model proposed in this paper addresses in an effective way the issue of debt management, in an interest-free context, and the issue of benchmarking sovereign sukuk against the interest rate.

Keywords: GDP-linked sukuk, forward Ijarah, backtesting

1. Introduction

Despite the huge amount of wealth in the hands of Muslims, most countries with a Muslim majority population fall in the category of developing nations. The development of infrastructure has been proved an effective means for economic progress (Estache and Fay 2007). Thus, it has been shown that the quantity and quality of infrastructure have a positive impact on economic growth and are negatively correlated to income inequality. As an implication, the development of infrastructure is seen to be an effective way to combat poverty (Calderon and Serven 2004). Usually governments have recourse to conventional debt financing to undertake infrastructure projects. However, this mode of financing is unsuitable in an Islamic framework due to the prohibition of interest.

Over the last decade, sukuk (sing. sakk) have been seen as an alternative to interest-based financing, in the Islamic capital market. Sukuk represent proportionate beneficial ownership of an asset or a pool of assets for a defined period when the risk and return associated with the cash flows generated by the underlying assets are passed to the sukuk holders (Iqbal and Mirakhor 2007, 177). The euphoria which accompanied the phenomenal growth of the sukuk market over the recent years is, however, tarnished by various criticisms raised about the Shariah

compliance and/or the economic efficiency of many of the current sukuk structures. This led to the famous AAOIFI's statement in 2008.

On the other hand, the recurrence of sovereign debt crises during the last few decades stresses the importance of debt management that helps avoids the high costs of these forms of catastrophe. Borensztein and Panizza (2009) document short-lived but significant sovereign default costs which can take various forms. Thus, in addition to its negative effect on GDP growth, sovereign default is shown to cause reputational costs,[1] international trade exclusion costs,[2] costs to the domestic financial system,[3] and political costs to the authorities.

Debt indexation to some indicators from the real economy (like GDP or commodity price) has been identified as an effective means for the reduction of sovereign default. Despite the potential benefits of indexed-bonds, acknowledged in the literature, little work is being done to investigate their adaptability in the context of Islamic finance. The objective of this paper is, therefore, to show the pertinence of this indexation within the framework of Islamic finance and to propose a design of GDP-Linked Sukuk. To this end, selected literature pertaining to the potentials of sukuk for the public sector and some relevant issues are reviewed; the potential benefits and shortcomings of GDP-linked bonds are investigated, and the possibility of their adoption in the Islamic finance industry is examined; the design, the pricing and the Shariah justification of GDP-Linked Sukuk is explored, and the theoretical characteristics of the proposed model of sukuk are tested empirically using the backtest method.

2. Literature review

The principal message of this section is to point out the potentials of the sukuk for the public sector and to discuss the issues that could impede their realization. We have argued that to address these issues and take full advantage of the potential benefit we need to be innovative. Wisdom can be taken from anywhere, and conventional finance has some good aspects that can be useful to Islamic finance. In this regard, the idea of a GDP-linked bond is explored. This idea presents opportunities for risk-sharing and for integrating the financial sector to the real sector of the economy. Both of them fit well with the principles of Islamic finance.

Potentials of Sukuk for the public sector

As developing countries, Muslim nations have a large demand for infrastructure projects, such as schools, hospitals, roads, water, electricity etc. However, in most cases the governments in the developing countries do not have sufficient revenues to fund these types of projects, which are vital for sustainable development. To meet this form of demand, Iqbal and Khan (2004) suggest the utilization of Build-Operate-Transfer (BOT) and its variants along with the sukuk structures as a better alternative to conventional financing which is based on interest. The reason for this is, at least, twofold: first, given that sukuk and Islamic financing in general are based on real assets, they are expected to enhance the stability of the financial institutions and markets. This feature ensures

a stronger connection between the financial sector and the real sector of the economy and renders the system less prone to speculative activities, which are the cause of many crises. Second, such a policy consisting of financing government expenditure through Islamic financial instruments is expected to discipline public expenditure as availability of finance without an asset will be very limited. As a result, greater prudence will be introduced in the overall macroeconomic management as well as in the efficiency of microeconomic units operating in an economy.

Indeed, sukuk have already been used as a tool for macroeconomic management in some Muslim countries. Referring to the Sudanese experience, Eltegani (2005) mentions that sukuk can be used by governments as well as the central banks for monetary policy and for liquidity control. Thus, when sukuk are sold to the public money is withdrawn from the market, and this has its effect on money supply. Money withdrawn will be kept by the central bank. On the other hand, when need arises such money or part of it will be poured again into the market by buying sukuk.

In addition to its function as tool for macroeconomic policy, it is claimed that sukuk thus enhances the efficiency of the financial system, through linking the credit supply with real assets (Siddiqi 2006), and improving the equity within the system by allowing many small savers to invest and benefit from the true profits resulting from investments that conform with Shariah principles (Usmani 2007). However, many writers have questioned the validity of such claims based on the current practice in the sukuk market. The issues raised against many of the sukuk structures relate to different aspects encompassing Shariah compliance, economics, and the regulatory and legal frameworks. Here we shall focus on the Shariah compliance and the economic aspects only as the legal and the regulatory aspects may be too variable from one jurisdiction to another, and from one period to another.

Shariah issues

Oh et al. (2009) discuss two forms of product efficiency: technical efficiency and allocative efficiency. In the price-quality space, a product is technically efficient if it has higher quality for lower price. However, an efficient product may not be selected by consumers, even when it has the highest quality and lowest price. The reason is not the absolute level of quality, but the mix of qualities which does not match the consumer's preference structure. The allocative efficiency refers to the degree of match of quality mix with the preference structure. Adopting these definitions and applying them to a financial product, we can say that a sukuk product is technically efficient if it provides a higher return compared to other financial instruments with the same level of risk. Furthermore, we consider that tradability in addition to Shariah compliance are essential constituents of the "allocative efficiency" in the sukuk market.

Haneef (2009) identifies three hallmarks in the development of the sukuk. He showed that sukuk evolved from the asset-backed model, whereby the Sukukholders have ownership rights over the underlying asset, as per Shariah

requirements, to the asset-based model. With the latter model, the Sukukholders rank pari passu with unsecured creditors. Indeed, for all international bonds there is a negative pledge which restricts the borrowing entity from issuing any bond in the future that is not in pari passu with existing unsecured bonds. The third stage of evolution of the sukuk structure was marked by the emergence of models that were based mainly on partnership contracts but violate some of the basic Shariah requirements. These structures in particular have drawn various criticisms that culminate with Sheikh Taqi Usmani's declaration that 85% of the sukuk were not Shariah-compliant. This led to the AAOIFI's statement in 2008.

Al-Amine (2008) points out the controversy among Muslim scholars over the permissibility of one of the musharakah partners giving an undertaking to purchase the shares or units from other partners at a predetermined price. The rationale for the objection is that the very nature of a musharakah is the sharing of profit and loss among the partners. The undertaking to purchase the share of a partner at a predetermined price defeats the spirit of musharakah as one partner will have a guaranteed return whatever the outcome of the venture.

The combination of many Shariah-endorsed contracts to produce a sukuk structure with a desired cash flow is common in the current Islamic finance industry. Al-Amine (2008) analysed the structure of many of these combined contracts in the light of baial-wafa, baial-istighlal and bai al-inah. It was found that all these transactions are controversial and accepted by only a minority of Muslim jurists. Those who reject them consider these forms of transaction to be mere hiyal (legal tricks) meant to circumvent the prohibition of interest-based lending. Thus, even though the form may adhere to the requirements of Shariah in exchange contract, the substance does not (Al-Zuhayli 2003; Al-Amine 2008).

Another issue which has drawn the attention of the scholars is the third party guarantee present in many sukuk structures. Al-Amine (2008) argues that, theoretically, a benevolent third party guarantee without fee or consideration can be acceptable in Islamic law. However, in practice, guaranteeing the principal in sukuk musharakah, sukuk mudharabah, or sukuk ijarah is problematic. This is due to the fact that if the guarantee is provided by a government it shall be declared non-permissible to use the property of the whole community for the benefit of private entities. Likewise, it is hardly conceivable for a private entity to provide a benevolent guarantee to another entity without a consideration.

Economic issues

The discussion of the economics of sukuk will focus on a few issues, such as the efficiency, the tradability and the pricing mechanism of sukuk that have drawn most attention among the players. Another aspect which needs consideration in this context is the equity and fairness of the transaction. This equity aspect, as reflected in the pricing mechanism, has been addressed in various ways in the literature. Even though all these issues have a Shariah dimension, here we will focus mainly on their economic aspects.

Ali (2008) holds that the combined contracts in the sukuk structures attempt to replicate conventional financial products while trying to remain within Shariah bounds. The end results are complicated products which are hard to understand, costly to construct and implement, and which may contradict the objectives of Shariah.

It can be argued that the complexity of a structure increases costs stemming from the need for more sophisticated legal documentation and the increased efforts required for advertisement of the strange new product; as a result the sukuk become less profitable for the investors, for the issuers, or for both, which means a loss of efficiency in the technical sense.

The tradability in the secondary market of some categories of sukuk is a subject of concern for many players in the Islamic capital markets as it constrains drastically the liquidity in the sukuk market. According to AAOIFI Shariah Standard the sukuk structures based on sale contracts are not tradable as this would be tantamount to debt trading, which is prohibited by the majority of Muslim jurists, unless it is at par. However, this stance is challenged by a minority of scholars, particularly in Malaysia, who allow the sale of debt at discount (Rosly and Sanusi 1999). Their stand is based on the view of some classical jurists who allowed the sale of debt under some conditions. To these Malaysian scholars the required conditions are met when there is a transparent regulatory system safeguarding the interests of the market participants. Furthermore, they invoke the concept of dhawa taajjal[4] to strengthen their argument[5]. However, both arguments fail to address the main issue in the transaction, which is the involvement of riba, as there is a contractual increase of the amount to be repaid later in a loan contract. Moreover, maslahah is not a valid argument when the transaction in question violates a clear-cut text. In this case, the text prohibiting riba is decisive in nature. Similarly, the majority of the Muslim scholars reject the concept of dhawa taajjal particularly when it is a condition in the contract.

The use of interest rate benchmarks such as LIBOR for pricing purposes, although not desirable, is deemed acceptable from a Shariah perspective as long as the pillars and conditions of the contract in question are present (Usmani 1999a). Thus, the use of these conventional benchmarks can be seen as a transitory step towards the establishment of a mature Islamic finance industry with its own benchmarks. El-Gamal (2006), while recognizing the potential benefit of using additional benchmarks related to the underlying assets to reflect the spirit of Islamic commercial law, argues against the replacement of conventional benchmarks by Islamic ones. He considers such a move unnecessary, impractical and dangerous. This is because there is no reason to be embarrassed about using conventional benchmarks and, more importantly, there is a lack of depth and liquidity of homogenous Islamic financial assets.

However, the majority of those who have written on the subject consider it aberrant to use a tool that Islamic finance was supposed to have removed since its very beginning. Furthermore, it is remarked that by using money market rate as benchmark, the return to the Sukukholders will reflect the prevalent rate of interest instead of the actual performance

of the underlying asset of the sukuk (Al-Amine 2008; Jabeen and Khan 2008; Siddiqi 2006). This could defeat what is thought to be one of the features of Islamic finance, that is, the integration of the real and the financial sectors. In the same vein, Siddiqi (2006) maintains that the disconnection between the two sectors occurs mostly with the over-reliance on debt instruments as is the case in conventional finance, while it is admitted that the greater the role of debt the lesser will be the ability of the financial system to absorb real shocks. It also limits the ability of the monetary authorities to take corrective actions because of fear of instigating widespread defaults. He further proposes linking the returns to sukuk to the actual productivity, as with this arrangement justice and fairness will be ensured. The rationale is that fairness requires that uncertainties attending upon productive enterprise be shared. At the same time, justice and fairness require that losses, if and when they occur due to the uncertainties in the business environment, be borne by those who claim the profits when there are profits.

An analysis of all these issues shows that this incongruence observed in the sukuk structures emanates from the desire to reconcile two different paradigms in financing. In the conventional setting, the traditional debt financing allows the issuer to get funds without getting rid of some of its assets. On the other side, the investors get tradable securities whose return is determined ex ante. With the prohibition of interest in the Islamic framework, this form of financing (bonds) is not acceptable. Instead, methods endorsed by Shariah entail either a profit and loss sharing scheme or a transfer of assets with all the rights and obligations. The incongruity arises when Shariah contracts are combined to reproduce the substance of a financial instrument which is repugnant to their nature and to the Islamic paradigm in finance. The literature that we have examined reveals that the innovation in the sukuk market has been more legal than financial i.e. the forms and the legal documentations of the sukuk may be different from the existing instruments; however, they are very much like the conventional debt instruments in terms of cash flow and risk return profile and may contradict some of the principles of Islamic finance.

Thus, sukuk comport numerous potential benefits. However these potential benefits could be hampered by the increasing controversies over the Shariah compliance of many of the sukuk structures in the market. These controversies negatively affect the allocative efficiency of the sukuk in the long term, as many pious Muslim investors would prefer to put their funds in other investment vehicles. A result of such a move would be less of an investor base for sukuk that leads to a higher required rate of return for the suppliers of funds, or a higher cost of capital for issuers, which translates into less efficiency in the technical sense.

Therefore, for sustainable growth, we argue that financial innovation is necessary as advocated by many Muslim economists who consider financial engineering a vital area for Islamic finance.

GDP-linked bonds: Potential benefits, obstacles and adaptability

In the bond pricing literature there seems to be a growing interest in indexation whereby either coupon or principal payment or both are linked to a given indicator such as inflation, GDP or a commodity price. Though the popularization of indexed bonds is quite recent, distinguished economists like Marshall, Irving Fisher, Keynes, and Milton Friedman have been strong proponents of such an instrument (Price 1997).

A number of reasons have been put forward in favor of indexed bonds. First, a GDP-linked bond has been shown to improve debt sustainability for sovereigns in times of economic downturn, and allows countries to avoid a pro-cyclical fiscal policy (Borensztein and Mauro 2004). This is because a GDP-linked bond matches the payment obligation to the economic performance. Government revenues, which mainly constitute tax income, increase with good economic performance. Thus, with this scheme, the economic growth risk is shared between the borrowing country and its creditors as the latter will receive more cash flow in times of good economic performance, and less when the economy is bad. Notwithstanding the higher risk that the creditors face with this instrument as compared to straight bond, these indexed bonds provide the opportunity to take advantage of the benefits of investing in growing economies. Furthermore, these bonds are of nature to lower the likelihood of defaults and financial crises that could result in costly litigation and sometimes in outright losses[6] (Borensztein, and Mauro 2002; Miyajima 2006; Griffith-Jones and Sharma 2006).

Another argument in favor of indexed bond is market completeness. With the development of financial markets around the world, there exist many institutional investors with varying risk appetites who would be willing to invest in these securities to diversify their portfolios. This is particularly relevant if we take into consideration the fact that available financial instruments represent a relatively small portion of the real wealth of the nation, so making the supply of instruments indexed to GDP an opportunities for greater diversification (Price 1997; Schroder, Heinemann and Kruse 2004; Kamstra and Shiller 2009).

Quite a few concerns have been raised about some potential risks to investors for the implementation of GDP-linked bonds. These can be in the form of GDP data misreporting or moral hazard where the issuing country may lose incentives for promoting growth policies.

However, it is unlikely for a government to lower economic growth as the political and social consequences would be undesirable. On the other hand, under-reporting economic growth would make new fund-raising more costly. Thus, the parties involved in these GDP-linked bonds may seek the involvement of international financial institutions, such as International Monetary Fund and World Bank to ensure the accuracy of the data (Miyajima 2006; Griffith-Jones and Sharma 2006).

Although the indexed bonds constitute debt instruments with interest payments we argue that the rationale behind the design of these securities can be acceptable even in an Islamic framework. The reason for this argument can be twofold:

1. The design of these bonds permits integration of the real sector of the economy with the financial sector,

since the return to the bondholders is contingent with the performance of some economic indicators; an element that does not necessarily exist with straight bonds.

2. The indexed bonds allow co-operation between the parties involved as there is sharing of the upsides and downsides of some real economic activities. Both elements are consonant with the principles of Islamic finance. Indeed, Chapra (2007) argues that risk-sharing contributes to the promotion of justice and enhances the stability of the financial system; thus, benefits from the transactions are potentially fairly distributed, and the burden of losses is not shifted to only one party. Furthermore, Mirakhor and Zaidi (2007) point out the role of risk-sharing in establishing a strong link between the financial sector and the real sector, an aspect that is missing in the interest-based financial system.

Besides these benefits, the Islamic finance industry can take advantage of this innovative pricing mechanism as a second best solution to address one of the major criticisms against sukuk ijarah, that is, benchmarking against the interest rate.

Wilson (2008) simulated the pricing of sukuk ijarah, based on GDP, for two countries, and compared it with the pricing based on an interest rate benchmark. Wilson's results are inconclusive as the returns to investors would have been more stable had Saudi Arabia priced the sovereign sukuk based on non-oil GDP. For the other country, Malaysia, the opposite would be true. However, Wilson's study has several limitations. First, his sample was too small (only two countries). His time frame (seven years) did not allow for assessment of the performance of sukuk over a whole economic cycle. Thus, the period he considered does not cover any major economic crisis that would help assess the effectiveness of the model in terms of its declared rationale.

Despite the potential benefits of GDP-linked securities that are acknowledged within the context of Islamic economics, very little work is being undertaken to investigate their adaptability. This study aims to fill that gap by proposing an innovative model of sukuk to raise fund for non revenue generating public sector projects which, at the same time, could help with the better management of sovereign debt.

3. GDP-linked Sukuk: Theoretical analysis

The theoretical analysis of the GDP-Linked Sukuk comprises two main phases:

1. Economics of the model.
2. Justification from Shariah perspective.

Economics and mathematical formulation

The literature reviewed in the previous section presented some of the potential benefits and obstacles to a successful introduction of GDP-linked bonds. In this sub-section other aspects of these instruments pertaining to risk and return are discussed. The discussion concerns, in particular, the design and the pricing. The design reflects the desired risk return profile, whereas discussion on the pricing is meant to provide a framework for valuation of the bonds in the secondary market.

The importance of this step lies in the fact that risk and return are key elements for both investors and issuers. Investors look for assets that provide good returns or offer diversification opportunities when included in a portfolio. On the other hand, the main objective of an issuer is to get stable funding at lower cost (Kamstra and Shiller 2009). Satisfying the needs of these two parties is not necessarily an easy task. Unless the model is attractive, economically speaking, to the parties involved, it does not have any chance of being successful.

Design of the model

Schroder et al. (2004) identified various indexations of GDP-linked bonds. On the one hand, the instrument can be in the form of a forward on the economic performance of the issuing country, whereby the investors will share both the upsides and downsides of the GDP development. The indexation can also be in the form of options whereby a ceiling or a floor is applied to the payment obligations. On the other hand, the coupon and/or the principal can be linked to the development of the GDP over the period of the contract. Schroder et al. (2004) found that for short period (e.g. three years) the linkage of both coupon and capital could be suitable; however, for longer periods, the indexation of a coupon is preferable as otherwise there could be a big divergence between the face value and the redemption value.

Besides these forms of GDP indexation, Kamstra and Shiller (2009) suggest another form, very much like a company share, which would be long term in maturity or even perpetual. The instruments thus designed would annually pay a fraction of the "earnings" (i.e. GDP) of the issuing country to investors as a dividend.[7]

The indexation method chosen for GDP-Linked Sukuk (GLS) in this study consists of linking the profit portion to the GDP development of the issuing country. Such an indexation takes into account the findings of Schroder et al. (2004) and confines the sukuk model within less risky asset classes that fit the needs of some specific types of investor.

We assume that the GLS is issued in US dollars. This is consistent with the finding of Ruban et al. (2008), which suggest that issuance in the local currency is much more expensive than in foreign currency.[8]

The flow of the transaction can be briefly described as follows:

A country plans to build a non revenue generating project that requires a capital K. The required fund can be raised in a Shariah-compliant way through the issuance of GLS. The two counterparts in the contracts (i.e. the government and the Sukukholders) agree to link the return to the GDP development of the country, with an initial profit rate of x^o%. For simplicity of analysis, an annual periodic payment of the profit is assumed. For a given year k, the profit rate x^k% is variable, and depends on the GDP development (i.e. the economic performance of the country) and on the GDP growth rate chosen as baseline.

With this background information, the annual return in year k (AR^k) on the GLS can be written as follows:

$$AR^k = x^k\% = I^k \times x^o\% \tag{1}$$

And

$$I^k = \frac{G^k}{G^0} \tag{2}$$

Where:

- $x^o\%$ is the initial rate of profit agreed upon by the parties at the beginning of the contract.
- $x^k\%$ is the rate of return at the kth year, after issuance.
- G^o is the growth rate of the GDP agreed upon by the contracting parties as baseline in year 0, i.e. at the beginning of the contract.
- G^k is the growth rate of the GDP at year k.
- I^k is an index that measures an increase or a decrease of the growth rate of the GDP in year k, as compared to that of the baseline.

It may happen that the issuing country experiences a negative growth rate; in that case I^k will be negative which would result in a negative payment. To avoid such a scenario, the contracting parties may agree on a minimum rate to be paid if the growth is to be negative. In this study the minimum rate is assumed to be 0. With this additional condition, equation (1) becomes:

$$AR^k = \max[x^k\%; 0] \tag{3}$$

It is clear that the minimum return of 0 is just for the purpose of the simulation to see the extreme cases as it would not be fair to the Sukukholders whose money would have already been put for good use regardless of the economic situation of the issuing country.

Two cash flow structures for the GLS are possible:

1. The principal K is divided into n equal shares and paid along with the annual profit over the tenor. In this case, the Sukukholders receive, in year k, an Annual Payment AP^k of:

$$AP^k = \frac{K}{n} + AR^k \times K = K \times (\frac{1}{n} + AR^k) \tag{4}$$

2. The principal K is paid at maturity in year n, and every year only the profit portion is paid:

$$AP^k = K \times AR^k \tag{5}$$

The payment can be annual or semi-annual as agreed upon by the parties. The amount to be paid is calculated based on the GDP figure of the previous year or half a year.

With this design, the profit rate is variable, as the case would be if the returns to the sukuk were linked to another indicator like LIBOR and the principal is protected. Thus, the GLS provides an avenue for addressing the issue of benchmarking the return on some Shariah-compliant financial instruments against interest rate.

Pricing the GLS

The assumption made for this valuation as well as for the simulations is that the investors have a long term horizon and their intention is to "buy-and-hold" the sukuk. They liquidate their position only when some unforeseen circumstances force them to do so. This assumption, which is consistent with the behavior prevalent in the sukuk market, implies that only the future cash flows, in the form of periodic profit and principal payment at maturity, matter for the Sukukholders. It has the advantage of isolating the negative impact that speculators would have on the sukuk price, meaning that only the real performance of the economy imports for the yield. The assumption is theoretically well-grounded. The prominent economist Keynes (1936) severely charged the speculative activities which consist of forecasting the psychology of the market that he distinguished from enterprise, defined as the activity of forecasting the prospective yield of assets over their whole life. He further maintained that:

> "Speculators may do no harm as bubbles on a steady stream of enterprise. But the position is serious when enterprise becomes the bubble on a whirlpool of speculation. When the capital development of a country becomes a by-product of the activities of a casino, the job is likely to be ill-done" (Keynes 1936, 102–106).

With this in mind, the valuation of the GLS in the secondary markets at any point of time before maturity follows the same logic as the valuation of bonds (and other financial instruments), and consists of calculating the present value of future cash flows.

To simplify the discussion, we consider the second scenario presented above whereby the periodic payment constitutes only the profit portion AP^k, while the principal K will be paid at maturity. The price of GLS at any point of time before maturity is given by:

$$PV = \sum_{k=1}^{n} \frac{AP^k}{(1+r)^k} + \frac{K}{(1+r)^n} \tag{6}$$

Where:

PV = the present value of GLS;

n = the number of periods (e.g. years) from the date of valuation to the maturity date;

AP^k = the cash flow at period "k" which represents the value of the share of profit at that period. AP^k is obtained based on equation (5).

K = is the principal that the Sukukholders disbursed for the development of the project.

r = is the required rate of return to the Sukukholders.

There are two unknowns that need to be estimated for the determination of PV, that is, the fair price of GLS, the periodic cash flow AP^k, and the required rate of return r. It is worth remarking that the required rate of return is positively related to the uncertainty or risk associated with AP^k. Therefore, the key point in the pricing exercise resides

in the accurate estimation of the risk associated to AP^k, which depends on the economic performance of the issuing country in year k.

According to Costa et al. (2008), who studied the price behavior of the Argentina-indexed warrant after its successful introduction to the market, the yield at which these new instruments were implicitly discounted can be broken down in three components:

1. The risk free rate which represents an opportunity cost.
2. A default premium.
3. A residual premium, identified as novelty premium.

For the GLS, all these components would be relevant beside the economic growth risk premium that would compensate the investors for bearing the country growth risk.

An issue that may arise is the determination of a proxy for the risk-free rate knowing that in an Islamic finance framework interest is banned and any gain should be associated with risk as stipulated by the famous legal maxim 'al ghunm bil ghurm'. However, for simplicity of analysis, we consider the return on mudharabah deposits as proxy for opportunity cost. Mudharabah deposits carry, in practice, a return similar to conventional fixed deposits, although they are very different in theory (Rosly and Zaini 2008; Diaw and Mbow, 2011). Hence, the risk-free rate component, which is a proxy for opportunity cost, would be replaced by the return to mudharabah deposits, assuming that the Sukukholders would be able to put their money in a mudharabah account if they wish.

Default risk

The Sukukholders will be exposed to the default risk. However, the risk would be lower than the credit risk carried by a plain vanilla bond, or a sukuk linked to a variable interest rate benchmark. This stems from the construction of the GLS, which matches the payment obligations to the payment ability. When GDP growth is low, government revenues decline proportionally but the payment to the Sukukholders declines too. This feature makes the probability of default for GLS lower than for the conventional bond and it is translated into a lower default premium (Ruban et al. 2008).

Growth risk

This is another element that needs to be accounted for in the determination of the discount rate for the GLS. As indicated by equation (1), x^k% is a function of x^o% and I^k. The latter variable depends on the baseline growth rate and the rate of growth in year k. While G^o is a matter of agreement between the parties, G^k rather is determined by the economic conditions of the issuing country, and it represents the key variable meant to capture the economic rationale of GLS. This is because the annual return will vary in function of the variations of G^k.

Novelty premium

Lastly, Costa et al. (2008) show that investors require a premium for new financial instrument termed the "novelty premium". The findings of the authors, nonetheless, suggest that this type of premium is likely to decay fast over time, as the market participants became familiar with the instrument. This is confirmed by the results of the study carried out by Borensztein and Mauro (2004), as well as that of Kamstra and Shiller (2009) who found that the premium would be relatively small.

In sum, the forgoing analysis points out that the components of the discount rate r for the determination of the present value of the GLS at any point of time before maturity are as follows:

$r = r_d$ + default premium + growth risk premium + novelty premium.

Since the GLS are assumed to be issued in US dollars, the exchange rate risk is relatively negligible for foreign investors.

This discussion shows that the GLS are likely to be priced higher than conventional debt instruments, particularly in the first stage of their introduction to the market. However, the opportunities that they offer for better management of a country debt make paying for the additional costs worthwhile. The current debt crisis in some countries of the European Union proves that, when they do occur, debt crises are costly not only for the country in question, but also for investors and the international community.

Analysis of Model from Shariah Perspective: Justification of GLS

Shariah compliance is a necessary condition for any product to be acceptable in Islamic finance. Two main aspects of Shariah compliance can be identified:

1. Conformity to the key Shariah rulings pertaining to commercial transactions, such as the principle of mutual consent, the prohibition of riba, gharar, maysir, and illicit goods.
2. Upholding maqasid al-Shariah (the objectives of Shariah) in transactions which consist of the realization of maslahah in the outcome and the achievement fairness in the terms of the contract.[9]

Therefore, to demonstrate Shariah compliance, the GLS will need to be tested against these two aspects.

Analysis of the conformity of a product to Shariah principles in the light of the first aspect (i.e. key Shariah rulings in commercial transactions) can be carried out in two equivalent ways. The analysis can be done indirectly, by showing that the product is in conformity with each of the five elements mentioned under that aspect. The analysis can also be done directly by proving that the underlying transaction fits one or a combination of Shariah nominate contracts. We adopt the latter method as it appears more convenient.

Istisna would certainly be the most appropriate concept for the development of a non-revenue generating project. However, the non-tradability of sukuk istisna makes them less attractive as a fund-raising instrument in the capital market. On the other hand, a simple ijarah would require the

delivery of the asset to justify the rental payment. Forward ijarah (ijarah al-mawsufah fi al-dzimah) overcomes this shortcoming and can be taken as the underlying fiqh concept for GLS. This structure allows the Sukukholders, through their representative, to undertake the construction of the project, lease it to the government, and receive the payments (principal + profit), over the tenor of the project.

Forward lease is a sale of future benefits or usufructs for a price which can be paid in advance or deferred. The concept may be used for infrastructure projects whereby the government fully describes the specifications of the infrastructure to be delivered in the future. Thus, a SPV can enter into a contract of forward lease with the government for the usufruct of an asset to be delivered, and then issues sukuk for the required amount. This method is stronger than a mere promise to rent which is not binding and its non-fulfillment only implies compensation for actual damage (Lahsasna 2010; Abu Ghuddah, (n.d.)). According to Nasar (2009, [2]), forward lease is endorsed by the majority of Muslim jurists (Malikis, Shafiis and Hanbalis) who consider it a form of salam contract. Thus, the legality of forward ijarah is derived from that of two basic contracts which are salam and ijarah.

Once the contract is concluded in this stage, delivery of the project as specified is at the liability of the Sukukholders whereas the government is liable to pay the price K+P (i.e. invested capital plus profit). With the forward lease contract, the sukuk will be tradable in the secondary market once the project starts.

If the first mode of payment (as in equation (4)) is adopted, then the transfer can be done for free at the end of the contract. But if the second mode is adopted (as in equation (5)), then the sukuk are to be redeemed at their nominal value, for instance. AAOIFI (2004a) and the Islamic Fiqh Academy, in its Resolution No. 110(4/12), have accepted the transfer of ownership through a separate contract of gift. In its 2008 statement, AAOIFI has also endorsed the redemption of sukuk ijarah for nominal value.

Since ijarah is a sale of usufruct, the price should be known at the beginning, for otherwise there will be gharar. Nevertheless, having different lease contracts for subsequent periods with different rentals agreed upon at the beginning of each contract is permissible. For instance, a country X may issue GLS in March 2010, with tenor of five years and a rental payable annually in June, every year. This contract can be considered as a succession of five lease contracts: at the beginning of each period, i.e. in March, the contracting parties sign the new contract which lasts for one year. The first annual payment would occur in June 2010, based on the GDP figure of 2009. Such an arrangement would allow the usual lag for publishing GDP data and the collection of the taxes to be taken into account.

As for the second aspect of Shariah compliance, i.e. upholding the objectives of Shariah in transactions, the GLS clearly constitutes a maslahah. This is because, not only do they allow deals that benefit the contracting parties, but also they do it in a way that is better than in many traditional investments. Investment is supposed to support productive activities; however, it is not evident that many investments in the stock market and mutual funds do

serve the real economy. The GLS, as designed above, will do so. The proceeds from the sukuk issuance are normally used by the issuer for developing infrastructure projects that ultimately add value to the economy. Hence, the GLS constitute a maslahah in that their outcomes are beneficial to the society.

The terms of the contracts in the GLS model are balanced. This is evidenced by its risk-sharing characteristics. By accepting exposure to the economic performance of the issuing country, the Sukukholders share with it the upsides and downsides of its economy. Thus, the interests of the contracting parties move in the same direction, and this constitutes a form of fairness in the terms of the contract.

The issue of indexation

The issue of indexation has long drawn the attention of contemporary Muslim scholars as evidenced by the numerous seminars held under the auspices of the Islamic Fiqh Academy to discuss the issue. One of the reasons for this particular attention is the fact that with the prohibition of riba in all its forms, the amount of a debt should remain unchanged even though the purchasing power of the currency falls for one reason or another. This could put a creditor in an uncomfortable situation. Thus, based on experts' research on the matter, the Islamic Fiqh Academy Resolution No. 115 (9/12), states that:

> "In principle debts that have already been created in terms of a certain currency should be repaid in terms of that same currency and not in terms of an equivalent value, because a debt has always to be settled with its exact similar. It is therefore impermissible to link the already existing debts, whatever their source might be, to price level."

Further in the same resolution, the Academy emphasizes that it is impermissible from a Shariah viewpoint to link, at the time of concluding a debt, the repayable amount to a variable, such as gold and silver, growth rate of gross national product (GNP), interest rate, or price of a basket of commodities. The prohibition is due to the existence of a great deal of gharar and uncertainty in that indexation, since neither of the parties knows what will be the commitment at the end.

The indexation in the GLS model is, however, different from the one dealt with in the resolution. In the resolution the condition of the variability of the amount to be repaid is contained in the same contract that creates the debt. But in the context of GLS, there is a succession of ijarah contracts, and the rental of each is known at the beginning. It is the same procedure that is used to link the return in sukuk ijarah to LIBOR. It follows from this basic difference that the prohibition in the Resolution does not concern the form of indexation practiced with GLS.

4. GDP-linked Sukuk: Empirical analysis

The GLS are a new model which has not yet been introduced to the market. Therefore, it is not possible to observe the behavior of their returns. Thus, to test the effectiveness of the model we look into the characteristics of the returns by applying the backtesting method.

The simulations permit study of the behavior of the proposed models under various scenarios in order to reveal their risk-return profiles; it is also possible to compare hypothetical returns with those of some standard benchmarks for debt and equity instruments. The simulations results are also used to examine the diversification opportunities offered by the models.

Backtesting GLS: Method and data

Backtesting is a method that permits the comparison of the ex ante forecast from a model to the actual or ex post realization of the variable of interest (Christoffersen 2008).

Backtesting has been used in academia as well as in the finance industry to detect possible flaws in a model and to check the consistency of predicted properties. In risk management backtesting has been employed systematically to test the accuracy and efficiency of the Value-at-Risk (VaR) models, which are used extensively to manage market risk. The Basel Committee on banking Supervision (BCBS) has endorsed the use of backtesting in conjunction with the internal models approach to determine market risk capital requirements. Thus, the backtest helps evaluate and validate the model being used internationally by banks in agreement with the regulatory body (BCBS 1996; Lehikinen 2007, 24).

The objective of backtesting here is to see what would have happened if the GLS had been issued in some selected developing countries a few years back. Thus, five countries from different regions of the Muslim world are chosen: Algeria, Bahrain, Malaysia, Senegal, and Uzbekistan. Some useful insights are expected from this diversity, given the relative integration of economies from the same region: each of these five countries comes from a different region of the Muslim world. Table 1 shows the correlations coefficients between the GDP growth of the selected countries and that of their respective regions from 1990 to 2009.

For each of the selected countries, except Bahrain, the correlation coefficient of the GDP growth rate with that of its corresponding region is greater than 0.5. This strong correlation suggests that the results of the backtest obtained from the sample would be valid for the vast majority of Muslim countries, which are the potential issuers of the GLS.

The real GDP values for the selected countries from 1969 to 2009, in 2005 US dollars, are obtained from the Economic Research Service of the United States Department of Agriculture. The choice of real GDP is explained by the fact that it isolates the effect of inflation on GDP figures and, thus, constitutes a more accurate measure of economic performance than the nominal. We retrieved the 6-Month LIBOR rates for the specified period from the internet,[12] and then computed the annual average. The annual returns for the MSCI World are also collected from DataStream. MSCI World is a stock market index of 1500 stocks from 23 developed countries. LIBOR and MSCI World can be considered as global benchmarks for two asset classes (i.e. debt and equity). The correlation coefficients between the countries indices and the annual rates of return for LIBOR and MSCI are computed to examine the diversification opportunities that the introduction of GLS would provide to those portfolios which are highly correlated to these two benchmarks.

The construction of the annual returns for each country is as follows:

1. The Index I, as in equation (2), is first constructed using the GDP data:

$$I^k = \frac{G^k}{G^0}$$

Where:

G^o is the growth rate of the GDP agreed upon by the contracting parties as baseline in year 0. For this backtest, 1995 is taken as year 0 and G^o represents the moving average of the growth rate of the country from 1970 to year k^{th}. Where $1 \leq k \leq 11$, i.e. from 1996 to 2006. The moving average is of the nature to reduce the volatility of the index as compared to the normal average, since it also captures the most recent development of the GDP.

G^k is the growth rate of the GDP at year k^{th}.

I^k is an index that measures an increase or a decrease of the growth rate of the GDP in year k^{th}, as compared to that of the baseline.

Thus, I^5 represents the value of the index in the 5th year, i.e. in 2000, and G^0 the average rate of growth from 1970 to 2000.

Table 1. Correlation Coefficients between GDP Growth rate of the Selected Countries and that of their respective regions from 1990 to 2009.

	World	North Africa	Middle East	South East Asia	Sub Saharan Africa[10]	Former Soviet Union[11]
Algeria	0.228	0.607	0.231	−0.324	0.740	0.642
Bahrain	−0.012	−0.241	0.443	0.248	−0.087	−0.028
Malaysia	0.449	−0.304	0.403	0.969	−0.157	−0.339
Senegal	0.585	0.506	0.245	−0.094	0.591	0.496
Uzbekistan	0.204	0.463	0.255	−0.288	0.768	0.909

2. The following step is the computation of the annual return, based on equation (3):

$$AR^k = \max\left[x^k\% \, ; \, 0\right] = \max\left[I^k \times x^\circ\% \, ; \, 0\right]$$

$x^o\%$ is the initial rate of profit agreed upon by the parties at the beginning of the contract.

For the sake of comparability $x^o\%$ is set at 5%, which is close to that of 6-Month LIBOR rate in January 1996.

$x^k\%$ is the rate of return at the kth year, after issuance.

5. Analysis of results

Table 2 provides summary statistics for the annual values of the indices and the annual rates of returns of the GLS over the 11 years.

For three countries (Bahrain, Senegal, Uzbekistan), the average value of the index would have been greater than 1 implying higher costs for the issuing countries (but higher return for the investors). The highest increase was recorded with Uzbekistan, for which the average payment obligation would have increased by 179%. On the other hand, the lowest average index is that of Malaysia, with a value of 0.76, implying a decrease of 24% of the average payment obligation as compared to its initial value. Except for Uzbekistan, the average returns and the standard deviations of the GLS are less than those of the MSCI index.

A closer investigation of the reasons for the contrast between the Malaysian scenario and that of Uzbekistan

Table 2. Summary Statistics for GLS for the period 1996–2006.

	Index (I)	Average Return	Annual average 6-Month LIBOR	MS WRLD\$ Index Average Return
Algeria				
Average	0.97	4.87	4.28	8.01
Std Dev.	0.44	2.19	1.90	17.53
Bahrain				
Average	1.51	7.57	4.28	8.01
Std Dev.	0.34	1.69	1.90	17.53
Malaysia				
Average	0.76	3.80	4.28	8.01
Std Dev.	0.40	1.99	1.90	17.53
Senegal				
Average	1.53	7.66	4.28	8.01
Std Dev.	0.59	2.96	1.90	17.53
Uzbekistan				
Average	2.79	13.95	4.28	8.01
Std Dev.	0.83	4.16	1.90	17.53
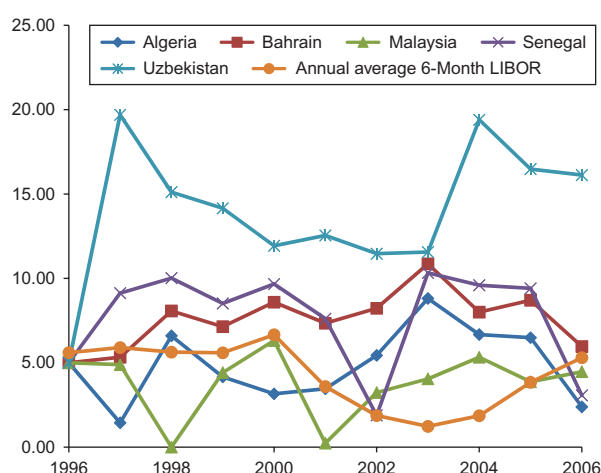
Graph 1. GLS (hypothetical) Annual Returns for the period 1996–2006.

corroborates a point made earlier pertaining to the variables that would have a greater impact on the value of the index or the annual return. By considering the average growth rate of these two countries in the two sub-periods before the issuance (i.e. 1970–1995) and after the issuance (i.e. 1996–2006), it appears that the two economies evolved in a contrasting fashion. For the first sub-period, the average growth rate is 7.4% and 1.6% for Malaysia and Uzbekistan, respectively, whereas the figures are 4.84% and 4.88% in the second sub-period. It is worth noting that Malaysia was hit by a severe financial crisis in 1997 that badly affected the economic performance of the country in subsequent years; Uzbekistan, however, experienced an economic improvement following dislocation from the Soviet Union. Thus, if the changes in the index for Malaysia are within acceptable limits - as they are in line with the economic rationale of the GLS - that is not the case for Uzbekistan which would have been overburdened due to poor design of the instrument. It follows from this point that some precautions should be taken when designing the GLS. First, a reasonable forecast of the growth prospects of the issuing country is key element for the choice of the baseline growth and, hence, avoidance of sharp fluctuations. Second, the setting of a ceiling and floor for maximum and minimum payments is also important to avoid the deleterious effects of incorrect forecasts or inaccurate estimations that may lead to extreme fluctuations.

For the sake of comparison, the five-year Malaysian sovereign bonds over the same period (i.e. 1996–2006) had an average yield of 4.9%, while the average return on the Malaysian global sukuk, issued in 2002, is 3.93%. Both figures are higher than the average return on GLS over the period of the study, this being 3.8%. These results substantiate the point that GLS is not necessarily more expensive than the traditional instruments already in the market.

The results of the backtest show that, as they are designed, the GLS would satisfy the main purpose of their introduction. Thus, Algeria and Malaysia, which had economic difficulties during the period, would have made lower payments and the contrary is true for the other countries.

Table 3. Correlation Coefficients between the GLS Annual Returns and Selected Benchmarks.

	Algeria	Bahrain	Malaysia	Senegal	Uzbekistan
Cor. Coef. (I, LIBOR)	−0.67	−0.60	0.13	0.06	−0.04
Cor. Coef. (I, MSWRLD$)	0.34	0.02	0.10	0.38	0.21

Graph 1 shows the evolution of the GLS annual returns over the period of study. Uzbekistan recorded the highest and most volatile annual return for the whole period, whereas Malaysia is the only country which would have made no payment on one occasion (i.e. in 1998, after the Asian crisis).

Between these two extremes the remaining GLS annual returns exhibit different behaviors, with values that vary within the range of 1% to 11%.

From the investor perspective, the choice to include the GLS in a portfolio would depend very much on the diversification opportunities they provide. To analyze this aspect, we follow Schroder et al. (2004) by considering a method of portfolio optimization in the Markowitz mean–variance framework. This method indicates that to include a new financial asset A in a portfolio P the following equation should hold:

$$\frac{R_A - r}{\sigma_A} > \frac{R_P - r}{\sigma_P} \cdot \rho_{A,P} \qquad (7)$$

Where:

R_A and R_P are the average returns of A and P.

$\rho_{A,P}$, σ_A, and σ_P represent, respectively, the correlation coefficient and standard deviation of A and P.

r is a risk free rate.

Within this framework, a financial asset is eligible for inclusion in the portfolio if its Sharpe Ratio (i.e. the left-hand side of (7)) is greater than the Sharpe Ratio of the portfolio times the correlation coefficient of the two (i.e. the right-hand side of (7)). Thus, the value of the correlation coefficient is crucial as, for instance, if the Sharpe Ratio of the portfolio is two times greater than that of the new asset, the latter could be included in the portfolio if the correlation coefficient is less than 0.5.

Without the need for any detailed calculations, this intuitive approach shows that the GLS would provide a good avenue for diversification for all the portfolios that are highly correlated to LIBOR and the MSCI Index, as indicated by

the results in Table 3. Indeed, all the correlation coefficients are less than 0.4, some even having negative values.

Hypothetical example

A Muslim Country X has an important program for infrastructure development in the next decade. Given the illiquidity in the credit market as a consequence of the global financial crisis, Country X wants to diversify its funding sources and tap the excess liquidity in the GCC region by issuing sukuk. On the other hand, the debt crisis in the Eurozone constituted a compelling argument for the government authorities in Country X to fund an important share of these infrastructure projects through state-contingent sukuk (e.g. Commodity-Linked Sukuk and GDP-Linked Sukuk). An amount K = $1 billion is needed to build schools, universities and hospitals in different districts of Country X. Country X decides to raise the capital K= $1 billion through the issuance of a 10-year GLS, in March 2011 with initial annual profit rate of 8% (i.e. the amount of the first year rental = $80 million). As the owners of the projects, the Sukukholders will lease the assets (i.e. schools, universities and hospitals) to the government of Country X, which will buy them at maturity for $ 1 billion. Based on the forecast made by some international financial institutions, the Country X GDP growth rate over the next ten years has been estimated and the parties agreed on the baseline GDP growth rate. Further, the parties agreed to set a ceiling and a floor of 50% up and down of the Index (I).[13] This means that with an initial value of I =1, the maximum and the minimum values that I can take are 1.5 and 0.5, respectively. Thus, the various estimated I and the corresponding cash flow (CF_k)[14] are as in the following table:

For this type of sukuk the investors currently require a 7% rate of return. Given that the face value of unit of GLS is $1,000, Country X needs to evaluate the present value (PV) of cash flows, to determine the number of units of sukuk to be issued. Thus we have:

$$PV = \sum_{k=1}^{10} \frac{CF_k}{(1.07)^k} + \frac{K}{(1.07)^{10}} = \$1,042.92 \text{ Million}$$

To raise the needed fund, the government of Country X has to issue 958847 units of GLS at $1,042.92 per unit.

Table 4. Hypothetical Values of I and CFk for Country X GLS.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
I	1	1.08	0.96	0.79	0.68	0.5	0.73	1.03	1.44	1.5
CFk ($ Mil.)	80	86.4	76.8	63.2	54.4	40	58.4	82.4	115.2	120

6. Conclusion

In this paper we made a case for GDP-Linked Sukuk as an effective tool for non revenue generating infrastructure projects financing in a Shariah-compliant way. The GLS allow synchronization of the payment obligation of the issuing government with its payment ability. With the GLS, the investors' capital is guaranteed but the profit rate is a function of the performance of the economy. The theoretical analysis as well as the empirical evidence suggests that the returns on the GLS are higher than those on comparable straight bonds, as the risk is higher with the former. However, the results of the simulation suggest the presence of interesting diversification opportunities with the GLS. From the issuer perspective, GLS appear more expensive than the traditional debt instruments for fund raising, but GLS offer better opportunities for debt management. To prevent sharp fluctuations of the profit rate, we propose the setting of a ceiling and a floor for that rate.

In the sukuk literature, many writers have complained of the complexity of certain sukuk structures, the construction of which involves necessarily additional advisory fees compared to the standards financial instruments. We claim that the GLS model is simple by design as only one Shariah concept is involved. Therefore, the contracting parties do not need to disburse exorbitant advisory fees for the construction and endorsement of the structures. If we add to this characteristic the tradability of GLS and its adherence to Shariah principles, we reach the conclusion that the model is efficient in both the technical and allocative sense, as defined above.

Kamstra and Shiller (2009) maintained that there is a trade-off, in terms of debt management, between low cost but volatile short-term debt and higher cost but more stable long-term debt. A government will certainly be concerned about the risk of a sharp increase of the cost of debt servicing during an economic down-turn when its budget can least afford it. The authors, therefore, made a case for diversifying government obligations to reduce the budget crisis even though it would mean a higher average cost for fund raising. The current debt crisis in Europe gives credit to this argument. Financial instruments like GLS offer Muslim governments the opportunity to diversify their fund raising and to address the issue of benchmarking the sukuk against the interest rate. GLS would also be a suitable instrument to be used by institutions like the Islamic Development Bank, International Monetary Fund and World Bank to finance projects in Muslim countries.

Notes

1. Reputational costs can be in the form of full exclusion from capital market and credit rating downgrade that will result in higher borrowing costs later.
2. International trading costs could be in the form of net decrease of bilateral trade and decline of of the trade credit of the defaulted country.
3. This can take the form of an increase of the probability of banking crisis. (See Borensztein and Panizza, 2009, for more elaboration).
4. The concept is referred to when a creditor forfeits a part of debt when the debtor settles the balance of the debt earlier than scheduled.

5. Syariah Advisory Council's Resolution, accessed on 14 March 2011 at http://www.sc.com.my/main.asp?pageid=450&menuid=554&newsid=&linkid=&type=.
6. The costs of sovereign default will not be born solely by the defaulted country and its creditors. Indeed, the international community will also bear its share as evidenced by the current European debt crisis whereby the bailout package to Greece, Ireland and Portugal advanced by IMF and EU amounts to € 110 billion, € 85 billion, and € 78 billion respectively.
7. The authors named this new instrument 'Trill' referring to the value of the annual dividend payment which would be one – trillionth of the US GDP.
8. It is worth mentioning that other authors (e.g. Costa, et al. (2008)) are of different view as they consider that external liabilities denominated in foreign currency played a central role in many emerging countries crises.
9. See Diaw and Boon Ka (2010) for elaboration.
10. Excluding South Africa.
11. Excluding Russia and Ukraine.
12. www.wsjprimerate.us, accessed on July 11, 2010.
13. Based on equation (2).
14. Based on equations (5).

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Economic and financial crises in fifteenth-century Egypt: Lessons from history

Dr. Abdul Azim Islahi

King Abdul Aziz University, Jeddah, Saudi Arabia

Abstract - A study is made of the economic and financial crises of fifteenth-century Egypt, which was ruled by the Mamluk dynasty. During the fifteenth century, especially the first half, Egypt faced terrible economic crises caused sometimes by the ill-governance and corruption of rulers, and sometimes by natural catastrophes such as the flooding or drying up of the Nile, outbreaks of epidemics, crop diseases, etc. In many cases two or more factors existed simultaneously. Financial crises emanated mainly from monetary mismanagement. Two social thinkers of the time – al-Maqrizi at the beginning of the century and al-Asadi at the middle – addressed the situation. They analyzed the problem, pointed out the causes, and suggested remedies. For al-Maqrizi, the deterioration of Egypt's monetary system was the single most important cause of its economic and financial difficulties. As a panacea, he prescribed a return to a gold and silver standard and restriction of copper coinage to petty transactions. Al-Maqrizi did not realize that the reason for the widespread use of copper money was Egypt's dependence on the import of precious metals, especially silver, from Europe and this was adversely affected in the fifteenth century, being known as the "silver famine". Al-Asadi divided the factors responsible for the economic and financial crises of his time into two main categories – socio-economic factors and monetary factors. In the former category he included neglect of agriculture, disturbances by Bedouins, oppression of farmers, and sale of government positions. As far as the monetary factor is concerned, he dealt with this separately and held the poor currency system to be the reason behind the high prices which were disturbing the whole economy. Al-Asadi did not confine his analysis to the monetary problem only. He advocated an overall reform and strict management of the whole economy, the monetary aspect being one aspect. He did not restrict money to gold and silver; to him, precious metals and copper all had their utility as money and all could be used at the same time. However, the issuing of money and minting of coins should be structured in such a way that counterfeiting and debasement is kept in check. The main financial problem, in his opinion, was debasement of the currency leading to an unrestricted supply of money, and not the dominance of copper coins. The paper concludes with an appraisal of this diagnosis of the problem, the solution suggested by the two social thinkers, and the lessons learned from them.

Keywords: economic and financial crises, return to gold and silver money, economic ideas of al-Maqrizi and al-Asadi, fifteenth-century Egypt, inflation in the history of Islam, monetary mismanagement, Mamluk economics

1. Introduction

The context of the present paper is the recent financial crisis which has drawn attention to the search for a parallel in the past at various stages in history. Some scholars have thrown a cursory glance at Muslim history and hurriedly concluded that it was a period when poverty was non-existent: the basic needs of everyone were met and no-one was "poor" enough to look forward to receiving charity; situations of worldwide famine were intelligently and successfully dealt with; and *there was no evidence of financial and economic crises in the long history (of Islam) spread over about 1000 years* (Khan 2009, emphasis added). In fact, the economic history of Muslim states remains largely unexplored. Absence of knowledge does not mean lack of existence. There are instances of economic and financial crises even in Islamic history. But the causes and intensity and frequency have not been the same as those we experience currently.

The present paper aims to study the economic and financial crises of fifteenth-century (corresponding to ninth-century Hijrah) Egypt which was ruled by the Mamluk dynasty.[1] In this respect, the paper especially attempts to examine the contributions of two social thinkers of the time – al-Maqrizi at the beginning of the century and al-Asadi at the middle – who analyzed the situation, pointed out the causes, and suggested remedies. It concludes with an appraisal of their diagnosis of the problem, the solution suggested by them, and checks the relevance to the present-day situation. As background, the paper begins with an overview of the political and socio-economic conditions of fifteenth-century Egypt.

2. Fifteenth-Century Egypt: An overview

The Mamluk[2] sultans established their rule in Egypt and in Syria, Cairo being their capital. They were originally troops of slave status enlisted to sustain Ayyubid power. After they took control of Egypt, the sultans achieved the re-conquest of the last of the crusader kingdoms in the Levant, and defeated the Mongols at the critical battle of Ayn Jalut in 658/1260.

The Mamluk Sultan Zahir Baybars (1260–77) installed an Abbasid amir as caliph at Cairo, who survived the Mongol massacre in Baghdad in 1258. This made the Mamluk government the focus of the Islamic world. Even Indian kings obtained their titles of sovereignty from the Abbasid caliph in Egypt. Many European kings extended the hand of friendship towards the Egyptian sultans, and they exchanged ambassadors. Some of them signed treaties for defense and trading purposes (Lane-Poole 1925, 281; Muir 1896, 38). Both Cairo and Damascus became the centre of Islamic culture and learning after the destruction of Baghdad by Mongols in 656/1258.

It seems that in the ninth/fifteenth century Muslim social thinking reached its peak when Egypt saw scholars like Ibn Khaldun (d. 808/1406), al-Maqrizi (d. 845/1442), al-Asadi (9th/15th century), Ibn al-Azraq (d. 896/1489), and al-Syuti (d. 911/1506). There has been no intellectual scholarship of such stature in such numbers in the succeeding centuries.

Fifteenth-century Egypt falls under the dynasty of Burji or Circassian Mamluks (784–923/1382–1517).[3] Mamluk society was stratified into four distinct classes:

1. The ruling class.
2. Public administrators, educators and scholars, who represented the link between the rulers and the general public.
3. The rich class of traders and merchants.
4. The farmers, labourers, craftsmen, small shopkeepers and the poor masses.

As outlined below, al-Maqrizi divides the population into seven categories to examine the effects of economic and financial crises on the Egyptian people. The fallahin (plural of fallah, farmers or land tillers) were in the majority and in probably the worst economic position as they were subject to multiple taxes (Ibn Iyas 1960, 30). Al-Maqrizi saw the detrimental effect of excessive taxation and decline in collection – an idea that came to be known as the

"Laffer Curve" in the twentieth century. When inhabitants are overburdened by rising taxes, revenue collection will decrease because people abandon cultivation, leave farming and migrate away from the area (al-Maqrizi, al-Suluk 4, 791–95; idem. Ighathah, 44).

Fifteenth-century Egypt saw a number of outbreaks of plague which led to demographic crisis. De-population led to decreased economic productivity (Shoshan 1982, 97); while demand for health care during the epidemics increased, the fee of physicians being augmented many fold (al-Maqriz, Ighathah, 35). Plague, which began in 1403, lasted for three years and destroyed forty villages. The death toll is estimated variously as one-third, one-half, two-thirds or even 60% of the population. On average, plague occurred every 1.7 years. Most destructive were those which spread during 809/1406, 822/1419, and 833/1429 (Nasir 2003, 91). For some writers "the complex economic problem of the later Mamluk period remains largely a population problem" (Shoshan 1982, 98). In the opinion of Udovitch also, demographic decline due to the frequent occurrence of plague was the main factor behind the serious decline of all the economic sectors, agriculture, industry and commerce (Lopez et al. 1970, 115, 121).

The size of the population is undoubtedly a major determinant of the level of prices, but there are other factors which also play a part, including the amount of money in the nation and, as the economists put it, the velocity of its circulation. The period after the onslaught of the Black Death witnessed an increase in workers' wages of more than 100% – both skilled and unskilled – due to a shortage of man power (al-Maqrizi, Ighathah 1957, 75). This must have affected the prices of their products.

Egypt's agriculture has been based traditionally on the rise of the Nile. Whenever this was delayed, a famine-like situation arose. Ibn Iyas never fails to report the level of the Nile's rise each season and its consequences on economic life. There was no technique for management and use of rain water. Whenever it rained heavily, this caused more damage than benefit. Historians of the period note many such occasions when rain created havoc, closure of markets, and destruction of crops (Ibn Iyas, 4: 193, 198, 199, 206; Ibn Tulun, 348). The rise and fall of the Nile level was a matter of great speculation. Whenever the Nile was delayed in rising to its level of plentitude in Egypt, or rainfall did not come in time in other part of the sultanate, then producers, sellers, and middlemen all started hoarding for the coming difficult days, this exacerbating the shortage and suffering. In contrast, a small change in the Nile's water level and the rainfall hope for by people, brought ease and a decrease in prices (al-Maqrizi, al-Suluk 4, 318, 330).

In some years of famine, farmers could not cultivate their land as they were unable to plant seeds (al-Maqrizi, Ighathah, 41–42; 44–45). The evil of lending seeds to farmers at 11% interest rates are also reported (al-Nuwayry, Nihayat 8, 252). Al-Asadi also writes that when farmers came from the villages to the city to deposit agricultural taxes, bankers or goldsmiths checked and evaluated their money in a deceitful manner so that it fell short of required amounts to such an extent that farmers were forced to borrow money with interest in order to meet their taxation obligations (al-Asadi 1967, 122.).

Long ago, in the early Mamluk period, Ibn al-Qayyim (d.751/1350) wrote: "Some people try to practice interest: they use the term "al-muamalah" (business or transaction) instead of interest, and change its form by introducing a middleman or a pretended sale and repurchase transaction" (Ibn al-Qayyim 1320, 191). He meant inah and tawarruq and denounced this legal fiction.

Since Egypt and Syria were located at the centre of the world's trading route, international trade and commerce always existed there. However, this was adversely affected by frequent currency changes and debasement (al-Maqrizi, al-Suluk 3, 281; 4, 437). Merchandise was sent through Makkah from India to Alexandria and thence to Europe. However, during the fifteenth century, monopolization of major trade articles by some of the Mamluk sultans hit the foreign trade hard. This discouraged private traders and retailers. The fifteenth-century also saw the end of the Karimi merchants who could have proved a contending force against European mercantilists had they received state patronage (Islahi 2009, 91–92).

Mamluk history is full of instances of monetary mismanagement. As early as the eighth/fourteenth century, Mamluk rulers used debasement and unrestricted money expansion to meet the deficit in their spending. The great scholar of the early Mamluk period, Ibn Taymiyah (663–728/1261–1328), who witnessed the turmoil resulting from the debasement practiced by the Mamluk rulers of his time suggested that, "the authority should mint the coins (other than gold and silver) according to the just value of people's transactions without any injustice to them" (Ibn Taymiyah 1963, 469). Ibn Taymiyah advised the ruler not to start business in money by purchasing copper and minting coins and thus doing business with them … He should mint coins of real value without aiming at any profit by so doing (Islahi 1988, 141). This story has been repeated during our study period also.

Generally, three kinds of monetary units were circulated:

1. Dinar (gold).
2. Dirham (silver).
3. Fals (copper coins, plural "fulus").

While the dinar was very scarce, the fals was the predominant coin. Circulation of dirhams always fluctuated. At the beginning of the Mamluk era the dirham contained two-thirds silver and one third copper, ut in the course of time the proportions were reversed (al-Qalqshandi 1913, 443).

One of the reasons why the Mamluk sultans resorted to copper money was a lack of their own source of precious metals, this also being the reason for the spread and dominance of European gold money in Egypt. Shoshan, a specialist of the Mamluk monetary system, observes that the reason for the wide spread use of copper money was Egypt's dependence on the import of precious metals, especially silver, from Europe and this was adversely affected in the fifteenth century, being known as the "silver famine" (Shoshan 1982, 98–103).

As with currency during the Mamluk regime, prices were also highly unstable. The first half of the fifteenth century saw frequent increases in the price of grain, especially during the years 1403–1405, 1415, 1419–1421, 1425, 1428, and 1449–53 (Nasir 2003, 254). Apart from monetary expansion, decrease in agricultural products was the major factor underlying the increase in the price of foodstuffs. For example, when the Nile did not rise to the desired level in 1403 and in 1415, and all the grain stores were emptied, prices increased to a very high level (al-Maqrizi, al-Suluk 4, 338). In many cases, the reason for the rise in prices was hoarding and speculative practices by traders, which created artificial shortages; monopolization of trade by elites and rulers also worsened the situation many-fold (al-Maqrizi, al-Suluk 4, 691, 711, 782–83). Examples of efforts by some sultans to fix the prices of essential goods and to subject offenders to punishments are not unusual (al-Maqrizi, al-Suluk 3, 818; 4, 334–35).

In the Mamluk period the scope of hisbah (market supervision) was widened and collection of certain duties was included in its functions. Due to corruption on a grand scale in the government and its institutions, the hisbah also became a profit-earning office for the muhtasib (the person in charge of hisbah). Instances are reported of a person offering bribery to obtain the position of muhtasib; in such a situation, the office was generally held by those who lacked the basic qualities for that position. Sometimes the muhtasib accepted bribery to ignore his duty of price-checking (Ibn Iyas 4, 378; Ibn Tulun, 216; al-Jaziri, 1000, 1144). Whenever an honest market officer was appointed the situation improved and the objective was achieved. Examples are also found when price control resulted in black marketing or further shortage (al-Jaziri, 978). Subsidy and rationing was adopted to solve the problem of shortages arising from administrative price fixing (al-Jaziri, 1164).

Al-Maqrizi notes the extravagance and misappropriation of the public treasury by the rulers. Silk carpets were laid down for the sultan to walk over from his residence to the fort while people were suffering from hard living (al-Maqrizi, al-Suluk 3, 1016). Deficit was also met by debasement of the currency, the issue of copper money (al-Maqrizi, al-Suluk 4, 27), and through the auction of government offices (al-Maqriz, Ighthah, 43).

3. Economic and financial crises

During the fifteenth century, especially during the first half, Egypt faced terrible economic crises caused sometimes by the ill-governance and corruption of rulers, and otherwise through natural catastrophes, such as the flooding or drying up of the Nile, the outbreak of epidemics, or crop diseases, as noted above. In many cases, two or more factors existed simultaneously. Financial crises emanated mainly from monetary mismanagement, which adversely affected people's lending and borrowing, saving and investment, trade and commerce, production and consumption, and exchange and distribution. From such situations both the ruling class and the common man suffered, but the suffering of the latter was many-fold greater as the rulers could recoup resources by the imposition of regressive taxes, monopolization of business, and the hoarding of foodstuffs. The class most affected was that of the small farmers, laborers, and artisans.

The profound change in Egypt's monetary system affected the Egyptian economy throughout the larger part of the fifteen century. It was manifested at around the year 1400 in the form of the emergence of copper money instead of the two precious metals, gold and silver, as the country's basic currency. Copper money no more remained the poor man's money (al-Maqrizi, al-Suluk, 165, 205, 280, 306; idem. Ighathah, 71). The situation worsened so much that the chief justice of Cairo was forced to make the decree that money quoted in deeds and contracts should be specified in terms of copper fulus (al-Maqrizi, al-Suluk 3, 1117). It became almost the only means of payment for domestic transactions. However, foreign trade required gold or silver coins.

In 1403 it was officially announced that fulus were to be dealt in by weight only. This was because of the decreasing weight of fulus due to cutting and shedding. In the fourteenth century the fulus weighed 4.25 grams; in the early fifteenth century it ranged between 1.5 and 3 grams. Not only the weight but the quality of the metallic content declined due to mixing with iron and lead (al-Maqrizi, al-Suluk 4, 549, 623–30). One clear reason for this malpractice was a decline in the quantity of copper, which was caused due to wear and tear, its increasing use for utensils, and its outflow to other countries (Shoshan 1982, 110–111). "The copper dirham of account"[4] was substantially devalued between 1402 and 1404, but later remained stable until 1423. Thereafter, until 1450, debasement was accelerated again. Thus, in 1429 and 1435 the money of account was devalued by about 50%, and in 1448 by 30% (Shoshan 1983, 59).

Al-Suyuti, the great scholar of late Mamluk period, notes that during the year 821/1414, the fulus became expensive after being abundant and cheap. It became very difficult for those who were indebted to repay their loans in term of fulus. Earlier, the fulus had an exchange rate of 8:1 or 9:1 to the dirham; an exchange rate with aflori dinar of 260:1; with the harjah, 280:1; with the nasira, 210:1; and with the Egyptian qintar, 600:1 (1 qintar fulus = 100 Egyptian ratl). After the fulus became expensive, the exchange rate with the dirham became 7:1. As far as the dinar is concerned, all kinds – aflori, harjah, nasiri, and Egyptian qintar – lost fifty fulus in exchange. That is, an exchange rate with the aflori dinar of 210:1, with the harjah of 230:1, with the nasiri of 160:1, and with the Egyptian qintar of 550:1. The situation was reversed at the end of the century when it was announced that 30 dirham would be exchanged for one ratl (450 grams) fulus, while earlier 36 dirhams were exchanged for a ratl fulus (al-Suyuti 2000, 96). This seems to be due to an improvement in the metallic content of the copper coin.

As noted above, debasement severely affected lending and borrowing relations. It benefited the debtors to the detriment of the lender as it diminished the value of the dirham of account (dirham min al-fulus). This let to frequent controversies. For example, in 1429, following one of the periodic changes in the value of the dirham of account, its value declined to one-third of its value in 1403. Debtors tried to return their loans according to the newly-established value of dirham to ratl of fulus, which meant paying less than they would have had to pay earlier. Creditors insisted that the debts should be settled according to the value at the time of the contract. The problem generated a debate among legal scholars, which was finally resolved in an opinion given by Cairo's chief justice. He decreed that in every document sums of money had to be specified in gold or silver terms only (al-Maqrizi, al-Suluk 4, 795). In this way, he abrogated the decree issued in 1403, noted above, which had recognized copper money as the basis for all kinds of contracts.

Increasing costs and falling profits discouraged investment (al-Maqrizi, Ighathah, 47). For example, the cost of collection of flowers exceeded the revenue obtained by selling them. This adversely affected horticulture (al-Maqrizi, Khitat 2, 24). In many cases ripe crops could not be harvested due to high wages (al-Maqrizi, al-Suluk 4, 179); both al-Maqrizi (al-Suluk 4, 225) and al-Asadi (al-Taysir, p. 92) blame the Sultan for negligence of land development and irrigation facilities which badly affected farming and agricultural production. A major portion of arable lands was granted to the army and ruling elites who exploited the tenants (al-Qalqashandi, Subh al-Asha 3, 451).

4. Al-Maqrizi[5] on causes and remedy of the crises

Distressed by Egypt's acute economic and financial crises, in the early years of fifteenth century, al-Maqrizi wrote his famous work "Ighathat al-Ummah bi Kashf al-Ghummah" (Ighathah)[6] in the year 808/1405. The main theme of the book is the high price (al-ghala) and economic fluctuations of the early 15th century in Egypt arising out of the incorrect political, economic and monetary policies of the Mamluk Sultan. He criticized the excessive coinage of copper fulus, the cessation of gold and silver coinage, and the adoption in 806/1403 of the dirham of fulus as a unit of account. He believed that the Egyptian ruler deliberately stopped the minting of silver (al-Maqrizi, al-Suluk 4, 28–29).

5. Differences between past and present crises

While describing the economic crisis of his time, al-Maqrizi gives an account of the past periods of inflation and bygone disastrous years. He considers that the difference between past incidences of high prices, famine and starvation and the present ordeals is that in the past these generally occurred due to natural calamities, such as paucity of rain, failure of the Nile to reach its plentitude-level, spread of epidemics, etc. Government intervention could have diminished the impact of those crises through forcing hoarders and speculators to release grains, or by imposing price controls, or importing grain from unaffected areas. But the ordeals being faced Egypt in 808/1405 were considered due to human fault (al-Maqrizi, Ighathah 4, 41).

As al-Maqrizi himself writes, his intention in his book was to discuss the factors behind the prevailing worst situation of the Egyptian economy, its ruinous effects, and to prescribe the remedy (al-Maqrizi, Ighathah, 3–4). He says: "Anyone who takes the stock of the situation will realize that the people's suffering is due to malfeasance of the rulers and the leaders and their negligence of people's welfare. This is not like what dearth and destruction occurred in the past" (al-Maqrizi, Ighathah, 4).

According to al-Maqrizi, there were three main factors behind this sad situation – political, economic, and monetary

instability. He gives a brief account of those factors: first, government, judiciary and administrative posts are obtained through bribery; second, the high cost of land and, consequently, very high costs of production, rent having increased by ten times compared to level before the relevant events; third, debasement of the currency and unrestricted supply of fulus (copper coins) (al-Maqrizi, Ighathah, 43, 45, 47). Perhaps, to him the most important of all these three factors was the last one which he dealt most extensively. He concentrates on coinage in Islam and records its detailed history up to his own time in order to point out how deviant coinage system of his own age was and he advocates for reform in the existing monetary structure.

Al-Maqrizi claims that gold had been the only money in Egypt in pre-Islamic period as well as in Islam. It was the Europeans[7] who introduced dirhams after their occupation (al-Maqrizi, Ighathah, 23). The situation worsened when copper coins became the main currency during the early Circassian Mamluk regime. In Al-Maqrizi's opinion, this unrestricted expansion of copper money resulted into high inflation. He seems to have an idea of the relation between the quantity of money and prices. In the events of 806/1404 he writes that gold coins have been cancelled. The price of gold increased from 20 dirham a mithqal to 240 dirhams (al-Maqrizi, al-Suluk 4, 27, 306).

The monetary situation improved during the time of Sultan al-Muayyad Shaykh (d. 824/1421) who carried out monetary reform at the suggestion of al-Maqrizi, to whom the latter presented his treatise on money "Shudhur al-Uqud". Sultan al-Muayyad minted dirham of silver and after a gap of thirty years first time in Egypt dirham of pure silver circulated (al-Maqrizi, al-Suluk, 289). Al-Maqrizi praises the Sultan for this reform. However, the worsening situation of money continued, fulus dominating the scene, and the value of al-Muayyad's silver dirham was still mentioned in terms of copper fulus. Al-Maqrizi suggested to the Sultan certain measures for correcting this shameful situation (al-Maqrizi, al-Suluk, 31–36).

Al-Maqrizi considers gold and silver as real and natural money. He supports his stand by the fact that every nation used them as money. The Prophet mentioned zakah in terms of silver dirhams (al-Maqrizi, Ighathah, 51). Al-Maqrizi claims that, since the known history of mankind, only gold and silver were used as money and the system worked smoothly. This does not mean that al-Maqrizi is unaware of the evolution of money. He accepts that various nations have used different commodities as a medium of exchange, such as eggs, loaves of bread, leaves, skins of trees, and cowries, but to him all these substances of money were for petty sales and purchases. They never assumed the status of legal tender or fiat money. The situation changed completely in the year 806/1403 when copper coins became the dominant form of money. Even the value of the gold dinar was expressed in terms of copper dirham being used as unit of account.

Impact of financial crisis on various sections of society

Al-Maqrizi examines the impact of the crisis on different sections of society. For this purpose he classifies the entire population into seven categories. Al-Maqrizi has a very clear concept of money income and real income when he says that, although the rulers, rich merchants, and small shopkeepers (in the first, second and third categories, respectively) receive a much greater amount, their position was no better than before because they could only buy smaller quantities. The fourth category, the cultivators and land tillers, who could irrigate their crops during the years of drought, enjoyed increased fortunes. Al-Maqrizi has the idea that during inflation, groups of people who have a fixed income are hard hit, as is the case of fifth category that consists of jurists, scholars, and the circle army. The sixth category, which consists of manufacturers, artisans and wage earners, will benefit because their income is not fixed. They enjoy enhanced wages especially as the majority of the population of this group has died from plague. Finally, the poor and needy (the seventh category) have already perished and the remaining few are near to annihilation (al-Maqrizi, Ighathah, 73–75). At the end, al-Maqrizi presents his proposal to redress the situation. His solution is to revert to silver coinage and to base the currency on gold and silver only (al-Maqrizi, Ighathah, 80–81).

To sum up, for al-Maqrizi, the deterioration of the monetary system was the single most important cause of Egypt's economic and financial difficulties. As a panacea, he prescribed a return to a gold and silver standard, and the relegation of copper coinage to the role that God and custom had ordained for it, that is, estricting it to petty transactions (al-Maqrizi, Ighathah, 47).

6. Al-Asadi on causes and remedy of the crisis

After the second decade of the fifteenth century, the economic condition stabilized for the next two decades before experiencing a similar crisis around the middle of the century. The intensity of this economic crisis can be imagined as the basis of the fact that, in Ramadan 855/1452, meat and cheese disappeared from the markets and the wheat price reached seven ashrafi per irdabb (about 70 kilograms). This situation continued for four years before returning to the normalcy (Ibn Iyas, 2, 291). The economic and financial crisis distressed the population. Due to high grain prices, it became difficult for farmers to get seeds (Ibn Iyas, 2, 435). People looted shopkeepers in the market (Ibn Iyas, 2, 411). At that time another scholar, Muhammad b. Khalil al-Asadi[8], a contemporary of al-Maqrizi from Syria, addressed the economic and financial crisis and the prevailing inflation in the year 855/1451. It is not known whether he was aware of and influenced by al-Maqrizi's work. He studied the decayed economic condition of his time arising out of the decrease in production, rise in prices, widening gap in the income of various sections of the society, drought and starvation, and flight of peasants and workers. Al-Asadi laments the terrible economic conditions and divides the factors responsible for the existing economic and financial crises into two main categories: socio-economic factors and monetary factors. In the former category, he includes neglect of agriculture, disturbances of Bedouins, oppression of farmers, and sales of government positions (al-Asadi, al-Taysir 1967, 92–96). He considers the existence of coercion, tyranny and oppression as the most damaging factors in development activities and exhorts elimination of them (al-Asadi, al-Taysir 1967, 93). Foreign trade was also adversely affected because of various custom duties charged to merchants

(al-Asadi, al-Taysir 1967, 83–84). The sale and purchase of positions was a common source of corruption. For those who obtained a position through bribery, their first and main concern was to get back their money and then earn an additional amount. Al-Asadi recommends formulation of a just wages policy (al-Asadi, al-Taysir 1967, 182–83).

As far the monetary factor is concerned, al-Asadi deals with this separately, and holds that the poor currency system is the reason behind the high prices (al-ghala). In addition to the monetary factor, al-Asadi notes the irresponsible role of hisbah, un-standardized weights and measures, hoarding and monopoly, and middlemanship. His proposals for solving these issues include the correction of weights and measures, monetary reform, rationing of foodstuffs, and increase in production (al-Asadi, al-Taysir 1967, 115–146).

According to al-Asadi, at the government level the corruption emanates, on the one hand, from ignorance of Shariah sources of income such as zakah, kharaj, jizyah, ushr, and khumus and, on the other hand, the resorting to various non-Shariah taxes (al-Asadi, al-Taysir, 78–79). Apparently, income derived in this way is considered as supporting and beneficial to the ruler but in fact it is not. It weakens the foundation of the sultanate (al-Asadi, al-Taysir, 78–79). Over and above this is the fact that this public income is not spent on productive heads and building of infrastructure for the development of the economy. He cites an example: "A village belonging to bayt al-mal that could support ten military personnel and their families was granted by the authority to his relative with no return to the public treasury. Had it been retained by the government and that relative was provided with sustenance from the bayt al-mal according to Shariah rules, it would have proved better" (al-Asadi, al-Taysir 1967, 81–82). Al-Asadi expresses his concern for development programs and emphasizes undertaking development activities like improvement of lands, excavation of canals and provision of water resources, removal of obstacles in cultivation of fields, building of irrigation systems and bridges, and management of drainage and floods in every region, as was the practice from the early Islamic period throughout until gradually corruption prevailed (al-Asadi, al-Taysir 1967, 93).

Al-Asadi's measurement of inflation

Al-Asadi attempts to calculate the inflation rate. To him, if the wheat price is one dinar per irdabb (about 70 kilograms) in Egypt, one ratl (450 g) of Egyptian bread is available at one copper dirham; this he considers a normal rate. If wheat is sold at two dinars per irdabb, the price of one ratl bread will be two dirham; this he considers as ghala[9] (inflation), or a highly abnormal price. On the other hand, if the price goes below one dinar per irdabb, the rakha or low price will be at the same rate. He did not see the price of bread go below one ratl per dirham, even if the wheat price went below one dinar,[10] as it happened during the Ashrafiyah[11] and Zahiriyah[12] regimes when one irdabb of wheat was sold at one hundred copper dihram of account (dirham min al-fulus), that is, 40% of dinar. Sometimes the wheat price decreased to three irdabbs per dinar (al-Asadi, al-Taysir, 143).[13] In the year 854/1450, when Al-Asadi started writing his treatise, the price of bread reached six dirham per ratl. Then it

jumped to eight dirham per ratl of bread. This means a 600–800% price rise (ghala). However, people got some relief when next year, Ramadan 855/1451, the price fell and ranged between four to five dirham per ratl of bread. This happened despite warehouses being full of grain due to hoarding and hiding.

It should be pointed out that al-Asadi measured the price rise by taking an important and essential commodity, bread. This perhaps represented other commodities also. Had al-Asadi included a basket of commodities, he would have been considered the first economist who guided the measurement of inflation.

Poverty into plenty

There were many reasons for the increasing prices despite the granaries being full, including men blocking the arrival of grain in the open market, hoarding and hiding grain by flour grinders and storekeepers, adulteration of grain, and monopolies enjoyed by certain sections of society (al-Asadi, al-Taysir, 143–44). Al-Asadi presented the case of foodstuffs, being a necessary good, just as an example; the same situation prevailed for all kind of commodities (al-Asadi, al-Taysir, 145).

Al-Asadi's suggestions for monetary and economic reform

Al-Asadi recommends the issue of gold and silver coins of four denominations: a coin of full standard weight; half-weight; quarter-weight; and one eighth-weight. This will facilitate all kind of transaction. Copper coins (fulus) may also be used for daily small purchases, but they should be issued by the sultan, to put a check on uncontrolled expansion. Al-Asadi believes that undue price increases (ghala) due to a debased currency will be controlled following monetary reforms he suggests (al-Asadi, al-Taysir, 129–30). Al-Asadi does not insist on limiting money to precious metals; the other metals can work and should work as money, but they must be controlled by the government.

According to al-Asadi, attention should be paid to proper management of the non-monetary factors also. For example, to ensure supplies and to keep prices stable, the officials concerned must calculate what quantity of foodstuffs each city and village needs daily. Then, on the basis of that calculation, the requirement for a month and for the whole year can be established. When the crop is ready, the quantity calculated can be acquired, provision made for seeds, and the rest left to be sold in the free market. The stored grain must be brought to market whenever required. This would ensure a flow of supply that would keep prices at normal levels (al-Asadi, al-Taysir, 141–42). To prove this point al-Asadi presents a statistical model of Egypt and Cairo. He says that, if calculated in this way, it appears that Egypt and Cairo need 360,000 irdabb (one irdabb = about 70 kilograms) of wheat each year, and this quantity can be obtained from one kurah (district) only, whereas in the Egyptian territory there were originally 103 such kurah; now only 84 remain (al-Asadi, al-Taysir, 142–43). Due to this approach, al-Asadi may be considered the inventor of quantitative analysis in the history of Islamic economic thought. His quantitative

model, to the best of our knowledge, could not be further improved.

7. Comparison and appraisal

We have seen that fifteenth century Egypt passed through a period of economic difficulties. Especially during the beginning and the middle of the century there were severe economic and financial crises, which were addressed by al-Maqrizi and al-Asadi, respectively. In the opinions of both scholars, Egypt's economic difficulties were due to incompetent and corrupt administration, oppressive taxation, increasing encroachment by Bedouins into agricultural areas, the flight of the rural population, the loss of cultivated lands to desertification, disruption of lucrative long distance trade, and to a debased monetary system in which copper coins predominated and coins of precious metals were exceedingly rare. In the opinion of al-Maqrizi, the deterioration of its monetary system was the single most important cause of Egypt's economic difficulties. Therefore, he dealt extensively with this aspect of the economy and advocated a return to a gold and silver standard, restricting copper coinage to petty transactions only.

Many experts of the economic history of fifteenth-century Egypt do not agree with the analysis of al-Maqrizi. Udovitch, for example, observes: "What Maqrizi did not, and possibly could not, understand was that Egypt's monetary problems were not the result of its unfortunate financial policy, but a manifestation of its unfavourable position in the international trade" (Lopez et al. 1970, 123–24). Thus, the issue of copper coins was not due to corruption but because of compulsion, as Egypt lost its stock of precious metals and was passing through a period of "silver famine". Egypt did not have its own mines of silver. It depended for on external sources for the supply of precious metals: West Africa for gold, and Europe and Central Asia for silver (Ashtor 1976, 291–92). A favourable balance of trade and arrival of pilgrims constituted two major streams of supply of these metals. Any disturbance in these two sources had drastic effects on the monetary matters of Egypt. Towards the year 1400 the flow of Western silver eastward is reported to have been only a trickle; there are some contemporary claims that the traditional direction of the movement of silver from west to east, was reversed, and that the 'métal blanc' started to flow westward instead (Shudhur al-Uqud 1967, 39). Contraction of the sources of Egypt's precious metals supply and its unfavourable balance of trade caused the loss of gold and silver during fifteenth century (Lopez et al. 1970, 126–28). It was "the shortage of gold and silver which led to the abundant monetization of copper" (Lopez et al. 1970, 125–26).

Al-Asadi experienced scarcity in plenty; prices rose in the face of granaries being full of foodstuffs. This means that it was not a time of famine or starvation. Nor was the corrupt monetary system the sole cause of inflation. Al-Asadi was not only against debasement, but also against leaving any chance for the public to play with the quality and quantity of money issued by the state. He foresaw the detrimental effects of such activities on the economy. It is on this basis, therefore, that he suggests the issue of coins of 100% purity, and a standardized shape and weight that could not be tampered with (al-Asadi, al-Taysir, 129–33).

Al-Maqrizi concentrated on the monetary phenomenon only. Measures to solve other socio-economic problems, and to increase production, did not receive his due attention. Al-Asadi does not confine his analysis to the monetary problem only. He advocated for overall reform and strict management of the whole economy, the monetary aspect being one factor. He stressed the maintenance of peace and security and a healthy environment conducive to efficient economic activities. He emphasized not only a proper distribution of the cake but also suggested measures for enlarging the size of cake and its equitable distribution. He does not restrict money to gold and silver. To al-Asadi, precious metals and copper all have their utility as money and all can be used at the same time. However, the issue of money and minting of coins should be structured in such a way that they cannot be copied and debasement is avoided. The main financial problem, in his opinion, was debasement of the currency leading to an unrestricted supply of money, and not the dominance of copper coins.

8. Concluding remarks

Al-Maqrizi believed that the major factor behind the economic and financial crises of fifteenth century Egypt was its corrupt monetary system and the ruler deliberately stopping minting coins of precious metals and calling for a return to a bi-metallic standard. But the history of the period shows that it is because of a short supply of silver that "copper emerged as Egypt's most widely used currency". This was the reason for the dominance of the copper fulus in the first half of the fifteenth century.

Being a champion advocate of a monetary system based on precious metals, al-Maqrizi has been quoted extensively during the present-day controversy over the gold dinar.[14] But, an empirical study of the past has shown that there is no guarantee that gold money will succeed in all circumstances. Reliance on the issue of copper money in al-Maqrizi's time was due to a lack of precious metals. This made al-Maqrizi's panacea irrelevant during his own times. Surely, it has no relevance in today's complex situation of economy and finance.[15] It may be noted that Sultan Mu'ayyad Shaykh, to whom al-Maqrizi presented his treatise on money "Shudhur al-Uqud fi Dhikr al-Nuqud", implemented the latter's recommendations and issued silver dirham in 818/1415, known as al-Mu'ayyadi.[16] But the outcome was not as al-Maqrizi expected: he expresses his dismay and counts it a "shameful situation" that the value of the dirham is attributed to the copper fulus, not the other way round (al-Maqrizi, Shudhur, 35–39). In fact, there was insufficient silver coinage due to a shortage of silver in Egypt. Therefore, Shaykh's initiative to restore the traditional role of silver did not succeed.[17] People did not stop using copper in bulk. Since all their exchange needs were fulfilled by copper money, they did not bother with Mu'ayyadi dirhams. Copper coins predominated in internal circulation and on all levels of transactions. The result was that, in 826/1423, the successor of Mu'ayyad Shaykh had to renounce silver coins and return to a "copper standard" (al-Maqrizi, al-Suluk 4, 629–30).

It is also apparent that the economic and financial crises during fifteenth-century Egypt did not occur due to use of money based on non-precious metals, and that bimetallism

would have ensured price stability. There are instances of increases in prices even when gold and silver coins were in use.[18] Al-Maqrizi, as a top historian and expert of traditions, must have been aware that prices increased at the time of the Prophet as well when gold dinars and silver dirhams were in use.[19] Prices increased continuously during the period of the second caliph, Umar, and he had to adjust the blood money (diyah) at least three times because camels, fixed as compensation, became very expensive (al-Bayhaqi 1344, 8, 77).[20] No doubt, money is the blood of economy. Consequently, there is a need to maintain a suitable quantity of it for the economy to avoid high or low pressure of it, as both cases are destructive for the health of an economy. Therefore, in all ages, it has been considered the prerogative and responsibility of the government to issue money and to supervise it (al-Nawawi n.d., 6, 10). This does not mean that other aspects of the economy have no significance. Al-Maqrizi recognized some other causes of economic and financial crises, but he gave importance to the monetary factor alone. The weakness of his prescription is that he sought the solution through adoption of an only gold, or gold and silver, standard of money and ignored the other causes.

There is no doubt that the gold standard had some advantages in practice. Its merits as compared to "a man-made currency not tied to a metal" are admitted even by modern economists (The New Palgrave Dictionary of Money and Finance 2, 265). According to Crowther, a gold standard ensures stability of exchange rate and provides built-in control on expansion of money supply (Crowther 1967, 281, 284). But mankind has passed that standard as it passed through the earlier stages of the barter economy, commodity money, and metallic money. It is at the threshold of electronic money; now, after the fall of bimetallism, it is not practicable to take the economic world back into history.

Compared with al-Maqrizi, al-Asadi's analysis of the situation is more pragmatic. He realized that the fundamental flaws of the economy cannot be cured by the simple introduction of dinar and dirham. The financial crisis was the product of debasement and counterfeiting, be it dinar, dirham or copper fulus. Therefore, al-Asadi insists on the standardization of money in such a way that others cannot imitate it, and the possibility of debasement is eliminated. In other words, he argues for efficient monetary management. He also pays attention to other factors responsible for economic crises and recommends measures that include not only monetary reform but also the elimination of corruption, removal of discrepancies in weights and measures leading to fraud and deception, the correct management of public distribution, enlargement of production through strengthening agricultural relations, and promotion of trade and commerce. This kind of comprehensive internal economic reform is fully relevant to present-day complex economic situations. It is a pity that al-Asadi and his work were ignored in his own time, and that it still misses the attention of researchers today.

Notes

1. The Mamluk dynasty was established in Egypt in mid-thirteenth century after abolishing the Ayyubid dynasty in 648/1250 and it came to an end in early 16th century when Ottoman Sultan Salim First (d. 926/1520) defeated Mamluk Sultan Qansawh Ghawri in 1517 C.E.

2. In Egyptian history, Mamluks are divided into an earlier group called the Bahri Mamluks (684–784 H./1250–1382 C.E.), and a later group, the Burji Mamluks (784–923 H./1382–1517 C.E.); the Bahri Mamluks were originally soldiers based on Roda Island by Cairo, on the Nile (Bahr), while the Burji Mamluks were associated with the Citadel (Burj). The Bahri Mamluks derived largely from Qipchaq tribesmen in what is now southern Russia, with Mongols and Kurds; the Burji Mamluks were mainly Circassians, from the Caucasus Mountains.

3. It was established by al-Zahir Barquq (d. 801/1399), a burji slave, in 784/1382, by overthrowing Bahri mamluk sultan al-Salih b. Sha'ban to whom the former was a body guard.

4. During the Mamluk period, a new monetary element "copper dirham of account" (dirham mia'l-fulus) was introduced. for example, see al-Suluk, 3:1059 in the events of 804/1401, and Suluk 4:944. Some rendered it as 'trade dirham'. It originally represented one real copper coin of a dirham weight (about 3 grams), but with the continuous debasement and decline of the weight of copper coinage the 'copper dirham of account' no longer stood for one single fals; instead it equaled a gradually increasing number of copper coins.

5. Taqi al-Din Ahmad b. 'Ali al-Maqrizi, a prolific writer historiographer and economic historian, was born in last days of the Bahri Mamluk dynasty in the reign of al-Ashraf Sha'ban (d. 778/1377). Al-Maqrizi saw the fall of Bahri sultans. The last sultan of this dynasty was al-Salih b. Sha'ban who was overthrown by his body guard Barquq (d. 801/1399), a burji slave, in 784/1382. At that time al-Maqrizi was 18 years old.

6. There is a misconception that al-Ighathah is a work on famine. No doubt, al-Maqrizi mentioned a few cases of famines in Egypt in the past that caused high prices and starvation. But the main theme of the book is the high price (al-ghala') and economic and financial difficulties of the early 15th century in Egypt arising out of wrong political, economic and monetary policies of the Mamluk sultan. Generally a famine is accompanied by high prices but not the other way round. According to Allouche (1994, 13) the book is 'a critique, if not an outright indictment, of the Circassian administration's economic and monetary policy. It is a polemical work written by a former official of the hisbah that focuses on the etiology of a specific economic crisis'. The work is a valuable source of the economic history of Egypt in early 9th/15th century especially in the area of money and coinage. It has served for the author as a basis for another work entitled al-Nuqud al-Islamiyah in which he retained some of the sections of al-Ighathah while making certain additions and improvements. In this way al-Maqrizi became the first who wrote an exclusive tract on money in Islam. It was presented to Mamluk Sultan al-Mu'ayyad Shaykh in 818/1415 with the hope that he would bring reform in the corrupt monetary system prevailing since more than a quarter century. The book succeeded in its objective to some extent.

7. It seems that al-Maqrizi has referred to the later history of Egypt. Otherwise in early Islamic history both types of coins were in use. Byzantines had gold dinar and Iranian Kisra had silver dirham. Arabs used both. They did not have their own money.

8. Muhammad b. Muhammad b. Khalil al-Asadi's birth, life and death remain obscured. He authored four valuable works on socio-economic problems of his time but only survived entitled al-Taysir wa'l-I'tibar wa'l-Tahrir wa'l-Ikhtibar in 855/1451. His work itself is the only source to know about him. He lived in Damascus. At that time Egypt and Syria were ruled by Circassian Mamluk. The Caliph was al-Qa'im bi-Amri'llah Hamzah b. Muhammad (d. 855/1451). A study of al-Asadi's work would reveal that he occupied position of a muhtasib. His book is a rich source on economic thinking and economic history of Mamluk regime. In addition to some other useful information that it contains, it deals with burning issues of the time such as how to reform monetary situation, various economic transactions, abolition of oppressive taxes, cheating and fraud in weight and measures, and corruptions causing shrinkage of public money. It also consists of policy suggestions to rectify the situation and protect lives, property and dignities (al-Asadi, al-Taysir, p.180). It is surprising that in spite of its significance as a source material for economic history and Muslim economic thinking, the book has not received attention of researchers. In English language there is no work on Asadi's economic thought, while in Arabic there are only a few articles).

9. It may be noted that in modern Arabic the term used for 'inflation' is 'tadakhkhum'. In old days the ghala' was used for all kind of high prices.

10. The reason may be the fact that in production of bread the value added at flour and at baking stage may have been the major constituent of the bread price.

11. Refers to the reign of Sultan al-Ashraf Barsbay (825–42/1422–38).

12. Refers to the reign of Sultan al-Zahir Jaqmaq (842–57/1438–53).

13. During that period an average exchange rate of dinar to dirham was 1:250.

14. For example, see Haneef and Barakat (2006).

15. For details one may refer to Hasan (2008).

16. Comparing Shaykh's dirham with that issued by Umayyad caliph Abd al-Malik (26–86/664–705), al-Maqrizi said that while Abd al-Malik's dirham had three qualities, Shaykh's dirham had six merits or even more (al-Maqrizi, Shudhur, pp. 33–34).

17. One of the strongest arguments against introduction of gold dinar in the present day Muslim countries is also the fact that they produce 'annually less than 10% of total output of the yellow metal' (Hasan, 2008, p. 20) and their stock of precious metals is not enough to fulfill the need of supply of money.

18. According to Hasan (2008, p. 11), "Paul Einzig, for example, had long back shown in the very opening chapter of his book Inflation that prices in the world have been rising over the past five thousand years: the upward legs of the cycles tended to grow longer, and downward turns sharper, while the bottoms were agonizingly broader, recovery being slow and painful."

19. It is reported that prices soared in Madinah and people requested the Prophet (peace be upon him) to fix the price, but he did not agree and said: "Allah grants plenty or shortage; He is the sustainer and the real price maker (musa'ir). I wish to go to Him having done no injustice to any one in blood or in money" Abu Dawud, vol. 3, p. 286).

20. As the history of the period shows, the prices of other goods had also increased because of increasing income through spoils of war and other sources.

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Post-crisis economic recovery in OIC member states: Is it sustainable?

Dr. Zafar Iqbal

Lead Economist, Islamic Development Bank, Jeddah, Saudi Arabia

Executive Summary - Due to the global financial crisis of 2008, the economic performance of OIC member states was adversely affected in 2009 in terms of decelerating economic growth and deteriorating current account balances. However, in the post-crisis period, the OIC member states have recovered rapidly. In the medium-term scenario (2011–2015), the economic recovery in OIC states is projected to be robust but real GDP growth and is likely to remain below the level achieved in the pre-crisis period (2000–2007). Among OIC regions, SSA and Asia are projected to achieve pre-crisis growth while MENA and CIT will take a relatively longer period to reach the pre-crisis level of growth. With regard to individual OIC member countries, it appears that 31 out of 57 OIC states are projected to achieve their pre-crisis growth during the medium-term period.

Current account balances of the OIC member states were also hit hard by the global economic crisis. Recovery in the current account balance of OIC states (as a group) remained modest in 2010. In the medium-term scenario, with the expected revival of the global economy and increase in oil and non-oil commodities prices, current account surplus of OIC member states is projected to improve, but it will not be able to achieve the pre-crisis level by 2015. In the medium-term, among four regions, current account balances of SSA and CIT are projected to improve much faster and they are expected to remain significantly above the pre-crisis levels while MENA and Asia will not be able to achieve the pre-crisis level of current account surpluses by 2015.

Due to excess capacity and slow economic recovery, the inflationary pressure is expected to remain moderate in OIC states in the medium-term. However, the recent rise in food prices is a source of concern, which is expected to build inflationary pressures in the coming years.

The major global factors that have affected economic performance of OIC member states during the financial crisis period are still major threats to sustainable economic recovery. They include fragile global economic recovery; slow recovery in world trade; highly volatile oil-and non-oil commodities prices; rising policy interest rates; and deteriorating debt situations in advanced economies. The adverse external factors have also been compounded by a number of domestic factors such as rising youth unemployment, weak economic integration among OIC states, and some fundamental weaknesses in macroeconomic policies, resulting in major threats to sustainable economic performance of OIC member states in the coming years.

Since inception, the Islamic Development Bank (IsDB) Group is playing an active role in socio-economic development of its 56 member countries (all OIC states except Guyana are IsDB member countries). To help member countries to consolidate their economic recovery, the IsDB has maintained its high level of development assistance through sharp scaling up of its operations. The cumulative net approvals of IsDB Group reached $74.2 billion since inception in its member countries. The current core areas of IsDB Group interventions in member countries are poverty alleviation, food security, infrastructure development, human development, Islamic finance and regional cooperation.

In the post-crisis era, the OIC member states need to adopt somewhat different policies to foster renewed growth and to deal with the structural issues to sustain economic recovery and achieve inclusive economic development. In particular, the OIC member states need to adopt speedy macro and micro reforms; do structural repairs of fiscal consolidation; promote private sector-led growth; adopt labor market reforms to create quality jobs, particularly for the youth; improve competitiveness; enhance regional integration; restore banking system health; and expand Islamic financial institutions.

I. Introduction

1. In line with the global economic recovery, 57 member states of the Organization of Islamic Conference (OIC) (as a group) observed robust economic growth in 2010, achieving the pre-crisis level of growth. Similarly, the current account balances of OIC member states improved significantly in the post-crisis period. This recovery was due to wide-ranging policy actions undertaken during 2008 and 2009 at international, regional, and national levels. Recently, the main challenge facing the OIC states in the post-crisis era is to sustain robust economic recovery in the medium- to long-term. Looking ahead, the medium-term prospects for sustainable economic recovery in member states face some major downside risks. In particular, in the coming four to five years, the sustainability of economic recovery in OIC states will depend upon a number of external factors (i.e., fragile global economic recovery; slow recovery in world trade; highly volatile oil-and non-oil commodities prices; rising policy interest rates; and deteriorating debt situation in advanced economies) and domestic factors (i.e., rising youth unemployment, weak economic integration among OIC states, and some fundamental weaknesses in macroeconomic policies). Therefore, the shape of medium-term recovery of OIC member states (whether U-shape or W-shape) is uncertain yet (Iqbal, 2009a and Iqbal 2009b).

2. The analysis of this paper focuses on 57 OIC member states (as a group) as well as oil-exporting and non-oil exporting member countries. Since the post-crisis economic recovery remained uneven across the regions, the analysis also distinguishes four regions of OIC member states, namely Middle East and North Africa (MENA),[1] Asia,[2] Sub-Saharan Africa (SSA),[3] and Countries in Transition (CIT).[4]

3. The structure of the paper is as follows. Section II provides recent macroeconomic performance (i.e., real GDP growth, current account balance, and inflation rate) and medium-term outlook in OIC member states as a group as well as its four regions. Section III describes key external and domestic factors affecting sustainable economic recovery in OIC states. Section IV provides the role of the IsDB Group in economic recovery of OIC states. In the final Section V, the paper suggests a number of measures to be considered by OIC member states in order to achieve sustainable growth and inclusive economic development.

II. Recent economic performance and medium-term outlook of OIC member states

4. Due to the global financial and economic crisis of 2008, economic performance of OIC member states was adversely affected in 2009 in terms of decelerating economic growth and deteriorating current account balances of both oil-exporting and non-oil exporting member states as well as four regions of OIC states. However, the economic performance improved significantly in 2010. The following sub-sections provide developments in key macroeconomic performance indicators, namely real GDP growth, current account balance, and inflation rate during the pre-crisis period (2000–2007), the first post-crisis year 2010, and medium-term period (2011–2015).

Real GDP growth

5. *In the post-crisis period, the OIC member states (as a group) have recovered rapidly.* The global financial and economic crisis adversely affected economic growth of OIC countries (as a group), which decelerated from 6.3 percent in 2007 to 1.9 percent in the 2009. However, due to strong stimulus packages and wide-ranging policy reforms, OIC states experienced impressive real GDP growth of 5.3 percent in 2010, achieving almost the pre-crisis growth rate (i.e., average growth rate during 2000–2007 was 5.6 percent). Similarly, oil-exporting member states[5] also showed strong recovery with the economic growth of 4.7 percent and non-oil exporting member states[6] with the growth of 6.1 percent in 2010, mainly due to global economic recovery and positive trends in oil and non-oil commodities prices. It appears that non-oil exporting countries recovered much faster and stronger than oil-exporting countries, thereby achieving above the pre-crisis growth (5.2 percent), while oil-exporting countries' growth in 2010 remained below the pre-crisis growth rate of 6 percent. The relatively slow economic growth in oil-exporting countries is attributable to the weakening impact of oil exports on output growth in the post-crisis period (Figure 1).

6. *In the medium-term scenario (2011–2015), the economic recovery in OIC states is projected to be robust but is likely to remain below the pre-crisis growth rate.* The average real growth rate in the medium-term is projected to be 5.1 percent in OIC states (as a group); 4.8 percent in oil-exporting countries; and 5.4 percent in non-oil exporting countries. Strong public policies have supported OIC member states' economic recovery in 2010, but the short-term V-shaped recovery through economic painkillers (i.e., stimulus packages and money injections) faces a number of major risks associated with the medium-term recovery, which will depend upon developments in a number of underlying external and domestic factors.

7. *Among various regions of OIC member states, MENA was hit hard by the economic crisis as its real GDP growth dropped from 5.7 percent in 2007 to 0.4 percent in 2009.* The MENA region was adversely affected mainly due to collapse in oil and asset prices, significant decline in domestic demand, and sharp drop in FDI flows. However,
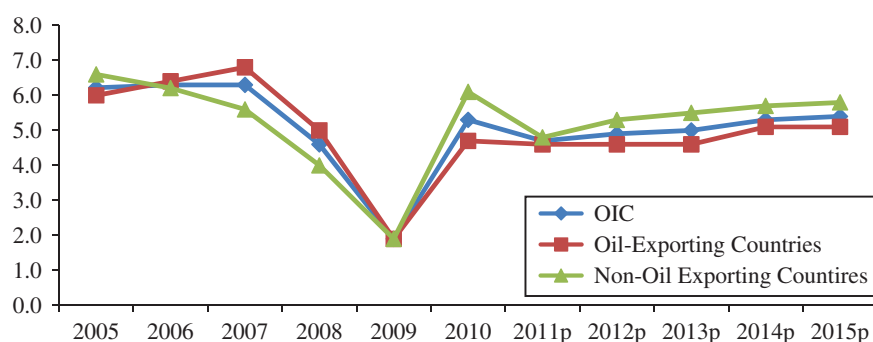
Figure 1. Rreal GDP Growth in OIC Member States, 2005–2015 (% per annum).
Source: Computed by IsDB based on data from the IMF World Economic Outlook database (April 2011).

the region recovered with strong economic growth of 4.7 percent in 2010. In the medium-term scenario (2011–2015), the region's real GDP is projected to grow by 4.4 percent and it will take a longer period to reach the pre-crisis level of growth (5.2 percent). The medium- to long-term economic performance of the MENA region will mainly depend upon the movements in oil prices.

8. *The second region of OIC states affected badly by the economic crisis was CIT, whose output decelerated sharply from an average pre-crisis level of 10.1 percent to 4.7 percent in 2009*. The fallout of the economic crisis on CIT member states has been immense mainly due to a sharp drop in demand, currency devaluations, decline in foreign capital inflows, workers' remittances, and lower energy prices. However, in line with the global economic recovery, the region's output accelerated by 6.6 percent in 2010. The medium-term growth is anticipated to be 5.5 percent during 2011–2015, indicating slow and unsustainable economic recovery compared to other regions of OIC states.

9. *Among OIC regions, the Sub-Saharan Africa (SSA) region remained more resilient as its real GDP growth dropped marginally from the normal growth rate of 6.8 percent achieved during 2000–2007 to 5.3 percent in 2009*, mainly due to collapse of global trade, decline in capital flows (FDI, ODA, and remittances), and sharp decline in oil- and non-oil commodities prices. However, the region showed impressive recovery with a growth rate of 6.4 percent in 2010. In the medium-term, the region is projected to

recover with strong and sustainable economic growth of 5.8 percent. The further recovery in the SSA region will depend on the extent of global economic recovery and movement in oil- and non-oil commodities prices in the coming years.

10. *Economies of OIC member states in Asia were relatively less affected as their growth decelerated from the pre-crisis level of 5.3 percent to 3.4 percent in 2009*. In particular, drop in global domestic demand for durable goods, and a decline in investment in the export-oriented emerging economies in the Asia region hurt the manufacturing exports. However, the expansionary fiscal and monetary policies and rebound in the financial markets and capital inflows helped the region's fast recovery with the growth rate of 6 percent in 2010. In the medium-term scenario, only the Asia region is projected to achieve above the pre-crisis growth of 6 by 2015 as the region appears to be more resilient and shock absorbant due to sound macroeconomic reforms adopted during the Asian crisis of late 1990s.

11. *With regard to individual OIC member countries, it appears that 31 out of 57 states are projected to achieve their pre-crisis growth during the medium-term period (2011–2015), while the remaining 26 states will take longer take this period to achieve their pre-crisis growth* (Table 1). The main challenge for those countries that have already achieved their pre-crisis growth rates is to sustain them in the post-crisis period. Those countries that will not be
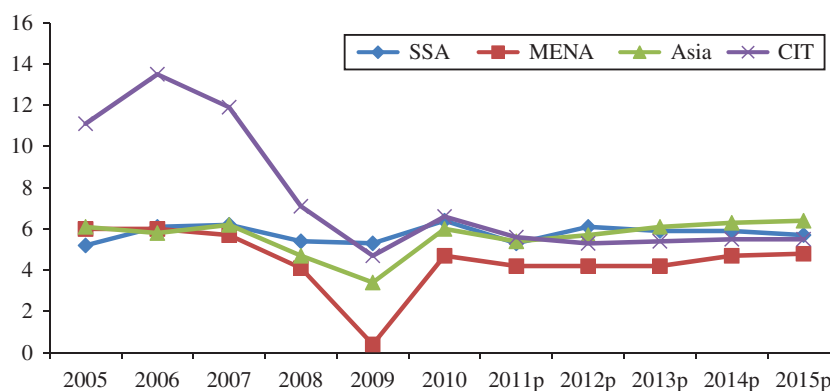
Figure 2. Rreal GDP Growth Regions of IOC States, 2005–2015 (% per annum).
Source: Computed by IsDB based on data from the IMF World Economic Outlook database (April 2011).

Table 1. Real GDP Growth of OIC Member States (% per annum)

OIC Member States	Pre-Crisis Period (2000–2007)	First Post-Crisis Year (2010)	Medium-Term Scenario (2011–2015)	Pre-crisis growth rate in medium-term period will achieve (A)/will not achieve (NA)
Afghanistan	8.0	8.2	8.1	A
Albania	6.0	3.5	4.1	NA
Algeria	4.0	3.3	3.3	NA
Azerbaijan	15.9	5.0	2.6	NA
Bahrain	6.4	4.1	4.9	NA
Bangladesh	5.8	6.0	6.8	A
Benin	4.2	2.5	4.5	A
Brunei	2.2	4.1	2.8	A
Burkina Faso	5.5	5.8	6.1	A
Cameroon	3.7	3.0	4.4	A
Chad	9.5	5.1	4.0	NA
Comoros	2.1	2.1	3.6	A
Côte D'Ivoire	−0.3	2.6	3.3	A
Djibouti	3.1	4.5	5.6	A
Egypt	4.7	5.1	4.4	NA
Gabon	1.7	5.7	3.1	A
Gambia	4.0	5.7	5.5	A
Guinea	2.7	1.9	4.7	A
Guinea-Bissau	2.6	3.5	4.6	A
Guyana	1.7	3.6	4.6	A
Indonesia	5.1	6.1	6.7	A
Iran	5.9	1.0	3.0	NA
Iraq	2.3	0.8	10.1	A
Jordan	6.6	3.1	4.6	NA
Kazakhstan	10.2	7.0	6.0	NA
Kuwait	6.6	2.0	5.0	NA
Kyrgyz Republic	4.5	−1.4	5.6	A
Lebanon	3.6	7.5	3.9	A
Libya	5.0	4.2	..	..
Malaysia	5.6	7.2	5.2	NA
Maldives	8.5	8.0	4.5	NA
Mali	4.8	4.5	5.2	A
Mauritania	4.3	4.7	5.7	A
Morocco	4.6	3.2	4.8	A
Mozambique	7.7	7.0	7.8	A
Niger	4.3	7.5	7.3	A
Nigeria	9.3	8.4	6.4	NA
Oman	4.0	4.2	4.5	A
Pakistan	5.1	4.8	4.7	NA
Palestine	..	..	..	..
Qatar	12.2	16.3	7.9	NA
Saudi Arabia	3.7	3.7	4.6	A
Senegal	4.3	4.2	5.0	A
Sierra Leone	10.9	5.0	5.7	NA
Somalia	..	..	..	..

(Continued)

Table 1. (*Continued*)

Sudan	7.5	5.1	5.6	NA
Suriname	4.4	4.4	5.8	A
Syria	4.2	3.2	4.9	A
Tajikistan	8.7	6.5	5.2	NA
Togo	1.4	3.4	3.9	A
Tunisia	4.8	3.7	5.0	A
Turkey	5.3	8.2	4.3	NA
Turkmenistan	15.2	9.2	7.1	NA
U.A.E.	8.0	3.2	4.0	NA
Uganda	7.3	5.2	6.7	NA
Uzbekistan	6.0	8.5	6.6	A
Yemen	4.2	8.0	4.1	NA

Source: IsDB calculation based on the IMF World Economic Outlook Database (April 2011).

able to achieve the pre-crisis level of growth will need to undertake crucial macroeconomic adjustments in their fiscal and monetary policies with an objective to fix the most binding constraints to their economic growth in the coming years.
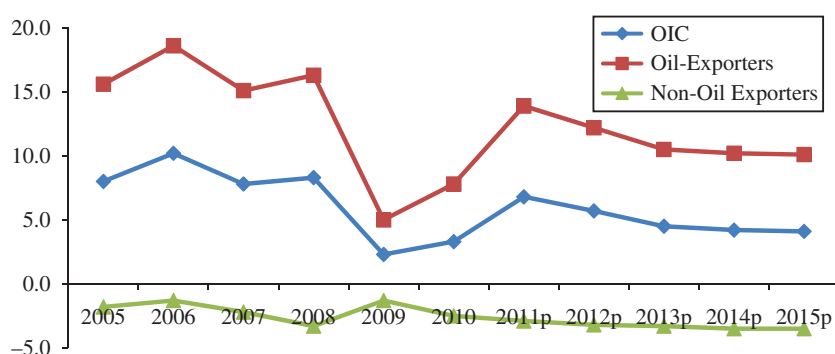
ii Current account balance

12. *Recovery in the current account balance (CAB) of OIC states (as a group) remained modest in 2010.* The current account balance of OIC member states was hit hard by the economic crisis as their CAB surplus, which dropped from an average 5.9 percent of GDP during the pre-crisis period (2000–2007) to 2.3 percent in 2009. In particular, CAB surplus of oil-exporting member states dropped from the pre-crisis average level of 10.7 percent of GDP to 5 percent in 2009, due to significant decline in oil prices (i.e., 36.3 percent decline in 2009 compared to 2008). The current account deficit of non-oil exporting member states further deteriorated from 0.5 percent to 1.3 percent of GDP during the same period, mainly due to a sharp decline of 15.8 percent in non-oil commodities prices in 2009. In 2010—in line with the global economic recovery and significant increase in oil prices by 27.9 percent and non-oil commodities prices by 26.3 percent along with 12.4 percent

growth in international trade of goods and services—the current account surplus of OIC states improved to 3.3 percent of GDP. In particular, the improvement in CAB of oil-exporting countries was significant, with a surplus of 7.8 percent of GDP, while in contrast CAB deficit further deteriorated in the case of non-oil exporting countries, to 2.5 percent in 2010 (Figure 3).

13. *In the medium-term scenario (2011–2015), with the expected revival of the global economy and increase in oil and non-oil commodity prices, current account surpluses of OIC member states (as a group) are projected to improve (i.e., 5.1 percent of GDP) but they will not be able to achieve the pre-crisis level of CAB surplus (5.9 percent of GDP) by 2015.* In the medium-term, improvement in CAB will mainly depend upon the movement in oil and non-oil commodities prices and movement in their exchange rates.

14. *The post-crisis recovery in the current account balances is not uniform across four regions of the OIC member states.* Due to the global economic crisis, the MENA region experienced a massive deterioration in their current account surpluses. In 2009, the highest deterioration was observed in the case of the MENA region from the average pre-crisis level of 7.4 percent to 1.6 percent of GDP, while

Figure 3. Current Account Balances of OIC States, 2005–2015.
Source: IDB estimates based on data from the IMF WEO database of April 2011.

the Asia region's CAB surplus declined from 4.7 percent to 4.2 percent of GDP during the same period. In contrast, the CAB was improved in the case of SSA (from a surplus of 0.3 percent to 2 percent of GDP) and CIT from a deficit of 0.2 percent to a surplus of 2.3 percent in 2009.

15. *In the medium-term scenario, among four regions, CAB surpluses of SSA and CIT are projected to improve much faster and they are expected to remain significantly above the pre-crisis levels*. In particular, in the medium-term, the increasing trade links with the European Union, China, India and other emerging markets are likely to help the SSA and CIT regions in faster economic recovery and achieving sustainable growth. However, MENA and Asia will not be able to achieve the pre-crisis CAB surpluses by 2015. Medium-term recovery in their CAB surpluses will depend upon the movement in oil prices, global oil demand, and volume of trade (Figure 4).
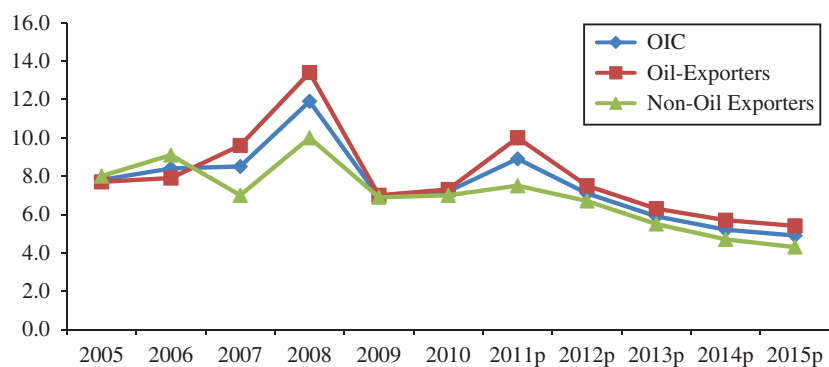
Inflation rate

16. *Inflationary pressure has been significantly released in OIC member states*. The sharp decline in domestic economic activities and wide gap between actual and potential output in OIC member states have released inflationary pressures in both oil-exporting and non-oil exporting member states. At the OIC level, inflation slowed from the pre-crisis average rate of 9.1 percent to 7.2 percent in 2010. The non-oil-exporting member states experienced a relatively sharp drop in inflation (from 12.1 percent to 7.0 percent), while in oil-exporting member states, it rose slightly from 6.9 percent to 7.3 percent during the same period. In the medium-term, the inflation is projected to slow further to 4.9 percent in OIC states (as a group), 5.4 percent in oil-exporting countries and 4.3 percent in non-oil-exporting countries by 2015 (Figure 5).

17. *The drop in inflation remained uneven across various regions*. In the MENA region, inflation rate fell from the pre-crisis average rate of 10.7 percent to 7.2 percent in 2010, followed by CIT from 9.9 percent to 7.0 percent, and Asia from 6.3 percent to 6.2 percent, while the SSA region observed a rise in inflation (from 8.1 percent to 9.8 percent). Due to excess capacity and slow economic recovery, the inflationary pressure is expected to remain moderate in the medium-term. However, the recent rise in food prices is a source of concern in terms of building inflationary pressures in the coming years (Figure 6).
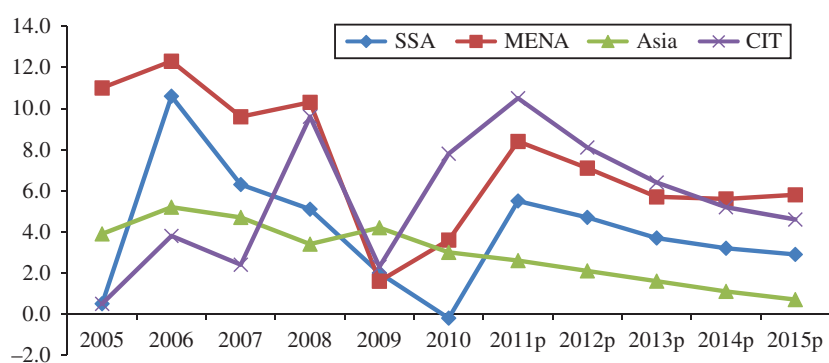
Figure 4. Current Account Balances of OIC State by Regions, 2005–2015 (% of GDP).
Source: IsDB estimates based on data from the IMF WEO database of April 2011.

Figure 5. Inlfation Rates in OIC States 2005–2015 (% per annum).
Source: IDB estimates based on data from the IMF WEO database of April 2011.
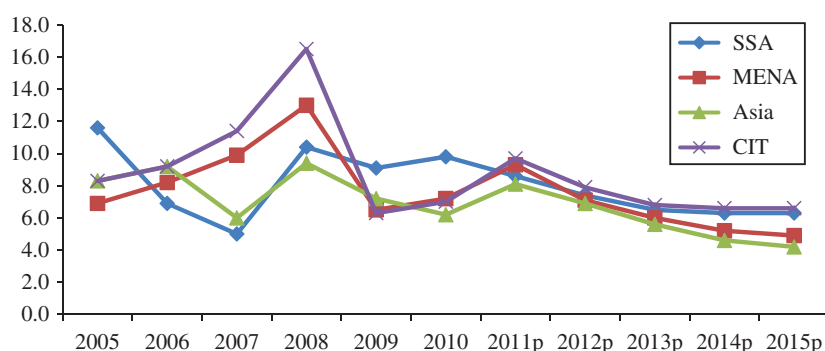
Figure 6. Inflation Rates in OIC State by Regions, 2005–2015 (% per annum).
Source: IsDB estimates based on data from the IMF WEO database of April 2011.

Key external and domestic factors affecting sustainable economic recovery in OIC member states

Major external factors

18. *The major global factors that have affected economic performance of OIC member states during the global financial and economic crisis and are still threats to sustainable economic recovery in the medium-term*. They include fragile global economic recovery; slow recovery in world trade; highly volatile oil-and non-oil commodities prices; rising policy interest rates; and deteriorating debt situation in advanced economies.

Fragile global economic recovery

19. *In the post-crisis period, the uneven economic recovery in various regions of the globe has been observed in 2010*. For example, the global economy performed quite well in the first year of post crisis recovery as the world output accelerated by 5 percent in 2010, compared to negative growth of 0.5 percent in 2009 and pre-crisis average growth of 4.2 percent achieved during 2000–2007. Similarly, the real output in advanced economies was also accelerated by 3 percent compared to pre-crisis growth of 2.6 and developing economies by 7.3 percent compared to pre-crisis growth of 6.5 percent (Figure 7).

20. *The recent global economic recovery appears to be a fragile and is projected to decelerate in the medium-term*. Over the next five years (2011–2015), the global economy is projected to grow, on average, by 4.5 percent, developed economies by 2.5 percent and developing economies by 6.6 percent, thereby all achieving the pre-crisis level of growth. However, the global economy is not yet out of the crisis, particularly the Eurozone and the US economy. With regard to the biggest world economy, a recent Gallup Survey (20–23 April 2011) shows that more than 50 percent of the US citizens believe that the USA is still in Recession or Depression. The medium-term global recovery will very much depend upon the movement in oil and non-commodity prices, exchange rates, cost and availability of external financing, and the policies adopted by the national authorities.[7] Therefore, the sustainability of economic recovery of the OIC states in the medium-term will also depend upon the overall global recovery as well as recovery in developed and developing economies.

Slow recovery in world trade

21. *In line with the global economic recovery, the recent expansion in global trade has been impressive*. The adverse impact of the economic crisis on world trade was more pronounced but its recovery in the post-crisis period was also robust. The year 2008 and 2009 witnessed collapse in the volume of world trade as both advanced and developing economies were badly affected by the global financial and economic crises. The growth in volume of world trade declined from the pre-crisis average growth of 7.0 percent in 2000–2007, to 3 percent in 2008, and negative 10.9 percent in 2009. Both imports and exports of advanced economies declined by 12.6 percent and 12.2 percent, respectively, in 2009. Similarly, imports of developing economies dropped
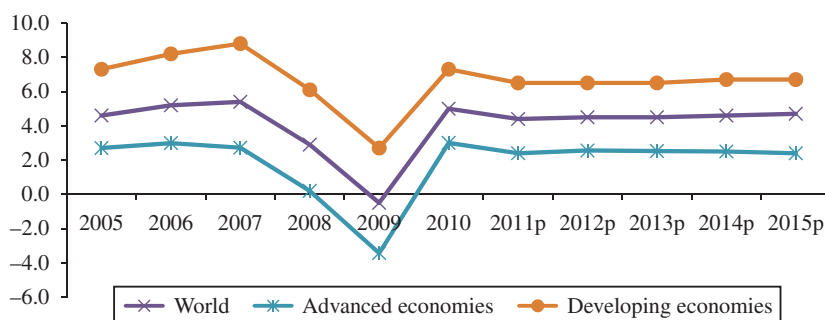
Figure 7. Real GDP Growth in World, Advanced and Developing Economies, 2005–2015 (% per annum).
Source: IMF World Economic Outlook (various issues).

by 8.3 percent and exports by 7.5 percent in 2009. However, in 2010, recovery in global trade appears to be robust with 12.4 percent growth over 2009. Recovery in both exports and imports in developing countries was relatively faster with growth rates of 13.5 percent and 14.5 percent, respectively, compared to developed countries (11.2 percent and 12.0 percent) (Figure 8).

22. *In the coming few years, growth in global trade is projected to slowdown*. The speed of recovery in world trade volume of goods and services is projected to slow to 7.4 percent in 2011 and 6.9 percent in 2012; however, achieving the pre-crisis growth (i.e. 7% achieved during 2000–2007). Advanced countries are projected to achieve pre-crisis growth faster in their imports (5.5 percent in 2012 compared to pre-crisis growth of 5.6 percent) than their exports (5.9 percent in 2012 compared to pre-crisis growth of 5.7 percent), while developing economies will not be able to achieve their pre-crisis growth in both imports (9.4 percent in 2012 compared to pre-crisis growth of 11.5 percent)

and exports (8.7 percent in 2012 compared to pre-crisis growth of 10.2 percent).

Highly fluctuating oil and non-oil commodities prices

23. *Economic prospects of both oil-exporting and non-oil exporting OIC member states are closely linked to movements in oil and non-oil commodity prices*. Given the close link between growth and the oil and non-oil commodity prices, the economic performance of oil-exporting and non-oil exporting member countries depends on the developments arising from these prices. The oil price, which increased by 36.4 percent in 2008, was accompanied by real GDP growth of 5.0 percent in oil-exporting member countries. In 2009, oil prices declined by 36.3 percent, dropping their real GDP growth rate to 1.9 percent.

24. *Similarly, non-oil commodity prices, which increased by 7.5 percent in 2008, fell by 15.8 percent in 2009; consequently GDP growth in non-oil exporting decelerated*
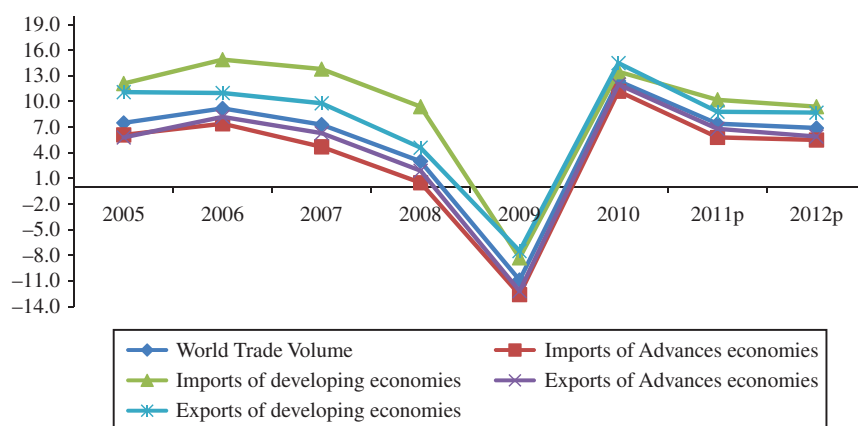

Figure 8. Trade (good and services) Volume of Wolrd, Advanced and Developing Countries, 2005–2012 (% change per annum).
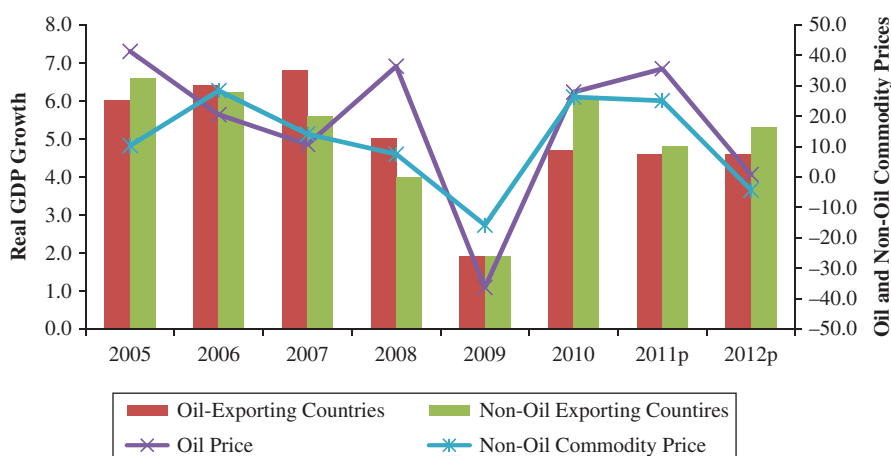Source: IMF World Economic Outlook (various issues).

Figure 9. Real GDP Growth in Oil and Non-Oil Exporting OIC States, and Oil- and Non-Oil Commodities Prices, 2005–2012 (% change per annum).
Source: IMF World Economic Outlook (various issues).

from 4.0 percent to 1.9 percent. With the global economic recovery and increasing demand, the oil prices rose by 27.9 percent and non-oil commodities prices by 26.3 percent in 2010, which was accompanied by acceleration in output in oil-exporting member countries (4.7 percent) and non-oil exporting countries (6.1 percent) in 2010.

25. *In the medium-term, sustainability of economic growth in oil- and non-oil exporting OIC member states will depend on the movement in oil- and non-oil commodities prices, which in turn, will depend on the speed and scale of global economic recovery*. In 2011, the rising trend in oil- and non-oil commodity prices is projected to remain but later is likely to decelerate. In line with the continued recovery in global economy (i.e. 4.4 percent growth in 2011 and 4.5 percent in 2012), the oil prices are projected to jump further to 35.6 percent and non-oil prices by 25.1 percent in 2011 as projected by the IMF (WEO, April 2011) (Figure 9).

Rising policy interest rates

26. *Low policy interest rates helped recover global economy in the post-crisis year 2010*. In order to stabilize economies in the face of global economic crisis, monetary authorities reacted quickly with exceptionally large interest rate cuts in 2008 and 2009 as well as unconventional measures to inject liquidity and sustain credit. In particular, policy interest rates were brought down considerably in many advanced economies. For example, LIBOR on US$ deposits declined from 5.3 percent in 2007 to 0.5 percent in 2010. Similarly, LIBOR on euro deposits was reduced from 4.3 percent in 2008 to 0.8 percent in 2010, while the LIBOR on Japanese yen deposits declined from 0.9 percent to 0.4 percent during the same period. In the short-term, policy interest rates are expected to rise i.e. LIBOR on US$ deposits to 0.9 percent and LIBOR on euro deposits by 2.6 percent in 2012, while LIBOR on Japanese deposits is projected to decline slightly to 0.3 percent in 2012.

27. *Rising policy interest is likely to affect global economic recovery as well as recovery in OIC member states*. The large increases in fiscal deficits and public debt in advanced countries are likely to put further upward pressure on policy interest rates, thereby affecting global economic recovery as well as achieving sustainable economic growth in OIC member states (Figure 10).

Deteriorating debt situation in advanced countries

28. *Worsening public debt burden and rising debt service payments in advanced economies are major threats to global financial stability as well as global economic recovery in the post-crisis period*. According to IMF latest Fiscal Monitor (April 2011 and June 2011 Update) and World Economic Outlook (WEO, April 2011 and June 2011 Update), the level of aggregate net government debt in the world rose from $21.9 trillion in 2007 to an expected $34.4 trillion in 2011. IMF forecasts also indicate that the level is expected to reach $48.1 trillion in 2016. Similarly, the ratio of world net debt to world GDP rose from 42 percent in 2007 to 56.4 percent in 2011, and is projected to reach 57.7 percent in

Table 2. Net Debt Situation in Developed and Developing Economies

	2007	2011	2016
(US$ trillion)			
World	21.9	34.4	48.1
Advanced Economies	18.1	29.5	41.3
Emerging Economies	3.8	4.9	6.7
OIC Member States*	1.3	1.6	..
(percent of GDP)			
World	42.0	56.4	57.7
Advanced Economies	46.3	70.0	79.7
Emerging Economies	29.2	26.1	21.5
OIC Member States*	34.7	30.4	..
(Per Capita in thousand US$)			
World	4.3	6.5	8.7
Advanced Economies	18.6	29.6	40.4
Emerging Economies	0.9	1.1	1.5

Sources: Brookings, Global Economy and Development, *Islamic Development Bank (2010), Annual Report.

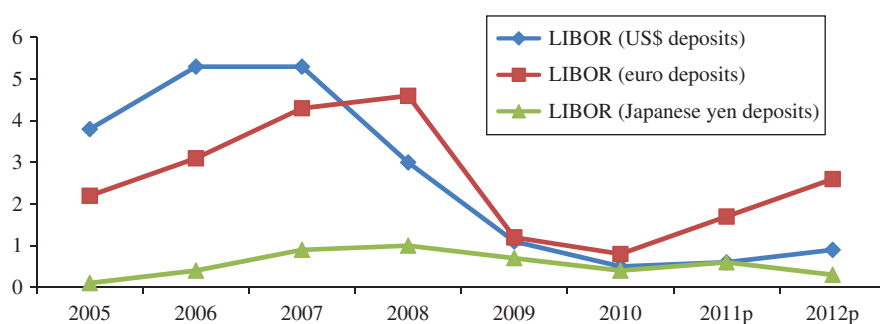**Figure 10.** London Interbank Offered Rates (LIBOR), 2005–2012 (% per annum).
Source: IMF World Economic Outlook (various issues).

2016. Another way to understand the burden of public debt is to examine it in terms of the level of debt per capita. The average per capita debt in advanced economies increased from $18.6 thousand to $29.6 thousand in 2011 and is expected to rise further to $40.4 thousand in 2016. In case of developing economies, the average per capita debt increased marginally from $0.9 thousand in 2007 to $1.1 thousand in 2011 and is projected to increase to $1.5 thousand in 2016.

29. *In order to support their own weak economic recoveries as well global economic recovery, the advanced economy governments need to bring down their rising debt burden in the medium- to long-term*. Advanced economies need to learn the lessons of fiscal discipline that for so long they preached to the emerging markets.[8] In particular, recent worsening debt situation in Greece, Ireland, Portugal in the Eurozone and the rise in ceiling in USA debt may jeopardize the global economy recovery, in turn, recovery in the OIC member states and other developing countries.

30. *The OIC member states also need to curtail their rising external debt in order to sustain economic recovery*. The level of external debt of OIC states rose from $1.3 trillion in 2007 to $1.6 trillion in 2011, registering a 21 percent increase just in the last five years.

Major domestic factors

31. The adverse external factors described above have been compounded by a number of domestic factors such as rising youth unemployment, weak economic integration among OIC states, and some fundamental weaknesses in macroeconomic policies, resulting threats to sustainable economic performance of OIC member states. The major domestic factors are described in the following sub-sections.

Rising youth unemployment

32. *Rising Youth unemployment is posing a major challenge for OIC member states*. The current speed of economic recovery is insufficient to decrease unemployment, particularly youth unemployment. The impact of global economic recession on unemployment varied across regions of the globe. The latest estimates by the ILO (2011) indicate that all regions experienced high youth unemployment rate in 2010. Region-wide unemployment trends show that Middle East experienced the highest rate of youth unemployment at 25.1 percent in 2010, followed by North Africa (23.6 percent); Southeast Asia and Pacific (14.2 percent); Sub-Saharan Africa (12.3 percent); and South Asia (9.5 percent) (Figure 11). Creation of jobs requires new investment, the pre-requisites of which include political and economic stability, existence of proper legal and regulatory framework, appropriate policy environment, existence of basic infrastructure, and adequate economic incentives.

33. *The economic recession has further compounded the youth unemployment in a number of OIC states in the MENA region*. Currently, a number of countries in the MENA region are facing major development challenges, including lack of social justice; poor access to public utilities; high levels of poverty and inequality; high unemployment especially among youth and women; and rising food and energy prices. All these factors have contributed to political discontent among the people. The most important issue is the high youth unemployment in the region (25.1 percent in the Middle East and 23.6 percent in North Africa), which is highest in the world, and economic loss to the region is estimated to be between $40–50 billion per year (IDB-IFC, 2011). Further, 40 percent of the Middle East and 32 percent of the North African working population live on less than US$2 a day. In order to tackle youth unemployment, the governments of a number of countries in the MENA region are implementing speedy reforms at the political, economic, and social fronts in order to improve the lives of ordinary citizens. They are implementing short-term and long-term reforms both on the political and socio-economic fronts. Particularly, the governments' spending programs are focusing on providing unemployment benefits and insurance schemes; increasing public investment in infrastructure and the housing sector; providing jobs to youth; enhancing support to small- and medium-enterprises; increasing social inclusion; improving quality and relevance of education; and adopting labor-intensive projects.
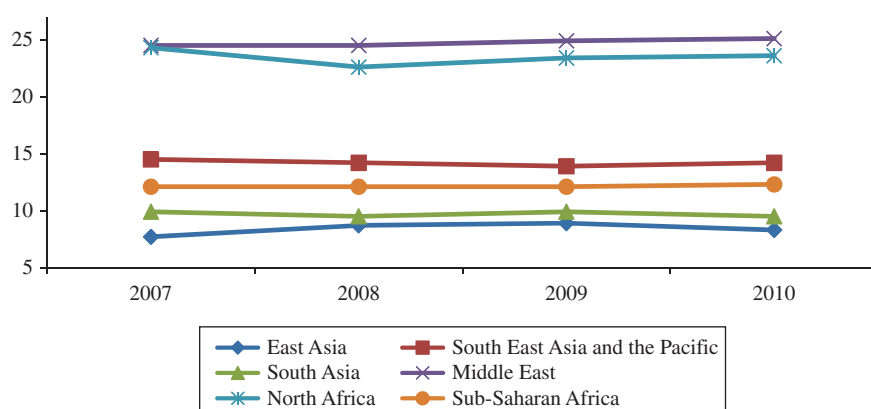

Figure 11. Youth Unemployment Rates in Various Regions, 2007–2010 (%).
Source: ILO (2011), Global Employment Trends.

Weak economic integration among OIC states

34. *The OIC Ten-Year Program, adopted in December 2005, called on member countries to expand the scope of intra-trade in order to achieve greater economic integration by raising its level to 20 percent of the overall trade volume by 2015.* The latest estimates show that the intra-trade performance of OIC member countries (as a group) has improved gradually from 15.3 percent in 2005 to 16.8 percent in 2009 (Figure 12). However, the 20 percent intra-trade target can only be achieved through further strengthening and expanding the scope of Framework Agreement on OIC-Trade Preferential System (TPS) in its full spirit. The global financial and economic crisis has created an opportunity for OIC states to reconsider their trade and investment strategies and learn how to cope with a dramatically transformed international financial landscape. For instance, member states need to enhance intra-trade through additional measures aimed at providing greater access to their markets. The OIC-TPS has been signed so far by thirty-four member states but ratified by twenty-five members, having the required number of ratifications for its enforcement (COMCEC 2009). Another opportunity is in the area of encouraging investments by the Sovereign Wealth Funds in long-term infrastructure projects in member countries with adequate and competitive risk-return profile. Further, enhancing intra-trade and intra-investment also require removal of tariff and non-tariff barriers, particularly free movement of labor and capital across regions.

Weaknesses in macroeconomic policies

35. The macroeconomic policies adopted in OIC states have certain flaws such as resistance to macro reforms (i.e., generalized subsidies instead of targeted subsidies) and micro reforms (i.e., poor business climate for firm-level investment); lack of focus on inclusive growth (i.e., lack of productive employment opportunities, unequal access to opportunities, and inadequate social safety nets); weak linkage between the financial sector and real sector; and weak corporate governance in the financial institutions. All these policy factors appear to be major impediments to achieving sustainable growth and inclusive economic development.

Role of the (IsDB) group in economic recovery of OIC member states

36. *The Islamic Development Bank (IsDB) group is playing an active role in socio-economic development of the OIC States by scaling up of development assistance.* The IsDB Group through all of its entities namely, the Islamic Corporation for the Development of the Private Sector (ICD), International Islamic Trade Finance Corporation (ITFC), Islamic Corporation for the Insurance of Investment and Export Credit (ICIEC), and Islamic Research and Training Institute (IRTI), is helping its 56 member countries (out of 57 OIC states)[9] in their economic recovery process in the post-crisis era. The IsDB Group responded through various initiatives and activities at global, regional, national, and Bank levels to help its member countries to mitigate the adverse impacts of global financial and economic crisis and achieve post-crisis economic recovery. To help member countries to consolidate their economic recovery, IsDB maintained its high level of development assistance, attained through the sharp scaling up of its operations. Since inception, the cumulative net approvals of IsDB Group reached $74.2 billion for 7,087 operations. Trade financing accounted for 52.2 percent while the remaining 48 percent included project financing, and technical and special assistance.

37. *With regard to Region-wise, members countries in the MENA region received the lion's share of the IsDB Group financing of $38.7 billion (52.1 percent)*, followed by Asia $21.5 billion (28.9 percent), SSA $8.5 billion (11.5 percent), and CIT $3.6 billion (4.8 percent). The current core areas of IDB Group interventions in member countries are poverty alleviation, food security, infrastructure development, human development, Islamic finance, and regional cooperation.

38. *With regard to sector-wise distribution of IsDB Ordinary Capital Resources (OCR), transportation received the largest share of 25 percent*, followed by energy (23 percent), water, sanitation and urban services (13 percent), agriculture (11 percent), industry and mining (9 percent), education (9 percent), health (5 percent), finance (4 percent), and information and communication (1 percent) (Figure 13).
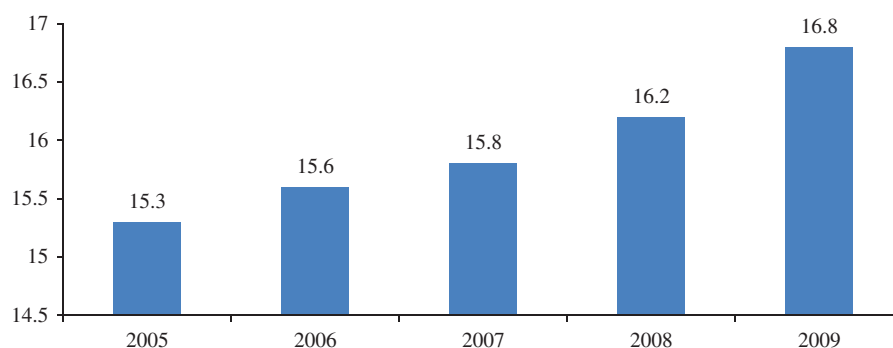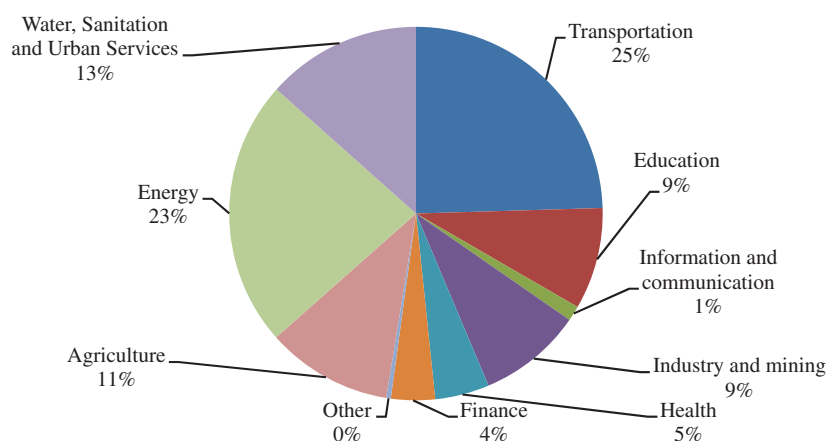
Figure 12. Intra-OIC Trade, 2005–2009 (% of Total Trade Volume).
Source: Islamic Development Bank, Annual Report (various issues).

Figure 13. IsDB-OCR Approvals by Sectors Since Inception.

39. *In particular, in the immediate aftermath of the recent events in the MENA region, the IsDB Group's recent interventions in the region include supporting youth employment generation and social safety nets, strengthening infrastructure and human development, promoting the SME sector and microfinance, and enhancing vocational training.* In particular, in order to meet the infrastructure needs of the MENA region between $75 and $100 billion (Akhtar, S. 2010), the IsDB, World Bank, and the International Finance Corporation (IFC) have recently launched a joint IsDB-WB-IFC Arab Financing Facility for Infrastructure (AFFI), which aims to raise up to $1 billion in new financing that will leverage infrastructure investment in Arab countries in an effort to drive inclusive economic growth and meet the needs of growing young population. In order to help member countries in tackling youth unemployment, recently the IsDB approved an additional financing package of $250 million targeting reduction of youth unemployment in the affected countries in the MENA region. Further, the IsDB and IFC have recently launched the Education for Employment (E4E) initiative in the Arab world, aiming to mobilize $1.5 - 2 billion to be invested in the region over the next five years, while engaging the private sector to create new job opportunities for employment-based education, and enhancing labour market skills for Arab youth and women for productive employment. Among the crisis-ridden countries, the IsDB Group announced its programs support to Egypt ($2.5 billion) and Tunisia ($900 million) over 2011–2013. In order to help the governments of the region in their reform process, the IsDB is broadening and strengthening its partnership with Arab regional multilateral institutions especially the Arab Coordination Group.

40. *In order to help its member countries in achieving sustainable economic growth in the medium-term, the IsDB Group launched Member Country Partnership Strategy (MCPS) in 2010.* The MCPS is a Group-wide undertaking involving all entities. It forms the foundation and cornerstone of the IsDB Group's dialogue with member countries, aligning with their development priorities and thematic priorites identified in the IsDB 1440H Vision.

The MCPS process includes extensive consultations, internally and externally with the governments of client countries, the civil society, the private sector, multilateral development banks, and other development partners active in the client country. Through the MCPS process, the instruments of IsDB Group support to member countries are not only direct financing and knowledge-based diagnostics, but also the mobilization of domestic resources, forging strategic partnerships with other development partners and more importantly, promoting fruitful partnerships among member countries through 'Reverse Linkages', (defined as IDB MCPS member country supporting other member countries), thereby promoting south-south cooperation. So far, the IsDB Group has completed MCPS exercise for five member countries (Turkey, Indonesia, Mali, Uganda, and Mauritania)[10] while MCPS exercises for Pakistan, Bahrain, Malaysia, Egypt, Kazakhstan, Morocco, and Niger are in progress.

Proposed measures to improve socio-economic outlook of OIC member states

41. In the post-crisis era, the OIC member states need to adopt somewhat different policies to foster renewed growth and to deal with the structural issues to sustain economic recovery and achieve inclusive economic development.

   i. OIC states are required to do structural repairs of fiscal consolidation, promote private sector-led growth, adopt labor market reforms to create quality jobs particularly for youth, and improve competitiveness and enhance regional integration.
   ii. The policymakers in OIC states need to focus on the imperatives of structural healing of their socio-economic policies, particularly, to help limit the impact of higher food and oil prices on the poor. Headline inflation has sharply risen in the OIC states. As per IMF projection (WEO, April 2011), global fuel prices and non-oil commodities prices are expected to rise by a 35.6 percent and 25.1 percent, respectively, in 2011, building inflationary pressures in the years ahead.
   iii. Reducing regional imbalances of OIC member states is essential (i.e., shifting resources from resource-rich regions to resource-deficient regions through enhancing intra-trade and intra-investment).
   iv. Restoring banking system health must be given key priority in government policies. In particular,

re-regulation of the financial sector in order to make it stable and respond to the needs of the priority economic sectors and support economic recovery. Also, not only to enhance regulations but also to enforce them effectively.

v. Expanding Islamic financial institutions would be a best alternate as Islamic financial structure creates clear links between the financial sector and real sector and contributes more to the development of an economy.

vi. The government needs to adopt macro reform (i.e., targeted subsidies instead of generalized subsidies) and micro reform (i.e., improve the efficiency of firm-level investment through improving business climate).

vii. Since the economic recession has fueled to rising youth unemployment and poverty in OIC member states, increasing employment opportunities, providing equal access to opportunities and adequate social safety nets will be essential in the coming years.

Notes

1. Middle East and North Africa (MENA) region includes Algeria, Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Syria, Tunisia, Turkey, UAE, and Yemen.
2. The Asia region includes Afghanistan, Bangladesh, Brunei, Indonesia, Malaysia, Maldives, Pakistan, and Suriname.
3. The Sub-Saharan Africa (SSA) region includes Benin, Burkina Faso, Cameroon, Chad, Comoros, Côte d'Ivoire, Djibouti, Gabon, Gambia, Guinea, Guinea-Bissau, Mali, Mauritania, Mozambique, Niger, Nigeria, Senegal, Sierra Leone, Somalia, Sudan, Togo, and Uganda.
4. Countries in Transition (CIT) region includes Albania, Azerbaijan, Kazakhstan, Kyrgyz, Tajikistan, Turkmenistan, and Uzbekistan.
5. Oil-exporting member states include Algeria, Azerbaijan, Cameroon, Chad, Cote d'Ivoire, Egypt, Gabon, Iran, Iraq, Kazakhstan, Kuwait, Libya, Malaysia, Nigeria, Qatar, Saudi Arabia, Sudan, Syria, Turkmenistan, U.A.E, Uzbekistan and Yemen.
6. Non-oil exporting member states include Afghanistan, Albania, Bahrain, Bangladesh, Benin, Brunei, Burkina Faso, Comoros, Djibouti, Gambia, Guinea, Guinea-Bissau, Indonesia, Jordan, Kyrgyz, Lebanon, Maldives, Mali, Mauritania, Morocco, Mozambique, Niger, Oman, Pakistan, Palestine, Senegal, Sierra-Leone, Somalia, Suriname, Tajikistan, Togo, Tunisia, Turkey and Uganda.
7. A number of assumptions have been adopted for the projections presented in the *World Economic Outlook (April 2011)*. It has been assumed that real effective exchange rates remained constant at their average levels during February 8–March 8, 2011, except for the currencies participating in the European exchange rate mechanism, which are assumed to have remained constant in nominal terms relative to the Euro; that established policies of national authorities will be maintained (for specific assumptions about fiscal and monetary policies for selected economies; that

the average price of oil will be $107.16 a barrel in 2011 and $108.00 a barrel in 2012 and will remain unchanged in real terms over the medium term; that the six-month London interbank offered rate (LIBOR) on U.S. dollar deposits will average 0.6 percent in 2011 and 0.9 percent in 2012; that the three-month euro deposit rate will average 1.7 percent in 2011 and 2.6 percent in 2012; and that the six-month Japanese yen deposit rate will yield on average 0.6 percent in 2011 and 0.3 percent in 2012. The estimates and projections are based on statistical information available through late March 2011.

8. Eswar Prasad (28 July 2011) Senior Fellow, Global Economy and Development, Mengjie Ding, Student, MIT, Financial Times.
9. Fifty-six out of 57 OIC States are IsDB member countries (i.e. only Guyana is not IsDB member country).
10. MCPS Reports of Turkey, Indonesia, Mali, Uganda, and Mauritatania are available on the IsDB website (www.isdb.org).

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The Integrated Development Index (I-Dex): A new comprehensive approach to measuring human development

Ruzita Mohd Amin (corresponding author)[1], Selamah Abdullah Yusof[2], Mohamed Aslam Haneef[3], Mustafa Omar Muhammad[4], Gapur Oziev[5]

[1]Department of Economics, Kulliyyah of Economics and Management Sciences, International Islamic University Malaysia, e-mail: ruzita@iium.edu.my, Tel: 603–61964616

[2]Department of Economics, Kulliyyah of Economics and Management Sciences, International Islamic University Malaysia, e-mail: selamah@iium.edu.my, Tel: 603–61964615

[3]Department of Economics, Kulliyyah of Economics and Management Sciences, International Islamic University Malaysia, e-mail: mdaslam@iium.edu.my, Tel: 603–61964606

[4]Department of Economics, Kulliyyah of Economics and Management Sciences, International Islamic University Malaysia, e-mail: mustafa@iium.edu.my, Tel: 603–61964622

[5]Assistant Professor, Department of Economics, Kulliyyah of Economics and Management Sciences, International Islamic University Malaysia, e-mail: gapur@iium.edu.my, Tel: 603–61964601

Abstract - Standard economics and policy prescriptions adopt the modernization thesis as its base, which says that developing countries can modernize by undergoing secularization and westernization. However, Muslim countries, including Malaysia, have shown that more economic development and progress can take place together with a renewed manifestation of Islamic values and norms. This important departure from the modernization thesis reflects a potential alternative transformational development model. However, conceptual and theoretical frameworks of this alternative development model are still lacking. There is an urgent need for Muslim countries to develop this alternative model, which represents a more holistic and inclusive concept of development that integrates the physical/material, intellectual and spiritual dimensions of human beings. This study proposes to develop an integrated Islamic development framework and index based on, and representing, the *Maqasid al-Shariah* or noble objectives of the *Shariah* for OIC and non-OIC countries. The final expected outcome of this study is a *Maqasid*-based Integrated Development Index (I-Dex) that will better represent holistic development and well-being according to Islamic benchmarks, hence providing academics, students and policymakers in Muslim countries with an alternative measurement of progress.

Keywords: Islam, *Maqasid al-Shariah*, development index, integrated development, human development

1. Introduction

Over the decades, development has taken a much wider connotation than was first discussed. From the simple growth models of the 1950s and 1960s, there has been a growing acceptance that development has to be holistic. In 1999, the World Bank introduced the Comprehensive Development Framework (CDF), which very clearly stated that development should be viewed as a multi-dimensional process that covered social, structural, human, governance, environmental, economic and financial spheres if it was to be seen as a meaningful and sustainable process. This more holistic approach is congruent with the Islamic viewpoint on development. Islam encourages economic development that also establishes social justice and the well-being of human beings.

Muslim countries, Malaysia in particular, have shown seriousness in adopting an integrated and holistic approach to development. From Malaysia's experience, it has been shown that economic development and progress

can take place hand-in-hand with a renewed manifestation of Islamic values and norms. Despite the recognition of the importance of religion in the multi-dimensional approach to development, the conceptual and theoretical frameworks of this alternative development model is still lacking. There is an urgent need for Muslim countries to develop this alternative model that represents a more holistic and inclusive concept of development that integrates the physical/material, intellectual and spiritual dimensions of human beings.

Islam encourages economic development that also establishes social justice that concerns itself with the wellbeing of humans. Central to the Islamic view on development is the higher purposes of the *Shariah* or *Maqasid al-Shari'ah* that has stated three fundamental goals, i.e., educating the individual, establishing justice and ensuring the well-being or *Maslahah* of all. The *Shariah* is much more than just law, it is a total guidance and constitutes values, norms and general guidelines for ensuring total well-being of man. In trying to discuss Islamic economics, the *Maqasid al-Shariah* provides a potentially comprehensive framework that can be used to measure development as represented by the concept of *Maslahah*.

The major focus of past literature on *al-Maqasid* was on developing the theory, and most of the discussions centered on its legal dimensions. The pioneering works emanated from scholars such as, Al-Juwayni (1979), Al-Ghazali (1901), Al-Shatibi (n.d), Ibn 'Ashur (1998) and Ibn Taymiyyah (al-Raysuni, 1992). Recently, the application of *al-Maqasid* in various disciplines including economics and finance has been gaining prominence. Among the leading economists who have written on the subject, to mention a few are Chapra (1985 and 2000), Siddiqi (2000), Ahmad (2000), Atiyah (2008), Hasan (2004) and Al-Najjar (2008). Their works however, relate *al-Maqasid* to the discipline of economics in a broad theoretical framework. Chapra (2008) came up with a model of human development from a *Maqasid* perspective. However, the study is still at a philosophical and theoretical level that needs to be cascaded at the operational level. Therefore, there is a need for extending the application of *al-Maqasid* to comprehensive development at macro level both in theory and application.

Several indices have been developed as variations or possible alternatives to the more commonly used HDI to measure human well-being in the process of development, such as the Quality of Life Index, the Happiness Index and the less known Meaning of Life Index, very few have attempted to integrate the religious aspect of development that reflects spiritual well-being which has been recognized as an important component in the construction of the indices. The Ethics-Augmented Human Development Index (E-HDI) by Dar (2004), the Islamic Human Development Index (I-HDI) by Anto (2009) and the Islamicity Index (I^2) by Rehman and Askari (2010) are three of such attempts.

The E-HDI is based on *Maqasid al-Shariah* and it conceptualizes social change and development for all countries. It encompasses more explicitly the ethical concerns in measuring development by incorporating freedom, faith, environmental concerns and family values

in the HDI. However, the ranking of countries in the study is based on the ordinal measure using the Borda Rule instead of on the actual values of E-HDI computed for all countries. Hence, there is a need to develop a comprehensive development index based on *Maqasid al-Shariah* that can actually be computed for the ranking of countries' level of development. Anto (2009) attempts to develop such an index with the I-HDI. The index is comprised of what is termed as Material Welfare Index (MWI) and Non-material Welfare Index (NWI) representing the five basic needs in *Maqasid al-Shariah*. In addition, it also includes the Freedom Index and the Environment Index.

The Islamicity Index (I^2) was developed to measure the degree of "Islamicity" of Islamic and non-Islamic countries based on the principles of Islam. It aims at finding out whether or not Islam is an agent that enhances human development and its economic performance. It uses four sub-indices namely the Economic Islamicity Index (EI²), the Legal and Governance Islamicity Index (LGI²), the Human and Political Rights Islamicity Index (HPI²), and the International Relations Islamicity Index (IRI²). These indices, in a nutshell, measures government's adherence to Islamic principles in their economics; legal integrity and governance environment; degree of civil and political rights; and relationship with the global community in regard to several keys areas of environmental contribution, globalization, military engagement, and overall country risk (Rehman and Askari, 2010). In this index, Islamic economic, financial, political, legal, and social principles were represented by 67 proxies that are the standard practice of good governance and good economics applicable to all countries regardless of their religious orientation. However, the Islamicity Index basically uses existing indicators that represent universal values, and therefore it is not really based on *Maqasid al-Shariah*.

In view of the limitations of existing development indices proposed, this study is aimed at the construction of an integrated Islamic development framework that culminates in the creation of the Integrated Development Index (I-Dex) as a new and more comprehensive alternative to the existing measures of living standards and human well-being. The I-Dex encompasses both the physical and spiritual dimensions of human development based on, and representing *Maqasid al-Shariah*, and is proposed to be an integrated and a more holistic alternative to the existing measures of living standards and human well-being.

Contemporary works on development indices

Real GDP per capita has often been used as a proxy for living standards, either to compare well-being in one country at various points in time or to compare well-being across many countries at a particular point in time. A higher GDP means a higher value of production of goods and services thus implying higher consumption and greater material well-being. However, GDP as a measure of well-being has often been criticized since it excludes consideration of non-material dimensions and non-market activities, and considers some consumption items as beneficial when they are actually harmful, such as negative environmental externalities associated with increased production. In addition, using the average measure of income ignores the distribution of income within a country (Kula et al., 2008).

There have been several efforts to provide alternatives to GDP as a measure of well-being. Nordhaus and Tobin (1973) formulated a measure of economic welfare (MEW) that attempts to measure well-being through a quantification of consumption. Apart from GDP, they included costs of commuting and exclude costs for education, health, police, sanitation, road maintenance, defense, and health services. The major criticism to this measure is the somewhat arbitrary calculations of how non-market activities are measured. Others such as Opschoor (1991) and Mayo et al. (1997) provide indexes of sustainable economic welfare that consider the distribution of income within a population.

The United Nations Development Programme constructed the Human Development Index (HDI) to incorporate aspects other than income to measure human well-being. Human development is seen as creating an enabling environment for people to enjoy long, healthy and creative lives.[1] It uses a slightly modified measure of GDP, along with measures of life expectancy at birth, the adult literacy rate, and the extent of school enrollment, to construct the index. The HDI is reported in the annual *Human Development Report*; the first was published in 1990.

Although the HDI attempts to measure human development as a multidimensional concept, it was only confined to three dimensions of Quality of Life (QoL), namely, longevity, educational attainment and standard of living. In addition, the HDI ignores the extent of inequality in QoL over the members of the population (Anand and Sen, 2000, and Chatterjee, 2005). Early recognition of this point has resulted in corrections in HDRs 1991–1993 for the adjusted per-capita income, usually in terms of the Gini coefficient of the income distribution. However, such distributional correction on the income component of HDI was no longer performed since 1995 onwards. In order to take into account the extent of inequality in the distribution of longevity, educational attainment and standard of living/income, Chatterjee (2005) proposed an alternative index of human development, which is defined as the simple average of the "uptilt" indices of the three constituents. The uptilt for longevity can be computed on the basis of an abridged lifetable for the population considered. For the level of education, a classification of the population into categories representing different levels of education on the basis of periodical educational surveys or censuses is required. For income (consumer expenditure), the distribution of the

latter as derived from income/expenditure surveys also needs to be done.

Over the more recent years, sustainable development has been the focus with regards to the most important policy goals at the global level. Environment and natural resources should constitute a means to achieving better standards of living (Anand and Sen, 1995). Debates on how to measure the quality of life have been influenced by two issues, which are (i) the constituents versus the determinants of well-being, and (ii) the temporal horizon of the development path, current or sustainability-oriented. Considering human development from a sustainable perspective, there was a need to build a more sustainable-oriented development index. Constantini and Monni (2004) constructed a numerical measure for this purpose to incorporate environmental protection and long-term sustainability. This requires the maintenance of capital stock to guarantee constant or growing welfare levels. They consider four components of development, which are: access to resources, education, social stability, and quality of natural environment and computed the index as the simple average of the four. Due to data availability, their study is limited to the European countries. Their findings indicate that an enlarged measure of development allowed differences among countries that seemed important to be emphasized.

Constructing the Integrated Development Index (I-Dex)

The conceptual framework
Al-Ghazali's theoretical framework of maqasid al-shari'ah

Al-Ghazali (d.1111 A.D) refined al-Juwayni's theory of *Maqasid al-Shariah*, and categorized *Maslahah* into three: necessities (*Daruriyat*), complements (*Hajiyaat*) and embellishments (*Tahsiniyaat*). According to al-Ghazali, necessities are those elements without which the system of a nation will run into chaos. Complements are elements that facilitate human lives. Meanwhile embellishments are articles that are related to moral and ethical conduct. He further refined necessities into the preservation of five essential elements (*al-Dharuriyat al-Khams*), namely religion (*al-Din*), life (*al-Nafs*), intellect (*al-Aql*), progeny (*al-Nasl*) and wealth (*al-Mal*). These five essential elements are given priority according to this order. The theoretical framework of al-Ghazali's *Maqasid* is illustrated in the Figure below:
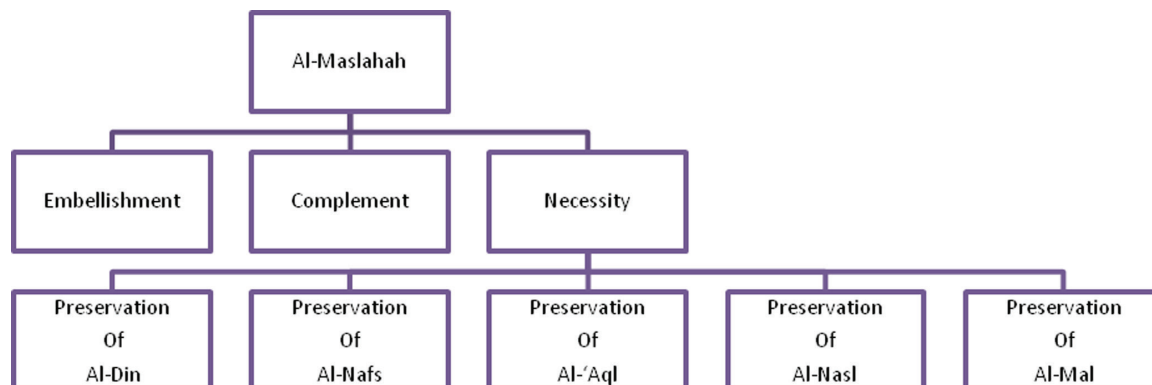

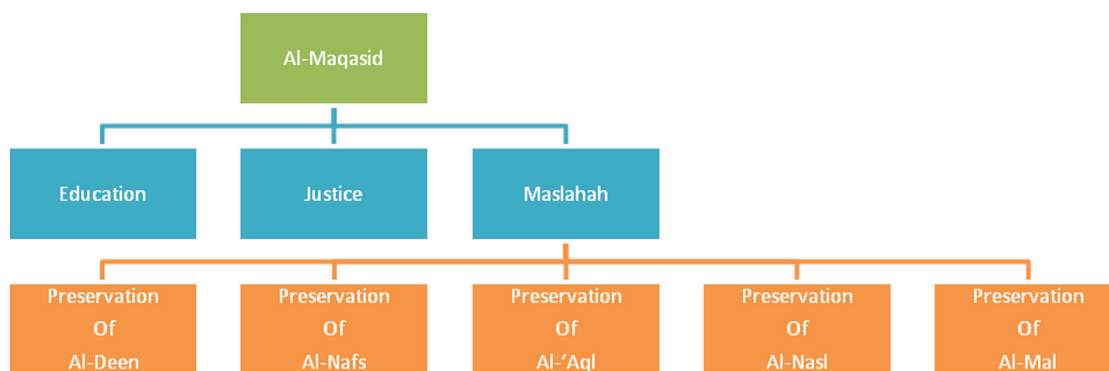**Figure 1.** Al-Ghazali's theoretical framework of *maqasid al-shari'ah*.

Figure 2. Abu Zaharah's theoretical framework of *maqasid al-shari'ah*.

Prominent scholars in the recent past who have greatly benefited from al-Ghazali's theory include Ibn 'Ashur, al-Shatibi and Abu Zaharah. For example, al-Shatibi (n.d.) expanded the application of al-Ghazali's three levels of *Maslahah*, referred to them as universal concepts and their classifications as final or *Qaati'i* (Nyazee, 1994). Abu Zaharah (1967) extended al-Ghazali's theory to include justice and education. Modern scholars in the areas of economics and finance have also used al-Ghazali's *Maqasid* theory as bases for their studies. For example Chapra (2008) has used al-Ghazali's classification of the five essentials to develop a model of human development and well-being.

Abu Zaharah's extended al-maqasid theory
Abu Zaharah (1997) sees the objectives of *al-Shariah* as mercy (*rahmah*) to mankind, as confirmed by the *Qur'an*ic verse: "We have not sent thee but as mercy to the whole world (*a'lamin*)" (*al-Qur'an*, 21:107). The word *a'lamin* refers to all creations of Allah in the Universe, including mankind. Furthermore, Abu Zaharah has widened the scope of his specific objectives of *al-Shariah* beyond al-Ghazali's three levels of *Maslahah* and beyond the scanty specific objectives suggested by other Muslim scholars of *al-Maqasid*. Abu Zaharah's theory of *al-Maqasid* has three constructs, namely *Tahdhib al-Fard* (Education), *al-'Adl* (Justice) and *al-Maslahah* (public interest). Regarding Education, Abu Zaharah was of the view that Islam primarily focuses on the individual as an important building block of the society. Proper education for the individual (knowledge, skills and values) will bring about a good society. He sees justice as a noble objective in Islam. He says justice should be defined in relation or according to the context of its application. Hence, there is judicial justice, social justice and economic justice. Similar to al-Ghazali, Abu Zaharah sees the aim of *Maslahah* primarily as the preservation of five essential elements (*Al-Dharuriyat al-Khams*), namely religion (*al-Din*), life (*al-Nafs*), wealth (*al-Mal*), intellect (*al-'Aql*) and progeny (*al-Nasl*). These five elements constitute the basis for all the affairs of mankind

Hence, based on the discussions above, *Maqasid al-Shariah* provides a comprehensive framework that can be used to measure development. This framework is represented by the three levels of *Maslahah* and the five universal values or essential elements (*al-Daruriyat al-Khams*). As explained by earlier scholars, the three levels of *Maslahah*, in an ascending order, are Necessities (*Daruriyat*), Complements (*Hajiyat*) and Embellishments (*tahsiniyat*). While the five essential elements are *al-Din* (religion), *al-Nafs* (human life), *al-Aql* (Intellect), *al-Nasl* (family institution) and *al-Mal* (wealth).

The three levels of *Maslahah* represent a growth path and stages of development from a *Maqasid* perspective. The first level, *Daruriyat* or Necessities, represent the minimum level that every individual, institution and nation must achieve. This level embodies the preservation of the five universal values or essential elements aforementioned. The second level provides avenues for the growth of the five elements and the third level represents the stage for their sustainability. Therefore, the three levels of *Maslahah* and the five essential elements represent the Integrated Development Components (IDC), which are part of the comprehensive and multi-dimensional framework for producing the Integrated Development Index (I-Dex).

Operationalizing maqasid al-shari'ah – the behavioral science method
One of the behavioral science methods that can be adopted in operationalizing *Maqasid al-Shariah* is Sekaran's (2000) operationalization method. It breaks down abstract notions or concepts (C) into observable characteristic behaviors, which she termed as dimensions (D). The dimensions are then further broken down into measurable behaviors that are called elements (E). She cited the example of thirst as a concept. The behavior of thirsty people is to drink a lot of fluid (Dimension). The degree of thirst can be measured by the number of glasses drunk by each thirsty individual (Element). Sekaran's model can be illustrated in Figure 3 above.

Sekaran's concept can be adopted to formulate the I-Dex conceptual framework, which is represented by the 6 elements of I-Dex, and operationalized into the respective dimensions and, further broken down into elements. The
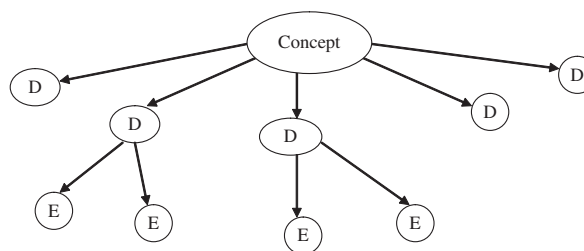

Figure 3. Sekaran's operationalization method.
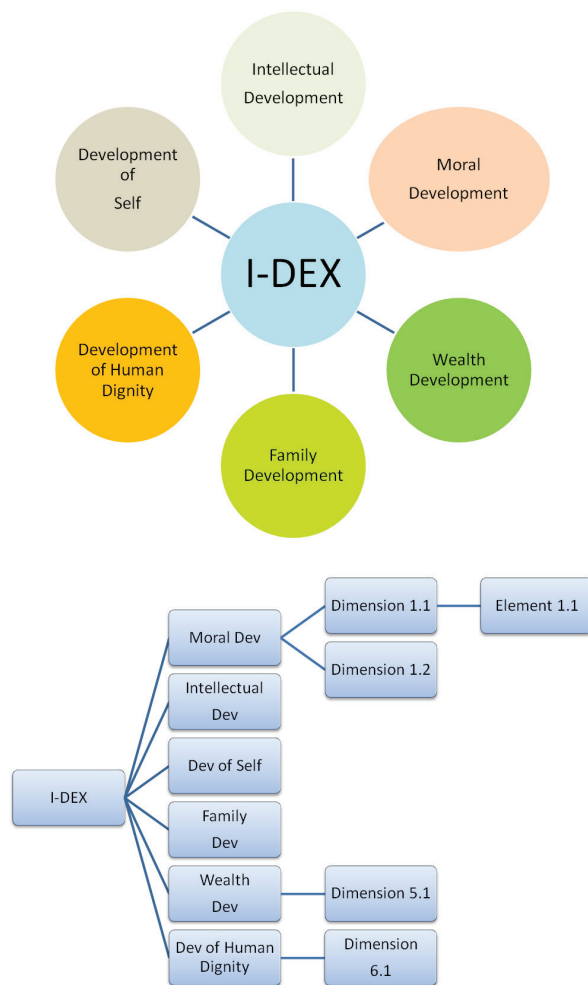**Note:** D denotes Dimensions and E, Elements

Figure 4. The I-Dex conceptual framework based on *Maqasid al-Shariah*.

process of operationalizing I-Dex into measurable elements is based on content analysis of relevant works on the area.

Definition of the components of maqasid al-shari'ah
Only five components of *Maqasid al-Shariah* will be the focus of this study based on the definitions provided by earlier scholars. The sixth component, i.e., development of human dignity is excluded as there is no clear definition that can be obtained from earlier works.

Hifdh al-din (preservation of religion)
Al-Din is derived from the Arabic word "d-a-n-a," which has several literal meanings, including judgment, governance, accountability, subjugation, authority, submission, surrender, obedience and peace. Technically, it carries a general meaning as "way of life." Early scholars of *al-Maqasid* such as al-Juwayni (n.d.), al-Ghazali (1901) and 'Izz Abd Salaam were more concerned on developing the theory, which was largely used to serve *Usul al-Fiqh*. Therefore, they discussed the preservation of the five *Maqasid* components, including *al-Din,* as a matter of example rather than a serious deliberation on their dimensions. The succeeding *Fuqaha*, Ibn Ashur (1998) defines *Hifdh al-Din* as salvaging the faith of every individual Muslim

from being affected by anything that might undermine and confuse his or her beliefs and distort his or her behavior. As for the community as a whole, preserving *al-Din* means to prevent anything that might violate and destroy its fundamentals, which includes defending Muslim land and sovereignty and preserving the means of Islamic learning and education among the present and future generations of the Muslim Community (Ibn Ashur, 1998, p.116).

Contemporary Muslim scholars have expanded the dimensions of preserving *al-Maqasid*. For example, Attia uses the components of *al-Maqasid* differently in four realms and identifies the corresponding means of preserving them at the three levels, namely *Daruriyyah*, *Hajiyyah* and *Tahsiniyyah*. Hence, he discusses the preservation of *al-Din* at the three realms: Individual, family and the *Ummah*. At the individual realm, he uses the term "*al-tadayyun*" (personal piety), which can be preserved through individual's effort in promoting religious piety within one's self. He suggests that the following four means (dimensions) at the *Daruriyyah* level be used to preserve *al-Din* at the individual realm: strengthening the *'Aqidah*, performing obligatory *'Ibadat*, embracing good *Akhlaq* and performing obligatory acts of obedience. *Al-Tadayyun* at the family realm means preservation of personal piety within the family, which is achieved at *Hajiyyah* level by good choices of candidates for marriage. At the *Ummah* realm, Attia defines *al-Din* as "Preservation of Religion and Morals," which can be preserved through two means at the level of *Daruriyyah* (performing communal prayers and performing other socio-religious activities) and two means at the *Hajiyyah* level, namely upholding moral values and curbing the spread of corruption.

Another contemporary scholar, Auda (2010) opines that the focus of the preservation of *al-Din* in al-Ghazali's and al-Shatibi's terminology has its roots in al-Amiri's punishment for giving up true faith. Auda argues that the same theory has been re-interpreted by modern scholars to mean "freedom of faiths" or "freedom of belief," using Ibn Ashur's term (Auda, p.24). Meanwhile Chapra (2008) sees *al-Din* in the context of *al-Maqasid* as providing religious worldview which potentially helps man to reform the human self to ensure the fulfillment of all his spiritual and material needs.

Based on the discussion above, the preservation/ development of *al-Din* can be operationalized from the following four broad dimensions, namely (i) philosophical dimension - providing worldview, (ii) spiritual dimension - strengthening the *'Aqidah*, (iii) moral dimension - embracing good *Akhlaq,* and (iv) practical dimension - performing obligatory *'Ibadat* and performing virtual acts.

Hifdh al-'aql (preservation of the intellect)
Preservation of intellect has been defined by Muslim scholars beginning from al-Juwaini up until contemporary time in various ways. However, all of them agree on certain elements of the definition and the meaning of preservation of intellect. Chapra (2008) quotes Imam Al-Ghazali as saying that intellect is the fountainhead, starting point, and foundation of knowledge. Imam Al-Ghazali (n.d.) also believed that prohibition of wine by *Shariah* is the evidence for the necessity to protect the intellectual. Al-Shatibi (2004), for example, defines preservation of intellect, preventing it from anything that will spoil it. According

to Ibn Ashur (2006), preservation of intellect means the protection of people's minds from anything that would put them in disorder. He further elaborates on this definition by saying that it is because otherwise any type of disorder of the intellect will lead to serious corruption consisting of improper and perverted human conduct. Consequently, any defect affecting a mind of an individual leads to a partial corruption of the society while defects affecting the minds of the whole community will lead to total devastating corruption and evil. Chapra (2008) agrees with this view but he adds another point by saying that it is faith that provides that right direction to the intellect, otherwise intellect may lead to more and more deceptions and exploitations. At the same time, faith requires the service of intellect to maintain its dynamism to respond to changing socio-economic and intellectual environment.

Al-Zarkashi (1994) was in the opinion that the *Shariah* preserves the intellect by making legal punishment obligatory for drinking intoxicants, because the mind is the ground for any act related to *Maslahah*. Therefore, any disruption of the intellect leads to extreme *Mafsadah*.

Islam emphasizes the importance of reason and dignifies a human being by favoring him over the rest of the creatures and calling him upon the development of reason, physically and intellectually:

a. **Physical development**: one of the principles in Islamic Jurisprudence is that a judge should not judge when he is hungry, because otherwise he might come up with improper decree. Another fact that proves that the *Shariah* does pay attention to preservation of intellect is that the preference is given to the food if it is served at the time of the prayer. It is because the mind of the praying person must be free from any external effects that would prevent him from focusing on his prayer with peaceful mind.
b. **Intellectual development:** seeking knowledge and considering reason as the foundation of *Iman*; freeing reason from superstition and harmful knowledge such as black magic. This has a direct relationship with the proper education for human beings that would always keep them alert, sober and constantly on the right track in developing and preserving the intellect from any harm.
c. **Punishing with legal punishment:** Ibn Ashur (2006) explains the legal punishment for intoxication, it is because the *Shariah* needs to distinguish between the rationally sound people from those who are not. This, of course, will lead to a better social security and consequently to law and order in the society.

Hifdh al-nafs (Preservation of Life)
There are a number of definitions of *hifdh al-nafs* as provided by scholars. Al-Juwayni and Al-Ghazali in Al-Raysuni (2006), for instance, defines *hifdh al-nafs* as generally the preservation of human life through the law of retribution (in the event of murder). In order to describe *hifdh al-nafs* further, Al-Shatibi in Al-Raysuni (2006) explains that preservation of life can be achieved in three ways:

1. Establishing its foundation through the legitimacy of procreation—ensuring they enter into valid matrimony and have at their disposal whatever related measures needed, including divorce

2. Ensuring its survival through food and drink—ensuring they do not receive nourishment which is harmful or lethal (survival from within)
3. Providing clothing and shelter—guaranteeing the provision of everything without which the things mentioned above would not be possible, including animals for slaughter, as sacrifices, hunting, the right to impose penalties for crimes (survival from without)

Along similar views, Al-Allaf (n.d.) says that preservation of life is secured by obtaining lawful means of sustenance such as food, marriage, medicine, shelter, etc. Ibn Ashur (1998) added another dimension to the definition of *hifdh al-nafs* by stating that preservation of human souls means to protect human lives from being ruined either individually or collectively by preventing harm and ruin before they happen, such as combating and eradicating epidemics. This can be considered to be falling under Al-Shatibi's "survival from without," but from non-human threats.

Applying the views of earlier scholars to the more contemporary context, Chapra (2008) states that *hifdh al-nafs* involves the achievement of the following:

1. Dignity, self-respect, brotherhood and social equality
2. Justice
3. Spiritual and moral uplift
4. Security of life, property and honor
5. Freedom
6. Education
7. Good governance
8. Removal of poverty and need fulfillment
9. Employment and self-employment opportunities
10. Equitable distribution of income and wealth
11. Marriage and stable family life
12. Family and social solidarity
13. Minimization of crime and anomie
14. Mental peace and happiness

Hence, based on the views of the various scholars, *hifdh al-nafs* can be defined as the preservation of human life through three means. The first is survival from within, which includes (a) human sustenance through the fulfillment of human physical and biological needs in terms of food and drinks, (b) fulfillment of spiritual/psychological needs, which include moral and spiritual uplift, and (c) fulfillment of intellectual needs through education. The second way to achieve *hifdh al-nafs* is survival from without, i.e., (a) the general protection of human life from harm and danger in his natural environment through the provision of clothing and shelter, (b) the protection of human life from nonhuman threats such as diseases through medical treatments, preventive medicine and disease control mechanisms such as vaccinations, and (c) protection of life from human threats, either individually or collectively through the provision of public security to minimize the incidence of crime and a legal structure that serves as deterrence to life threatening crimes, such as capital punishment for murder. The third way to achieve *hifdh al-nafs* is the fulfillment of social needs (based on Chapra's definition) through the achievement of brotherhood, social equality, good governance, equitable distribution of income and wealth, and family and social solidarity. The definition can be summarized in Figure 5.
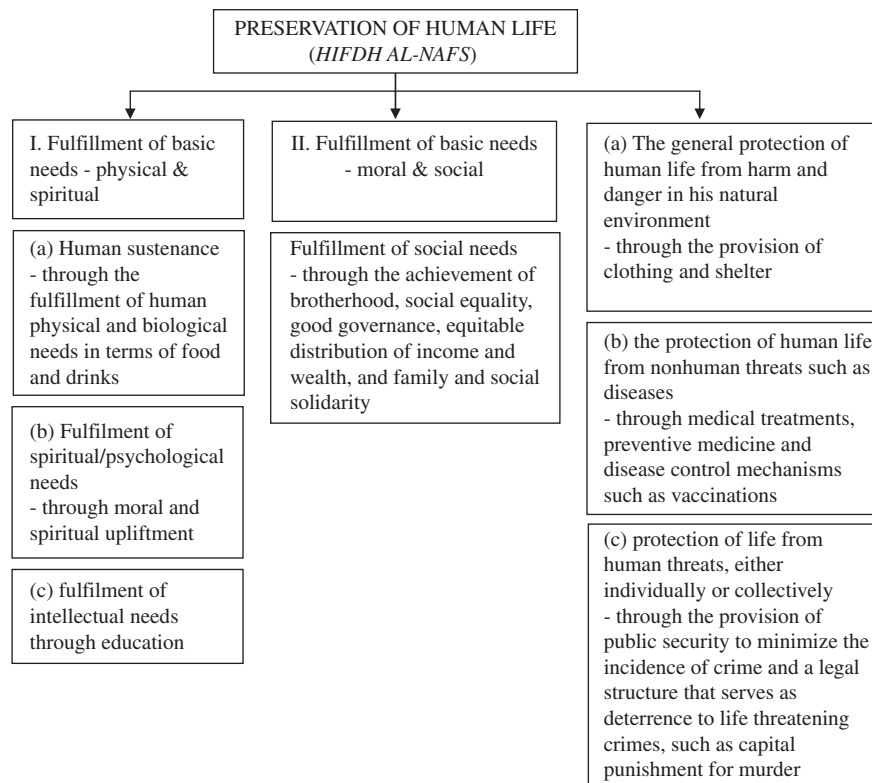
Figure 5. Preservation of human life (*hifdh al-nafs*).

Hifdh al-mal (preservation of property/wealth)
For *hifdh al-mal,* according to Ibn Ashur (2006), preservation of property means protecting the wealth of the community from being ruined and from shifting to the hands of others without compensation. Al-Juwayni and Al-Ghazali in Al-Raysuni (2006) describe this preservation as the protection of people's possessions from thieves by cutting off their hands, while Al-Shatibi in Al-Raysuni (2006) states that it is the prohibition against injustice, depriving orphans of their property, wastefulness, envy, giving short measure and weight, corruption in the land.

Contemporary literature on *hifdh al-mal* views it in a more "holistic" manner, i.e., (i) protection of ownership and property; (ii) acquisition and development of property or wealth and (iii) preservation of wealth. This can be found in the writings by Hassan and Mahlknecht (2011); Ng (2008); Dusuki and Bouheraoua (2011); and Chapra (2008). Ng elaborates that preservation of wealth with regards to its availability as essentials or *daruriyyah*; circulation of wealth as complementariness or *hajiyyah*; while investment and growth of wealth as embellishment or *tahsiniyyah*. Hassan and Mahlknecht (2011) emphasize that there must be transparency in wealth and finance, and justice in the circulation of wealth.

Chapra (2008) stresses the importance of promoting equitable distribution of income and wealth in the development of and expansion of wealth. He provides the following suggestions to achieve this purpose:

  i. Redistributive methods of *zakah*, *sadaqat* and *awqaf*
  ii. Economic development to increase national income:

a. Strengthening of human resources – education, technological advance, work ethics, etc.
b. Proper monetary and fiscal policies to accelerate development
c. Access to capital for the poor – microfinance
d. Employment and self-employment opportunities – vocational training, etc.

He also states that the development and expansion of wealth can be realized through:

  i. Education, research, and improvement in technology and management
  ii. Security of life, property and honor
  iii. Good governance
  iv. Freedom of enterprise
  v. Employment and self-employment opportunities

The discussions on *hifdh al-mal* can be consolidated and summarized in Figure 6.

Hifdh al-nasl or al-nasb (preservation of progeny or lineage)
The concept of *hifdh al-nasl* involves the protection, preservation and promotion of progeny (Kasule, 2004), it is essential in Islam for a healthy, productive and effective Islamic society. This is against the background that no civilization can endure if its future generations are spiritually, physically, and mentally inferior to the preceding ones and thus, unable to respond fruitfully to the challenges they face (Chapra, 2008). Moreover, the desire to have offspring is a very strong natural human instinct. This fact is recognized in the Holy *Qur'an,* where Allah
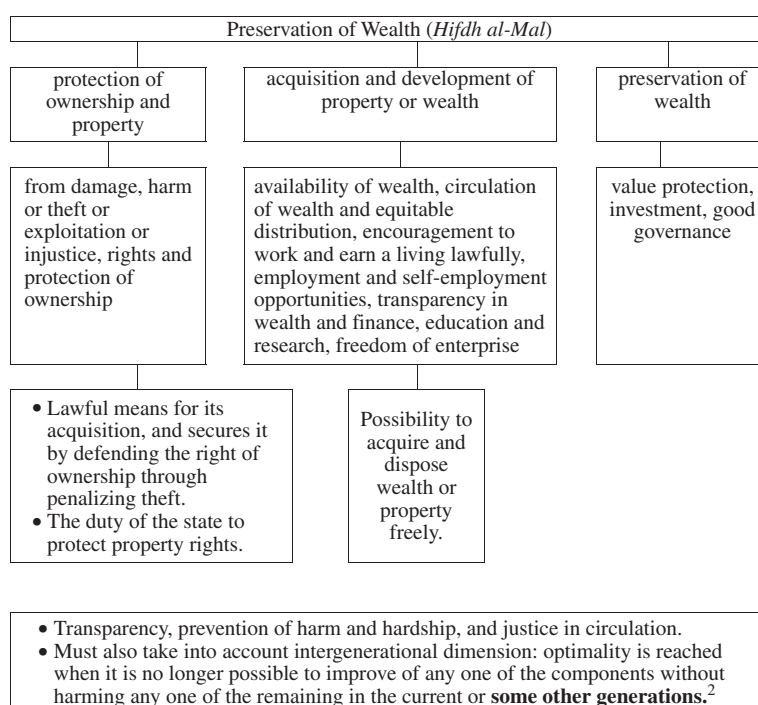
Figure 6. Preservation of wealth (*hifdh al-mal*).

(S.W.T) stated that wealth and progeny are the allurements of this world (Fadel, 2002). In a *hadith,* the Prophet (pbuh) called on the *ummah* to marry and have children so that he will be proud of it in the hereafter.

In Islam, *Nasl* is preserved by legitimizing marriage, prohibiting adultery and forbidding emasculation among others (Al Sari, n.d.). On the other hand Çizakça (2007) viewed *hifdh al-nasl* as the protection of future generations; in this regard he argued that the "Al-Ghazali Optimum" is reached only when it is no longer possible to improve one of the five components of *maqasid al-Shariah* without impairing any one of the remaining in the current or future generation.

Hifdh al-nasl takes many dimensions depending on the particular aspect of human life being considered. In everyday life this has taken the form of prohibiting *zina,* adultery, and the harsh *hudud* punishments mete out upon the violators (Çizakça, 2007; Kasule, 2005). Generally, the strict moral laws and the prohibition of fornication and adultery are part of the stress on the preservation of progeny or lineage (Fadel, 2002). Islam does not only prohibit adultery, but it also legalized and encouraged marriage, thus, *hifdh al-nasl* is ensured through marriage, child birth within the marital bond and proper child bond (Kasule, 2004). In Islam, the family is only based on marriage, which is controlled by rules and regulations. The marriage contract has legal consequence of joint rights and responsibilities of husband and wife in relation to one another and to their offspring; it is under this protective umbrella that children are to be born. In Islam, the right of legitimacy is a basic right, and every person has the right to be the legitimate child of his/her parents (Fadel, 2002).

In the same vein, Al Sari (n.d.) argued that the principle objective of marriage is to preserve posterity and continuity of mankind, other objectives that include all the benefits men and women gain as a result of marriage such as emotional, sexual or even materialistic benefits are subsidiary. Although *nasl* (posterity) may be achieved outside the framework of marriage, but such a benefit is considered rejected in Islam because it will result in to uncertainty as to the legitimacy of the offspring and thus jeopardizes their basic rights and thereby undermines the *maqasid.* Therefore, the basic rights of children in Islam at various stages of their life, right before conception or even marriage up to a certain stage of their life are aimed at ensuring protection of the progeny of Muslims' *ummah*. These rights include, among others, choosing a good mother for them, feeding, shelter, education, proper upbringing and healthcare. In *mu'amalat* the law of inheritance ensure transfer of property rights from parents to children so that they can have a means of sustenance even after the demise of their parents (Kasule, 2005).

The elements of the dimensions of *hifdh al-nasl* are as follows:

Premarital level: Selection of right partner, by considering factors such as health, behavior, knowledge and even the *nasl* itself, in a *hadith* reported by Abu Dawud the Prophet (pbuh) said "Marry a loving, kind and reproducing female as I will take a special pride by you on the Day of Judgment"

Preconception level: Tampering with the reproductive process is an unlawful practice in Islam; these include; ceasing it in any form, tampering with it in any way or reducing it for no legitimate reason (Anonym, n.d.)

Prenatal level: As the soul (spirit) is be blown in the foetus at the fourth month of pregnancy, Islam prohibits abortion after the fourth month of pregnancy; however, if there is a grave situation, which endangers the life of mother, there is no harm in performing abortion to the foetus (Anonym, n.d.)

Postnatal level: Offering *adhan* to the babies ears soon after birth set stage moral upbringing, breastfeeding for up to two years of age and care and protection of children ensures healthy children.

Childhood and adulthood: In Islam children's rights are numerous; these include right to a decent and peaceful life, good and worthy names, protection against all possible vices and bad habits such as: lying, cheating, theft, jealousy, deception and unkind attitudes towards parents, certain necessities of life, including affordable house, lawful food, useful education and proper upbringing (Chapra, 2008).

Healthy environment and need fulfillment: Health care and good nutrition are the basis of this element, because if the children do not get proper nutrition along with a clean and healthy environment and suitable medical care, they may not grow up to be strong and fit adults and as result may not be able to contribute significantly to their societies even if they are of high moral standing and well educated (Kasule, 2005; Chapra, 2008). Moreover, good nutrition for children ensures that they grow as healthy boys and girls who are potential parents; also good nutrition for pregnant mothers ensures foetal growth and development as well as easy delivery (Kasule, 2004; 2005).

Moral and intellectual development: This is part of the right of children to good upbringing and education; it reinforces the *maqasid* of the preservation of religion; a morally bankrupt and illiterate child will not be the proud of his parents and the Muslim *ummah* at large, therefore, parents should inculcate into their children the necessary character (*(khuluq hasan)* and educate them. Chapra (2008) argued that in order to make children good Muslims, it is necessary to inculcate in them all the decent qualities of character *(khuluq hasan)* that Islam requires of its followers, these include honesty, truthfulness, conscientiousness, tolerant and able to get along with others peacefully, punctual, hardworking, thrifty, polite among others.

Freedom from fear, conflict and insecurity and debt burden: This underscore the need for a peaceful society devoid of chaos and all forms of crisis including economic and financial ones, these may jeopardize the welfare of future generation, thus the current generation should avoid living beyond their means and should create job opportunities for future generation (Chapra, 2008).

Operational definitions of maqasid components, dimensions and elements

Based on the content analysis of the various definitions of *Maqasid* components by different scholars, the operational definitions of the components can be derived as follows:

i. *Hifdh al-Din* is defined as the preservation and development of human faith through spiritual enrichment, embracing good moral standards and performing religious practices at the individual, family and ummatic level.
ii. *Hifdh al-Aql* is defined as utilizing and developing the intellect and safeguarding the mind from negative influences, such as drugs and superstitions.
iii. *Hifdh al-Nafs* is defined as ensuring the existence, sustenance and development of human life through the fulfillment of basic needs, both physical & spiritual, and moral & social needs, and its protection from threats, both human and non-human.
iv. *Hifdh al-Mal* is defined as the protection of ownership and property from damage, harm, theft, exploitation or injustice. In addition, it also encompasses the acquisition and development of wealth by making it available through circulation and equitable distribution, as well as preserving the wealth through investment and good governance.
v. *Hifdh al-Nasl* is defined as the protection of everything that would ensure the survival and progress of the family (in all dimensions – physical, material, spiritual, emotional) and the preservation and development of future generations.

From the operational definitions given above, the dimensions of each component of the *Maqasid* are identified and summarized in Table 1.

For *hifdh al-din*, only two of the three dimensions are selected, namely, spiritual enrichment, and embracing good moral standards. Due to the difficulty in measuring religious practices as a composite measure, it has been excluded.[3] For *hifdh al-aql*, the dimension of developing the intellect is included as measured by primary and secondary school enrollment. Three dimensions are selected for *hifdh al-nafs*, namely fulfillment of basic needs (physical), fulfillment of moral needs, and protection from threats (human). The dimension of fulfillment of basic needs (spiritual) is in effect also included since its elements of religious and non-religious education has already been captured in the measurements of spiritual enrichment in *hifdh al-din* and developing the intellect in *hifdh al-aql*. The *Maqasid* component *hifdh al-mal* is measured by two dimensions of protection of ownership and property and acquisition and development of property/wealth, measured by the readily available international property rights index and the inclusive wealth index, respectively. The Gross Domestic Product (GDP), that has been regularly used to reflect wealth/income in HDI and even E-HDI in Dar (2004) has been replaced by the inclusive wealth index. The last component, *hifdh al-nasl*, includes survival and progress of the family and protection of progeny, as measured by divorce rate and child mortality rates, respectively.

As illustrated above, the construction of the I-Dex is based on the dimensions identified from the conceptual definitions given by Muslim scholars on the components of *Maqasid al-Shariah*. This is the major difference from the E-HDI developed by Dar (2004) amd Anto (2009), where the applications of *Maqasid al-Shariah* do not explicitly take into account the various dimensions embedded in each *Maqasid* component. As such, the I-Dex is deemed to represent a more comprehensive approach in measuring development from the Islamic perspective.

Table 1: Dimensions of components of the *maqasid al-shari'ah* based on operational definitions.

Maqasid Component	Dimensions	Possible Elements
Hifdh al-Din	Spiritual enrichment,	Sound faith; religious school enrollment
	Embracing good moral standards	Corruption level; charity; social service/volunteer work
	Religious practices	Performing prayers; payment of zakat
Hifdh al-Aql	Utilizing the intellect	Employment; research opportunities; freedom of speech and thought
	Developing the Intellect (physical development of the brain)	Healthcare; provision of healthy food and drinks; environmental pollution
	Developing the Intellect (non-physical/mental prowess)	State of mental health; education; access to internet
	Safeguarding the mind from negative influences (eg. wine, drugs, superstitions)	Media; measures against intoxicants; criminal/illegal activities
Hifdh al-Nafs	Fulfillment of Basic Needs (physical)	Provision of food, water, electricity, amenities, health, housing; material wellbeing; means to earn a living
	Fulfillment of Basic Needs (spiritual)	Education (religious & non-religious)
	Fulfillment of Moral Needs	Good governance; human rights; justice; political freedom
	Fulfillment of Social Needs	Social justice; marriage/family institution; community life
	Protection from threats (human)	Public security; political stability and security
	Protection from threats (non-human)	Preventive healthcare; medical services
Hifdh al-Mal	Protection of ownership and property	Property rights/ ownership; access to judiciary; legislation
	Protection of wealth and property from damage/Prevention of harm and hardship in wealth and finance	Insurance
	Preservation of wealth through protection of its value	Price stability
	Preservation of wealth through its circulation	Financial intermediaries;
	Acquisition and development of property/wealth	Employment laws; the availability of wealth
Hifdh al-Nasl	Survival and progress of the family	Marriage/family institution; public security; security of life
	Protection of future generation	Environmental sustainability; economic sustainability
	Protection of progeny	Reproductive health; child mortality
	Development of future generations	Education; literacy

Note: Highlighted cells are dimensions selected for the construction of the I-Dex.

Table 2. Dimensions and elements of components of the *maqasid al-shari'ah* for the construction of the I-Dex.

Dimensions	Elements in Dimensions	Items in Elements	Measurement of Items in Elements	Source of data for measurement
Hifdh al-Din: defined as the preservation and development of human faith through spiritual enrichment, embracing good moral standards and performing religious practices at the individual, family and ummatic level				
Spiritual enrichment	Religious Education	Percentage of total expenditure in religious education	(Expenditure in religious education/ Total expenditure in education in a given year)*100	Ministry of Education/Ministry of Finance of respective country
Embracing good moral standards	Level of Corruption	Overall ranking in corruption index	TI Corruption Index	http://www.transparency.org/
Hifdh al-Aql: defined as utilizing and developing the intellect and safeguarding the mind from negative influences, such as drugs and superstitions				
Developing the Intellect (non-physical)	Education (regular)	Primary enrollment rate	(Number of children enrolled/total number of eligible children)*100	http://stats.uis.unesco.org/ unesco/TableViewer/ document. aspx?ReportId = 143&IF_Language = eng
		Secondary enrollment rate	(Number of children enrolled/total number of eligible children)*100	http://stats.uis.unesco.org/ unesco/TableViewer/ document. aspx?ReportId = 143&IF_Language = eng
Dimensions	Elements in Dimensions	Items in Elements	Measurement of Items in Elements	Source of data for measurement
Hifdh al-Nafs: defined as ensuring the existence, sustenance and development of human life through the fulfillment of basic needs, both physical & spiritual, and moral & social needs, and its protection from threats, both human and non-human.				
Fulfilment of Basic Needs (physical)	Poverty index	Poverty gap at national poverty line (%)	Mean shortfall from the poverty line (counting the nonpoor as having zero shortfall) as a percentage of the poverty line	http://data.worldbank.org/topic/poverty
Fulfilment of Moral Needs	Fulfilment of Basic Needs (spiritual)	Universal Human Rights Index		http://www.ohchr.org/ EN/HRBodies/Pages/ UniversalHumanRightsIndexDatabase.aspx
Protection from threats (human)	Public security	Incidence of crime	Crime Index	http://www.numbeo.com/crime/rankings_ by_country.jsp

(Continued)

Table 2. (Continued)

Dimensions	Elements in Dimensions	Items in Elements	Measurement of Items in Elements	Source of data for measurement
Hifdh al-Mal: defined as the protection of ownership and property from damage, harm, theft, exploitation or injustice. In addition, it also encompasses the acquisition and development of wealth by making it available through circulation and equitable distribution, as well as preserving the wealth through investment and good governance.				
Protection of ownership and property	Property rights/ ownership	International Property Rights Index	Score earned under this index	http://www.internationalpropertyrightsindex.org/about
Acquisition and development of property/ wealth	Availability of wealth (essentials / *daruriyyah*)	Inclusive wealth index.	Wealth = Pmc*Manufactured capital (MC)+Phc*Human capital (HC)+Pnc*Natural capital (NC)	http://www.unep.org/pdf/IWR_2012.pdf
Dimensions	Elements in Dimensions	Items in Elements	Measurement of Items in Elements	Source of data for measurement
Hifdh al-Nasl: defined as the protection of everything that would ensure the survival and progress of the family (in all dimensions – physical, material, spiritual, emotional) and the preservation and development of future generations.				
Survival and progress of the family	Marriage/Family institution	Divorce rate	(number of divorces in a given time period/ total number of marriages at the end of the time period) *1000	UN; Euromonitor
protection of progeny	Child mortality	Child mortality rates	The total number of child (more than 1 and less than 5 years) deaths per 1000 live births	http://www.measuredhs.com/pubs/

Conclusion

This study proposes to develop an integrated Islamic development framework and index based on, and representing, the *Maqasid al-Shariah* or noble objectives of the *Shariah* for OIC and non-OIC countries. The Integrated Development Framework based on *Maqasid al-Shariah* has been developed based on the works by al-Ghazali and Abu Zaharah. Using content analysis, the operational definitions of each component of *Maqasid al-Shariah* have been derived, and the dimensions identified based on the scope of the definitions. The elements have been selected for each dimension based on the relevant existing indicators. However, data availability still poses a major constraint in selecting more relevant indicators.

The *Maqasid*-based Integrated Development Index (I-Dex) will be computed in a follow-up study that willl involve data collection and empirical work. The I-Dex is hoped to better represent holistic development and well-being according to Islamic benchmarks, hence providing academics, students and policymakers in Muslim countries with an alternative measurement of progress.

Notes

1. http://hdr.undp.org/hd/
2. Cizakca (2007).
3. This is an area for future studies where a composite measure of religiosity may be developed and included in the I-Dex.

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Islamic finance and economic growth: The Malaysian case

Néjib Hachicha[1], Amine Ben Amar[2]

[1]Faculty of Economics and Management University of Sfax
[2] University of Paris-Dauphine LEDa-SDFi, Email: amine.benamar@gmail.com, Tel: 0033 6 23 02 87 65

Abstract - Does Islamic Finance influence growth? The aim of this paper is to investigate empirically the impact of the Islamic Bank Financing on Malaysia's economic growth over the period 2000Q1–2011Q4. The hypotheses addressed in this study are discussed within the framework of Demirgüç-Kunt & Levine/Chapra approach and the analysis of the Islamic Banking system. A neoclassical production function augmented by some indicators of the Islamic bank financing has been the theoretical framework of our empirical investigations. In the short-run, the estimation of an error-correction model of the production in Malaysia has shown that the various indicators of Islamic financing growth elasticity vary between 0.14 and 0.20. In the long run, this elasticity is estimated to be around 0.35.

Keywords: Islamic finance, economic growth, Malaysia, VAR, ECM
JEL: C13, C51, G21, O49.

Introduction

The effect of Islamic banks' development on economic growth remains ambiguous at both the empirical and the theoretical levels. Theoretically, the analytical contributions of Chapra (1988 and 2003) and Hasan & Dridi (2010) have postulated that the integration of the Islamic legal framework (said *Shariah*) in finance and banking has enhanced the improvement of the economic activity. These authors, along with many others, such as Tag El-Din (2008) and Khan and Bashar (2008), have recommended the implementation and generalization of the Islamic finance principles. Indeed, they have considered these principles as necessary for the sake of improving contractual equity and economic efficiency. Conversely, Bjorvatn (1998), Kuran (1995 and 2004) as well as Yusof and Wilson (2005) have highlighted the fact that the Islamic finance principles have handicapped the development of the economic activity. Other economists such as Darrat (1988), Yousefi et *al.* (1997), Hasan (2008), Furqani and Mulyany (2009) and Ammar-Ayachi et *al.* (2011) have reached the result that the impact of the Islamic finance on the economic activity has turned out to be ambiguous and that there are no proofs of the superiority of the interest-free financial system over of the interest-based one.

In this paper we propose that the development of the Islamic banks, which are supposed to meet and respect a particular legal framework (in particular the prohibition of *riba* and the integration of PLS[1] principle), does contribute to improving the economic activity. This research proposal is based on the works of Chapra (1988 and 2008), Tag El-Din (2008) and Khan and Bashar (2008). The first author thinks that the presence of the Islamic finance in the financial system allows more prosperous activity and sustainable growth through the reduction of poverty, which, according to him, is a necessary step for economic development. As for the second author, he considers that unlike conventional finance, the Islamic finance principles allow a fairer distribution of risks. Regarding Khan and Bashar (2008), they consider that implementing the risk sharing principle ensures economic efficiency.

The estimation of the impact of Islamic banking activity development has been the subject of very few empirical studies. Most of them compare the effectiveness of the interest-free monetary and financial system to the interest-based one. In this respect, and by studying the Tunisian case over the period of 1960 to 1984, Darrat (1988) has examined the hypothesis stipulating that the financial and banking systems become more stable as the interest is paralyzed. He has come to the conclusion that the interest-free monetary system allows for more stability of the money velocity compared to the interest-based one. Furthermore, he has shown that the demand for money is structurally more stable in the absence of interest. He has also concluded that only the monetary and financial assets that do not bear interest may be used by the Tunisian

monetary authorities as an appropriate intermediate targets to reach its medium-term objectives.

Nine years later, Yousefi *et al.* (1997) published a paper in the same journal in which Darrat (1988) submitted his study, criticizing his choice of Tunisia as a study case despite the fact that this country has no significant experience in Islamic banking.[2] However, they have proposed to replicate the study conducted by Darrat (1988) to the Iranian case over the period from 1967 to 1992 because, according to them, Iran has a more solid experience than Tunisia in terms of Islamic banking. Their empirical findings partially confirm the results of Darrat (1988) and, consequently, do not allow the validation of the hypothesis assuming the superiority of the Islamic banks.

Charles *et al.* (2011) have tested the hypothesis stating that Islamic finance is more resilient to shocks than the conventional finance. To test this hypothesis, they have examined the question of whether the Islamic stock indices are more or less affected by the changes in the volatility regimes than the conventional stock indices. They have found that the Islamic and the conventional indices were affected to the same degree by the volatility changes, and discovered no empirical evidence causing them to validate the hypothesis of the Islamic finance superiority. During their presentation in the Second Symposium of Computational Economics and Finance, Arouri *et al.* (2012) found that Islamic finance helps save investors from financial crises by comparing some Islamic stock indices to conventional ones.

Using cointegration and Granger causality tests, Furqani and Mulyany (2009) were the first researchers to examine the empirical relationship between Islamic finance and economic growth in Malaysia over the period from 1997Q1 to 2005Q1. They have found that there is no causality between Islamic bank financing and economic growth in the short run. Nevertheless, they have found that the Islamic bank finance influences the short-term investment level positively. In the long term, they have found a reciprocal causal relationship between Islamic-bank financing and investments. As for the relationship between economic growth and Islamic finance development, the authors have revealed the existence of a "Robinsonian" long-term relationship. That is to say that the development of Islamic finance follows the development of the economic activities: the economic growth creates a demand for Islamic financial intermediation. Although the study of Furqani and Mulyany (2009) has permitted the explanation of the relationship between Islamic finance and economic growth, it remains based on limited observations, which are not adequate in econometrics of non-stationary variables.

By studying the impact of Islamic financial development on the economic growth in 15 countries over the period of 1990 to 2009 on a quarterly basis, Ammar et *al.* (2011) have discovered a prevalence of not only a weak correlation between economic growth and the variables measuring financial development but also a negative impact of Islamic finance on economic growth. Their results might be due to the use of inadequate indicators to measure the development of Islamic finance.[3]

In this respect, this paper provides empirical evidence of the Islamic finance development effect on the Malaysian economic growth over the period 2000Q1–2011Q4. We have chosen to study the case of Malaysia for four reasons. Firstly, and since its independence, it is one of the first countries to have made efforts to reform its financial systems in order to integrate Islamic finance. Secondly, the Malaysian financial system is a mixed system characterized by the simultaneous presence of Islamic and non-Islamic financial institutions. This allows us to obtain more indicators of Islamic financial development. Thirdly, Malaysia is the country where Islamic financial engineering is developed most. Finally, and relative to other countries that have integrated Islamic finance, Malaysia is one of the few countries having a powerful statistical system. This enables us to solve the problem of data unavailability characterizing the developing countries.

The contribution of our paper is twofold. On the one hand, it provides a further contribution to the rare empirical literature relative to the impact of Islamic finance on growth by determining the elasticity of economic growth with respect to Islamic bank financing in Malaysia. On the other hand, and to our knowledge, our paper remains the first to correctly resort to the Error-Correction Model in determining this elasticity.[4]

The rest of the paper is organized as follows. Section 2 analyzes the Malaysian banking system reforms. Section 3 analyzes the relationship between Islamic finance and economic activity. Section 4 presents the model's theoretical specification. Section 5 outlines the econometric results and their economic and statistical interpretation. Finally, section 6 highlights the major conclusions to be drawn.

2. The Malaysian banking system reforms

After their independence, countries with Moslem traditions discovered that Islamic finance allows them to distance themselves from the colonial period. The oil shocks represented the main technical element that enticed the concretization of the *Shariah* compliant finance (Martens, 2001). Respect of the precepts of Islam was the slogan of this new branch of finance. During the 1950s, and while preparing for its independence, the new Malaysian government had supported the idea of creating some investment institutions that met the needs of the Moslem majority in the Malaysian society. In 1956, the Malaysian government created *Tabung Haji*, a financial institution sponsored and supervised by the state. Its main aim was to collect the household savings for the pilgrimage (*al-Haj*) and invest in *Shariah compliant* projects.[5]

In July 1983, and under Islamic *Banking Act* (IBA), Malaysia established the first Islamic bank: Bank Islam Malaysia Berhad. Since 2005, the Central Bank of Malaysia (Bank Negara Malaysia) has granted licenses to foreign Islamic banks to operate in Malaysia. In June 2011, the Malaysian banking system contained 16 Islamic banks.[6] In March 1993, a decade after the vote for the IBA, the Malaysian authorities, and in compliance with the Islamic Banking Scheme (*Skim Perbankan Islam*),[7] authorized some conventional banks[8] to have separate Islamic windows in their branches. Under this scheme, the conventional banks must have a *Shariah* board for their Islamic banking activity. The international brilliance of this country was strengthened in 2002 when the Central

Banks and the National Monetary Authorities of some Islamic countries decided to implant the headquarters of the Islamic Financial Services Board (IFSB) in Malaysia.[9] Since 2005, the Bank Negara Malaysia (BNM) has transformed the Islamic windows into Islamic subsidiaries. The removal of the commercialization constraints of the *Shariah* compliant products by the conventional banks enhanced the liberalization of the Islamic banking sector, which induced an increase in the number of participants in the sector. In June 2011, 15 conventional banks already offered Islamic banking services in Malaysia.

The political will to implement an adequate legal and technical infrastructure for Islamic finance has contributed to strengthen the weight of the Islamic banking system. Figure 1 illustrates this catch-up effect: over the period 2007–2011, Islamic banking assets increased at a rate faster than the conventional ones. Assuming that, at the end of 2011, the growth rates (YOY) of Islamic and conventional banking assets remained constant (25.14% and 13.14% respectively), we find that the assets size of the two sub-systems (Islamic and conventional) will become equal in 2025.[10] The postcolonial political orientations and financial reforms have not only facilitated the integration of Islamic bank finance in the Malaysian financial system but have also allowed Malaysia to become an international center for Islamic finance, indicate Furqani and Mulyany (2009).

As mentioned before, Malaysia has implemented financial reforms aiming at facilitating the integration of Islamic financial institutions in its financial system. The fast and remarkable growth of Islamic financial institutions' weight compared to the conventional ones' in Malaysia shows the success of its implementation strategy. The Islamic banking subsystem has grown more and more in importance in the Malaysian banking system in terms of both balance sheet size (see Figure 1) and participant number. This revitalization of the Malaysian banking sector may have an impact on the economic activity. For example, the annual average growth (6.3%) of Islamic banking finance over the period from 2000Q1 to 2011Q4 was accompanied by a 2.7% growth of the economic activity (measured by the GDP) over the same period. Although the trend of these two aggregates seems to confirm the analyses of Chapra (1988 and 2008), Tag El-Din (2008) as well as those of Khan and
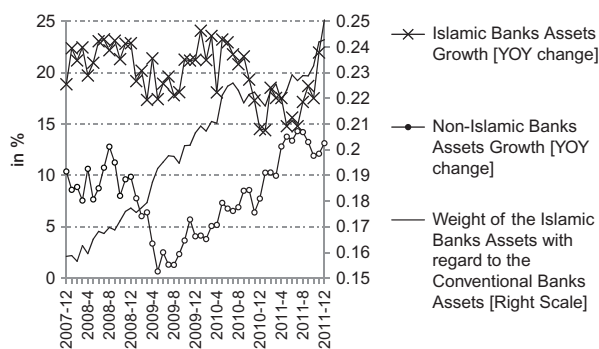
Bashar (2008).[11] Adequate statistical and econometric evaluations are necessary to examine the macroeconomic impact of Islamic banking financing development.

3. Islamic finance and economic activity
Islamic finance and economic opportunities

Demirgüç-Kunt and Levine (2008) think that by excluding a large share of the population from access to finance, the financial system contributes significantly to the persistence of inequality and to the limitation of economic opportunities for the poor. Following the same logic, Thurow (1980) has argued that in a conventional banking system, the credits are granted to those who are lucky instead of financing the projects of the most intelligent or meritocratic (Thurow, 1980 cited by Chapra in 1988 and in 1993). So, can a banking system governed by *Shariah* effectively reduce the exclusion of some population groups? Theoretically, the answer is yes. Islamic finance offers *Shariah* compliant financial products that are supposed to meet the financial needs of the population while being in harmony with the religious beliefs of some social groups. Some products offered by Islamic finance (including *mudharaba* and *musharaka*) are not based on the debtor's creditworthiness but rather on the project's economic viability and on the debtor's entrepreneurial abilities. This encourages the entrepreneurs who have investment projects to seek funding from Islamic banks. Moreover, Islamic finance does not offer its services exclusively to the Muslims, but also to all the economic agents in the society. It is called "Islamic" just because it has to respect the *Shariah* principles when structuring its products. Consequently, from this perspective, Islamic finance can, theoretically, reduce the proportion of people excluded from having access to finance. This allows Islamic finance to contribute to reducing the inequalities and improving the economic opportunities for poor people who have a high potential to contribute to the creation of added value.[12]

Islamic-Bank functions and economic activity

It is worth highlighting that the *Shariah* prohibits the borrower-lender relationship as established by the traditional bank and introduces a new "participatory associative relationship" between the intervening parties in financial transactions. This legal framework considers that the sharing of profits and losses among the funds' providers and those who provide labor as the just and fair alternative, which has to replace the interest rate practice. This structure of risk allocation makes the providers of funds more enticed to collect, *ex ante*, information about the project and about the agent in need of finance (entrepreneur), and to exercise, *ex post*, monitoring of the projects they fund.

Khan and Bashar (2008) think that the implementation of the PLS principle ensures the economic efficiency and leads to optimal levels of production, consumption and exchange. By implementing the PLS principle, Islamic finance is concerned with the economic viability of the projects rather than the personal solvency of the entrepreneur, because the most creditworthy entrepreneur may not carry the most viable projects. The financial instruments that implement the PLS principles effectively

Figure 1. Islamic Banks' Assets *vs* Conventional Banks' Assets in Malaysia.
Source: BNM / Authors' calculations.

Table 1. Islamic bank funding in Malaysia

Financing by type		5/2011	6/2011	7/2011	8/2011	9/2011	10/2011	11/2011	12/2011	1/2012
Fin. non participatory	Bai Bithaman Ajil	34.417%	34.033%	33.655%	33.509%	33.299%	32.829%	32.551%	32.087%	32.044%
	Ijarah	2.270%	2.147%	2.115%	2.063%	2.052%	2.035%	2.042%	1.990%	1.959%
	Ijarah Thumma Al-Bai	26.080%	26.083%	25.938%	26.241%	26.346%	26.450%	26.435%	25.880%	25.623%
	Murabaha	14.714%	14.801%	15.059%	14.938%	15.182%	15.396%	15.271%	15.424%	15.107%
	Istisna'	0.848%	0.818%	0.784%	0.809%	0.791%	0.784%	0.774%	0.744%	0.725%
Fin. PLS	Musharaka	2.773%	2.808%	2.880%	2.935%	3.031%	3.145%	3.642%	3.755%	3.905%
	Mudharaba	0.148%	0.139%	0.135%	0.132%	0.137%	0.130%	0.132%	0.128%	0.122%
Others		18.750%	19.172%	19.434%	19.372%	19.161%	19.231%	19.153%	19.992%	20.516%
Total		100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: BNM / Authors' calculations

are the *mudharaba* and *musharaka* contracts. Yet, the *mudharaba* contract represents various risks for agents with a financing capacity, such as the project selection risk, the risk of opportunistic behavior (adverse selection and/or moral hazard)[13] from the user of funds (entrepreneur), *etc*. To reduce these risks, the agents with financing capacity (AFC) must actively monitor the entrepreneur's funds. Nevertheless, this monitoring process can be so expensive (in terms of time and money) that some AFC choose not to provide funds for the entrepreneur. If a group of AFC forms a financial intermediary that collects the necessary information for the identification and funding of the most viable projects, then the "marginal cost of monitoring and transactions" will be decreasing for each additional AFC who decides to join this new institution. At the same time, the entrepreneurs will find the necessary funds they need thanks to the economies of scale realized by the financial intermediaries. The result will be an improvement of the loanable funds use rate, which induces a better utilization of the productive capacities in the economy. Although this theory is analytically convincing, it has not been verified empirically for Malaysia. Table 1 shows that the weight of the *mudharaba* financing is marginal (0.12% of the total Islamic bank financing in January 2012),[14] unlike the mark-up financial products (*Bai Bithaman Ajil, Ijarah Thumma Al-Bai* and *Murabaha*) that are characterized by a significant share equal to 34, 25% and 15%, respectively.

Although the Islamic bank channels the deposits to the entrepreneurs having a financing need, it does not allow the qualitative transformation of the liabilities *à la* Gurley and Shaw (1960). Theoretically, Islamic banks' liabilities are, contractually, less liquid than those of the traditional banks; the depositors in Profit Sharing Investment Account (PSIA) know that their deposits do not represent a stock of money strictly speaking. Their deposits are effectively correlated to the bank assets since Islamic bank investments are theoretically backed by a real assets. Any shocks occurring on the bank assets will be automatically transmitted to the liabilities, indicates Darrat (1988) and Yousefi *et al.* (1997). Moreover, the absence of an active Islamic Monetary Market puts Islamic banks in a critical situation to obtain their need of liquidity in the short run, added Khan and Mirakhor (1994).

Unlike the traditional banks, Islamic ones, at least theoretically, do not facilitate transactions in the short term, but, through the PLS principle, they are supposed to encourage medium and long-term investments. However, encouraging long-term investments requires an improvement of the short-term exchanges. The fact that the Islamic bank is perfectly correlated with the real activity is not enough, because this financial structure has to be sufficiently liquid to facilitate the short-term transactions, which stimulates the investments and the physical capital accumulation in the long run.

4. Theoretical model, measures and data

The theoretical specification of the Islamic finance economic growth relationship in Malaysia has been founded on the basis of the neoclassical production function augmented by some indicators of Islamic financing. Thus, the capital[15] and the labor force[16] are used in this paper as the control variables of the economic growth. The construction
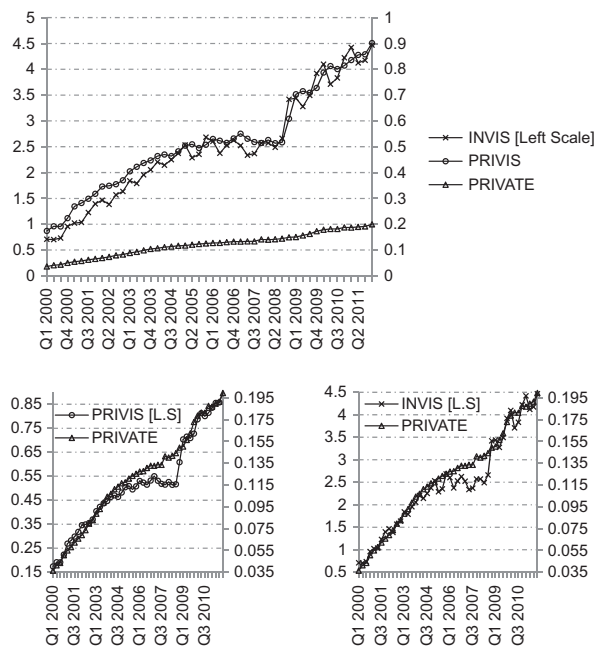
Figure 2. Development Indicators of the Islamic Banking Sector in Malaysia.
Sources: BNM / IFS / Department of Economics-Malaysia / Authors' Calculations.

of Islamic finance indicators has been inspired by the analyses of Goldsmith (1969)[17], King and Levine (1993a and 1993b), Levine (1993, 1997 and 2005)[18] Galindo and Micco (2004), Ammar-Ayachi et *al.* (2011)[19], Abu-Bader and Abu-Qarn (2008) and Furqani and Mulyany (2008).

To estimate Islamic bank contribution in financing the economy, we use the following indicators: "PRIVATE", "PRIVIS" and "INVIS". The latter are, respectively, defined as being the ratio of the outstanding loans granted by Islamic banks to the total outstanding bank loans (Islamic and non-Islamic) granted to the private sector,[20] as the ratio of the bank loans granted to the private sector by Islamic banks to the GDP and as the ratio of the loans granted by the Islamic Financial Intermediaries to private investments. The "PRIVATE" ratio allows measuring Islamic banks' contributions in financing the economy. The "PRIVIS" ratio, which approximates the "PRIVY" ratio proposed by Levine (1997),[21] is used as a measure of Islamic banking sector development. Regarding the "INVIS" ratio, which enables us to complete the "PRIVIS" ratio, it allows to assess the contribution of Islamic financial intermediaries in the capital accumulation of the economy.

Concerning the case of the Malaysian economy, the dynamics of these indicators during the period 2000:1–2011:4 are presented by the following graphs:

As standard practices, we use the real GDP (on Purchasing Power Parity (PPP)) to measure the real income level. Several sources have been used for data collecting purposes, namely: the Department of Statistics Malaysia for the GFCF (Gross Fixed Capital Formation) and for the GDP, the Central Bank of Malaysia (Bank Negara Malaysia)

for the Islamic bank financing,[22] the International Financial Statistics for the labor force, and the Oxford Economics (via Datastream) for the CPI (Consumer Price Index) and for the PPP-based real GDP. We have also used Thomson-Reuters to get the series of the MYR/USD exchange rates necessary to express all the aggregates in US Dollar. All the series are in quarterly frequency, ranging over the period extending from the first quarter of 2000 to the fourth quarter of 2011.

5. Econometric results and interpretation

To estimate the impact of Islamic bank finance on the economic growth in Malaysia, we use, as mentioned above, a neoclassical production function augmented by indicators of Islamic bank finance. This function is specified as follows:

$$LY_t = \lambda_1 + \lambda_2 LX_t + \lambda_3 LW_t + \lambda_4 LK_t + U_t \qquad (1)$$

Where Y stands for the real income measured by the PPP-based GDP, X is an indicator of Islamic bank financing depth measured by the ratios "PRIVATE", "PRIVIS" or "INVIS", W is the labor force, and K, replaced by the GFCF, is the variation of the physical capital stock. L denotes the natural logarithm of variables. U is a stochastic term.

The KPSS and the ADF tests show that all the variables of model (1) are integrated of order 1.[23] This integration degree allows us to use the Johansen's procedure to test the existence of potential cointegration vector(s) or long-run relationships between the variables of model (1). For each Islamic financing indicator, Table 2 shows the existence of a single long-run relationship between this indicator, GDP, investment and labor.

The econometric results in Table 2 show that the long-term growth elasticity in Malaysia is not so sensitive to the different indicators of Islamic bank financing. In fact, a 1% increase of any Islamic financing indicator allows a growth increase in Malaysia by a percentage that varies between 0.148% and 0.206% only. This economic result can be explained by the fact that the non-participatory (Mark-up) Islamic bank financing, usually of short term, dominates (75%) the participatory (PLS) instruments (25%), generally of long term. Moreover, we believe that the elasticity of the Malaysian economic growth with respect to the capital stock is biased because the economy in question is not highly capital-intensive as it is the case with the industrialized countries.

The existence of a long-term relationship between the variables of model (1) allows us, in accordance with Engel and Granger representation theorem (1987), to formulate the following structural model with an error correction term as follows:

$$\Delta LY_t = \alpha_0 + \sum_{j=1}^{3} \alpha_j \Delta LY_{t-j} + \sum_{j=0}^{3} \beta_j \Delta LK_{t-j} + \sum_{j=0}^{3} \gamma_j \Delta LW_{t-j}$$
$$+ \sum_{j=0}^{3} \lambda_j \Delta LX_{t-j} + \delta ECTX_{t-1} + V_t \qquad (2)$$

The variable X expresses an indicator of Islamic bank financing which can be either "PRIVATE," "PRIVIS" or "INVIS." The variable ECTX expresses the residual terms or deviations from the GDP equilibrium calculated three times

Table 2. Cointegration analysis between GDP, GFCF, labour and an indicator of Islamic financing.

	λ_{trace} test				λ_{max} test			
Null hypothesis	r=0	r≤1	r≤2	r≤3	r=0	r=1	r=2	r=3
Alternative hypothesis	r≥1	r≥2	r≥3	r=4	r=1	r=2	r=3	r=4
The variable "PRIVATE" as an indicator of Islamic bank financing								
LR statistic	54.98	20.17	9.68	3.29	24.81	15.48	8.39	3.29
Critical values	40.17	24.27	12.32	4.12	24.15	15.79	11.22	4.12
	LY		LK		LW		LPRIVATE	
Long-term relationship	−1		0.709		0.524		0.187	
The variable "INVIS" as an indicator of Islamic bank financing								
LR statistic	49.35	18.17	12.05	3.75	31.17	16.12	6.30	3.75
Critical values	40.17	24.27	12.32	4.12	24.15	15.79	11.22	4.12
	LY		LK		LW		LINVIS	
Long-term relationship	−1		0,758		0,423		0,148	
The variable "PRIVIS" as an indicator of Islamic bank financing								
LR statistic	57.66	20.40	10.82	3.60	27.26	14.57	10.21	3.60
Critical values	40.17	24.27	12.32	4.12	24.15	15.79	11.22	4.12
	LY		LK		LW		LPRIVIS	
Long-term relationship	−1		0,690		0,534		0,206	

by considering, firstly, the indicator "PRIVATE," secondly, the indicator "INVIS" and thirdly the indicator "PRIVIS."

Three error correction equations (equations A, B, and C, see table 3) have been estimated, each of them contains an Islamic financing indicator (PRIVATE in equation A, PRIVIS in equation B, and INVIS in equation C). Table 3 shows the econometric results.

In econometric terms, equations A, B and C reveal neither a problem of autocorrelation, as shown by the LM statistics, nor a problem of conditional heteroskedasticity, as evidenced by the ARCH test statistics, and not even a problem of linearity, as shown by the Ramsey test. These statistical results allow us to conclude that these estimators are efficient and, therefore, the t-statistics turn out to be reliable. The test of Jarque and Bera proves the normality of the shocks, which make possible the use of the student test.

Economically, the econometric results shown in Table 3 enable us to draw several empirical remarks. First, we note that all the adjustment forces are negative, between 0 and 1, in absolute value, and are statistically significant. This indicates the existence of an adjustment process towards the equilibrium of the GDP. Second, we notice that the estimated adjustment coefficient in equation "A" is significantly greater than those of equations "B" and "C." This means that in equation "A," 71% of the GDP deviations are corrected, which is not the case in equations "B" and "C," where we observe a correction process estimated to 31% and 43% respectively. Thus, we can conclude that the inclusion of Islamic indicator "PRIVATE" in equation "A" induces an adjustment process that is more significant than those observed in equations "B" and "C," where "INVIS" and

"PRIVIS" are used. This can be explained by the structure of Islamic bank finance indicators that we have constructed.

Indeed, the outstanding Islamic loans, appearing in the numerator, represent the common point for the entire Islamic bank finance development indicators proposed in this paper. The denominator, however, differs from one indicator to another. The indicator "PRIVATE" is deflated by the total of the bank loans while the ratios "PRIVIS" and "INVIS" are deflated by the GDP and GFCF respectively. The construction of these indicators indicate that the bank loans, as used in "PRIVATE," have been more active in correcting the GDP equilibrium than the other variables considered in the denominators of "INVIS" and "PRIVIS."[24] The evolution of these bank loans is more important and volatile than the dynamics of the macroeconomic aggregates used in the other two indicators (GDP and the GFCF). This volatility of bank loans seems to give more dynamics to the "PRIVATE," which explains the fact that the adjustment mechanism of the GDP to the equilibrium is more important in equation "A" than those in equations "B" and "C."

Furthermore, we notice that the short-term effect of the different variables of Islamic bank finance seems to be more important than the long-term effect. This econometric result is in line with the economic reality in Malaysia, as Islamic banks engage much more in non-participatory activities (see Table 1) whose impact is, generally, of a short-term nature.[25] This has been confirmed by our econometric estimation since the GDP short-term elasticities are greater than those estimated in the long term. Table 3 shows that the estimated growth elasticity with respect to PRIVATE equals 0.365 much greater than the long-run one, which equals 0.187.

Table 3. Equations of the Economic Growth (Dependant Variable: ΔY, Estimation by MCO: 2000Q1–2011Q4).

Regressors	Coefficients of equation A		Coefficients of equation B		Coefficients of equation C	
Intercept	0.0033	(0.580)	0.0100	(2.063)	0.0012	(0.233)
ΔLY_{t-1}	0.1922	(0.085)	0.0416	(0.437)		
ΔLK_{t-3}			0.0840	(1.560)		
ΔLK_t	0.3747	(8.880)	0.3376	(8.709)	0.6317	(7.546)
ΔLW_{t-3}	0.2251	(1.396)				
ΔLW_{t-2}	0.2555	(1.460)				
ΔLW_{t-1}	0.2182	(1.106)				
ΔLW_t	0.2907	(1.730)	0.4041	(2.529)	0.2272	(1.479)
$\Delta LPRIVATE_t$	**0.3651**	(3.023)				
$\Delta LPRIVIS_{t-2}$			**0.3553**	(3.511)		
$\Delta LPRIVIS_{t-1}$			−0.3736	(−3.817)		
$\Delta LINVIS_{t-2}$					−0.0609	(−1.705)
$\Delta LINVIS_{t-1}$					−0.1449	(−2.954)
$\Delta LINVIS_t$					**0.3355**	(4.429)
Error Correction Term (ECT)						
$ECTX_{t-1}$	−0.7179	(−8.317)	−0.3188	(−3.369)	−0.4363	(−3.618)
Statistics and Residual Tests						
R^2	0.8268		0.8389		0.8399	
DW	1.8576		2.4150		1.5850	
LM (1) *F*-statistic	0.0233	[0.879]	6.2928	[0.016]	0.6560	[0.423]
LM (2) *F*-statistic	0.4638	[0.632]	3.0691	[0.059]	0.5881	[0.560]
ARCH (1) *F*-statistic	0.3362	[0.565]	3.1443	[0.083]	4.6510	[0.036]
ARCH (2) *F*-statistic	0.2674	[0.766]	1.4221	[0.253]	2.0005	[0.148]
RESET (1) *F*-statistic	1.1770	[0.285]	0.3931	[0.534]	4.0173	[0.052]
RESET (2) *F*-statistic	1.9686	[0.155]	0.8379	[0.441]	2.3852	[0.106]
Jarque-Bera test	1.3167	[0.517]	1.1710	[0.556]	0.8970	[0.638]

6. Conclusion

In this paper we have attempted to estimate the impact of Islamic bank finance on the economic growth in Malaysia over the period from 2000Q1 to 2011Q4. A neoclassical production function augmented by some indicators of Islamic bank finance has been the theoretical framework for our empirical investigation. The unit root tests show that all the variables are integrated of order 1. The test of Johansen-Juselius (1990) has shown the existence of a single cointegrating relationship between the GDP, the investment, the labor force and the indicator of Islamic bank finance. Hence, an error correction model has been constructed to estimate the economic growth elasticity with respect to the different Islamic bank finance indicators. Based on the estimated long-term relationship, the elasticities of the GDP to the three Islamic finance indicators (PRIVATE, INVIS and PRIVIS) are equal to 0.187, 0.148 and 0.206% respectively. These estimated elasticities show that, in the long-term, the GDP in Malaysia is not sensitive to Islamic financing. The presence of a cointegrating vector between the variables in question has enabled us to specify an error correction model whose estimation has allowed us to identify the short-term elasticity of economic growth with regard to Islamic finance indicators. The estimation of such a model shows short-term Islamic financing/economic-growth elasticities which are more important than the long-term elasticities. With respect to the different Islamic financing indicators, these short run elasticities turn around 0.35. This economic result can be explained by the structure of Islamic bank financing that marginalizes the PLS-based instruments. This turns out to be consistent with the economic reality in Malaysia, since Islamic banks engage much more in non-participatory activities whose impact is, generally, of short-term. The estimated ECM model has also shown negative and statistically-significant adjustment forces for the different indicators of Islamic financing. This result allows us to confirm the presence of an adjustment process towards the equilibrium level of the GDP. This process is more important in the equation where the variable "PRIVATE" is used as an indicator of Islamic finance development.

Notes

1. PLS stands for Profit and Loss–Sharing.
2. It is worth mentioning that Darrat (1988) has clearly indicated, in his paper, that his choice for Tunisia as a study case was only due to the availability of data.
3. See footnote 18.
4. Although the paper of Furqani and Mulyany (2009) used an ECM model, their econometric results remain inconsistent since the statistical properties of this type of models are asymptotic as these authors used only 34 observations.
5. This fund which provides for pilgrimage enjoyed a legislative support. It is a non-financial institution charged by deposits collection from those wishing to make the pilgrimage, and it is committed to invest the funds collected in sectors that respect the *Shariah*. All Malaysian who wish to make the pilgrimage have to go through *Tabung Haji*. For more details see Kahf, M., (2004) and Chong, B.S., and Liu, M.H., (2009).
6. Affin Islamic Bank Berhad, Al Rajhi Banking & Investment Corporation (Malaysia) Berhad, Alliance Islamic Bank Berhad, AmIslamic Bank Berhad, Asian Finance Bank Berhad, Bank Islam Malaysia Berhad, Bank Muamalat Malaysia Berhad, CIMB Islamic Bank Berhad, Hong Leong Islamic Bank Berhad, HSBC Amanah Malaysia Berhad, Kuwait Finance House (Malaysia) Berhad, Maybank Islamic Berhad, RHB Islamic Bank Berhad, Standard Chartered Saadiq Berhad, Public Islamic Bank Berhad, OCBC Al-Amin Bank Berhad.
7. On November 12, 1998, the Central Bank of Malaysia (BNM) issued a circular to replace the SPTF term (*Skim Perbankan Tanpa Faedah*) used since 1993 by the term SPI (*Skim Perbankan Islam*).
8. These Banks have had their license in accordance with the *Banking and Financial Institutions Act* (BAFIA) adopted by the parliament in 1989, as a substitution to the Finance Companies Act of 1969 and the Banking Act of 1973.
9. The mandate of this authority is to ensure the stability and the solvency of the Islamic financial service industry by the development of new standards compliant with the Islamic Financial Institutions, and by the harmonization of the practices in the financial industry. Along with the revision of Basel in 2005, the IFSB issued two regulatory standards on capital adequacy and risk management by the Islamic Financial Institutions (See Hesse, et al., 2008:180 and Warde, 2000:130).
10. This projection has been made by the authors.
11. The authors consider that the development of the Islamic finance will have a positive impact on the economic activity.
12. Chapra (2008) argued that poverty reduction is a necessary step for economic development.
13. Despite the fact that moral hazard is among the most significant risks in the PLS contracts (Bacha, 1997; Bjorvatn, 1998; al-Jarhi, 2007; Sugema *et al.*, 2010), it does not explain, by itself, why the Islamic banks marginalize this type of contracts. Moral hazard is a general problem and it is not exclusively specific to the Islamic banks: banks, whether Islamic or Conventional, are exposed to such a risk. However, the problem [moral hazard] is particularly serious in the developing countries where the systematic holding of a regular accounting is rare and/or where companies, and for reasons of tax evasion, keep several accounts. As a result, the monitoring cost that the Islamic bank has to pay to verify the real profitability of the project is very high in comparison with the cost that traditional banks bear, said Bjorvatn (1998). The result is a decline in the share of the real asset-backed long-term financing based on the PLS.
14. The obligation of backing by a real asset helps to eliminate most unproductive and speculative transactions that involve *gharar* (high uncertainty) and *qimar* (bet), indicates Chapra (2008). This favors the accumulation of physical capital which, in turn, stimulates the economic activity. Iqbal and Mirakhor (1987) indicate that this theory has not been empirically validated by the facts. In practice, Islamic banks are reluctant to invest in long-term projects and prefer to fund short-term projects. This can be explained by the fact that "the long-term" is unknown and unpredictable (Chapra, 2003). By focusing on financing the working capital and trade in the short-term, the Islamic banks marginalize the financing of the long-term investment projects, thus reducing the economic growth and development prospects.
15. In theory, the Islamic finance is perfectly correlated with the real economy as any financial transaction must be backed by a real asset rather than by an imaginary or notional one (Chapra, 2008). This principle is of paramount importance for the structuring of certain products such as sukuk (the name given to the *Shariah compliant* Bonds). For this reason, we include, in the same way as Abu-Bader and Abu-Qarn (2008) and Fuqani and Mulyany (2008), the ratio of investment to the GDP (denoted K in the econometric specification) in the economic growth specification.
16. As the labor force is the main factor that explains and justifies the wealth creation and capital accumulation by the individuals in Islam (Touba, 2006; Martan, 2001), we include the labor force as an exogenous variable to explain the dynamic of the economic activity.
17. To measure the financial development, Goldsmith (1969) uses the assets value of the financial intermediaries divided by the Gross National Product (GNP), under the assumption that the financial system size is positively correlated with the quality of the supplied financial services. He found a strong correlation between financial development and economic growth for 35 countries studied over the period 1866-1963.
18. King and Levine (1993a; 1993b) and Levine (1997 and 2005) have investigated the relationship between financial development and economic growth for a panel of 80 countries over the period 1960-1989. They have used four measures of the financial development level. For instance, to measure the size of the financial intermediaries, they have used the "DEPTH" ratio, which is equal to the financial system's liquid liabilities divided by

the GDP. They found a strong correlation between this ratio and the real GDP per capita.

19. Ammar-Ayachi et *al.* (2011) have used the ratio of broad money (M3) divided by the GDP to measure the size of the Islamic financial intermediaries. This is not adequate to measure the size of the Islamic finance because their sample, consisting of 15 countries, has included 12 countries that have adopted the mixed system—i.e. countries with Islamic and "non-Islamic" financial intermediaries.

20. King and Levine (1993) and Levine (1997) have used the ratio of credits allocated to the private companies to the total of the domestic credits (while subtracting the loans granted to banks).

21. The purpose of the financial system is to finance the economic activity through the financing of the private economic agents. Galindo and Micco (2004) have found that the State led banks do not facilitate the growth of the manufacturing industries which depend on external financing. Levine (1993 and 1997) also considers that if the *raison d'être* of a financial system is to fund the government, then it will be no more effective in the fulfillment of its functions, because the financial systems that grant more credits to the private firms are more active in the search for private information, in the monitoring of the funded projects, in the risk management, in the mobilization of savings and in facilitating transactions. For this reason, King and Levine (1993a,b) and Levine (1997) use the "PRIVY" ratio, which is equal to the credit granted to the private sector divided by the GDP, as a measure of the development of the financial system.

22. We gathered the data on the Islamic bank financing from Tables 1.18.1, 1.19.2 and 1.19.3 available on the website of the BNM.

23. The unit root test results are not submitted in the paper but can be provided by the authors upon request.

24. The exogeneity test has also shown that "PRIVATE" is weekly exogenous, which indicates that this indicator contributes to the GDP adjustment process but it does not undergo an adjustment process. This econometric result is available upon request.

25. As explained above, the engagement of the Islamic banks in the short-run activities is not conforming to the PLS principles of the Islamic finance.

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Distributional and poverty consequences of globalization: Are OIC countries different?

M. Tariq Majeed

Assistant Professor of Economics Quaid-i-Azam University Islamabad, Pakistan

Abstract - This study examines the impact of globalization on cross-country inequality and poverty using a new comparable panel data for Organisation of Islamic Cooperation (OIC) and non-OIC developing countries over a long period, 1970–2008. The major findings of the study are that, first, a non-monotonic relationship between income distribution and level of economic development holds in both samples of countries. However, this relationship is comparatively stronger in the case of non-OIC countries. Second, globalization causes adverse consequences on income inequalities in OIC countries while it does not exert adverse effects in non-OIC countries. Third, in the poverty model, openness to trade accentuates not ameliorates poverty in both sets of countries, while FDI affects only the poor of the non-OIC countries. Fourth, financial liberalization exerts a negative and significant influence on income distribution in OIC countries only. Fifth, inflation distorts income distribution and poverty in both sets of countries. Finally, the role of government is robustly significant in reducing inequalities and poverty in non-OIC countries, while the role of government is insignificant in the OIC world. The overall results of this study show that globalization exerts adverse distributional and poverty consequences and, comparatively, OIC countries suffer more from the adverse consequences of globalization. This study concludes that OIC countries are different from non-OIC countries in terms of their exposure with globalization.

Keywords: globalization, poverty, inequality, FDI, OIC countries

Introduction

Jeffrey Williamson (2002) points out that the current world has experienced two globalization booms and one bust over the past two centuries. The first wave of globalization started at the end of 18th century and lasted until the beginning of World War I, while the second wave of globalization started at the end of World War II and exists until the present. The inter-war period was one of an anti-global backlash because, during this period, countries followed inward-looking policies using trade barriers such as tariffs and quotas.

The first wave of globalization was driven mainly by technical improvements in transportation systems, massive migration, and long-term foreign direct investment in developing countries. The industrial revolution of the UK also played a key role in increasing the speed of globalization as it led to high productivity and inter-country trade flows. The second wave of globalization was driven mainly by short-term financial flows, a dramatic reduction in communication costs (referred to as "the death of distance"), and outward looking trade policies.

The world was homogeneously poor and agrarian at the beginning of the first wave of globalization. However, the world was sharply divided between rich industrial nations and poor primary producers at the beginning of second wave of globalization.

In the first episode of globalization, poverty decreased from 84% in 1820 to 66% in 1910. In the second episode of globalization, the poor benefitted more as poverty decreased from 55% in 1950 to 24% in 1992. The poverty rates probably remained stagnant during the inter-war period.

Recently, Sala-i-Martin (2002) found that poverty rates have reduced remarkably over the recent two decades. He shows that the numbers of poor, subsisting on $1/day, decreased by 235 million between 1976 and 1998. However, the decline of poverty rates across regions has been far from uniform. In this period, Asia has undergone dramatic improvements, particularly after 1980. In Latin America, poverty reduced substantially in the 1970s but effectively stopped in the 1980s and 1990s. Africa has been a disaster area with respect to poverty as poverty rates in this region have increased substantially over the last thirty years. In Africa, the number of $1/day poor increased by 175 million over the period 1970–1998. In 1960, 11%

of the world's poor lived in Africa while by 1998 that proportion had risen to 66%.

Thus, a historical negative relationship between globalization and poverty masks variations within and between countries in their experiences with globalization. Despite pro-poor globalization over the past two centuries, poverty is still a long-standing issue as one-sixth of the world population is still living below the poverty line. This is why many decades of increasing globalization could not silence the debate over the benefits of globalization. The fierce street protests surrounding the ministerial meeting of the WTO and similar protests at the World Bank and the IMF show that anti-globalization debate is getting stronger.

The arguments that globalization helps the poor and decreases inequality are that, according to the static argument, globalization in the form of trade liberalization enhances demand for exports. Since developing countries are abundant in low-skilled labour force, growth in labour-intensive exports leads to high demand for low-skilled workers. This causes lower inequality and poverty because the high demand for workers increases real wages (see, e.g., Krueger 1983).

The other argument is dynamic, linking trade and poverty through growth. Where trade enhances growth, then growth, in turn, reduces poverty. Robertson (1940) characterized trade as an "engine of growth" while Smith (1776) argued that when society is "advancing to the further acquisition... the condition of the labouring poor, of the great body of the people, seems to be the happiest."

The argument that globalization, in the form of trade openness, increases inequality and poverty is based on the concept of "skill premium". Trade liberalization is also a source of technology diffusion from developed to developing countries. The technology diffusion generates a skill premium in favour of high-skilled labour. Thus, demand for labour increases and wage inequalities further widen (see, e.g., Berman et al. 1994; Autor et al. 1998).

Other theories on the distributional and poverty consequences of globalization can be classified into three categories (Wade, 2001):

1. According to the neoclassical growth theory, in the long run, income differences across nations are likely to converge because of increased international capital flows.
2. The endogenous growth theory predicts less convergence and more probable divergence because increasing returns to technological innovations tend to offset diminishing returns to capital.
3. The dependency theory predicts that globalization does not lead to absolute convergence. The argument is that developing countries have a narrow exports base, and relatively limited access to the markets of developed economies.

Another related issue is the change in inequality over the path of development. The Kuznets (1955) inverted-U hypothesis predicts that income inequality increases at lower levels of economic development while it tends to decline at higher levels of economic development because

of trickle down effects. Does Kuznets curve hold? Do the poor benefit more from higher levels of economic development? The existing literature is not yet conclusive.

In the presence of such diverse and contradictory theoretical predictions, a deeper understanding of distributional and poverty consequences of globalization requires largely empirical evidence. The empirical literature ignores the relative contribution of globalization and other fundamental variables in OIC countries. In particular, a comparative analysis of OIC and non-OIC countries appears to be missing in the current empirical literature. This study, therefore, fills these gaps and attempts to provide a better understanding of distributive and poverty effects of globalization. Why is it important to investigate separate parameter estimates for OIC and non-OIC countries? According to the annual economic report on the OIC countries 2010, economic performance in developing OIC countries is substantially different from the rest of the developing countries. Therefore, a separate regression modelling to assess the inequality and poverty consequences of globalization in OIC countries is necessary as it will capture parameter differences.

This study, therefore, attempts to fill the gaps in the existing literature by addressing six key concerns:

1. Does economic development benefit different economic actors equally or it comes at the cost of increased inequality and poverty?
2. Is the effect perhaps different over the path of development in the long run?
3. Does high financial intermediation reduce inequality and poverty?
4. Do high inflation rates accentuate poverty incidence?
5. Does globalization spill over benefits equally?
6. What is the role of government in all this; does government spending reduce potentially existing inequality and poverty?

Literature review

The Heckscher-Ohlin (HO) model shows that a nation specializes in a product which requires an intensive use of its abundant factors of production. Developing countries specialize in labour-intensive products as they are abundant in low-skilled labour. In the process of labour-intensive product specialization, demand and wages for low-skilled labour tend to increase, thereby increasing the wage inequality gap. However, the lower inequality and poverty predicted by the HO model relies on the assumption of identical technologies across countries. If this assumption is dropped then distributional and poverty effects also depend on technology diffusion from developed countries to developing countries that will generate a skill premium and increase the demand and wages of high-skilled labour. Thus, wage distribution becomes more unequal in an open economy (see, e.g., Berman et al. 1994; Autor et al. 1998).

In an open economy, increased imports allow a developing economy to upgrade its technology through the imports of mature and second hand capital goods (see, e.g., Barba et al. 2002). Acemoglu (2003) also argues that trade openness leads to technical upgrading by allowing a rise in the international

flows of capital goods. Robbins (2003) defines technological upgrading as "skill enhancing trade hypotheses".

In addition, Perkins and Neumayer (2005) point out that a lagging developing country directly jumps on relatively new technology and therefore exploits the benefits of the late-comer. When the south rapidly adopted the modern skill-intensive technologies, the demand for and wages of skilled labour increased which, in turn, increased inequalities in developing countries. In an open economy, exports also create incentives for replacement of outdated technologies to have a better access in the markets of developed countries. Yeaple (2005) shows that exports based on updated technologies lead to high profits.

In a case of Mexico, Hanson and Harrison (1999) show that firms demand more white-collar workers in the exporting sectors than the non-exporting sectors of production. Therefore, exports widen inequalities. Moreover, Berman and Machine (2004) confirm this positive relationship between exports and inequality for developing countries. These studies build a positive link between exports and inequality but do not link exports to poverty. Some survey studies point out that the relationship between globalization and poverty has been assessed indirectly (Winters et al. 2004; Goldberg and Povcnick 2006; Ravallion 2004). This study fills the gap by developing a direct link between globalization and poverty for OIC countries

In a case study of Brazil, Carneiro and Arbache (2003) found out that trade liberalization may not be sufficient to significantly reduce poverty. In another case study of Papua New Guinea, Gibson (2000) revealed that poverty increased during 1990s. In a recent study, Majeed (2010) established that trade accentuates, not ameliorates, and that it intensifies, rather than diminishing, poverty in the case of Pakistan.

Theory of inequality and poverty determinants

Levels of economic development affect inequalities in a non-linear way, as predicted by Kuznets (1955). Inequalities tend to increase at lower levels of economic development but fall at higher levels of economic development due to trickle down effects. Paukerit (1973) and Ahluwalia (1976) support Kuznet's point of view. However, some later studies (see e.g., Deininger and Squire 1998) do not provide evidence to support Kuznet's Curve.

The role and importance of financial development in reducing income inequality can be traced back to the earlier theoretical papers of Galor and Zeira (1993) and Banerjee and Newman (1993). These papers show the inequality-narrowing effect of financial development. Nevertheless, Greenwood and Jovnovie (1990) predict an inverted U-shaped relationship between financial development and income distribution; they show that financial development initially favors the rich but over time it helps the poor also, when more people have access to the financial system.

Inflation can increase inequalities through its effect on individual income and can reduce inequalities in the presence of a progressive tax system. The inequality-widening effect of inflation is more pronounced when wages fail to chase increasing price levels. In developing countries trade unions are weak and minimum wage laws are dysfunctional in the presence of weak institutions. Thus, workers are left with less or no rise in wages, while owners of the firms enjoy the benefits of rising prices and become increasingly rich (MacDonald and Majeed 2010).

Income inequality may increase or decrease with increase in government spending. If most redistribution through taxes and transfer system is towards the poor, government spending might result into lower inequality. Papanek and Kyn (1986) tested the impact of government intervention on inequality and the results of their study do not support the contention that government spending reduces inequality. They argue that government intervention often benefits the elite, such as the political, bureaucratic and military leadership, rather than poor. However, some cross-country studies (Boyd 1998; MacDonald and Majeed 2010), found the size of the public sector to be significant in reducing income inequality.

Generally, it is believed that faster population growth is associated with higher income inequality. One of the reasons is that the dependency burden may be higher for the poor group. Deaton and Paxon (1997) argue that population growth increases the size of families in the poor stratum, thereby increasing inequality and poverty. Investment in human capital can be expected to reduce the income gap as higher education improves skills, productivity and labour income.

One of the most widely promoted hypotheses in social sciences is that economic growth reduces poverty. Economic growth is an important predictor of poverty. It is widely argued in the literature that growth is pro poor (see, e.g., Ravallion, 1995, 1997). Population growth is another important determinant of poverty. In the literature, it is generally argued that population growth increases poverty. For instance (Deaton and Paxon, 1997) argue that population growth increases the size of families in the poor stratum, thereby increasing poverty. Becker, Glaeser and Murphy (1999) argue that population growth does not increase the labour force and high income in the presence of poor agricultural economies, limited human capital and outdated technology.

Methodology

In this section, a methodological frame work for inequality and poverty is introduced. Following the conventional wisdom of the literature on inequality, initially Kuznet's curve has been modelled followed by some key control variables and, subsequently, proxies for globalization have been introduced.

Inequality Model

$$\log Gini_{it} = \alpha_{it} + \gamma_1 \log Y_{it} + \gamma_2 \log Y^2_{it} + \varepsilon_{it} \qquad (I)$$

$$(i = 1,.........N;\ t = 1,........T)$$

$\log Gini_{it}$ = natural logarithm of the G$_{ini}$ Index
$\log Y_{it}$ = natural logarithm of income per capita, adjusted with PPP
$\log Y^2 it$ = square term controlling nonlinear conditional convergence across the countries
ε_{it} = disturbance term

Equation (I) is conventionally used to test for Kuznets hypotheses (Randolph and Lot, 1993; Garbis, 2005). The expected signs for γ1 and γ2 are positive and negative respectively. Cross country inequality variation depends on other factors such as government size, education and population growth. Higher targeted government spending could reduce inequalities given that rent seeking activities are avoided and government spending enhances the possibilities and opportunities for the poor. A rise in human capital can be expected to narrow down the gap between poor and rich as higher education improves skills, productivity and labour income.

Equation (I) can be rewritten as:

$$\log Gini_{it} = \alpha_{it} + \gamma_1 \log Y_{it} + \gamma_2 \log Y^2_{it} + \gamma_3 \log G_{it} + \gamma_4 \log HK_{it} + \gamma_5 \Delta Pop_{it} + \varepsilon_{it} \qquad \text{(II)}$$

G_{it} = natural log of government spending as proxy for government spending on social sector
HK_{it} = secondary school enrolment rate
ΔPop_{it} = percentage change in total population
ε_{it} = disturbance term

Finally, globalization variables are included following the suggestions of Barro (2000) and Aisbett (2005).

According to the Stolper-Samuelson theorem, the expected sign for γ_6 depends on the comparative advantage of an economy relative to its trading partners. Similarly, the sign for γ_7 could be expected to be either positive or negative.

Poverty Model

This study follows a basic poverty-growth model suggested by Ravallion (1997), and Ravallion and Chen (1997). In the first step, I estimate the elasticity of poverty with respect to economic growth for OIC and non-OIC countries in separate regressions. In the next step, this study introduces measures for inequality and level of economic development in order to estimate their effects on existing poverty incidence. The incidence of poverty in this article, for data constraints, has been measured as headcount index defined as population living below US$1/day per capita, a standard measure used in the literature, and adjusted with PPP. The relationship for growth-poverty elasticity can be written as:

$$\log P_{it} = \alpha_{it} + \beta 1 g + \varepsilon_{it} \qquad \text{(1)}$$

$$(i = 1,.........N; t = 1,........T)$$

Where P_{it} indicates poverty in country i at time t and g_{it} measures annual growth rate. The coefficient β_1 measures elasticity of poverty with respect to growth given by g and e is an error term. An estimated value of β_1 gives the average growth elasticity of poverty in OIC and non-OIC countries. However, this average measure could be misleading because β_1 differs across countries and over time, depending upon other poverty determinants that explain poverty variation. For example, Bourguignon (2003) points out the importance of income distribution and initial level of development as additional controls of poverty while estimating the growth elasticity of poverty;

he stresses the results whereby β_1 is affected significantly by inequality changes during a growth spell and by initial inequality prevailing at the start of such a spell. The modified version of equation (1) that includes inequality elasticity of poverty and economic development can be written as:

$$\log P_{it} = \alpha_{it} + \beta_1 g + \beta_2 \log(ineq) + \beta_3(X_{it}) + \varepsilon_{it} \qquad \text{(2)}$$

P_{it} = natural logarithm of head count ratio
ineq = natural logarithm of Gini index
X_{it} = a vector of control variable for poverty other than economic growth and income distribution

Apart from the initial distribution of income and level of economic development, poverty results from complex economic and social processes. For these reasons, this model is extended to include some other factors. Recent studies suggest that households with better profiles of human capital are less prone to poverty incidence compared to those with lower acquisition of human capital. This study measures human capital with average years of schooling.

Finally, the main factors related to globalization are put into the model. Conventionally, in the literature, two measures of globalization used are trade and capital flows. Winter et al. (2004) found that trade liberalization reduces poverty in the long run, while Carneiro and Arbache (2003) did not find a significant effect of trade on inequality and poverty using the CGE model.

$$\log P_{it} = \alpha_{it} + \beta_1 g + \beta_2 \log(ineq) + \beta_3(X_{it}) + \beta_4(Trade / Y) + \beta_5(FDI / Y) + \varepsilon_i \qquad \text{(3)}$$

Trade = ratio of exports plus imports to GDPs
FDI = ratio of FDI inflow to GDP

Data and estimation procedure

This study uses the Gini coefficient to measure income inequality, this being one of the most popular representations of income inequality. It is based on the Lorenz Curve, which plots the share of population against the share of income received and has a minimum value of 0 (case of perfect equality) and maximum value of 1 (perfect inequality). Missing values in income inequality data are the major problem in cross-country analysis. Many developing countries have only one or two observations. Therefore, the existing database was expanded by including comparable data on inequality from recent household surveys included in the World Bank, UNDP, and IMF Staff reports.

To make the data more comparable, this study takes data on variables in the form of averages between two survey years. Per capita real GDP growth rates are annual averages between two survey years. Panel data for 22 OIC and 43 Non OIC countries for the period 1970–2008 have been assembled with the data averaged over periods of three to seven years, depending on the availability of inequality data. The minimum number of observations for each country is three and the maximum, nine. That is, only countries with observations for at least three consecutive periods are included. The description of variables is given in Table 1.

Table 1. Description of variables.

Variable name	Definitions and Sources
Per capita real GDP	Per capita real GDP growth rates are annual averages between two survey years and are derived from the IMF, WDI and International Financial Statistics (IFS) databases.
Gini coefficient	It is a measure of income inequality based on Lorenz curve, which plots the share of population against the share of income received and has a minimum value of zero (reflecting perfect equality) and a maximum value of one (reflecting total inequality). The inequality data (Gini coefficient) are derived from World Bank data, UNDP and the IMF staff reports.
Secondary school enrolment	The secondary school enrolment as % of age group is at the beginning of the period. It is used as a proxy of investment in human capital and derived from World Bank database.
Inflation	Inflation rates, annual averages between two survey years, are calculated using the IFS's CPI data.
Credit as % of GDP	Credit as % of GDP represents Claims on the non-financial private sector/GDP and is derived from 32d line of the IFS.
M2 as % of GDP	It represents Broad money/GDP, and is derived from lines 34 plus 35 of the IFS.
Trade Liberalization	It is the sum of exports and imports as a share of real GDP. Data on exports, imports and real GDP are in the form of annual averages between survey years.
HFI	The level of Financial Intermediation is determined by adding M2 as a % of GDP and credit to private sector as % of GDP.
FDI	It is measured as net inflow of foreign direct investment as % of GDP and series have been derived from WDI.
Poverty	It is measure as head count ratio and data has been derived from World Bank.

Estimation technique

Use of pooled time-series and cross-section data provides a large sample that is expected to yield efficient parameter estimates. Ordinary Least Squares (OLS) has the problem of omitted variable bias. If a region, country or some group-specific factors affect inequality and poverty, explanatory variables would capture the effects of these factors and estimates would not represent the true effect of explanatory variables. Baltagi (2001) proposes fixed effect econometric techniques to estimate panel data, which could avoid the problem of omitted variable bias. However, in the case of lag-independent variable this technique gives biased parameter estimates. This analysis is based on the Two Stage Least Square (2SLS) technique of estimation. This technique addresses the issue of endogeniety, that is covariance between independent variables, and the error term is not equal to zero; it also addresses the problem of omitted variables bias. Alternative econometrics techniques such as Limited Information Maximum Likelihood (LIML) and Generalized Methods of Moments (GMM) are also used.

In this study, the focus is mainly on the Generalized Method of Moments (GMM) estimation technique that has been developed for dynamic panel data analysis. This technique was introduced Holtz-Eakin et al. (1990), Arellano and Bond (1991), Arellano and Bover (1995), and Blundell and Bond (1997). GMM control for endogeneity of all the explanatory variables allows for the inclusion of lagged dependent variables, such as regressors, and accounts for unobserved country-specific effects. For GMM estimation sufficient instruments are required. Following the standard convention in the literature, the equations are estimated by using lagged first difference as instrument.

Results and discussion

The estimation strategy for this study is was as follows: first, parameter estimates were drawn for OIC countries. Then, following the empirical literature on cross-country studies, an OLS estimation technique was used to obtain the results, and subsequently other econometrics techniques were used. These alternative techniques helped to accommodate a possible endogeneity problem through using instruments, and also helped assess the robustness of results. Initially the study focused on the inequality consequences of globalization and then the poverty effects of globalization. The same estimation strategy was then used for non-OIC countries to assess comparative parameter differences.

The second column (2) of Table 5 shows that the estimated coefficient for Y_{it} and Y^2_{it} are of the signs expected and significant. This finding supports the non-monotonic relationship between inequality and economic development, implying that inequality tends to increase at lower levels of economic development while it tends to fall at higher levels of economic development. The results reported in columns 3–4 show that financial liberalization significantly reduces inequality while inflation worsens inequality. Thus, financial liberalization helps the poor through credit facility while inflation hits the poor hard. It is noteworthy that the role of government turns out to be insignificant.

Columns 5–7 of Table 5 report replication of benchmark results using alternative econometrics techniques. The estimated coefficient on linear term Y_{it} is about 0.9, and –0.05 on the non-linear term Y^2_{it}, both being significant. This finding implies that the poor suffer in the short-term at lower levels of economic development while they benefit from the development process in the long-run at higher levels of economic development. The coefficient on financial liberalization is significant and fluctuates around 0.11, implying that one standard deviation increase in financial liberalization explains 1.8% of income inequalities. The estimated coefficient on government spending is insignificant in all regressions implying that government does not seem to play a role in improving inequalities.

Table 6 reports the results of the bench mark model including the key variable of concern, openness to trade. The estimated coefficient on openness to trade is positive and significant at a 1% level of significance in all regressions.

The size of coefficient 0.001 remains robustly the same in all regressions implying that one standard deviation increase in openness to trade increases income inequality by 0.02%. This finding supports the views of anti-globalization theorists who argue that trade liberalization accentuates, not ameliorates, inequality. Other parameter estimates remain the same, while overall level of significance improves.

Table 7 shows the empirical estimates for the benchmark model including FDI inflows (a measure of globalization) while excluding openness to trade. A simple correlation matrix shows a correlation between openness to trade and FDI of around 37% that may create the problem of multicolinearity. In order to avoid this problem and to assess the independent effects of both measures of globalization, this study examines their role individually. The results reveal that the estimated coefficient on FDI is about 0.02 and positively significant in all cases (see Table 3). A one standard deviation increase in FDI explains 0.33% of income inequalities dispersion in OIC countries.

The magnitude of the parameter estimate for inflation remains 0.003, implying that one standard deviation increase in inflation leads to 0.05% increase in income inequalities. It is noteworthy that the average inflation in OIC countries is 25%. Therefore, high inflation rates with adverse consequences for the poor in OIC countries call for anti-inflationary policy measures. In all estimations (see Tables 5–7) standard statistical tests such as F stat, Wald Test, Sargan Test and J stat support the estimated model.

The conclusive findings for OIC countries are:

1. Kuznets curve holds in OIC countries that necessitate the importance of policies that built a threshold level of economic development to pick the poor out from poverty traps.
2. Both openness to trade and FDI adversely affect income inequalities in Muslim countries.
3. Financial liberalization exerts a negative influence on income distribution while inflation exerts a positive influence.
4. Government does not appear an important character in reducing inequalities.

Table 8 reports the results for non-OIC countries. The estimated coefficients on Y_{it} and Y^2_{it} are 1.9 and –0.11, respectively, these being of expected signs and significant. The size of the coefficients is almost double compared with

Table 2. Descriptive statistics in OIC countries.

Variables	OIC-Countries				Non-OIC Countries			
	Mean	SD	Min	Max	Mean	SD	Min	Max
Economic Growth	2.05	3.22	–9	9.19	2.73	4.03	–10	13.19
Income Inequality	38.89	6.33	25.9	56	42.07	11	19.4	62.5
Human Capital	48.82	21.49	16	94.89	65.41	22.45	16	105.83
Population	2.13	0.82	–0.8	4.2	1.15	1.14	–1	3.3
Government Spending	21.08	7.58	5.18	36.5	21.33	9.56	6.29	56
Investment	21.23	5.98	7	38	23.04	5.98	11	45
Inflation	16.98	25	1.43	170	25.54	43.37	–1	310
GDP Per Capita	2731.48	2018.76	260	10023.17	5927.76	4524.11	412	25041.45
Poverty	31.84	18.89	1	72.1	25.58	19.8	0	74
High Financial. Int	67.95	42.85	11	250.37	63.58	36.43	10	211.33
Openness to Trade	68.36	39.48	10.8	228.88	72.73	38.34	13.05	174.4

Table 3. Simple correlation matrix for OIC countries.

	Grow	Ineq	HK	Pop	G	Inv	Inf	PCY	Pov	Op	HFI	FDI
Grow	1											
Ineq	−0.12	1										
HK	−0.17	0.23	1									
Pop	0.11	0.21	−0.42	1								
G	−0.03	0.11	0.3	−0.04	1							
Inv	0.18	0.33	0.39	−0.05	0.3	1						
Inf	−0.53	0.09	0.21	−0.57	−0.15	−0.06	1					
PCY	0.04	0.42	0.59	−0.05	0.34	0.7	−0.03	1				
Pov	−0.19	−0.27	−0.43	−0.12	−0.38	−0.54	0.23	−0.76	1			
Op	−0.02	0.41	0.39	0.03	0.28	0.52	−0.02	0.49	−0.18	1		
HFI	0.06	0.16	0.23	0.28	0.4	0.61	−0.33	0.67	−0.64	0.51	1	
FDI	0.01	0.18	0.21	−0.28	0.1	0.27	0.22	0.11	0.13	0.36	−0.05	1

Table 4. Simple correlation matrix for non-OIC countries

	Grow	Ineq	HK	Pop	G	Inv	Inf	PCY	Pov	Op	HFI
Grow	1										
Ineq	0.04	1									
HK	−0.01	−0.4	1								
Pop	0.18	0.54	−0.72	1							
G	−0.43	−0.39	0.45	−0.59	1						
Inv	0.52	−0.03	0.11	−0.04	−0.23	1					
Inf	−0.53	0.1	0.18	−0.23	0.19	−0.27	1				
PCY	−0.14	0	0.48	−0.41	0.43	−0.01	0.04	1			
Pov	−0.1	−0.05	−0.41	0.3	−0.26	−0.16	0.07	−0.73	1		
Op	−0.1	−0.01	0.17	−0.21	0.22	0.21	−0.2	0.12	−0.12	1	
HFI	0.4	0.01	0.16	−0.13	−0.02	0.56	−0.31	0.3	−0.42	0.11	1

those of the OIC countries, implying that Kuznet's curve is comparatively strong in this sample of countries. This is also evident from Figure 1, which shows that a number of OIC countries have surpassed the threshold level of economic development, while only few OIC countries did so.

The role of financial development is not robust, while the parameter estimate for inflation is 0.002, which is robust, and significant, implying that one standard deviation increase in inflation increases income inequalities by 0.06%. It is also evident from the descriptive statistics (Table 2) that average inflation at 43.3% is much high in non-OIC countries.

The population growth rate in non-OIC countries is 1.15%, which is almost half that in the 2.13% of the OIC countries; however, it is interesting to note that population

growth widens inequalites more in non-OIC countries. One standard deviation increase in population growth explains 4.2% of the inequalities in non-OIC countries, and 2.4 % of them in OIC countries.

A sharp contrast between OIC and non-OIC countries has been observed regarding the role of government. Government spending (a proxy for social spending) exerts a negative and significant influence in non-OIC countries. Higher targeted government spending can bridge the gap between the poor and rich, given that rent-seeking by privileged individuals or groups is avoided and bureaucrats focus on increasing the possibilities of the poor.

The results reported in Table 9 include the key variable of concern, openness to trade. Here, a sharp contrast can be observed with respect to the inequality impact of trade
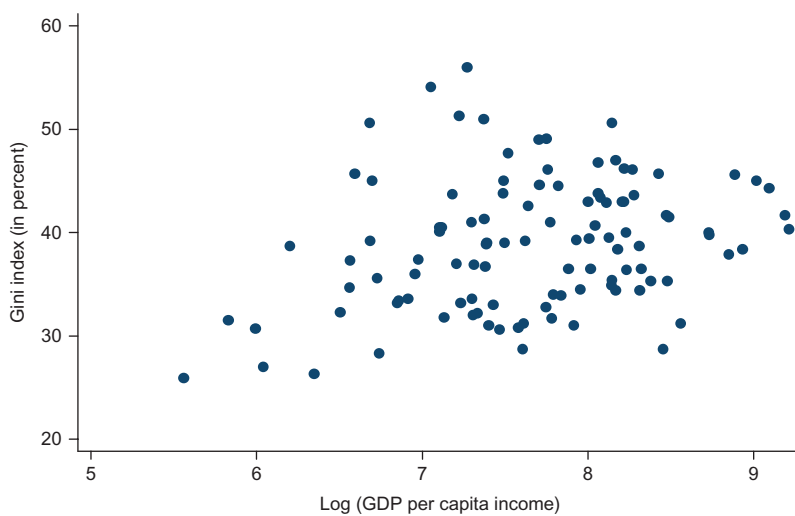
Figure 1. Inequality and level of devlopment in OIC countries.
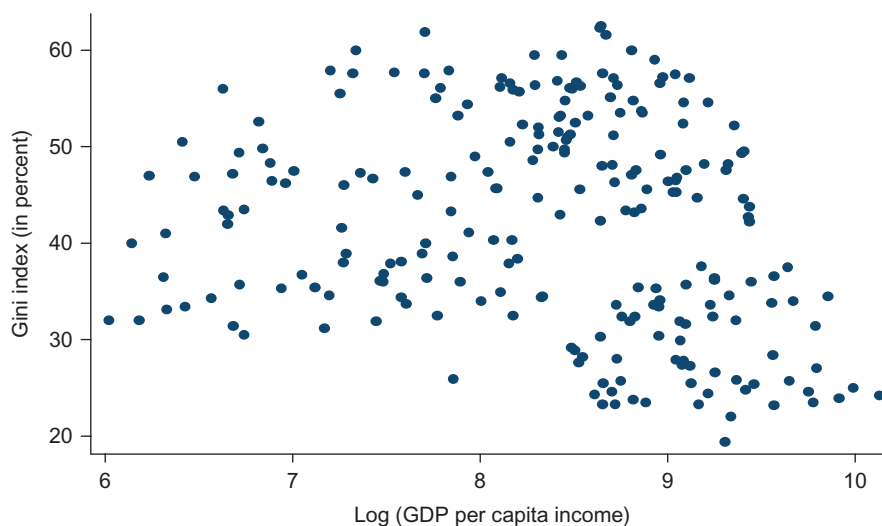
Figure 2. Inequality and level of devlopment in non-OIC countries.
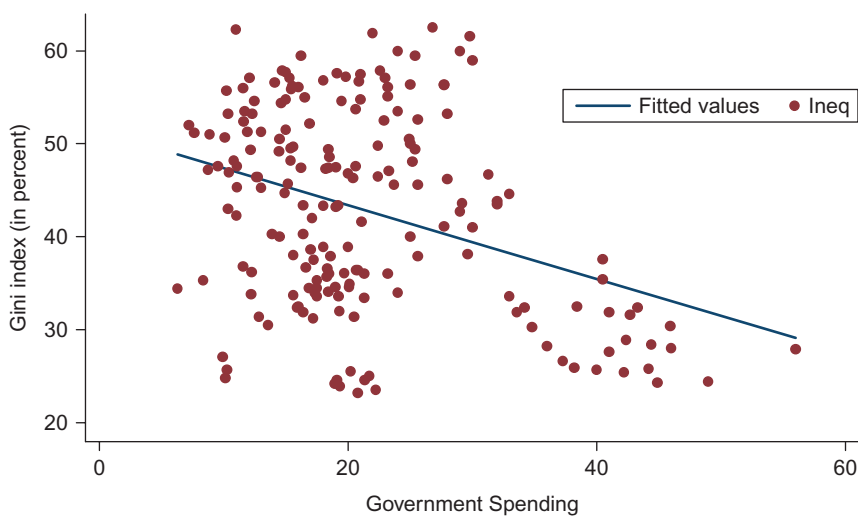
Figure 3. Inequality and government spending in non-OIC countries.
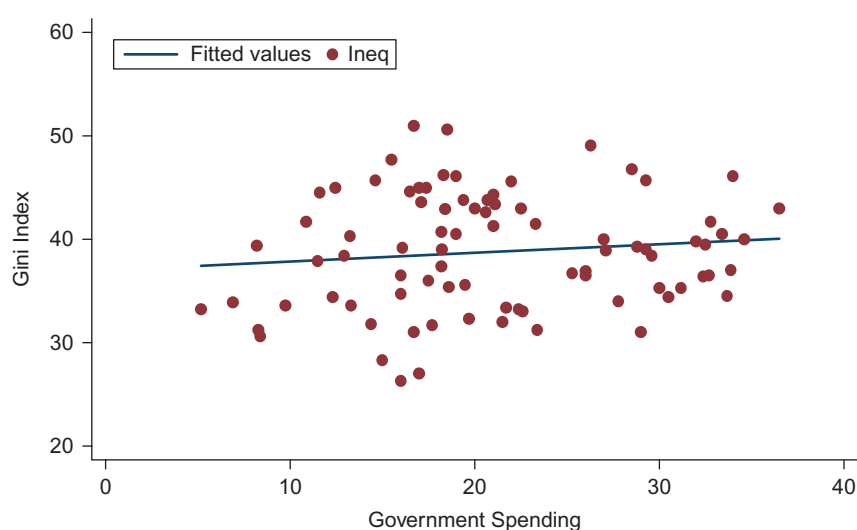
Figure 4. Inequality and government spending in OIC countries.

Table 5. Inequality in OIC countries using alternative econometrics techniques.

Independent Variables	Dependent Variable: Income Distribution					
	OLS	OLS	OLS	2SLS	LIML	GMM
Per Capita GDP	0.673 (2.82)*	0.541 (1.60)***	0.136 (4.46)*	0.924 (1.85)***	0.956 (1.92)**	0.901 (2.48)*
Per Capita GDP squared	−0.04 (−2.56)*	−0.025 (−1.15)		−0.049 (−1.6)***	−0.049 (−1.6)***	−0.047 (−2.11)*
Human Capital			0.034 (0.80)	0.084 (1.31)	0.086 (1.31)	0.099 (1.61)***
High Financial Intermediation		−0.105 (−3.67)*	−0.085 (−2.96)*	−.110 (−3.24)*	−.111 (−3.26)*	−0.099 (−3.18)*
Population		0.093 (4.79)*	0.115 (5.23)*	0.146 (5.12)*	0.147 (5.12)*	0.162 (5.80)*
Government Expenditure		0.47 (0.15)	0.016 (0.50)	−0.021 (-.45)	−0.023 (−0.48)	−0.023 (−0.55)
Inflation			0.002 (2.55)*	0.001 (0.88)	0.001 (0.88)	0.002 (1.18)
Constant	0.873 (0.97)	1.15 (0.90)	2.48 (13.46)*	−0.71 (−0.37)	−0.83 (−0.43)	−0.73 (−0.52)
F Stat	9.71 (0.000)	9.18 (0.000)	9.05 (0.000)			
Wald				51.11 (0.000)	51.18 (0.000)	82.49 (0.000)
Sargan				1.92 (0.59)	1.97 (0.58)	
Basmann				1.61 (0.66)	0.55 (0.65)	
Hansen J						1.20 (0.75)
R Square	0.12	0.38	0.42	0.40	0.39	0.39
Countries	22	22	22	22	22	22

F-statistics and associated p-values are reported for the test of all slope parameters jointly equal to zero.
The t-statistics given in parentheses (*), (**), and (***) indicate statistical significance at 1%, 5% and 10% levels, respectively.

openness, as all columns indicate that trade improves income distribution in non-OIC countries. However, when the problem of endogeneity is controlled, the significance level and sign for the estimated coefficient on trade lost remain the same. This finding provides deeper insights into the relationship between trade and inequality. The existing literature ignores the differences between OIC and non-OIC countries, but empirical findings have clearly shown that the effects of trade openness are not uniform across different samples of developing countries. Strictly speaking, it is the poor of the OIC countries who suffer most from globalization. The results obtained are similar to the benchmark findings.

Table 10 excludes openness to trade while it includes FDI as another measure of globalization. The coefficient of FDI exerts a positive and significant influence on inequalities in non-OIC countries. The estimated coefficient on FDI is 0.02, which implies that one standard deviation increase in FDI leads to a 0.6 % increase in income inequalities.

It is important to note that non-OIC countries receive, on average, 3.3% FDI compared to non-OIC countries that receive 2.08%, on average. The average high inflow of FDI explains the larger impact of FDI on income distribution in non-OIC countries. All other estimated parameters remain the same in terms of significance and direction of link.

The main findings for the non-OIC countries are:

1. Very strong and robust evidence has been found in favour of Kuznet's hypotheses.
2. Openness to trade is not harmful.
3. FDI widens existing inequalities.
4. Inflation seems to distort income distribution.
5. The most important difference is that the government emerges as a major player in non-OIC countries, whereas its role is insignificant in the OIC world.

Columns 2–5 in Table 11 provide results for the poverty model for OIC countries. All columns of the Table indicate

Table 6. Inequality and globalization (openness to trade) in OIC countries.

Independent Variables	Dependent Variable: Income Distribution					
	OLS	OLS	OLS	2SLS	LIML	GMM
Per Capita GDP	0.697 (2.38)*	0.899 (2.93)*	0.942 (2.96)*	1.44 (2.91)*	1.51 (3.00)*	1.46 (4.07)*
Per Capita GDP squared	−0.042 (−2.18)**	−0.050 (−2.50)*	−0.052 (−2.55)*	−0.072 (−2.65)*	−0.086 (−2.74)*	−0.084 (−3.67)*
Openness to Trade	0.0006 (1.33)	0.001 (4.17)*	0.001 (4.12)*	0.001 (2.93)*	0.0014 (2.74)*	0.001 (2.50)*
High Financial Intermediation		−0.105 (−4.00)*	−0.106 (−4.01)*	−0.119 (−3.81)*	−0.121 (−3.83)*	−0.107 (−3.69)*
Population		0.113 (6.35)*	0.109 (5.44)*	0.131 (4.97)*	0.133 (4.94)*	0.150 (5.72)*
Inflation		0.001 (2.83)*	0.001 (2.85)*	0.002 (1.79)***	0.002 (1.79)***	0.002 (1.5)
Human Capital			−0.022 (−0.55)	0.006 (0.09)	−0.006 (−0.10)	0.037 (0.54)
Government Expenditure		−0.021 (−0.67)	−0.023 (−0.75)	−0.06 (−1.26)	−0.06 (−1.31)	−0.061 (−1.26)
F Stat	6.39 (0.000)	12.24 (0.000)	10.65 (0.000)			
Wald				69.60 (0.000)	65.50 (0.000)	158.30 (0.000)
Sargan				4.1 (0.25)	4.36 (0.23)	
Basmann				3.52 (0.32)	1.19 (0.32)	
Hansen J						3.76 (0.29)
R square	0.16	0.54	0.54	0.50	0.49	0.47
Country	22	22	22	22	22	22

F-statistics and associated p-values are reported for the test of all slope parameters jointly equal to zero.
The t-statistics are given in parentheses (*), (**), and (***) and indicate statistical significance at 1%, 5% and 10% levels, respectively.

Table 7. Inequality and globalization (FDI) in OIC countries.

Independent Variables	Dependent Variable: Income Distribution					
	OLS	OLS	OLS	2SLS	LIML	GMM
Per Capita GDP	0.605 (1.94)**	0.61 (1.95)***	0.555 (1.60)***	0.993 (1.84)**	1.05 (1.89)**	1.003 (2.70)**
Per Capita GDP squared	−0.030 (−1.48)	−0.031 (−1.54)	−0.027 (−1.30)	−0.055 (−1.62)***	−0.059 (−1.69)***	−0.056 (−2.40)*
FDI	0.007 (1.65)***	0.006 (1.60)***	0.006 (1.6)***	0.021 (2.67)*	0.023 (2.77)*	0.020 (1.76)***
High Financial Intermediation	−0.076 (−2.65)*	−0.074 (−2.56)*	−0.074 (−2.53)*	−0.052 (−1.23)	−0.048 (−1.11)	−0.042 (−1.03)
Population	0.112 (6.46)*	0.13 (5.80)*	0.124 (5.50)*	0.166 (5.00)*	0.169 (4.94)*	0.201 (4.97)*
Inflation	0.002 (2.82)*	0.002 (2.90)*	0.002 (2.80)*	0.003 (1.96)**	0.003 (2.01)**	0.003 (1.76)***
Human Capital		0.018 (0.44)	0.024 (0.57)	0.046 (0.66)	0.045 (0.62)	0.089 (1.33)
Government Expenditure			0.004 (0.12)	0.011 (0.21)	0.012 (0.23)	0.003 (0.07)
Constant	0.78 (0.65)	0.81 (0.67)	0.90 (0.72)			
F Stat	10.16 (0.000)	8.64 (0.000)	7.45 (0.000)			
Wald				50.37 (0.000)	49.30 (0.000)	96.75 (0.000)
Sargan				3.15 (0.20)	3..24 (0.20)	
Basman				2.72 (0.26)	1.35 (0.27)	
J Stat						1.21 (0.54)
R	0.45	0.45	0.45	0.31	0.27	0.28
Country	22	22	22	22	22	22

F-statistics and associated p-values are reported for the test of all slope parameters jointly equal to zero.
The t-statistics are given in parentheses (*), (**), and (***) and indicate statistical significance at 1%, 5% and 10% levels, respectively.

that economic growth is robustly and negatively associated with poverty, thus, growth is pro-poor. Income inequalities are positively and significantly associated with poverty incidence. The effect of inflation is positive and significant implying that inflation hits the poor hard. Once again, the government does not appear to play a role in reducing poverty.

The last four columns 6–9 of Table 10 report poverty estimates for non-OIC countries. The growth turns out to be good for the poor. The overall model does not fit better because most of the variables turn out to be insignificant. In order to overcome this problem and to sort out a more reliable comparative picture of poverty for both sets of countries, this study employs a parsimonious model that includes economic growth and income distribution as compulsory variables along with globalization variables.

Table 12 reports results on globalization and poverty in OIC countries. Economic growth elasticity of poverty turns out to be negative and significant, implying that growth is good for the poor. However, inequalities are positively associated with poverty but not significant. Inflation is significant with positive sign. A sharp contrast has been observed on the role of government in helping the poor. The estimated coefficient on government spending is insignificant. When comparison are made regarding the role of openness to trade, findings in terms of sign are similar to those for non-OIC countries; however, parameter estimates for openness to trade are insignificant, implying that trade is not harmful. A sharp contrast is observed when it comes to the role of FDI; it significantly helps the poor.

Table 13 shows the results obtained for the poverty model in non-OIC countries. The growth turns out to be good for the poor, while inequality and inflation are harmful for them. The major difference observed is on government

Table 8. Inequality in non-OIC countries using alternative econometrics techniques.

Independent Variables	Dependent Variable: Income Distribution					
	OLS	OLS	OLS	2SLS	LIML	GMM
Per Capita GDP	1.62 (5.63)*	1.81 (7.85)*	1.72 (6.80)*	1.90 (5.57)*	1.88 (5.50)*	1.90 (6.05)*
Per Capita GDP squared	−0.105 (−5.90)*	−0.107 (−7.02)	−0.101 (−6.56)	−0.111 (−5.51)***	−0.11 (−5.44)***	−0.111 (−5.97)*
High Financial Intermediation		−0.068 (−1.35)	0.072 (1.45)	−0.029 (−0.86)	−0.028 (−0.85)	−0.028 (−1.00)
Population		−0.031 (−1.25)*	−0.01 (−0.65)	0.138 (5.86)*	0.137 (5.81)*	0.143 (6.55)*
Human Capital		0.147 (8.21)*	0.147 (8.25)*	0.06 (0.88)	−0.063 (−0.86)	−0.06 (−1.11)
Government Expenditure		−0.080 (−2.45)*	0.099 (2.95)*	0.14 (2.38)*	0.145 (2.42)*	−0.139 (−2.43)*
Inflation			0.002 (1.92)**	0.002 (2.11)**	0.002 (2.15)**	0.002 (1.99)**
Constant	−2.45 (−2.12)*	−3.42 (3.31)*	−3.05 (−2.92)*			
F Stat	24.90 (0.000)	39.93 (0.000)	35.24 (0.000)			
Wald				191.38 (0.000)	190.27 (0.000)	250.05 (0.000)
Sargan				2.51 (0.47)	2.55 (0.47)	
Basman				2.36 (0.50)	0.79 (0.50)	
J stat						2.43 (0.54)
R	0.18	0.58	0.58	0.56	0.55	0.56
Country	43	43	43	43	43	43

F-statistics and associated p-values are reported for the test of all slope parameters jointly equal to zero.
The t-statistics are given in parentheses (*), (**), and (***) and indicate statistical significance at 1%, 5% and 10% levels, respectively.

Table 9. Inequality and globalization (openness to trade) in non-OIC countries.

Independent Variables	Dependent Variable: Income Distribution					
	OLS	OLS	OLS	2SLS	LIML	GMM
Per Capita GDP	1.54 (5.49)*	1.75 (6.95)*	1.69 (6.72)*	1.85 (5.54)*	1.84 (5.46)*	1.84 (6.02)*
Per Capita GDP squared	−0.098 (−5.64)*	−0.103 (−6.71)*	−0.098 (−6.45)*	−0.108 (−5.45)***	−0.108 (−5.37)*	−0.108 (−5.89)*
Openness to Trade	−0.002 (−3.78)*	−0.001 (−1.7)***	−0.001 (−1.61)***	−0.0006 (−1.02)	−0.0005 (−0.96)	−0.0006 (−0.87)
High Financial Intermediation		−0.023 (−0.94)	−0.012 (−0.48)	−0.026 (−0.78)	−0.027 (−0.77)***	−0.025 (−0.89)
Population		0.163 (10.88)*	0.137 (7.28)*	0.128 (5.22)*	0.128 (5.16)*	0.130 (5.81)*

(Continued)

Table 9. (*Continued***)**

Human Capital			0.0005 (1.61)***	−0.081 (−1.13)	−0.08 (−1.10)	−0.084 (−1.4)
Government Expenditure			−0.081 (−1.62)***	0.134 (2.31)*	−0.139 (−2.35)*	−0.133 (−2.38)*
Inflation			−0.099 (−2.92)*	0.002 (1.88)***	0.002 (1.94)**	0.002 (1.83)***
Constant	−2.11 (−1.88)**	−3.66 (−3.53)*	−2.88 (−2.76)*			
F Stat	22.32 (0.000)	46.29 (0.000)	31.44 (0.000)			
Wald				200.83 (0.000)	199.10 (0.000)	254.29 (0.000)
Sargan				2.90 (0.41)	2.96 (0.46)	
Basman				2.72 (0.44)	0.91 (0.44)	
J Stat						2.94 (0.40)
R	0.23	0.57	0.59	0.58	0.57	0.58
Country	43	43	43	43	43	43

F-statistics and associated p-values are reported for the test of all slope parameters jointly equal to zero.
The t-statistics are given in parentheses (*), (**), and (***) and indicate statistical significance at 1%, 5% and 10% levels, respectively.

spending, which significantly reduces poverty. The results show that one standard deviation increase in government spending reduces poverty by 2%. Overall, the results for non-OIC countries indicate that globalization accentuates and does not ameliorates poverty and, among the domestic factors, economic growth is good for the poor while both income inequality and inflation hurt poor people and increase their suffering.

Conclusion and policy implications

The purpose of this study has been to examine the distributional and poverty consequences of globalization for OIC countries in comparison to non-OIC countries over a long period, 1970 to 2008. This study is unique in the way that it disaggregates globalization consequences for two sets of developing countries and uses more comparable statistics on inequality and poverty. Furthermore, it explicitly controls for high financial intermediation and accommodates the endogeneity problem.

The main findings on the distributional consequences of globalization in OIC countries are:

- Kuznet's curve holds in OIC countries and highlights the importance of policies building a threshold level of economic development to lift the poor out of poverty traps.
- Globalization causes an adverse effect on inequalities
- Financial liberalization has been found to exert a negative influence on income distribution, while inflation exerts a positive influence.
- The role of government is insignificant in improving income distribution.

In non-OIC countries the main findings are:

- The results reflect a strong presence of the Kuznets curve; a number of the countries have surpassed the threshold level of economic development, and many are close it.
- Openness to trade is not harmful.
- The government emerges as a major player in non-OIC countries.

In a separate modelling for poverty consequences of globalization in the OIC world, the major findings are that the estimated coefficient on economic growth is robustly significant with negative sign that implies economic growth is good for the poor. Also, the impact of inflation turns out to be robustly bad for poor people. The role of government was found to be insignificant in reducing poverty, this study identifying strong evidence that government does not play a significant role in picking the poor out from poverty traps in OIC countries. The analysis exhibits a sharp contrast on the role of FDI, which appears to be good for the poor in OIC countries. In the case of non-OIC countries, a major contrast has been observed on the role of government in reducing poverty, the estimated coefficient being robustly significant with a negative sign in non-OIC countries. The evidence indicates that one standard deviation increase in government spending reduces poverty by 2%.

It is proposed that this analysis has the following policy implications:

1. OIC countries need to focus more on growth than trade openness as the evidence suggests that growth elasticity of poverty is high in this sample of countries and trade openness does not help in reducing poverty.

Table 10. Inequality and globalization (FDI) in non-OIC countries.

Independent Variables	Dependent Variable: Income Distribution					
	OLS	OLS	OLS	2SLS	LIML	GMM
Per Capita GDP	1.65 (5.75)*	1.85 (7.37)*	1.75 (6.95)*	2.05 (5.45)*	2.06 (5.29)*	20.6 (5.52)*
Per Capita GDP squared	−0.106 (−5.98)*	−0.109 (−7.16)*	−0.103 (−6.73)*	−0.122 (−5.42)***	−0.123 (−5.26)***	−0.123 (−5.5)***
FDI	−0.004 (−1.45)	0.009 (2.36)*	0.008 (2.19)*	0.022 (1.72)***	0.024 (1.76)***	0.021 (1.94)**
High Financial Intermediation		−0.031 (−1.28)	−0.017 (−0.67)	−0.032 (−0.93)	−0.033 (−0.92)	−0.034 (−1.15)
Population		0.175 (12.4)*	0.155 (8.61)*	0.163 (5.78)*	0.166 (5.59)*	0.165 (6.34)*
Human Capital			−0.058 (−1.15)	0.020 (0.24)	0.030 (0.34)	0.014 (0.20)
Government Expenditure			−0.090 (−2.65)*	−0.134 (−2.13)*	−0.136 (−2.07)**	−0.143 (2−0.16)**
Inflation			0.0007 (2.10)*	0.003 (2.39)*	0.003 (2.43)*	0.003 (2.43)*
Constant	−2.59 (−2.24)**	−4.08 (−3.95)*	−3.29 (−3.15)*			
F Stat	16.93 (0.000)	46.45 (0.000)	31.92 (0.000)			
Wald				178.79 (0.000)	170.79 (0.000)	235.44 (0.000)
Sargan				2.84 (0.42)	2.83 (0.42)	
Basman				2.65 (0.45)	0.87 (0.46)	
J						2.79 (0.43)
R	0.19	0.57	0.60	0.52	0.50	0.52
Country	43	43	43	43	43	43

F-statistics and associated p-values are reported for the test of all slope parameters jointly equal to zero.
The t-statistics are given in parentheses (*), (**), and (***) and indicate statistical significance at 1%, 5% and 10% levels, respectively.

Table 11. Poverty, growth, inequality and globalization in OIC countries.

Independent Variables	Dependent Variable: Poverty							
	OIC Countries				Non-OIC Countries			
	2SLS	GMM	2SLS	GMM	2SLS	GMM	2SLS	GMM
Growth	−1.56 (−3.8)*	−0.98 (−2.55)*	−1.67 (−3.17)*	−1.42 (−2.98)*	0.−74 (−3.14)*	−0.69 (−3.29)*	−0.71 (−3.14)*	−0.69 (−3.34)*
Inequality	1.24 (2.26)*	1.29 (4.12)*	1.16 (1.23)	1.18 (1.28)	1.13 (−2.26)*	1.13 (3.02)*	1.09 (2.41)	1.12 (3.02)
Inflation	0.109 (2.17)*	0.095 (2.93)*	0.108 (1.75)**	0.088 (1.92)**	−0.015 (−0.49)	−0.011 (−0.54)	−0.017 (−0.61)	−0.014 (−0.80)

(Continued)

Table 11. (*Continued*)

Population	−1.45 (−1.05)	−0.68 (−0.73)	−1.85 (−1.33)	−1.68 (−1.55)	1.15 (1.10)	1.11 (1.29)	1.12 (1.08)	0.998 (1.23)
Human Capital	0.20 (0.44)	−0.041 (−0.97)	−0.01 (−0.26)	−0.003 (−0.09)	0.06 (1.40)	0.070 (1.73)	0.065 (1.42)	0.069 (1.74)***
Government Expenditure	−0.003 (−0.02)	0.070 (0.49)	−0.037 (−0.28)	−0.02 (−0.18)	0.044 (0.035)	0.052 (0.41)	0.059 (0.51)	0.051 (0.46)
High Fin. Intermediation	3.29 (2.43)**	3.15 (2.87)*	2.63 (2.08)*	2.74 (2.33)*	−0.62 (−0.57)	−0.52 (−0.65)	−0.73 (−0.70)	−0.55 (−0.68)
Openness to Trade	−0.031 (−1.51)	−0.039 (−2.94)*			−0.01 (−0.30)	−0.002 (−0.06)		
FDI			−0.166 (−0.40)	−0.218 (−0.58)			−0.42 (−0.75)	−0.23 (−0.73)
Wald	59.49 (0.000)	160.06 (0.000)	56.06 (0.000)	70.54 (0.000)	30.39 (0.000)	49 (0.000)	31.23 (0.000)	70.54 (0.000)
Sargan	4.32 (0.23)		3.50 (0.32)		1.04 (0.79)		1.69 (0.64)	
Basman	3.41 (0.33)		2.70 (0.40)		0.86 (0.83)		1.39 (0.71)	
J Stat		3.24 (0.36)		3.89 (0.27)		0.96 (0.81)		1.26 (0.73)
R	0.55	0.49	0.55	0.53	0.25	0.24	0.30	0.27
Country	22	22	22	22	43	24	43	43

F-statistics and associated p-values are reported for the test of all slope parameters jointly equal to zero.
The t-statistics are given in parentheses (*), (**), and (***) and indicate statistical significance at 1%, 5% and 10% levels, respectively.

Table 12. Poverty, growth, inequality and globalization in OIC countries.

Independent Variables	Dependent Variable: Poverty			
	2SLS	GMM	2SLS	GMM
Growth	−1.83 (−6.08)*	−1.79 (−4.64)*	−1.73 (−5.72)*	−1.70 (−4.43)*
Inequality	0.25 (0.99)	0.24 (0.76)	0.21 (0.88)	0.34 (1.12)
Inflation	0.074 (1.69)***	0.077 (2.71)*	0.097 (2.12)*	0.094 (3.18)*
Government Expenditure	0.044 (0.29)	0.055 (0.46)	0.11 (0.75)	0.064 (0.57)
Openness to Trade	0.023 (0.92)	0.022 (1.08)		.
FDI			−0.56 (−1.63)***	−0.52 (−2.43)*
Wald	77.05 (0.000)	155.68 (0.000)	82.37 (0.000)	178.21 (0.000)
Sargan	0.33 (0.56)		2.12 (0.35)	
Basman	0.29 (0.59)		1.90 (0.39)	
J Stat		0.41 (0.52)		2.69 (0.26)
R	0.56	0.56	0.58	0.57
Country	23	23	23	23

F-statistics and associated p-values are reported for the test of all slope parameters jointly equal to zero.
The t-statistics are given in parentheses (*), (**), and (***) and indicate statistical significance at 1%, 5% and 10% levels, respectively.

Table 13. Poverty, growth, inequality and globalization in non-OIC countries.

Independent Variables	Dependent Variable: Poverty			
	2SLS	GMM	2SLS	GMM
Growth	−0.96 (−4.7)*	−0.92 (−4.16)*	−1.01 (−3.45)*	−0.94 (−3.97)*
Inequality	0.68 (4.15)*	0.67 (3.21)*	0.632 (3.46)*	0.68 (3.29)*
Inflation	0.071 (3.95)*	0.072 (3.75)*	0.069 (3.63)*	0.068 (3.90)*
Government Expenditure	−0.17 (−1.97)**	−0.162 (−2.05)**	−0.203 (−2.05)**	−0.208 (−2.26)*
Openness to Trade	0.056 (2.17)*	0.053 (2.03)**		
FDI			1.87 (3.38)*	1.69 (3.04)*
Wald	150.08 (0.000)	93.16 (0.000)	125.36 (0.000)	96.51 (0.000)
Sargan	0.96 (0.32)		2.85 (0.24)	
Basman	0.90 (0.34)		2.67 (0.26)	
J Stat		0.83 (0.36)		1.99 (0.37)
R	0.62	0.62	0.53	0.53
Country	43	43	43	43

F-statistics and associated p-values are reported for the test of all slope parameters jointly equal to zero.
The t-statistics are given in parentheses (*), (**), and (***) and indicate statistical significance at 1%, 5% and 10% levels, respectively.

2. OIC countries may increase government spending to help the poor, but it is in the non-OIC countries where the role of government is significant in reducing poverty.
3. OIC countries may focus more on the factors that attract FDI as the evidence clearly shows that, in this sample of countries, FDI inflows ameliorate poverty.

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