

EDITORIAL

“And that man can have nothing but what he does (good or bad)”; And that his deeds will be seen (*Al-Quran - An-Namj; LIII: 39, 40*).

Global Financial Crisis (GFC) and Growth of Islamic Finance

The worldview of Islamic economics that emerged in the modern age in the 20th century AD after decolonisation of the Muslim world has witnessed practical manifestations particularly in the areas of banking and finance. Islamic banking and finance is now a part and parcel of the global finance being discussed and applied at national, multilateral and international levels. According to the Standard and Poor's report of 2009, assets of the top 500 Islamic banks expanded by 28.6 per cent, while many of the world's financial systems were deleveraging. As reported in the Global Islamic Finance Report, April 2012, Islamic finance developed during the past decade at an average rate of more than 30 percent per year against the traditional finance persistently caught up in one or the other crises. It is still tiny compared with the conventional finance, but it's a substantial number, all the more impressive given that Islamic financial institutions (IFIs) have only been back on the scene for three decades.

Until about 1570, most of the lending in the world was based on profit share, says Mohamed Ariff, professor of finance at Bond University. "After about 500 years, Islamic finance is undergoing something of a renaissance. Professors Kerrie Sadiq and Ann Black of the Queensland University of Technology wrote in a paper published in April this year, "Given such statistics,.. "it is suggested that Islamic finance...can contribute to global financial stability." It is projected by 2020, the Muslim world will be doing 50 per cent of its banking with Islamic institutions."¹

The growth has been broad-based to encompass all major areas and sectors including commercial and investment banking, *Takaful*, corporate and public sector financing, fund management, money and capital markets, micro, SME and trust financing and last, but not the least, hedging techniques, credit risk securitization and other financial derivatives.

¹ Mike Seccombe (2012); Jesus Saves, Moses Lends, Muhammad Invests; (July 9); <http://www.theglobalmail.org/feature/jesus-saves-moses-lends-muhammad-invests/297/>

GFC: Causes and Impacts:

The GFC originating from reckless lending, excessive leveraging and innovative complex financial products, affected virtually every aspect of the global economy and ultimately the masses. In addition to the general impacts in the shape of inflationary spiral and reduced real income and employment opportunities, the GFC led to the Euro crisis 2011 in general and the Greek Debt crisis 2012 in particular. The Governor, State Bank of Pakistan, observed in his recent address to the 9th IFSB Summit, “The instruments that were meant to disperse financial risks instead allowed financial institutions in general and the banking system in particular to become highly leveraged that ultimately lead to financial meltdown. As a result, it not only put the innovations in the financial markets under the spotlight, but also singled-out regulatory and supervisory weaknesses in assessing the risks associated with financial institutions, markets and innovative financial products”².

It is commonly known that the chaos generated from the widespread securitization of the sub-prime mortgages by banks in America – parcelling mortgages into small amounts, packaging them in large components and selling them as new securities. As a result, the high-risk mortgage debts and the sub-prime mortgage based securities (MBS) appeared in the portfolios of the major financial institutions in the world. Debt securitization became a fashion for generating more liquidity and profits while shifting credit risk to others. Default by the mortgage holders affected all such institutions and ultimately the global finance and economy. Banks then became extremely conservative about further lending which lead to credit crunch affecting aggregate demand leading to falling output, unemployment and recession. Islamic finance practitioners have to learn many lessons from the persistent crises. Several factors have been indicated as causes of the GFC:

- a) Many believe that instability is inherent in the conventional financial system – Minsky’s Financial Instability Hypothesis, 1991³. It happens due to cumulative effect of hedging, speculation and Ponzi finance that creates need to attract ever greater sums of money;
- b) Banks’ engagement in riskier investment banking practices after abolition of the ‘Glass-Steagall Act’ in 1999 – increasing risk exposures and bypassing the regulations one way or the other;

² <http://www.bis.org/review/r1206151.pdf>

<http://www.sbp.org.pk/about/speech/Governors/Mr.Yaseen.Anwar/2012/16-May-2012.pdf>

³ In Feldstein M, (Ed), *The Rik of Economic Crisis*; University of Chicago Press; Pp 158-166.

- c) Loose monetary and macroeconomic policies coupled with financial engineering for financial expropriation / systematic extraction of financial profits⁴;
- d) Ethical abuse inherent in the interest based system – moral and spiritual hypothesis; The massive bail-out packages accentuated the reckless behaviour and moral hazard problems and imposed huge cost on the tax payers to protect private gains of the hedge fund managers;
- e) Inadequate market discipline vis-a-vis increasing greed, speculation for higher profits and too big to fail syndrome; and
- f) Globalization impact – any crisis affecting a major economy or a group of countries would affect the world economy and finance

The Post-Crisis Finance

The causes and the failing policy response adopted so far to resolve the issues tend to reveal that the present state of the global financial system requires a complete overhaul of the structure and functioning of the financial system, institutions and instruments / products⁵. However, as the regulators and the policy makers at the states' level are not taking such bold steps, the financial institutions are operating almost on the same line and length. A burgeoning debt is the severest problem not only of the governments and the general public of the poor and developing economies, but also of the rich and advanced economies. "Since 2007 (the year the financial crisis began) government debt in the advanced economies has increased on average from about 75 per cent of GDP to more than 110 per cent Government deficits had more than quadrupled on average over the period." Big banks continue to have an interest in driving up their leverage without enough regard for the consequences of failure". A BIS report diagnosed the problem in the words: "Unsustainable debts were ultimately the source of the financial crisis, and there is little evidence that the situation has become much better since." (Mike Secombe, 2012)

The System Having Potential for Sustainable Development

Minute analysis of the above events and the causes would reveal that colossal harm to the global economy occurred due to institutions, markets,

⁴ Lapavistas, C (2009) and Truman, E. M (2009), cf: Mobolaji, H.I; (2012); Global Financial Crisis and Ethical Concerns in Financial System; JIB & F, Karachi; Vol.29, No. 2, April-June, 2012

⁵ For the urgency of need for new paradigm and complete overhaul, please see the report on Keynote Address by Prof. Khurshid Ahmad and Dato' Seri Anwar Ibrahim to the ICIB 2012, included in the present Issue of the *JIBM*.

procedures and the instruments working against the rationale and really ethical principles of Islamic finance, which, *inter alia*, include:

- i) Complete ban on *Riba* / interest (return without taking business risk or making any value addition);
- ii) Avoidance from *Gharar* (lacking information certainty, ownership or ineffective control of the parties over the counter values);
- iii) Exchange of real assets or papers representing the real assets – not notional / virtual / fictitious assets;
- iv) One cannot sell what he / she does not own;
- v) Prohibition of sale of debts except at face value with recourse, and
- vi) The owner of an asset has both risk and reward of that asset –risk must not be separated from real economic activities.

Sadiq and Black (2012) summarise the features of Islamic finance as “the ban on interest, the ban on speculation, the ban on financing certain economic sectors, the profit- and loss- sharing principle and the asset-backing principle”⁶. Islamic finance does not approve the complex deals in the financial markets — “the layers upon layers of debt and interest, side bets and speculation built on tenuous tangible assets, which are completely detached from reality”. Professor Michael Skully, of the faculty of Business & Economics at Monash University, agrees saying, “The things that killed us were the financials. When we talk about the Islamic funds doing better, it was a function of them not being exposed to financials and highly levered companies”.

Islamic finance is more about facilitating the real sector including commodity producing, commerce and business sectors. Professor Constant Mews of the Monash University confesses with regard to Islamic finance: “The interesting thing about Islam is that it was a much more commercial culture from the outset than Christianity.” It was by dint of this culture that from around the middle of the eighth century to the middle of the 13th, the Islamic world enjoyed a golden age, while European Christians were struggling through the Dark Ages (c.f: Mike Seccombe, 2012).

Opportunity for Islamic Finance

The chaotic global market conditions both in developed and developing economies provide an opportunity to Islamic finance scholars and practitioners to come with real and long term solution to the current

⁶ Kerrie Sadiq and Ann Black, Embracing Sharia-Compliant Products through Regulatory Amendment to Achieve Parity of Treatment; Sydney Law Review [VOL 34:189 2012] see the link: http://sydney.edu.au/law/slr/slr_34/slr34_1/SLRv34no1SadiqandBlack.pdf

problems as envisaged in the original theory of Islamic economics, banking and finance.

A basic requirement is that the policy makers and regulators encourage financial practices which are not usurious, not speculative, and are based on real assets and real ethics. Hence, Islamic finance scholars and experts have to persuade the policy makers to cater to linking the finance with the real business and to turn to risk / profit sharing; and it is possible only when they confine themselves to financing the real business and adopt risk-sharing as their main investment tool.

Is Islamic Finance prepared to avail of the Opportunity?

Practices and performance of the IFIs, however, are much divergent from its principles. They have started using complex derivatives, the short-selling and all other ways the modern financial engineers have invented to make excessive amounts of money from money, without reference to real sector economy or to valid assets. The world – both Muslims and non-Muslims must understand as to why *Riba* - interest / usury is so hated by all revealed religions. Besides, almost 4,000 years ago, the Code of *Hammurabi* expressed concerns about the ethics of finance and the exploitation of lending. Ancient Vedic texts of India also condemned usury. In fact, it was a common concern among most religions. Islamic finance practitioners and financial engineers, apparently accept the above stance, but have been using objectionable structured and 'opaque' investment tools since the dawn of 21st century, particularly since 2007, while the metals, stocks, or other commodities and currencies are used only as a vehicle for speculation without observing the relevant principles of Islamic law of contracts. Netting-out is an integral part of the most of these structures, using *W'ad* (as alternative to contract) and / or organized *Tawarruq*. While doing so, they are providing support to the conventional financial institutions that, as agents for buying and selling, do not bother for quality, quantity of the goods or fulfilling the *Shari'ah* essentials of trading. The early they understand, the better that Islamic finance can deliver and prosper on sustainable basis only if it follows its fundamental principles in true spirit. Injecting absolute uncertainty in a contract at the inception invokes prohibition; neglecting that prohibition would lead to convergence with conventional finance – only a bad name and loss of integrity without any benefit to global economy and the mankind.

Keeping in view all above factors, the plans, policies, tools and instruments and their procedures, the governing rules and ultimately the potential of Islamic banking and finance have to be revamped and carefully re-evaluated in line with the Shariah principles so that strategic

plans could be made at micro and macro levels reflecting the real objectives of enhancing socio-economic harmony, stable growth and development and success for the mankind in broader perspective. It is in coincidence with a clarion call for ethical finance and an alternative financial framework coming through a part of the incoming literature and many conferences and forums. World Economic Forum (WEF) in Devos with the theme, “Shaping the Post-crises World” held in 2009; World Social Forum (WSF) in Benmem, Brasil, “Another World is Possible” and a number of other forums ended up in search for a credible alternative. Similarly, a number of Western leaders, economists and financial experts are willing to allow Islamic financial institutions to play a more active role as a possible way of coming out of the current ailments that are direct result of the exploitative and speculative free-market forces.

New Policy Options – Need for bridging the Gaps

Islamic finance is the alternative that, if applied, can help in resolving the impending issues. It would need bridging many gaps and joining many missing links that may include:

- a) Creating a close link between financial flows and productivity because Islamic finance is driven by production and trade; finance must not be made tool for illegitimate gains through interest, gambling and unethical practices;
- b) The GFC must inspire the IFIs to follow a different paradigm. Their activities must be insulated from potential risks resulting from excessive leverage and speculative financial activities. The relative stability of the IFIs even during the GFC was because they were not exposed by that time to derivatives. But they have been increasingly compromising on the fundamental principles and strong ethical values for mere profit motives.
- c) Consequent upon the above, all financial assets must be contingent claims and there should be no sale of debts, debt instruments with fixed or floating interest rates⁷.
- d) As suggested by Knight (*Uncertainty and Profit*; 1921, Reprint: 2002), risk can be reduced “by slowing up the march of progress”. Hence the IFIs should not be marching on the footsteps of the conventional institutions to earn profits; they will have to avoid from all games of chance and financial derivatives including futures, options and swaps that could be tools of extraordinary benefits to innovators of

⁷ Mirakhor and Iqbal Zaidi; Stabilization and Economic Growth in an Open Islamic Economy; IMF Working Paper Vol. 22; 1988; Pp. 1-37.

complicated synthetic products, but harmful for masses and the global economy and finance.

- e) Forward sales, selling that one does not own and possess, and hence creating financial assets on the basis of future potential of growth in goods and services is valid in Islamic finance only when it is subjected to the conditions imposed for the valid Salam rules well defined in the theory of Islamic finance.
- f) The scheme of actions as suggested above would require well thought out policy measures to control money and credit in national economies and global finance. Inflation targeting, monetary policy and its management have to be geared to ensure that financial flows are just sufficient to facilitate the growth of the real sector. No doubt, it is highly difficult and challenging task particularly due to high levels of debt stocks and the exogenous factors in the global economy. But there has to be any way-out and, to start with, that is responsibilities of IDB and IDB member countries in collaboration with multilateral institutions and forums like IMF, World Bank, BIS, WEF, IFSB, etc. Top level authorities and the policy makers at the world level be made to understand that stable future for human beings and the global economy is possible only by following the rational, ethical and divine rules that are for all and not for the Muslims only. The international regulatory bodies including Financial Stability Board (FSB), IMF, BIS, Basel Committee on Banking Supervision (BCBS) and national supervisory bodies have suggested reforms for improving the soundness of the banking system, addressing the Systemically Important Financial Institutions (SIFIs), developing macro-prudential policy tools, and strengthening the accounting standards, disclosure requirements and crisis resolution framework. The BCBS recommendations referred to as Basel III are aimed at raising the level and quality of capital, introduction of leverage ratio, capital conservation buffer, counter cyclical capital buffer and liquidity coverage and net stable funding ratios. But, all these measures have to be associated with solid principles for any sustainable and effective solution.
- g) Any reference rate and Islamic Inter-bank Benchmark(s) (IIBR) have to be developed for pricing the Islamic banking contracts. These benchmarks must be based on the real sector business and activities. It would be a great contribution of the economists and practitioners if they introduce such benchmarks for various sectors and sub-sectors that is possible only through surveys and research of various sectors.

(The IIBR introduced by a group of IFIs about 6 months ago with involvement of *Thomson Reuters systems* has nothing to do with the real business activity of the member banks or the relevant markets. It is a money market rate just like LIBOR, EIBOR or any other conventional rate that the investor banks offer to one another⁸. A number of Islamic banks may be quoting rates for inter-bank liquidity placements for overnight, one week, one month to a year terms. However, it is not permissible to price a money placement transaction due to being *Riba*.)

- h) Investments have to be determined by real savings and savings to income ratio and not by credit multiplier so that the growth of financial activities is stable and determined by the real growth in an economy and not by unstable speculative finance or money creation by the banking system.
- i) Securitization not backed by the real assets that is based on excessive leverages and speculation has to be avoided.
- j) *Sharī'ah* advisers and scholars have to be very careful in allowing structured and derivative products even for the purpose of 'genuine hedging' because it could open a dangerous door of speculation which the *Sharī'ah* experts might not intend to allow. The experience has shown that limiting the practitioners to the permitted and *Sharī'ah* conforming purpose is next to impossible. Attention must be given to the aspects of *Sharī'ah* compliance and *Maqāsid-al-Sharī'ah* while performing risk management and hedging.
- k) The concept of 'Ethical finance' is being increasingly accepted in the global finance. But, the scope of business ethics has to be broadened to include, inter alia, focus on righteousness, disclosure and transparency, mutual trust and integrity; and prohibition of risk-free and speculative finance – the ultimate cause of all financial ills. These are the virtues that are *sin qua non* for any sustainable business. An act or an instrument / product would be ethical when it is intended to produce the greatest net benefit to society when compared to other alternatives⁹.
- l) Islamic finance does not mean earning profit *per se*; as a part of Islamic economics, it refers to a well-defined system of rights and

⁸ For details, please see the links:

http://thomsonreuters.com/news_ideas/press_releases/?itemId=518321;

http://thomsonreuters.com/products_services/financial/islamic_interbank_benchmark_rate/

⁹ Schwartz and Carroll, (2003) Corporate Social Responsibility: A Three-Domain Approach; *Business Ethics Quarterly*, 13(4), 503-30.

liabilities of all individuals and institutions in a society. It strives for preservation of property rights, sharing of risk and reward according to set rules and promoting social and distributive justice with special reference to equality of humanity, justice and equity, equitable distribution of wealth and *Falah* of human society as a whole.

- m) While selecting personnel for banking business, Islamic banks and financial institutions have traditionally been focussing on past experience of the applicants. Trend has to be changed now as large number of personnel with proper education in Islamic finance are available who have been graduating from various universities and high quality training institutes. In this respect, the quality assurance institutions and the regulatory bodies must register the education and training institutions to ensure that the education, orientation and the training imparted is of the highest possible standard to produce professionals with necessary knowledge and the commitment. While designing the courses and the curriculum, the modules on Islamic business and finance ethics may also be added. IFIs should have the arrangement for continuous orientation programs for practitioners at all levels to uphold the ethical values as against the mere profit motive.
- n) Special arrangements are needed for education and orientation of the *Shari'ah* advisors and members of the *Shari'ah* supervisory committees of IFIs. For this, focus is needed on interpretation and application of AAOIFI standards, documentation and process flow of the products and financial innovations in the global finance along with the procedures involved.
- o) Only the stringent regulatory rules and strengthening the corporate governance as done after failure of institutions like Enron and WorldCom would not serve the desired purpose; this is why, even the Vatican suggested to the financial institutions a few years back to look at the rules of Islamic finance. Efforts have to be made across the globe to introduce the ethical principles. Mere enforcement of rules, irrespective of the ethics, is not only ineffective, but also costly. Sarbanes-Oxley Act was introduced in America in 2002, but it failed to avoid failures despite spending hundreds of millions of Dollars on its enforcement. First step has to be to make the ethical principles inherent in the business of the IFIs. To start with, AAOIFI's *Shari'ah*, accounting, auditing and governance standards have to be made mandatory for them. It has also to be the first step of all regulations to be introduced by the central banks, Securities and Exchange Commissions or the other regulators both for efficiency and ethics. An

attempt to apply Islamic ethical norms of freedom from *Riba*, *Gharar*, *Ghaban*, *Najash*, *Jahalah*, *Ihtikar*, etc would in general lead to enhancement of efficiency¹⁰.

- p) Accounting standards to be used by the IFIs also need to be redefined to suit the special nature of business to be conducted by institutions working on the basis of *Sharī'ah* based contracts. It would need special adaptation of the International Accounting Standards (IAS) and the Financial Accounting Standards (FAS).
- q) A high level of disclosure and transparency is the basic feature of all transactions to be conducted by IFIs. Disclosure requirements with regard to investment portfolios, exposures in securitization, asset-backed / based papers and mortgage-backed securities, profits and on and-off balance sheet items also need to be revisited to make the investments by the IFIs transparent, *Sharī'ah* compliant and feasible. Mandatory disclosure requirements reduce asymmetry of information and tend to ensure just treatment with the parties.

The above is the long list of doables – a big challenge for all stakeholders of financial system. But this challenge has to be met to achieve the objective of safe and sustainable future for the mankind. It is what the Quranic verses, “*And that man can have nothing but what he does; and that his deeds will be seen*” and “*As for those who strive hard in Us, We will surely guide them to Our Path (XXIX: 69)*”, convey the message. It is the law of the nature as also the ruling of Almighty that He guides those, to the right paths who strive hard in the right direction as advised by Him.

Allah Almighty may guide us to the right path – *Aameen*.

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10 Obaidullah, M. (1995); Ethics and Efficiency in Islamic Stock Markets; International Journal of Islamic Financial Services, 3(2)

Sukuk in Various Jurisdictions: *Sharī'ah* and Legal Issues

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Abstract:

Sukuk are active Islamic finance instruments offered in various jurisdictions and have experienced various events in the recent years. Several $\eta uk\perp k$ defaults in 2009 highlighted a number of *Sharī'ah* and legal issues that are necessary to be discussed. As a part of the prerequisites to fulfil *Sharī'ah* requirements, compliance to the relevant laws is also a necessity. Among the issues that will be touched upon is ownership of the asset of the *Sukuk* which will include discussion about '*al Qabd*' (taking possession). Next, rights of the $\eta uk\perp k$ holders will be discussed to see whether their interests are well protected and in this context the concept of asset backed will be differentiated from that of the asset based securities. Discussion on the contentious purchase undertaking in *Sukuk* dealings will follow in order to highlight its status and effect on the *Sukuk* and parties to the transactions. Then, the practice of tranching in *Sukuk* issuance will be discussed followed by legal documentation of *Sukuk* issues. In the end, the paper will present way forward for *Sukuk*, so that these issues are further addressed for better *Sukuk* issuance.

Key Words: *Sukuk*, *Sukuk* defaults, *Sukuk* trading; Islamic finance instruments, Purchase undertaking, Tranching in *Sukuk*, Islamic capital market, *Maqasid*.

¹ The author is Executive Director at International *Sharī'ah* Research Academy (ISRA), Kuala Lumpur, Malaysia. The paper was presented in ICIB 2011 organized by the Riphah International University in February, 2011 at Islamabad. It is mainly based on findings of two ISRA research projects; namely "A Synthesis of Shari'ah Issues and Market Challenges in the Application of Wa'ad (Undertaking) in Equity-Based $\eta uk\perp k$ " and "A Diagnosis of Tranching in Light of Sharī'ah Principle" by Mrs. Shabnam Mohamad Mokhtar with other researchers. In fact, part of the detailed findings can be seen in ISRA Research Paper No. 8/2010, "Critical Appraisal of Shari'ah Issues on Ownership in Asset-based $\eta uk\perp k$ as Implemented in Islamic Debt Market", written by Mrs. Shabnam M. Mokhtar and Dr. Asyraf Wajdi Dusuki. Some of the findings of the project were also presented in OIC Fiqh Academy Conference on $\eta uk\perp k$ by Dr. Said Bouheraoua and Dr. Asyraf Wajdi Dusuk.

1. Introduction

Islam is a comprehensive way of life, which strikes the balance between the spiritual and the material need of human being. One of the important aspects in human life is the need for an all-inclusive system in order to govern their life and to ensure that the needs are catered adequately including the material needs such as the financial management. This aspect of life is closely related to the fast growing industry in the world nowadays, which is the Islamic financial services industry. At present, over two hundred and fifty Islamic financial institutions are operating worldwide and Islamic banking is estimated to be managing funds of up to the value of US \$ 1 Trillion. The annual growth of Islamic financial institutions (IFIs) has been estimated at 15 to 20% worldwide over the past 10 years and is expected to accelerate in the near future.

One of the important sources of financing in the Islamic financial services is the fund generated from the capital markets. Over the last decade, the Islamic capital market has seen significant growth and efforts to further strengthen this area of funding are going on. In Malaysia, the creation of Islamic money market and capital market is no doubt a landmark development in the area of Islamic finance. A wide range of instruments was developed to facilitate the effective management of liquidity and funding by the IFIs. This has facilitated the smooth flow of funds in the Islamic financial system.

$\eta uk\perp k$ are one of the important instruments in Islamic capital market. Since inception, $\eta uk\perp k$ were used as a tool that has assisted in raising capital inside the country as well as funds from international investors. Globally, $\eta uk\perp k$ issuance has increased over the last decade and it has grown tremendously, even though, there was slow down of issuance during the global financial crisis. Again, the global $\eta uk\perp k$ issuance for 2011 surpassed the USD34.2 billion peak recorded in 2007.²

However, the story of $\eta uk\perp k$ is not without critiques or blame. Since its issuance, $\eta uk\perp k$ have been accused to be identical to conventional bonds and not an alternative. This is because they possess some similar features and provide similar economic effects. As a matter of fact, such claims do not befall on $\eta uk\perp k$ only and many of Islamic finance products have initially been developed as replication of the conventional finance

² See KFHR report on $\eta uk\perp k$ cited by Zawya, accessible at: <http://www.zawya.com/story.cfm/sidZAWYA20101221101336>; for updated data see: http://www.economist.com/blogs/graphicdetail/2012/04/focus-2?fsrc=gn_ep&goback=.gde_1794138_member_106916657

products with some modification in order to make them ‘*Sharī’ah* compliant’. Thus, there was call for re-examination of $\eta uk^{\perp k}$ structure particularly after the famous remarks made by the Chairman of the AAOIFI’s *Sharī’ah* Board. Defaults in several $\eta uk^{\perp k}$ in 2009 also triggered the need to re-examine the $\eta uk^{\perp k}$ structures and the industry as a whole.

The above events prompted AAOIFI to reaffirm their *Sharī’ah* standard on $\eta uk^{\perp k}$ and called for review of the current practices in $\eta uk^{\perp k}$ and to move away from the conventional finance practices. The events also highlighted some flaws in $\eta uk^{\perp k}$ and the hidden risks that certificate holders needed to bear as well as the disclosure of shocking results when $\eta uk^{\perp k}$ undergo a legal test. Some unsettled *Sharī’ah* and legal issues within $\eta uk^{\perp k}$ have been raised that need to be examined further and also to be acknowledge by parties in different jurisdictions who are already involved with $\eta uk^{\perp k}$ or intend to associate with them in the future.

This paper will try to address some of the above concerns starting from definition of $\eta uk^{\perp k}$ and their types as well as the arising *Sharī’ah* and legal issues. Among the important issues that will be discussed are issues of ownership on underlying asset, tranching, purchase undertaking, legal documentation, $\eta uk^{\perp k}$ trading, credit enhancement facilities and guarantee to the $\eta uk^{\perp k}$ holders.

2. Understanding $\eta uk^{\perp k}$

In order to understand $\eta uk^{\perp k}$ from *Sharī’ah* perspective, it is significant to acknowledge that $\eta uk^{\perp k}$ are different from conventional bonds. It is evident from $\eta uk^{\perp k}$ definition as prescribed by AAOIFI, namely:

“Investment $\eta uk^{\perp k}$ are certificates of equal value representing undivided shares in ownership of tangible assets, usufruct and services or (in the ownership of) the assets of particular projects or special investment activity, however, this is true after receipt of the value of the $\eta uk^{\perp k}$, the closing of subscription and the employment of funds received for the purpose for which the $\eta uk^{\perp k}$ were issued”. [*Sharī’ah* Standard 17, Article 2 (Definition of Investment $\eta uk^{\perp k}$)]

So basically, $\eta uk^{\perp k}$ are financial certificates that evidence ownership to underlying asset and the income or profit generated by it. From this definition, we understand that $\eta uk^{\perp k}$ do not create indebtedness as the certificates are not proof of investors’ loan to $\eta uk^{\perp k}$ issuers as in the case of bonds. In contrast, $\eta uk^{\perp k}$ certificates are an evidence of $\eta uk^{\perp k}$

holders' proportionate ownership of the underlying asset, usufruct or services in the $\eta uk^{\perp k}$ and they shall receive return based on the performance of the underlying assets. Therefore, $\eta uk^{\perp k}$ are considered as an investment facility and not a loan which shall not automatically guarantee return to the investors as it depends on asset's performance unlike return of interest on bonds. However, there are certain structures of $\eta uk^{\perp k}$ that allow such guarantee and there are also certain parameters for allowable guarantee.

$\eta uk^{\perp k}$ are significant instruments in Islamic finance as they allow for global access to capital and provides cross border liquidity management capability. Apart from access to capital, $\eta uk^{\perp k}$ can be seen to facilitate securitization and allow for equitable wealth distribution as well as shared prosperity. Hence, $\eta uk^{\perp k}$ are issued by various parties including corporate entities and government. Sovereign $\eta uk^{\perp k}$ issuance by governments is also gaining popularity as they may facilitate major development projects at national and global levels.

3. Types of $\eta uk^{\perp k}$

There are various ways for $\eta uk^{\perp k}$ division. Among others are by way of the underlying contract and, therefore, $\eta uk^{\perp k}$ can be divided as follows:

1. Sale based $\eta uk^{\perp k}$ which include $\eta uk^{\perp k}$ structures using the different sale based contracts including *Murabahah*, *Ba'i al'Inah*, *Salam* and *Istisna'a*;
2. Lease based $\eta uk^{\perp k}$ which are based on *Ijarah* concept;
3. Partnership or equity based $\eta uk^{\perp k}$ that are structured based on *Mudarabah* or *Musharakah* contracts;
4. Agency based $\eta uk^{\perp k}$ that are based on *Wakalah al Istithmar* contract (agency for investment) contract; and
5. Hybrid $\eta uk^{\perp k}$ which may combine more than two *Shari'ah* contracts to structure the $\eta uk^{\perp k}$.

Other classifications are asset based $\eta uk^{\perp k}$ which are based on deferred sale contracts or *Ijarah* contracts, or asset backed $\eta uk^{\perp k}$ which include $\eta uk^{\perp k}$ structured based on equity or partnership contracts, and this is among the most popular classification. Due to the significance of these two types of $\eta uk^{\perp k}$ (asset based and asset backed $\eta uk^{\perp k}$), we need to discuss them in detail:

Based on the Principle Guidelines in IFSB 7- Capital Adequacy Requirement for $\eta uk\perp k$, Securitizations and Real Estate Investment³, these $\eta uk\perp k$ categories were defined as the following:-

- a) “An asset-backed $\eta uk\perp k$ structure that meets the requirements for being an asset backed structure as assessed by a recognised external credit assessment institution (ECAI): this structure would leave the holders of $\eta uk\perp k$ to bear any losses in case of the impairment of the assets. The applicable risks are those of the underlying assets, and these will in principle be reflected in any credit rating issued by a recognised ECAI. (This is the category explicitly covered by IFSB-2.)”
- b) An asset-based $\eta uk\perp k$ structure with a repurchase undertaking (binding promise) by the originator: the issuer purchases the assets, leases them on behalf of the investors and issues the $\eta uk\perp k$. Normally, the assets are leased back to the originator in a sale-and-leaseback type of transaction. The applicable credit risk is that of the originator, subject to any *Sharī'ah*-compliant credit enhancement by the issuer. The recognised ECAI will put weight, in determining the rating, on the payment schedule of the repurchase undertaking and the capability of the originator to make the scheduled payments to the issuer (see paragraph 13). Such structures are sometimes referred to as “pay-through” structures, since the income from the assets is paid to the investors through the issuer.
- c) A so-called “pass-through” asset-based $\eta uk\perp k$ structure: a separate issuing entity purchases the underlying assets from the originator, packages them into a pool and acts as the issuer of the $\eta uk\perp k$. This issuing entity requires the originator to give the holders recourse, but provides *Sharī'ah*-compliant credit enhancement by guaranteeing repayment in case of default by the originator.”

In fact, when defining these two type of $\eta uk\perp k$, IFSB-7 explained in its footnotes that ” In Islamic finance, asset-backed structures involve ownership rights in the underlying assets ... Asset-based structures in Islamic finance are found in cases where, given the applicable legal environment, the ownership rights over the underlying asset may not reliably result in an effective right of possession in case of default, and in

³ See IFSB-7, p. 3-4

consequence, the $\eta uk\perp k$ holders need to have a right of recourse to the originator in case of default”⁴

4. 2009 Major $\eta uk\perp k$ Defaults

Major $\eta uk\perp k$ defaults in 2009 can be considered as the most recent adverse episode in $\eta uk\perp k$ industry that has called for scrutiny of $\eta uk\perp k$. Various issues were highlighted and more clarity on $\eta uk\perp k$ transactions was required by all parties especially the investors. This was contributed by court cases revelation on some flaws in $\eta uk\perp k$ structures. Several issues were raised that entailed the examination of certain aspects which include among others, the ownership of underlying assets, purchase undertaking, tranching and legal documentation.

4.1 Asset Ownership

It is well understood that $\eta uk\perp k$ certificate is an evidence of investor's ownership of $\eta uk\perp k$ underlying. However, the definition of both asset-based and asset backed $\eta uk\perp k$, as mentioned above, shows that the practice in both types of $\eta uk\perp k$ is different. In asset-backed $\eta uk\perp k$, true sale is a requirement and thus, the ownership of the asset transfers to the certificate holders and in the event of default, they can dispose it to third party in order to obtain remedy for their losses. In the asset based $\eta uk\perp k$, no true sale occurs and the asset is seen as a facility to enable the $\eta uk\perp k$ issuance and the only recourse the certificate holders have in the event of default is to exercise the purchase undertaking made by the issuer.

Therefore, asset-backed $\eta uk\perp k$ holders shall depend on performance of the asset for their return and must ensure that the assets generate good cash flow as well as of good value. This is because, if default occurs, their only recourse is on the asset. In contrast, asset-based $\eta uk\perp k$ holders will have more concern on the creditworthiness of the issuer or other guarantees or collaterals provided by them, rather than the asset. This is so because they shall have no claim on the asset but to enforce the undertaking made by issuer to repurchase the $\eta uk\perp k$ certificates. Such matter is evidenced in the documentation of $\eta uk\perp k$ whereby a clause on restriction to dispose the asset is found to be in existence.

Scrutiny and examination of term sheet of $\eta uk\perp k$ reveals that the above is the general practice in both types of $\eta uk\perp k$. It implies that the asset-based $\eta uk\perp k$ have departed from the *Sharī'ah* requirements as underlined by AAOIFI according to which $\eta uk\perp k$ holders are owners of

⁴ See IFSB -7, footnote no. 2 and 3.

the underlying asset. $\eta uk^{\perp k}$ documentations reveal that there is no such ownership –in asset-based $\eta uk^{\perp k}$, asset is only used as a facility to make the deal possible.⁵ As a matter of fact, the asset remains in the issuer or the originator’s book. It is important, therefore, to ascertain the status of such practice in Islam.

Scholars of all times have discussed the importance of ownership in sale and condition to qualify a valid transfer of ownership. A sale for issuance of $\eta uk^{\perp k}$ certificate should give the effect of ownership transfer and taking possessing (*Qabd*) of underlying subject matter by the purchaser. Looking into the views of classic jurists reveals that most of them require *Qabd* to occur after sale agreement is executed. This is based on the narration of the Prophet (pbuh):-

“Amr bin Syu’aib narrated from his father that the Prophet has prohibited from [combining] a sale and a loan; to have conditions in a sale contract; to sell what you do not possess; or to get return without corresponding liability (for loss)”⁶

The hadith is considered by jurist as a basis for prohibition of sale of the non-existent subject matter or what cannot be delivered. However, al *Qabd* can take place explicitly or impliedly. Contemporary jurists have elaborated on the matters and as evident in OIC Fiqh Academy and AAOIFI standards,⁷ transfer of ownership or possession can take place minimum via *Takhliyah* and *Tamkin* (seller providing access without hindrance to the buyer to dispose the commodity as he/she pleases). Nevertheless, examination of $\eta uk^{\perp k}$ ’s term sheet shows that such right is not available to asset-based $\eta uk^{\perp k}$ holders as normally there are clauses on restriction on disposal of asset although documentation states that $\eta uk^{\perp k}$ holders are the beneficial owners of the asset. Therefore, there are inconsistencies or conflict of terms in the documentation.

4.2 Purchase undertaking

Purchase undertaking is a vital feature within $\eta uk^{\perp k}$ because it gives the certificate holders some kind of protection against loss in the event of default. This is true especially in asset-based $\eta uk^{\perp k}$ as in the event of default, their sole recourse is the enforcement of purchase undertaking by

⁵ For example, see: Risk Factor relating to Mudaraba Asset, at p. 22 of the DP World Offering Circular

⁶ Al Nasa’i, Sunan al Nasa’i bi Syarh al Suyuti, (Beirut: Dar al Ma’rif, 1999, vol. 7, hadith no. 340)

⁷ See OIC Fiqh Academy (Resolution No. 53) and AAOIFI (Shari’ah Standard No.18).

the issuer or obligor. Although *Sharī'ah* recognizes *Wa'ad*, however, it is considered morally binding but not legally binding by majority of the jurist.⁸ Only in certain events it is considered as legally binding from *Sharī'ah* perspective.

In relation to $\pi uk^{\perp}k$, *Wa'ad* becomes problematic when it is in the form of purchase undertaking of $\pi uk^{\perp}k$ certificate at face value because at this state, it becomes somewhat like a guarantee of the capital and such is not possible where $\pi uk^{\perp}k$ is an investment instrument. It must base on the principles of *Musharaka / Mudaraba*. This is based on the legal maxims "no return without risk". Thus, in all forms of investments, risks are involved and only by assuming higher risk will one deserve high return. If not, the certificate holders will not bear any liability and will be seen as advancing debt or capital to the issuer in return for protected principal plus interest. Thus, not different from bond that creates indebtedness on the part of the issuer towards the certificate holders. However, if undertaking is made to purchase the $\pi uk^{\perp}k$ certificate at market value, *Sharī'ah* has no objection.

The other controversy of such undertaking was raised in the some $\pi uk^{\perp}k$ defaults where questions were raised on the status of the undertaking from legal perspective. Does the law recognize it as a guarantee or not. It is significant because it determines the priority of $\pi uk^{\perp}k$ holders in claims against the originator or issuer in event of default. It shall determine whether they rank as secured or unsecured creditors.

4.3 Tranching

Further scrutiny of $\pi uk^{\perp}k$ aftermath with regard to the major $\pi uk^{\perp}k$ defaults revealed another questionable practice in $\pi uk^{\perp}k$ that required re-examination, namely the practice of tranching. This is because many scholars raised objection on similar practice that is done in issuance of shares. However, examination of various $\pi uk^{\perp}k$ documentations revealed that it has not been practiced widely but rather found only in certain $\pi uk^{\perp}k$.

Tranching refers to the practice of slicing of capital structure in $\pi uk^{\perp}k$ issuance and it is done via subordination where there is a prioritization process through which losses are allocated to different layers of investors. Tranching also involves the practice of time tranche where $\pi uk^{\perp}k$ holder's certificates have different time of maturity. The former

⁸ OIC Fiqh Academy (Resolution No. 40 - 41)

involves subordination where different investors are divided into different layers based on their capital contributions, the risk that they are willing to absorb and different return that they expect. Careful examination of *Sharī'ah* contracts shows that such practice is not allowed especially in equity. Long before tranching in $\eta uk\perp k$, scholars have discussed the issue of subordination in shares and the majority had disallowed it.⁹ Such ruling was made based on the legal maxim:

“Profit is based on the agreement of the parties, but loss is always subject to the ratio of investment.”

However, there are $\eta uk\perp k$ which have mentioned the term ‘*Tanazul*’ in their tranching practices such as *Tamweel* $\eta uk\perp k$.¹⁰ This is a new concept that requires review on *Sharī'ah* view on the practice of subordination in $\eta uk\perp k$. Notwithstanding, it is argued that ‘*Tanazul*’ is only valid when one has actually received the return or seen the extent of loss that he has to suffer, then will only *Tanazul* shall take effect. One cannot waive something that he does not know or possess. It results into the unwanted uncertainty (*Gharar*) that makes the transaction invalid. Similarly *Ibra'*, a concept that is said to be closely related with *Tanazul*, requires that the subject matter of waiver needs to be in existence before *Ibra'* can be executed.¹¹ Nevertheless, this issue needs in-depth study as deducing *Sharī'ah* ruling on tranching in $\eta uk\perp k$ will require its examination in the light of various types of $\eta uk\perp k$ and the underlying contracts.

4.4 Legal documentation

Apart from adhering to the *Sharī'ah* requirement, $\eta uk\perp k$ has to adhere to the legal requirements as well and thus it needs to be properly documented. As Islamic finance is still a nascent industry compared to the conventional system, the legal documentation follows much of the conventional practices. Thus, it is a requirement that *Sharī'ah* scholars have the capability and ample time to scrutinize $\eta uk\perp k$'s legal documents as it shall evidence the rights and obligation of the parties as well as whether justice and *Sharī'ah* guidelines are followed. It has been said that

⁹ See AAOIFI *Sharī'ah* Standard No. 12

¹⁰ Refer p. 38 of *Tamweel Offering Circular*

¹¹ Refer Ahmad Basri bin Ibrahim (2010), *Islamic Preference Shares: An Analysis in light of the Principles of Musharakah and Tanazul*, paper presented in International Conference on Islamic Banking & Finance: Cross Border Practices & Litigations, held in 15-16 June 2010 at IIUM, Kuala Lumpur at p. 15

caution need to be exercised as complex transactions involve sophisticated documentation.

The default by major $\eta uk\perp k$ also caused disputes between parties and some cases were brought to courts. Legal examination revealed that there may be some legal flaws and issues as well. It is feared that courts are not familiar with *Sharī'ah* based transactions and may wrongly interpret the contract as the legal documentation will be the main reference in relation to the transaction. Notwithstanding that, there is also concern that legal documents do not match the *Sharī'ah* requirements thus allowing chances for the transaction to be declared as null and void. Among other issues that may come under court's examination are non clarity and conflict of terms in the contracts. An example of this is the conflicting terms in contract in relation to asset disposal clause and beneficial ownership on trust assets. Another issue is the legal status of purchase undertaking as to whether it amounts to a guarantee or not, thus determining the priority of asset-based $\eta uk\perp k$ holders' claim to the issuer or the obligor in comparison with their other creditors.

Apart from that, asset-based $\eta uk\perp k$ documentation reveals that underlying $\eta uk\perp k$ assets are not well elaborated in the documents. It causes injustice to the $\eta uk\perp k$ holders whereby they cannot ascertain the real asset nor can monitor its performance. Caution needs to be administered so that it does not result into ignorance of subject matter (*Jahalah fi Ma'qud 'alaih*) by the $\eta uk\perp k$ holders and the transaction becomes void due to existence of *Jahalah* and *Gharar*, the prohibited elements in Islam.

It is stressed, therefore, that *Sharī'ah* scholars need to examine $\eta uk\perp k$ legal documentation as well and not only $\eta uk\perp k$ structures as the documentation will be brought to court and is expected to explain the transaction and spell out the rights and obligations of the parties. Negligence in this regard may cause a fatal judgement by court and a ground to declare the transaction non *Sharī'ah* compliant and thus, invalid. In this regard, AAOIFI's pronouncement No. 6 cannot be taken lightly as it states:-

“Sixth: *Sharī'ah* Supervisory Boards should not limit their role to the issuance of *Fatwa* on the permissibility of the structure of $\eta uk\perp k$. All relevant contracts and documents related to the actual transaction must be carefully reviewed {by them}, and then they should oversee the actual means of implementation, and then make sure that the operation complies, at every stage, with *Sharī'ah* guidelines and requirements as specified in

the *Sharī'ah* Standards. The investment of $\eta uk^{\perp k}$ proceeds and the conversion of the proceeds into assets, using one of the *Sharī'ah* compliant methods of investments, must conform to Article (5/1/8/5)7 of the AAOIFI *Sharī'ah* Standard (17)."

5. Other Concerns on $\eta uk^{\perp k}$

The above are the unsettled issues that were raised as a result of the major $\eta uk^{\perp k}$ defaults. However, prior to that, the $\eta uk^{\perp k}$ industry was shocked by a different revelation. In November 2007, Sheikh Taqi Usmani declared at AAOIFI Conference that 85% of $\eta uk^{\perp k}$ issued globally were not compliant to the *Sharī'ah* rules. The reasons for his declaration were distributed to the public in his writing, namely " $\eta uk^{\perp k}$ and their Contemporary Applications".¹² His condemnations were mainly on $\eta uk^{\perp k}$ *Musharakah* and *Mudharabah* which are mostly known as equity $\eta uk^{\perp k}$ as well as partly on $\eta uk^{\perp k}$ *Ijarah*. Following that discussion erupted and $\eta uk^{\perp k}$ went through strict scrutiny globally. Among the issues raised were $\eta uk^{\perp k}$ trading, protection of face value, issues in $\eta uk^{\perp k}$ redemption and emphasis on adoption of *Maqaḥid* approach. These issues shall be discussed briefly in the following.

5.1 $\eta uk^{\perp k}$ Trading

Pursuant to the pronouncement by Sheikh Taqi, AAOIFI conducted several meetings, consulted various scholars and made the following pronouncement in relation to $\eta uk^{\perp k}$ trading:-

First: $\eta uk^{\perp k}$, to be tradable, must be owned by $\eta uk^{\perp k}$ holders, with all rights and obligations of ownership, in real assets, whether tangible, usufructs or services, capable of being owned and sold legally as well as in accordance with the rules of *Sharī'ah*, in accordance with articles 2 and 5/1/2 of the AAOIFI *Sharī'ah* Standard (17) on Investment $\eta uk^{\perp k}$. The Manager issuing $\eta uk^{\perp k}$ must certify the transfer of ownership of such assets in its ($\eta uk^{\perp k}$) books, and must not keep them as his own assets.

Second: $\eta uk^{\perp k}$, to be tradable, must not represent receivables or debts, except in the case of a trading or financial entity selling all its assets, or a portfolio with a standing financial obligation, in which some debts, incidental to physical assets or usufruct, were included unintentionally, in accordance with the guidelines

¹² See Usmani, M. Taqi (2008), " $\eta uk^{\perp k}$ and their Contemporary Applications", accessible at: http://www.failaka.com/downloads/Usmani_ηuk^⊥k_Applications.pdf

mentioned in AAOIFI *Sharī'ah* Standard (21) on Financial Papers".¹³

The statement affirms the provisions of AAOIFI standard on Investment *ṭukṭuk* especially on the conditions for *ṭukṭuk* trading and significance of ownership. At that moment, there were disputes on the status of ownership of *ṭukṭuk* holders as some *ṭukṭuk* appeared not to confer all rights and obligation to *ṭukṭuk* holder; for example, although *ṭukṭuk* holders are partners in the venture, but they are not entitled to dividends like the share holders. This refers to dispute on beneficial ownership that is being practiced overwhelmingly based on principle of equity and trust in common law due to difficulty to execute legal ownership transfer. In relation to this, some scholars adopted the opinion that difference of law between countries need to be recognized and what matters is an arrangement whereby the ownership by the *ṭukṭuk* holders may not be disputed following all the local law's requirement and procedures.

The other significance is to deal with condition to issue and trade the debts. AAOIFI and Middle East scholars are against *Ba'i al dayn* (sale of debt) and thus emphasise that *ṭukṭuk* with debt or receivables as underlying are not tradable.¹⁴ It is the other condition to *ṭukṭuk* trading apart from ownership of *ṭukṭuk* underlying by the *ṭukṭuk* holders. However, because most of the financial institutions' assets comprise debts, hybrid *ṭukṭuk* have been innovated which include a mixture of asset, debt and equity as underlying asset so long as the debts do not exceed the tangible assets or equity. The renowned example is the 2003 IDB USD 400 million hybrid *ṭukṭuk* that were based on a combination of assets and receivables under *Ijara*, *Murabaha* and *Istisna* contracts (with minimum 51% *Ijara* asset). Nevertheless, a different practice is exercised in Malaysia because *Ba'i al dayn* is approved by its *Sharī'ah* committee and therefore, debt-based *ṭukṭuk* have been issued and exchanged within Malaysia. Nevertheless, most of the *ṭukṭuk* are held and redeemed upon maturity by the *ṭukṭuk* holders.

5.2 Protection of Face Value (Principal)

It was observed that certain mechanism was installed into *ṭukṭuk* to allow for protection of the face value, namely the purchase undertaking based on

¹³ See Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI), accessible at: <http://www.aoifi.com/aoifi/default.aspx>, at p. 1

¹⁴ See AAOIFI *Sharī'ah* standard and OIC Fiqh Academy Resolution on sale of debt prohibition.

Wa'ad. However, at that stage, only legitimacy of such *Wa'ad* was examined and in-depth legal scrutiny was not made. The aftermath discussion mainly stressed on its status from *Sharī'ah* perspectives as can be seen in the following.

This issue was pursuant to the finding that many equity-based $\pi uk\perp k$ guarantee return of capital by binding undertaking from manager or the issuers that they will buy the underlying assets or equities based on the purchase price. Such practices are not valid as it means that the issuer or manager is guaranteeing the return of capital by way that the underlying assets are loss proof. Thus, no matter how the venture goes, profitable or loss-giving, the investors' capital is seen as somewhat always safe. Of course, this suit the appetite and wishes of the investors but it is not *Sharī'ah* compliant as it impose unnecessary and invalid burden on the $\pi uk\perp k$ issuer or manager. In a partnership contract, the *Mudarib* or partner is not allowed to guarantee capital except in case of mala fide actions or negligence.¹⁵ Nor the agency contract allows the combination of *Wakalah* (trust) contract and guarantee.

Some argue that the undertaking is a valid unilateral *Wa'ad* and thus binding and enforceable. Although this is agreed by many scholars and *Fatwa* institutions but it is not without cautious application and with certain conditions. For instance, an undertaking cannot be used to defeat the purpose or essence of the main contract. In *Mudraba* and *Musharaka* $\pi uk\perp k$, the undertaking applies in a way that the capital of the partnership is guaranteed that defeats the maxim of 'no gain without risk' and 'profit comes with liability', thus the $\pi uk\perp k$ can no longer be called as investment $\pi uk\perp k$. In addition, AAOIFI Standard No. 17 has prescribed that such undertaking (to purchase at the nominal value) is not valid except if the underlying assets are to be sold according to the market rate or at a rate mutually agreed upon at the date of redemption (Clause 5/2/5). It is also confirmed in AAOIFI *Sharī'ah* Standard No.12, clause 3/1/6/2 and Standard No.5, clause 2/2/1 and 2/2/2.

There may be an argument that such undertaking does not imply actual guarantee; in this respect, there is a need to emphasise that tools and mechanisms in *Sharī'ah* based transactions cannot be observed from the form only but the substance is more pertinent. Apart from that, these instruments need to be assessed both from financial and *Sharī'ah* aspects. Thus, in this instance, one may argue that such undertaking is an issue

¹⁵ Partners to *Musharakah* and *Mudarabah* (the investment manager) cannot guarantee, Sheikh Taqi p. 8

only when at maturity, the underlying asset's value is less than the market price, but it is not an issue at all if it is above the market price or on equal value. But it would be a *Hilah* (trick to circumvent any prohibition). The current practice requires careful observation of *Hiyal* and *Makharij* that are being applied in Islamic finance. Hence, the above proposition needs to be reiterated.

5.3 Nature of Return

The other questionable issues included the nature of $\eta uk \perp k$ returns and reference to LIBOR or other interest based benchmarks to structure the returns. The former refers to any credit enhancement facility that is added to equity-based $\eta uk \perp k$ deal so that to ensure that $\eta uk \perp k$ holders receive the expected returns. This includes liquidity facility in the form of *Qar ʔ al- ʔasan*, (benevolent loan) and prescription of incentive fee. These two mechanisms allow for fixed disbursement of expected returns on $\eta uk \perp k$. The former refers to stipulation of loan by the issuer or investment manager for shortcomings in the periodic distributions of profits. Since it is stipulated in the contract, it obliges the manager with this additional burden and therefore the basic rule of the partnership or investment namely sharing of risk and reward is compromised. Certainly, this is not in accordance with the objectives of the *Sharī'ah* and it might fall under the prohibition of 'sale with credit'.¹⁶ In addition, such arrangement serves as a form of guarantee on specific return like in conventional debt whereby interest is guaranteed apart from capital. However, it may be said that there is not any issue if the lack is in the cash to be distributed and not the actual profit? However, for distribution, the issuer undertakes to pay investors from his money with the intent to reimburse once the profit is realised. Some scholars have indicated that giving such loan by the manager is fine so long as the manager can get back the amount from $\eta uk \perp k$ holder's return or their capital contribution. Nevertheless, most scholars are inclined towards another alternative remedy, a reserve fund to be created out of the periodic profits, or a third party financing may be utilized to cover the shortfalls of the distribution.

In addition, the incentive fee provision refers to the practice that if the actual profit is above the prescribed percentage, all the extra sum will go to the manager as incentive fee for good management or additional profit to the issuer. Majority of the classical jurists considered such offering of

¹⁶ Prohibition of sale side by side with credit as it may lead to implicit *Riba* and exploitation of any of the parties.

incentive to the manager (an investment agent) as *Makruh* as it generates uncertainty in profit distribution. However, there is *Sharī'ah* justification that supports the lawfulness of this arrangement.¹⁷ Majority of contemporary scholars approves this provision. This was followed by AAOIFI Standard No. 13 article 8/5. However, such arrangement is not in line with the real purpose of *Shirkah* and the objectives of *Sharī'ah* as it fails to promote equitable distribution of profit to all investors. Apart from that, the percentage is not linked to the expected profit but to the interest rate in the market, without connection to the profitability of the venture. It is an awkward situation whereby the incentive for good management of a joint venture is given based on the prevalent interest rate and not actual performance.

Thus, there is a need for other benchmarking mechanism to be adopted other than interest based benchmark. Alternatively, actual profit calculation and apportionment should be used. The creation of an alternative benchmarking mechanism is extremely significant, not only for $\eta uk\perp k$ but also for other Islamic finance products.

5.4 *Maqāsid*

Some scholars also condemned the $\eta uk\perp k$ industry practices because they were of the opinion that although $\eta uk\perp k$ may satisfy most of *Sharī'ah* legal requirement but they are far away from the objectives of *Sharī'ah* which include promoting distributive justice and removing harm. The most of the $\eta uk\perp k$ posses some features similar to bond and various guarantee mechanisms negate the identity of $\eta uk\perp k$ as investment instrument. It is also because of $\eta uk\perp k$ return's linking with LIBOR. It is timely that Islamic financial institutions move forward towards genuine *Sharī'ah* operations and distance away from the conventional practices.

It is important for all Islamic finance stakeholders to comprehend that although *Sharī'ah* compliance is significant but consideration of the higher purpose of *Sharī'ah* is also not less significant. Thus, it is important to look into the products comprehensively, to include undertaking a study on their economic and social impact.

6. The Way Forward

Looking into all the arising issues in $\eta uk\perp k$, it can be said that reform is needed and the $\eta uk\perp k$ industry cannot be left at the current state of affairs. However, it shall not involve reform in the *Sharī'ah* scrutiny only

¹⁷ See Sheikh Taqi, 2008; p. 5

as has been highlighted in previous discussions. Emphasis is required onto the following matters as well:-

6.1 Legal Practice Reforms

It is said that in all sophisticated transaction, like $\eta uk\perp k$, documentation risks require paramount consideration or else it could result in substantial litigation risk. It is essential, therefore, that the legal documents are clear and the parties understand it fully and, if required, are able to present it well to the court. Lawyers and contracting parties need to clearly draw the terms and conditions of the documents and understand their implications financially, legally and from *Sharī'ah* perspective. Therefore, lawyers need to have sufficient *Sharī'ah* knowledge so that the legal documentation is in-check. Above all, it is hoped that the judiciary and the courts will get orientation on the principles of Islamic finance and recognize the essentials of *Sharī'ah* based transactions and acquire all the help needed to understand it and decide the cases accordingly.

Islamic finance has experienced many incidents where courts failed to appreciate and understand *Sharī'ah* based transactions and decided according to the English or civil laws.¹⁸ This has happened in the international sphere as well as in countries like Malaysia where the court looked into the transaction as similar to any conventional transaction. It is feared that parties may take the advantage of annulling the transaction by saying that it is not *Sharī'ah* compliant as declared by the court, not knowing the real deal or intention of parties. It is also suggested that a clause is included in the legal documents on alternative dispute resolution whereby parties shall opt for this type of dispute resolution before approaching the courts. This is because parties shall have better opportunity to enforce their will in conducting *Sharī'ah* transaction and the process can be facilitated by a *Sharī'ah* expert who may act as mediator or adjudicator. Moreover, the facility is in existence as there are already two regional alternative dispute resolution centres based in Dubai and Malaysia.¹⁹ Therefore, alternative dispute resolution is a fair arrangement to the parties with the option to pursue the case in court if the former fail to resolve the matter.

¹⁸ See cases like Beximco Pharmaceuticals Ltd, Bangladesh Export Import Co. Ltd., Mr. Ahmad Solail Fasiuhur Rahman, Beximco (Holdings) Ltd. v. Shamil Bank of Bahrain E.C. [2004] EWCA Civ 19; Arab Malaysian Finance Berhad v. Taman Ihsan Jaya Sdn Berhad & Ors [2008] 5 MLJ 631

¹⁹ It refers to Kuala Lumpur Regional Centre for Arbitration (KLRCA) and (IICRA) which can deal with Islamic finance dispute cases and give award.

The other measures that can be taken as practiced in Malaysia is by providing facility to court to become specialized or expert in handling Islamic finance cases as Commercial Division in High Court which handles Islamic business cases. According to Practice Direction No.1/2003, paragraph 2, all cases under the code 22A (Islamic banking) filed in the High Court of Malaya will be registered and heard in the High Court Commercial Division 4 and this special high Court will only hear cases on Islamic banking. Another pleasing development is that in certain cases, court calls *Sharī'ah* scholars as expert witness to clarify the transaction to the court.

As a matter of fact, Malaysia has crossed over another milestone by amending the Central Bank of Malaysia Act to include provisions to make the national *Sharī'ah* Advisory Council's ruling compulsory upon courts and binding upon the parties.²⁰ Such move is seen generally to be positive in order to complete the chain of *Sharī'ah* compliance of Islamic finance products, but some also considered negatively as to negate the independence of court. National *Sharī'ah* Advisory Council is considered as a unit of the executive and under the concept of separation of power; it should not in any way have influence on the court.

Apart from that, Islamic finance industry in every national jurisdiction should strive for initiation of a specialized court in Islamic finance which comprises a number of judges who include expert in law, expert in finance and expert on *Sharī'ah*. Only then, justice is served to the parties and the industry and the chain of compliance to the *Sharī'ah* is not broken.

6.2 Other $\eta uk^{\perp}k$ Default Ramedy

Looking into the substantial legal risk and financial uncertainty faced by the parties, considering other remedies than litigation in the event of default is worthwhile. Those remedies may include considering restructuring or refinancing $\eta uk^{\perp}k$ as may be applied to bond in similar situation. Debt restructuring refers to “the process of a person or business negotiating and agreeing with its creditors to reduce its debt or to revise a repayment plan”²¹. This is applicable if the issuer or the originator and the assets are still viable and sustainable from the financial viewpoint but only facing some temporary difficulties, thus, there is no need to invoke insolvency law and risk the interests of all parties. Like debt restructuring, it is hoped that $\eta uk^{\perp}k$ restructuring will assist the issuers or the

²⁰ See section 51 till section 58 of the new Central Bank of Malaysia Act 2009

²¹ Farflex, (2009), “Farflex Financial Dictionary”, accessible at: <http://financial-dictionary.thefreedictionary.com/Debt+Restructuring>

originators who are facing troubles due to liquidity or financial distress. In fact, this alternative remedy is said to be more cost efficient. Actually the Almighty has prescribed in the holy Qur'an, clear guidelines to deal with such event whereby it is stated: "If the debtor is in a difficulty, grant him time till it is easy for him to repay. But if ye remit it by way of charity, that is best for you if ye only knew" [2: 280].

In fact, prior to global financial crisis, $\eta uk\perp k$ experienced high rise in demand and issuance. Most of $\eta uk\perp k$ performed well and provided the expected returns to its certificate holders. Although shaken in 2007 by AAOIFI *Shari'ah* Board Chairman, Sheikh Taqi Usmani's pronouncement on the invalidity of major $\eta uk\perp k$ issues, the $\eta uk\perp k$ market continued to operate. Global financial crisis however brought about difficulty to some issuers that have caused them to experience bankruptcy or to fail in making the expected periodical payments, and it involved prominent $\eta uk\perp k$ such as East Cameron and Nakheel $\eta uk\perp k$. Some of the defaults were taken to court for settlements and it was disclosed that investor's rights are not well protected and they may be in great danger to suffer major losses. Such was not anticipated by the investors as they presumed that their rights were well protected in existence of purchase undertaking from issuer or obligor to purchase the $\eta uk\perp k$ certificates if default occurs. Thus, it brought about uncertainty into the interest and claim of the $\eta uk\perp k$ holders and, as mentioned above, there are many questions of law that need to be answered first. For example, when the issuer or the originator falls into bankruptcy, what will be the position of the $\eta uk\perp k$ /certificate holders, secured or unsecured creditors and does the purchase undertaking entitle them to get priority or become secured creditors? Some *Shari'ah* scholars have covered this issue into discussion.²² They observe whether such practice as available for bonds can be made available to $\eta uk\perp k$ as well but they need to analyze and understand the phenomenon in $\eta uk\perp k$ default first. Dr. Engku Rabiah observed that actually, if compared to the total $\eta uk\perp k$ market value, only 1% of the total $\eta uk\perp k$ has defaulted.²³ However, it is undeniable that the default occurred globally as it involved $\eta uk\perp k$ default in Kingdom of Saudi Arabia, Kuwait, Malaysia, United States of America and Pakistan.²⁴ In

²² Among others were Dr. Mohd Daud Bakar and Assoc.Prof. Dr. Engku Rabiah Adawiah Engku Ali.

²³ It was based on the data obtained from IFIS as of April 29, 2010 where only 16 $\eta uk\perp k$ defaulted.

²⁴ See Engku Rabiah Adawiah Engku Ali (2010), " $\eta uk\perp k$ and Isu-isu Syariah: Penstrukturan Semula (Restructuring) $\eta uk\perp k$ dalam Kes Kemungkiran Pembayaran",

fact they involve various types of $\eta uk\perp k$ with different underlying contracts. Therefore, scholars are of the opinion that the matter is not uncomplicated. The *Sharī'ah* rulings will differ depending on the type of $\eta uk\perp k$ and the underlying contract.

Detailed studies need to be made; however, preliminary studies have brought some lights onto the issues. For instance, preliminary studies on debt based- $\eta uk\perp k$ show that it is possible for restructuring it as it involves indebtedness like the practice of restructuring bond. Apart from that, *Ijarah* $\eta uk\perp k$ also can be easily restructured because of the clarity of the obligations and rights of parties. In fact in Malaysia, Ingress and Talam $\eta uk\perp k$ have been restructured with various measures. Equity-based $\eta uk\perp k$ appear to be more difficult to undergo $\eta uk\perp k$ restructuring because it does not involve real indebtedness and therefore suitable *Sharī'ah* compliant restructuring measure need to be explored. However, attempt to restructure asset-backed $\eta uk\perp k$ is found to be more questionable because of the execution of true sale which makes the $\eta uk\perp k$ holders having no recourse to the obligor or issuer but rather recourse to the asset only. Thus, it may be easier if the investors sell the assets and retain back their capital. However, the matter may need rethinking when the assets value in the market is not sufficient to cover for all losses or there are other claims on the asset.

Although $\eta uk\perp k$ restructuring could be the preferable choice to the parties, in-depth studies need to be conduct on the best restructuring measures that not only satisfy the parties but also all *Sharī'ah* requirements.

6.3 Maqāsid Approach

The concern regarding steps for achieving the 'higher objective or purpose of *Sharī'ah* by some scholars is very valid. However, the objectives of *Sharī'ah* will not be achieved if transactions are conducted without parties having clear overview of what they are getting into. In addition, it is impossible to achieve the *Maqāsid* if relevant *Sharī'ah* requirement are not fulfilled. It particularly includes the issue of ownership where issuers do not want to depart from their assets but design artificial transfer in order to get liquidity. $\eta uk\perp k$ issuance should not be made only to get liquidity facility for some corporation, but real economic impact needs to be obtained as well. It is important that *Sharī'ah* compliance as well as the

higher purpose of the *Sharī'ah* become the main consideration for issuing $\eta uk^{\perp}k$ and profitability is the second. Investors need to understand the unique features of Islamic finance and absorb all risks related to their investments if they wish to gain return. It is timely that genuine *Sharī'ah* transactions are executed and *Sharī'ah* requisites are not compromised or diluted.

7. Conclusion

Various unsettled legal and *Sharī'ah* issues surrounding $\eta uk^{\perp}k$ may have not made bad impact so far to the current market but it will surely cause trouble to Islamic finance industry in the future, if they are not correctly responded to. Strict *Sharī'ah* and legal scrutiny from times to times need to be carried out so that the unsettled issues in relation to different $\eta uk^{\perp}k$ deals are unveiled and corrected. Therefore, the two events that took place in 2007 and 2009 should be considered as a blessing in disguise. Nevertheless, the suggested solutions, as outlined in the way forward section, should not be neglected as they can provide immediate solution to the current problem and are believed to have the potential of lasting effect.

Financial Inclusion: Islamic Finance Perspective

Zamir Iqbal and Abbas Mirakhor*

Abstract

Enhancing financial inclusion or access to finance can make critical contributions to the economic development. Conventional mechanisms such as micro-finance, small-medium-enterprises (SME), and micro-insurance to enhance financial inclusion have been partially successful in enhancing the access and are not without challenges. Islamic finance, based on the concept of risk-sharing offers set of financial instruments promoting risk-sharing rather than risk-transfer in the financial system. In addition, Islam advocates redistributive risk-sharing instruments such as *Zakah*, *Sadaqāt*, *Qard-al-hassan*, etc, through which the economically more able segment of the society shares the risks facing the less able segment of the population. These are not instruments of charity, altruism or beneficence but are instruments of redemption of rights and repayment of obligations. In addition, the inheritance rules specify how the wealth of a person is distributed among present and future generations of inheritors.

This paper argues that conventional modes of enhancing financial inclusion can be replicated through instruments of Islamic finance allowing risk sharing and risk diversification. However, even after availability of micro-finance and SME financing, financial exclusion may not be fully overcome. Therefore, one needs to utilize, Islam's instruments of redistribution where mandated levies and recommended avenue of spending may play their role. They help reduce the poor's income – consumption correlation. The paper concludes that Islamic finance provides a comprehensive framework to enhance financial inclusion through the principle of risk-sharing and through Islam's redistributive channels which are grossly under-utilized in Muslim countries. The redistributive instruments may be developed as proper institutions to optimize the function of such instruments. Application of financial engineering can device innovative ways to develop hybrids of risk-sharing and redistributive instruments to enhance access to finance to promote economic development.

Key Words: Financial inclusion, Redistributive risk-sharing, Risk transfer, *Zakah*, Inheritance rules, *Sadaqāt*, *Qard al Hassan*.

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Introduction

There is evidence suggesting that financial development and improved access to finance—also referred to financial inclusion, in a country is likely not only to accelerate economic growth but also to reduce income inequality and poverty. Despite its essential role in the progress of efficiency and equality in a society, 2.7 billion people (70% of the adult population) in emerging markets still have no access to basic financial services,¹ and a great part of them come from countries with predominantly Muslim population. In conventional finance, financial access is especially an issue for the poorer members of society including potential, or would be, entrepreneurs. They are commonly referred to as “non-banked” or “non-bankable” and in the case of potential entrepreneurs they invariably lack adequate collateral to access conventional debt financing. While access to finance may be important for economic growth, the private sector may not be willing to provide financing to some areas because of the high cost associated with credit assessment, credit monitoring and because of the lack of acceptable collateral.

Although the linkage of financial development with economic development exists, a high degree of the financial development in a country is not necessarily an indication of alleviation of poverty in a country. There is growing realization that in addition to financial development, the emphasis should be to expand the accessibility to finance and the financial services which can play a more positive role in eradicating poverty. Development economists are convinced that improving access and making basic financial services available to all members of the society in order to build an inclusive financial system should be the goal. Enhancing the access to and the quality of basic financial services such as availability of credit, mobilization of savings, insurance and risk management can facilitate sustainable growth and productivity, especially for small and medium scale enterprises.

Conventional finance has developed mechanisms such as micro-finance, small-medium-enterprises (SME), and micro-insurance to enhance financial inclusion. Conventional techniques have been partially successful in enhancing the access and are not without challenges. Islamic finance, based on the concept of risk-sharing offers set of financial instruments promoting risk-sharing rather than risk-shifting in the financial system. In addition, Islam advocates redistributive instruments

¹Demirguc-Kunt, Beck and Honohan (2007)

such as *Zakah*, *Sadaqāt*, *Qard-al-hassan*, etc, through which the economically more able segment of the society shares the risks facing the less able segment of the population. Such instruments of wealth redistribution are used to redeem the rights of the less able in the income and wealth of the more able. These are not instruments of charity, altruism or beneficence but are instruments of redemption of rights and payment of obligations. In addition, the inheritance rules specify how the wealth of a person is distributed among present and future generations of inheritors.

Islamic finance addresses the issue of financial inclusion from two directions—one through promoting risk-sharing contracts which provide a viable alternative to conventional debt-based financing, and the other through specific instruments of redistribution of the wealth among the society. Both risk-sharing financing instruments and redistributive instruments complement each other to offer a comprehensive approach to enhance financial inclusion, eradicating poverty, and to build a healthy and vibrant economy. They help reduce the poor's income – consumption correlation. In other words, the poor are not forced to rely on their low level income to maintain a decent level of subsistence living for themselves and their families. The redistributive instruments have to be developed as proper institutions to optimize the function of such instruments. Institutionalizing of these instruments would require enabling environment, sound legal framework, and transparent collection and the distribution.

Instruments offered by Islam have strong historical roots and have been applied throughout history in various Muslim communities. Islam offers a rich set of instruments and approaches and if implemented in a true spirit can lead to reduced poverty and inequality in Muslim countries plagued by massive poverty. Therefore, the policy makers in Muslim countries who are serious about enhancing access to finance or “financial inclusion” should exploit the potential of Islamic instruments to achieve this goal.

Section I introduces the concept of the financial inclusion and its relevance to economic development. Section II discusses issues identified with conventional approach to financial inclusion. Section III describes Islam's concept of financial inclusion through risk-sharing products. Section IV discusses Islam's instruments of redistribution. Finally, Section V offers key policy recommendations. Section VI concludes the discussion.

1. What is Financial Inclusion and Why it is Important?

Many poor families in the developing world have limited access to formal financial services, including credit, savings, and insurance. They instead rely on a variety of informal credit relationships with moneylenders, relatives, friends, or merchants. Traditionally, banks and other formal financial service providers including insurance companies have not considered the poor a viable market, and penetration ratios for formal financial services in developing countries are extremely low. Increasing access to financial services holds the promise to help reduce poverty and improve development outcomes, by enabling the poor to smooth consumption, start or expand a business, cope with risk, and increase or diversify household income.

The concept, financial inclusion, initially was referred to the delivery of financial services to low-income segments of society at affordable cost. However, during the past decade, the concept has evolved into four dimensions: (i) easy access to finance for all households and enterprises, (ii) sound institutions guided by prudential regulation and supervision, (iii) financial and institutional sustainability of financial institutions, and (iv) competition between service providers to bring alternatives to customers.² Typical indicators of the financial inclusion of an economy are the proportion of population covered by commercial bank branches, number of Automated Teller Machines (ATMs), sizes of deposits and loans made by low-income households and Small-Medium Enterprises (SMEs). However, availability of financial services not necessarily can be equated with financial inclusion, because people may voluntarily exclude themselves from the financial services for religious or cultural reasons, even though they do have access and can afford the services.³

What distinguishes the use of financial services from the access to financial services? To what extent is the *lack of use* a problem? The users of financial services can be distinguished from non-users, who either cannot access the financial system or opt out from the financial system for some reason. Within the non-users, first, there is a group of households and enterprises that are considered unbankable by commercial financial institutions and markets because they do not have enough income or present too high a lending risk. Second, there might be discrimination against certain population groups based on social, religious, or ethnic grounds. Third, the contractual and informational infrastructure might

²Demirguc-Kunt, Beck and Honohan (2007).

³ *Ibid.*

prevent financial institutions from reaching out to certain population groups because the outreach is too costly to be commercially viable.⁴ Finally, the price of financial services may be too high or the product features might not be appropriate for certain population groups. In addition, there could be a set of users who voluntarily exclude themselves from the system due to conflicts with their religious or ethical or moral value system.

Understanding the linkage of financial inclusion with the economic development is important. There is voluminous literature in economics and finance on the contributions of finance to economic growth and development. The main reason why “finance” or “financial inclusion” or “access to finance” matters is that financial development and intermediation has been shown empirically to be a key driver of economic growth and development. Development economists suggest that the lack of access to finance for the poor deters key decisions regarding human and physical capital accumulation. For example, in an imperfect financial market, poor people may find themselves in the “poverty trap”, as they cannot save in harvest time or borrow to survive a starvation. Similarly, without a predictable future cash-flow, the poor in developing countries are also incapable of borrowing against future income to invest in education or health care for children.

Given the significance of financial inclusion, a developed financial sector in a country can play a critical role in promoting growth and in reducing poverty by enabling the poor to borrow to finance income-enhancing assets including human assets such as health and education and to become micro-entrepreneurs to generate income and ultimately come out of the poverty.⁵ In addition, financial sector development could enable the poor to channel the savings to formal sector, i.e. bank accounts and other saving schemes and insurance which allow the poor to establish a buffer against future shocks, thus reducing vulnerability and exposure which otherwise could have put undue strain on future income prospects.

Modern development theories analyzing the evolution of growth, relative income inequalities and economic development offer two tracks of thinking. One track attributes imbalances in redistribution of wealth and income in the economy as an impediment to growth while the other track

⁴For example, in Bangladesh, Pakistan, and the Philippines, it takes more than a month to get a small business loan processed. In Denmark, the wait is only a day. Demirguc-Kunt, Beck and Honohan (2007).

⁵ DFID (2004).

identifies financial market imperfections as the key obstacle.⁶ Proponents of the redistribution of wealth claim that redistribution can foster growth and a focus on redistributive public policies such as land or education reforms focusing on schooling, saving, or fertility changes can lead to reduction in income inequalities and poverty.

The other school of thought attributes market failure and imperfect information leading to financial markets frictions as the obstacle to growth (Stiglitz & Weiss, 1981). Financial market frictions can be the critical mechanism for generating persistent income inequality or poverty traps. Financial market imperfections, such as information asymmetries and transactions costs, are likely to be especially binding on the talented poor and the micro and small enterprises that lack collateral, credit histories, and connections, thus limiting their opportunities and leading to persistent inequality and slower growth.

The main problems in delivering credit are linked to risks arising out of information asymmetries and the high transaction costs of processing, monitoring, and enforcing small loans, leading to an increase in break-even interest rates for these loans. These asymmetries can result from adverse selection, that is, the inability of the lender to distinguish between high- and low-risk borrowers, or from moral hazard, that is, the tendency for some borrowers to divert resources to projects that reduce their likelihood of being able to repay the loan and the inability of the lender to detect and prevent such behavior. Depending on the specific information asymmetry and the ability of potential borrowers to pledge collateral, lenders may try to use the interest rate or a combination of the interest rate and collateral as a screening and sorting mechanism. If collateral is not available, lenders are forced to rely only on the interest rate, but in doing so, they risk excluding, or crowding out, safe borrowers.

There is growing evidence identifying linkage between the economic development and financial inclusion. Galor and Zeira (1993) and Banerjee and Newman (1993) imply that financial exclusion not only holds back investment, but results in persistent income inequality, as it adds to negative incentives to save and work and encourages repeated distribution in a society. Empirical studies by Demirguc-Kunt and Levine (2007) show that countries with deeper financial systems experience faster reductions in the share of the population that lives on less than one dollar a day. Almost 30% of the cross-country variation in changing poverty rates can be explained by variation in financial development.

⁶ Demirguc-Kunt, Beck and Honohan (2007).

2. Issues with conventional approach to financial inclusion

Although the tension between the two approaches of either redistribution policies or financial market frictions continues, there is realization that the evolution of financial development, growth, and intergenerational income dynamics are closely intertwined. Aghion and Bolton (1997) point out that an approach centered on redistribution policies may create disincentives to work and save but DemirgüçKunt and Levine (2007) argue that by focusing on financial sector reforms and reducing financial market imperfections to expand individual opportunities creates positive and not negative incentive effects. They further conclude that building a more inclusive financial system also appeals to a wider range of philosophical perspectives than can redistributive policies: redistribution aims to equalize outcomes, whereas better functioning financial systems serve to equalize opportunities.

The approach to remove financial markets frictions to enhance financial inclusion consists of two tracks. First, the emphasis is on developing the overall financial sector infrastructure targeting the banking, capital markets, and insurance sector through promoting enhanced regulations, supervision, and transparency. This is in addition to necessary building of economic and legal institutions which are deemed necessary for efficient functioning of any economy. The second track focuses primarily on expanding credit to Micro-Small-Medium Enterprises (MSME). For example, in the past three decades, access to micro-credit has expanded dramatically and according to some estimates, nearly 200 million micro-borrowers have been successful in having approach to formal financial services.⁷

The experience with micro-credit or micro-finance has been mixed as there is growing consensus that the expectations were overestimated and there are serious challenges in achieving sustainable impact on poverty alleviation. The key challenges facing micro-finance industry are summarized below:

- a) **High Interest Rates:** Conventional micro-finance institutions are often criticized for charging very high interest rates on the loans to the poor. These high rates may be justified due to high transaction costs and high risk premium. However, this imposes undue stress on the recipient to engage in activities which produce returns higher than the cost of funding which may not be possible in many cases.

⁷ Bauchet, Marshall, Starita, Thomas, and Yalouris (2011).

- b) **Not every poor is micro-entrepreneur:** Merely making the capital accessible to poor is not the solution without realizing that not every poor or recipient of micro-credit has the skill set or the basic business sense to become an entrepreneur. There is need to provide proper training, skills building, and institutional support to promote entrepreneurship among poor. Such capacity building requires funds which are often not readily available.
- c) **Diversion of funds:** There are chances that the funds will be diverted to non-productive activities such as personal consumption. In some cases, micro-credit may lead the poor into a circular debt situation where borrowing from one micro-lender is used to pay off the borrowings from another lender. Poor households clearly have other financial needs such as school fees, risk mitigation against health and crop exposures, and even personal consumption.
- d) **Large scale fund mobilization:** While some of micro-finance institutions (MFIs) have had a significant impact on poverty, others have been less successful, making it difficult because MFIs generally cannot mobilize funds on a large scale and pool risks over very large areas in the way that more traditional, formal financial institutions can. In addition, most MFIs have only limited coverage and are reaching only a minority of the bankable population.⁸
- e) **Product Design:** The financial services needs of poor households may require different product features with different payment and delivery structures as opposed to typical debt based lending to micro-borrower. A more suitable product targeted to match the needs of the poor may prove to be more welfare-enhancing.
- f) **Absence of private sector participation:** As mentioned above, due to limited supply, coverage, products set, and funding by the informal, semi-formal and non-commercial sectors, effectiveness of MFIs is often compromised. There is need to move towards a market-based or private sector based solution within the formal financial sector or capital markets. Without participation by the private sector, some of the core issues may not be overcome.

It is worth looking at the evidence on the effectiveness of micro-lending. Recent experimental evidence from three randomized impact evaluations suggests that while increasing access to credit does not

⁸ DFID (2004).

produce the kind of dramatic transformations expected by earlier literature but it does appear to have some important—though more modest—outcome. There is some evidence of shift away from non-productive activities in favor of productive ones but not drastic enough to result significant uplift in the poverty levels. This suggests that micro loans help some households reprioritize their expenditures and smooth consumption—a valuable function for poor households that suffer from irregular and unpredictable income streams.⁹

3. Concept of Financial Inclusion in Islam

It is widely recognized that the central economic tenet of Islam is to develop a prosperous, just and egalitarian economic and social structure in which all members of society can maximize their intellectual capacity, preserve and promote their health, and actively contribute to the economic and social development of society. Economic development and growth, along with social justice, are the foundational elements of an Islamic economic system. All members of an Islamic society must be given the same opportunities to advance themselves; in other words, a level playing field, including access to the natural resources provided by God. For those for whom there is no work and for those that cannot work (including the handicapped), society must afford the minimum requirements for a dignified life by providing shelter, food, healthcare and education.

The concept of development in Islam has three dimensions: individual self-development, the physical development of the earth, and the development of the human collectivity, which includes both.¹⁰ In Islam all three dimensions of development assign heavy responsibility on individuals and society—with both held responsible for any lack of development. Balanced development is defined as balanced progress in all three dimensions. Progress is balanced if it is accompanied by justice, both in its general (*Adl*) and in its interpersonal (*Qist*) dimensions.¹¹ The objective of such balanced development is to achieve progress on the path-to-perfection by all humans, through rule compliance. The first dimension specifies a dynamic process of the growth of the human person toward

⁹ Bauchet, Marshall, Starita, Thomas, and Yalouris (2011).

¹⁰ Mirakhor and Askari (2010).

¹¹ The Quran uses two words for justice: *qist* and *ádl*. The first is the chief characteristic of appropriate human relations and of human relations towards the rest of creation. It is entirely a human phenomenon; it is not a divine trait. *Ádl*, on the other hand, is a feature of Allah's Actions that manifests itself in the perfect balance of the cosmos; it characterizes the Action of Allah to place everything in its rightful place (Mirakhor and Askari (2010)).

perfection. The second dimension addresses the utilization of natural resources to develop the earth to provide for the material needs of the individual and all of humanity. The third dimension of development refers to the progress of the human collectivity toward full integration and unity. Happiness and fulfilment in a person's life is not achieved by a mere increase in income, but with a full development of a person along all three dimensions. At the same time, economic progress and prosperity is encouraged in Islam since this provides the means by which humans can satisfy their material needs and thus remove the economic barriers on the path to their spiritual progress.

Islam emphasizes financial inclusion more explicitly but two distinct features of Islamic finance – the notions of risk-sharing and redistribution of wealth – differentiate its path of development significantly from conventional financial model.

Individuals in a society face two types of risks. The first is the result of the exposure of the economy to uncertainty and risk due to external and internal economic circumstances of the society and its vulnerabilities to shocks. How well the economy will absorb shocks depends on its resilience which will in turn depend on the institutional and policy infrastructure of the society. How flexibly these will respond to shocks will determine how much these risks impact individual lives when they materialize. The second type of risk individuals face relates to the circumstances of their personal lives. These include risks of injuries, illness, accidents, bankruptcies or even change of tastes and preferences. This kind of risk is referred to as idiosyncratic and when they materialize, they play havoc with people's livelihood. This is because often the level of their consumption that sustains them is directly dependent on their income. If their income becomes volatile, so will their livelihood and consumption. Engaging in risk sharing can mitigate idiosyncratic risk and allow consumption smoothing by weakening the correlation between income and consumption such that should these risks materialize, and the shock reduce income, consumption and livelihood of the individual do not suffer correspondingly.

In a society risks can be shared among its members and/or between its members and its state. Both in the industrial and developing economies, people find ways and means of sharing risks to their livelihood. In particular, they use coping mechanisms to increase the variability of their income relative to their consumption. In more developed financial systems, the coping mechanism is investing in financial assets or in acquiring insurance to mitigate against personal risks. In developing

countries, with weak financial markets, people rely on informal insurance, borrowing or saving to cope with idiosyncratic risks. In such societies, theory suggests that perfect informal insurance is possible if communities fully pool their incomes to share risks.

According to Islamic perspective, risks are mitigated in various ways. First, the economic system is a rule-based system which has provided rules of behavior and a taxonomy of decisions - actions and their commensurate pay offs based on injunctions in the *Qur'an*. Complying with these rules reduces uncertainty. Clearly, individuals exercise their freedom in choosing to comply or not with these rules. These rules of behavior and compliance with them reduce uncertainty - an important insight of the new institutional economics. Rules reduce the burden on human cognitive capacity, particularly in the process of decision making under uncertainty. Rules also promote cooperation and coordination (Mirakhor, 2009). Second, Islam has provided ways and means by which, those who are able to mitigate uncertainty by sharing the risks they face by engaging in economic activities with fellow human beings through exchange. Sharing allows risk to be spread and thus lowered for individual participants. However, if a person is unable to use any of the market means of risk sharing because of poverty, *Allah* swt has ordered a solution here as well: the rich are commanded to share the risks of the life of the poor by redeeming their rights derived from the Islamic principles of property rights (Mirakhor 1989, Iqbal and Mirakhor 2011).

Islam ordains risk sharing through three main venues:

- I. Contracts of exchange and risk-sharing instruments in the financial sector;
- II. Redistributive risk-sharing instruments through which the economically more able segment of the society utilize in order to share the risks facing the less able segment of the population; and
- III. Inheritance rules specified in the Qur'an through which the wealth of a person at the time of passing is distributed among present and future generations of inheritors.

Islamic finance, the foundation of the belief that such a system facilitates real sector activities through risk sharing, has its epistemological roots firmly in the Qur'an, specifically, verse 275 of chapter 2 (Mirakhor, 2011; Mirakhor and Smolo, 2011). This verse, in part, ordains that all economic and financial transactions are conducted via contracts of exchange (*al-Bai'*) and not through interest-based debt

contracts (*al-Riba*). Since in the *Ayah* the contract of exchange appears first and 'no-*Riba*' after, it is reasonable to argue that requiring that contracts be based on exchange constitutes a necessary condition of a permissible contract. Based on the same logic, the requirement of 'no-*Riba*' constitutes the sufficient condition of contracts. The necessary condition (*al-Bai'*) and sufficient condition (no *Riba*) must be met for a contract to be considered Islamic. Classical Arabic Lexicons of the *Qur'an* define contracts of exchange (*al-Bai'*) as contracts involving exchange of property in which there are expectations of gains and probability of losses (Mirakhor, 2010) implying that there are risks in the transactions.

One reason, *inter alia*, for non-permissibility of the contract of *Al-Riba* is surely due to the fact that this contract transfers all, or at least a major portion, of risk to the borrower. It is possible to imagine instruments that on their face are compatible with the no-*Riba* requirement, but are instruments of risk transfer and, ultimately, of shifting risk to tax payers.

By entering into contracts of exchange, parties improve their welfare by exchanging the risks of economic activities, thus allowing division of labor and specialization. Conceptually, there is a difference between risk taking and risk sharing. The former is antecedent to the latter. An entrepreneur has to first decide to undertake the risk associated with a real sector project before financing is sought. In non-barter exchange, it is at the point of financing where risk sharing materializes or fails to do so. The risk of the project does not change as it enters the financial sector seeking financing. Not clarifying this distinction has led to a confusion that the two concepts are one and the same. In the contemporary economy, at the point of financing, risk may be shared but it can also be transferred or shifted. The essence of financial intermediation is the ability of financial institutions to transfer risk. All institutional arrangements within the financial sector of contemporary economies are mostly geared to facilitate this function. One of the chief characteristics of the 2007/2008 global crisis was the fact that many financial institutions shifted the risk of losses but internalized the gains of their operation. Hence, the concept of "privatized gains and socialized losses" (see Sheng, 2009).

Arrow (1971) demonstrated that in a competitive market economy, in which markets are complete and Arrow securities whose pay offs are state-contingent are available, it would be Pareto optimal for the economy if its members were to share risk according to each participant's ability to bear risk (Mirakhor, 2010). In the absence of complete markets, which include all possible future contingencies, the efficiency of risk-sharing

mechanisms will depend on the institutional structure, the degree and intensity of informational problems and policies designed to render the economy resilient to shocks.¹²

To summarize, Islamic system offers various advantages over the conventional system based on risk-shifting. Use of risk-sharing instruments could encourage investors to invest in sectors such as micro-small-medium-enterprises (MSME) which are perceived as high risk sectors. Given an enabling environment, investors with matching risk appetite will be attractive to providing capital for these sectors. This argument can be supported by growing market for the private equity. With increased availability of funds for these sectors, one could expect an increase in the financial inclusion in the system.

4. Redistributive Instruments of Islam

As will be argued here, the second set of instruments meant for redistribution are used to redeem the rights of the less able in the income and wealth of the more able. Contrary to common belief, these are not instruments of charity, altruism or beneficence but these are instruments of redemption of rights and repayment of obligations.

In practical terms, the *Quran* makes clear that creating a balanced society that avoids extremes of wealth and poverty, a society in which all understand that wealth is a blessing provided by the Creator for the sole purpose of providing support for the lives of all of mankind is desirable. The Islamic view holds that it is not possible to have many rich and wealthy people who continue to focus all their efforts on accumulating wealth without simultaneously creating a mass of economically deprived and destitute. The rich consume opulently while the poor suffer from deprivation because their rights in the wealth of the rich and powerful are not redeemed. To avoid this, Islam prohibits wealth concentration, imposes limits on consumption through its rules prohibiting overspending (*Israf*), waste (*Itlaf*), ostentatious and opulent spending (*Itraf*). It then ordains that the net surplus, after moderate spending necessary to maintain

¹²Mirakhor (2010). The economy-finance nexus defined by Arrow-Debreu-Hahn general equilibrium models were risk-sharing conceptualizations in which securities represented contingent financial claims on the real sector. Equity share claims represent first best instruments of risk sharing and satisfy characteristics required of Arrow Securities. It would appear that had the financial markets in industrial countries developed their financial sector along the lines suggested by Arrow-Debreu-Hahn model, they could have had much more efficient risk sharing and, perhaps, avoided the crises that have plagued conventional financial system. See Arrow and Debreu (1954) and Arrow and Hahn (1971).

modest living standard, must be returned to the members of the society who, for a variety of reasons, are unable to work, hence the resources they could have used to produce income and wealth were utilized by the more able.

The *Quran* considers the more able as trustee-agents in using these resources on behalf of the less able. In this view, property is not a means of exclusion but inclusion in which the rights of those less able in the income and wealth of the more able are redeemed. The result would be a balanced economy without extremes of wealth and poverty. The operational mechanism for redeeming the right of the less able in the income and wealth of the more able are the network of mandatory and voluntary payments such as *Zakat* (2.5 percent on wealth), *Khums* (20 percent of income), and payments referred to as *Sadaqāt*.

The most important economic institution that operationalizes the objective of achieving social justice in Islam is that of the distribution-redistribution rule of the Islamic economic paradigm. Distribution takes place post-production and sale when all factors of production are given what is due to them commensurate with their contribution to production, exchange and sale of goods and services. Redistribution refers to the post-distribution phase when the charges due to the less able are levied. These expenditures are essentially repatriation and redemption of the rights of others in one's income and wealth. Redeeming these rights is a manifestation of belief in the Oneness of the Creator and its corollary, the unity of the creation in general and of mankind in particular. It is the recognition and affirmation that *Allah* (swt) has created the resources for all of the mankind who must have unhindered access to them. Even the abilities that make access to resources possible are due to the Creator. This would mean that those who are less able or unable to use these resources are partners of the more able.

The expenditures intended for redeeming these rights are referred to in the *Quran* as *Sadaqāt* which is the plural of the term *Sadaqah*, a derivative of the root meaning truthfulness and sincerity; their payments indicate the strength of the sincerity of a person's belief (*Quran*, 2:26; 2:272). The *Quran* insists that these are rights of the poor in the income and wealth of the rich; they are not charity (*Quran*, 91:26; 38:30; 70:25; 19:51; 2:177). Therefore, the *Quran* asks that extreme care be taken of the recipients' human dignity of which the recipients themselves are fully aware and conscious to the point that they are reluctant to reveal their poverty. The *Quran* consequently recommends that payment to the poor be done in secret (*Quran*, 2:271-273). Moreover, the *Quran* strictly forbids that these

payments be made either reproaching or accompanied by ill treatment of the recipient or with annoyance displayed by the person making the payment (*Quran*, 2:262-265).

Sadaqāt are a very important redistributive institution in Islam for two reasons: first, they operationalize the truthfulness of one's belief in *Allah* (swt) in voluntarily giving of one's income and wealth. Second, the importance of this institution derives from the fact that the receiver is not the person to whom *Sadaqah* is given, but *Allah* (swt). In two verses (103 and 104) of Chapter of Repentance, it is noted that:

(103): of their goods (wealth) take *Sadaqah*, so that you might purify and sanctify them; and pray on their behalf. Indeed, your prayers are a source of security for them: and *Allah* (swt) is One Who Hears and Knows.

(104): Do they not know that *Allah* (swt) accepts repentance from His servants and Receives their *Sadaqāt*, and that *Allah* (swt) is indeed He, the Oft-Returning, Most Merciful.

Zakah is considered a component of *Sadaqāt*, but it has been given a special status in the *Quran* because it is ordained with obligatory prayer in at least 20 verses (see, for example, verse 110, Chapter 2). Moreover, its collection was enforced by the governments in early Muslim history following the passing of the Messenger.

Qard hassan is a loan mentioned in the *Quran* as "beautiful" (*hassan*) probably because in all the verses in which this loan is mentioned, it is stipulated that it is made directly to *Allah* (swt) and not to the recipient (see, for example, verse 17, Chapter 64). It is a voluntary loan without creditor's expectation of any return on the principal. Additionally, while the debtor is obligated to return the principal, the creditor, on his own free will, does not press the debtor for an exact timing of its return. Again, in the case of *Qard hassan*, *Allah* (swt) promises multiple returns to the "beautiful loan." Unfortunately, the full potential of this institution to mobilize substantial resources for the empowerment of economically weak or dispossessed has not been realized. Much has been written about micro finance and its potential to reduce poverty. However, it is an irony that institutions of micro finance are growing rapidly in Muslim countries, but it is seldom realized that Islam's own institution of *Qard hassan* is a more effective means of providing credit to those who cannot access formal credit channels.

Very early in the history of Muslim societies, the institution of *Waqf* appeared through which a person could contribute the third of his/her

wealth over which he/she is allowed by *Shari'ah* to exercise control at the time of his/her death. A *Waqf* is a trust established when the contributor endows the stream of income accrued to a property for a charitable purpose in perpetuity. This institution has already been partially instrumentalized—although not in the sense used in this talk—since the legality of cash *Waqf* (i.e., endowing the future income stream of a cash trust instead of a physical property) has been recognized in most Muslim countries. Here, too, the potential of mobilizing large amount of financial resources through instrumentalization of this institution by a globally credible Islamic financial institution is substantial.

The third dimension of distributive justice in the institutional scaffolding of an Islamic society is the institution of inheritance crucial in the intergenerational justice framework envisioned by the Law Giver. Rules governing production, consumption and distribution assure conservation of resources for the next generations. Rules of redistribution ensure that those unable to benefit by participating directly in production and consumption in the market, through combination of their labor and their right of access to resources provided by the Supreme Creator for all humans, are redeemed their rights through *Zakah*, *Khums*, *Sadaqāt*, *Waqf* and other redistributive mechanisms. Once these rights have been redeemed out of the income and wealth of the more economically able, the latter's property rights on the remaining income and wealth is held inviolable. These rights, however, seize at the point of passing of a person. At the time of passing the person loses the right to allocate his/her wealth as he/she pleases except on a third of income which believers can use to make *Waqf*, *Sadaqāt*, or other transfer contributions as the person wishes. The remainder is broken up and has to be distributed among a large number of persons and categories according to strict rules of allocation specified in the *Qur'an* (see the *Qur'an* Verses 11-13, Chapter 4).

5. Public Policy Implications

Analysts suggest that public policy and strengthened institutional framework in developing countries can go a long way in enhancing financial inclusion. Better governance that can reduce damages to households due to mismanagement, achieving and sustaining economic and political stability, financial sector development are examples of policy improvements. In terms of institutional framework, clear and secure property rights, contract enforcement, trust among people and between government and people, and other institutions can reduce risk, uncertainty and ambiguity, strengthen social solidarity, bring private and public interests into closer harmony and ensure coordination to achieve in risk

sharing (Mirakhor 2009, 2010). Public policy could also help in mobilizing savings of poor household and thus reduce vulnerability to income shocks.

Public policy to create integration and support saving mobilization in developing countries could help risk mitigation and sharing thus building resilience in face of shocks. With regards to micro finance, as discussed earlier, there is empirical evidence suggesting that while these contracts help reduce poverty in low income countries by providing small, uncollateralized loans to poor borrowers, there is no evidence to suggest that those contracts allow businesses to grow beyond subsistence. Aside from high interest rates that reduce available resources, it is thought that the structure of typical microfinance contracts have features, such as peer monitoring and joint liability designed to reduce moral hazard risk, that create tension between risk taking and risk pooling. The latter, allows greater opportunity for informal risk sharing due to repeated interaction among the borrowers. Joint liability and peer monitoring - which are features common to most micro finance programs under which small groups of borrowers become responsible for one another's loans and all members are held responsible for consequences of one member's failure to repay the loan but do not reward other members in case of success - discourage risk taking and development of entrepreneurial impulses among borrowers (Chawdhury, 2005; Amendariz De Aghion and Morduch, 2005; Fischer, 2010). In addition to saving mobilization and encouraging micro finance, better access to financial sector through developing microcredit and insurance markets in rural and poverty-stricken regions are promising ways and means by which public policy can assist development of risk sharing to allow households to cope with risk.

There are powers available to a government that private sector does not have. For one thing, in its capacity as the risk manager of the society and as its agent, it can promote risk sharing broadly by removing many of the barriers to its spread. It can reduce informational problems, such as moral hazard and adverse selection through its potentially vast investigative, monitoring and enforcement capabilities. Through its power of implementation of civil and criminal penalties for non-compliance, a government can demand truthful disclosure of information from participants in the economy. It can force financial concerns that would attempt to appropriate gains and externalize losses, by shifting risks to others, to internalize them by imposing stiff liabilities or taxes. Using its power to tax and to control money supply, a government has the

significant ability to make credible commitments on current and future financing issues. It can use its power to tax to create an incentive structure for intergenerational risk sharing whereby the proceeds from taxation of current income-earning generation is redistributed to reduce risks to human capital of the youth of current and future generation. Without government intervention, individuals are unable to diversify the risk to their most valuable asset: their human capital. The young have significant human capital but insufficient financial capital. For the old, on the other hand, the case is the opposite.¹³

5.1 Government as the risk manager promoting risk-sharing¹⁴

It could well be argued that in contemporary societies, risk management is the central role of government and therefore, government is the ultimate risk manager in a society. In most economies, governments play a major role in bearing risk on behalf of their citizens. For example, governments provided social safety nets measures and insurance for a variety of financial transactions. The history of economic explanation for government's role in the economy spans more than a century as economists attempted to explain the justification of the role as being necessitated by the divergence between public and private interests. Some six decades ago Arrow and Debreu (1954) focused on finding precise conditions under which public and private interests would converge as envisioned in a conception of Adam Smith's invisible-hand conjecture. The result was an elegant proof that competitive markets would indeed have a stable equilibrium provided some stringent conditions were met. It was clear, however, that even under the best of actual conditions, markets did not perform as envisioned either by Smith or Arrow-Debreu. Consideration of violations of the underlying conditions spawned a voluminous body of literature on the theory and empirics of market failure. This concept became the starting point of analytic reasoning that justifies government's intervention in the economy to protect the public interest (Stiglitz, 1993).

¹³ As Robert Merton (1983) suggested, a trade is possible between these generations but laws prohibit trade in human capital (except through wage employment), the young cannot make credible commitment of their human capital through private contracts. There is no possibility for private contracts to commit future generations to current risk-sharing arrangements. This, in effect represents another case of commitment failure. Using its powers of taxing and spending, unparalleled monitoring and enforcing capabilities and its control of money supply, government can resolve these issues. No private entity can credibly commit not to default on an obligation as can government.

¹⁴ Mirakhor (2011).

The reason that contemporary societies implement social safety nets, such as social security, health care, public unemployment insurance programs, is that individual households face substantial risk over their life span such as mortality risk, wage and other income-wide risks, and health risks. Because private insurance markets do not provide perfect insurance against all risks, there is said to be a market failure and government intervention is called for to correct it. What has become clear in the wake of the global financial crisis is that even in the most advanced industrial economies existing social safety nets have become incapable of coping with the adverse consequences of the crisis. Not only has the crisis shaken previous level of confidence in markets, nearly all analyses of its causes attribute it to market failure in one dimension or another. This has intensified calls for governments' interventions to counter the adverse effects of the crisis on income and employment, to strengthen social safety nets and to reform the financial sectors. The most important lesson of the crisis has been that people at large carry too large a risk of exposure to massive shocks originating in events that are beyond their influence and control. Hence, attention has been focused on ways and means of expanding collective risk sharing.

Here-to-fore, it has been assumed that government intervention, in the form of activities, such as providing social safety nets, public goods, and deposit insurance, were solely for the purpose of addressing various kinds of market failure. While this is a crucial justification for intervention, there is an important dimension of government's role that has not attracted much attention. Much of these activities in provision of social safety net, from a minimal amount in some countries to substantial amounts in welfare states, are also about collective risk sharing. This dimension has been particularly neglected in the analysis of government provision of social insurance and services in which the sole focus has been on the issue of trade off between equity and efficiency; the issue at the heart of state vs. market debates.

5.2 Need for Developing Supportive Institutional Framework

As discussed earlier, access to finance is hampered by informational asymmetries and market imperfections which needs to be removed before one could think of enhancing finance. When it comes to developing countries where financial sector is not very developed and formal financial sector is under-developed, it is important that attention is paid to improve institutions critical for financial sector development. Improved access to finance in many developing countries is constrained by under-developed institutional framework, inadequate regulations, and lack of specialist

supervisory capacity. Policy makers need to take steps to enhance key institutions such as legal, informational, and regulatory in the country.

5.2.1 Regulators should give financial inclusion a priority.

Despite the significance of financial inclusion, it is observed that it is still not a priority for financial regulators in most of OIC countries. OIC countries need to develop a regulatory and supervisory framework that supports wide financial inclusion based on sound risk management and with sufficient consumer protections. Financial inclusion should be considered as a goal alongside prudential regulation and financial system stability. The CGAP and World Bank Financial Access survey (2010) of financial regulators worldwide found that regions that include financial access in their strategies and mandate their financial regulators to carry such agendas are also the countries that reform the most. Regulators with a financial inclusion strategy are more likely to have more financial inclusion topics under their purview and more resources and staff dedicated to working on these matters.¹⁵

5.2.2 Improving financial infrastructure, especially the improvement of current credit informational system, should be given the priority.

Core components of the financial infrastructure such as credit information, investors' rights, insolvency regimes, etc. are essential irrespective of type of financing, i.e. conventional or Islamic. Deficiencies in financial infrastructure are one of the major obstacles for further SME lending in MENA region.¹⁶ Sharing borrower information is essential to lowering costs and overcoming information constraints. Lack of access to credit information and low coverage ratio of credit history of individuals are two main features that contribute to the financial exclusion in OIC countries especially for SME financing. Muslim countries interested in enhancing financial inclusion need to improve the financial infrastructure which will entail expanding the range of collateral, improving registries for movables, and improving enforcement and sales procedures for both fixed and movable assets. It also entails upgrading public credit registries, and more

¹⁵ Pearce (2010).

¹⁶ As the most comprehensive measurement of business environment faced by SMEs across countries, the Doing Business Report 2011 shows that OIC countries rank 118 on average, much lower than the average developing countries (100) in terms of ease of doing business. In addition, OIC countries lag far behind in all four aspects of ease of getting credit – depth of credit information, public credit registry coverage, strength of legal rights, and private credit bureau. (Mohieldin, Iqbal, Rostom, Fu (2011)

importantly, introducing private credit bureaus capable of significantly expanding coverage and the depth of credit information.¹⁷ Financial infrastructure improvements will reduce the information asymmetry that constrains access to credit and raises the costs and risk of financial intermediation.

5.2.3 Develop infrastructure conducive to *Sharī'ah*-compliant products

The growth of Islamic microfinance will depend to a large degree on whether financial institutions can develop sufficiently attractive financial products and services, which are competitive with conventional products in terms of pricing, transparency, processing time, and burden on the client. *Sharī'ah*-compliant microfinance and SME financing is limited in its scope and scale because of lack of knowledge concerning *Sharī'ah* products, absence of accounting and regulatory standards for *Sharī'ah*-compliant micro-finance, and adequate monitoring and supervisory setups.

Integrating *Sharī'ah*-compliant products and customers information into formal financial sector will not only enhance the access, it will also help integrate Islamic finance with conventional finance. For example, by bringing borrowers' information to credit bureaus, financial institutions of all types could extend access to new customers, while managing risks and costs more effectively. This will also help *Sharī'ah*-compliant financial institutions to expand their funding source and enhance their risk-sharing mechanism, as institution with its clients' credit information available to the public can establish its reputation much easier than those with an informal credit history system.

5.2.4 Develop and promote Micro-insurance:

There is evidence of a positive causal relationship between insurance penetration and economic growth. The policyholder benefits by increased access to a wider range of products with increased coverage and greater sustainability; and the partnering insurance company has access into a new market without taking extensive marketing, distribution, or administration costs. More importantly, the partner-agent model facilitates the pooling of risks between the formal and informal sectors.

Despite the success and rapid growth of Islamic insurance (*Takaful*) and micro-insurance's contribution in poverty reduction, Micro-*Takaful* institutions are still significantly underdeveloped in OIC countries. Similar to low-income individuals, SMEs are also less covered by insurance

¹⁷ Rocha, Farazi, Khouri, and Pearce (2011).

services in poorer OIC countries. In MENA region, 34% of SMEs in GCC countries have the access to insurance services, while the figure falls sharply to 19% if the SMEs in Non-GCC countries in the same region are considered.¹⁸ One major reason of the slow expansion of micro-*Takaful* may be linked to the fact that micro finance institutions in Muslim populous countries are less likely to offer insurance services which are *Sharī'ah*-compliant.¹⁹

If the policy makers in Muslim countries wish to promote Islamic micro finance and SMEs, there is need that these measures are complemented by promotion of micro *Takaful* by designing adequate regulatory framework and by providing incentives to insurance carriers to enter into this market. Study by Islamic Development Bank (IDB) rightly suggests that *Qard Hassan* funds could be used to develop micro *Takaful* capacity in a country in addition to credit guarantee systems.²⁰ Similarly, *Zakah* funds can be utilized to cover default risk of poor spectrum of micro-enterprises, to build capacity and skill building, and to reduce operating costs of micro finance and micro insurance. Implementation of such ideas and innovations require development of institutions supporting transparent governance to ensure the effectiveness of such mechanisms.

5.2.5 Encourage formal sector engagement

Based on the experience of micro finance, the development community is shifting the emphasis away from micro credit institutions to an array of other financial institutions, such as postal savings banks, consumer credit institutions, and, most important, the banking system with the view that this broader approach can lead to overall financial system efficiency and outreach to the whole population. Widening of financial services to the poor and small enterprises by private sector institutions (particularly commercial banks) in the formal financial sector requires proper incentives and removal of regulatory barriers without sacrificing promotion of stability or security of the financial system.²¹

5.3 Institutionalization of Islamic redistributive instruments

As discussed earlier, Islam provides set of redistributive instruments which could play critical role in enhancing the access and to reduce the poverty. Given the Islam's emphasis on social and economic justice and the eradication of poverty, we would expect Islamic instruments targeted

¹⁸ Rocha, Farazi, Khouri, and Pearce (2011).

¹⁹ Kwon (2010).

²⁰ Obaidullah (2008).

²¹ DFID (2004).

to address inequity, such as *Zakah*, *Khairat*, *Waqf*, and *Qard hassan*, to play an important role if the required institutional structures are developed²². Therefore, there is need to formalize or institutionalize Islamic redistributive mechanisms designed to empower the economically weak segments of the society.²³

By institutionalization, we mean to build nation-wide institutions and surrounding legal infrastructure to maximize the effectiveness of these redistributive mechanisms. This institution-building exercise can take place in three steps. First step is the development of institutions. An institution is nothing more than the legalization of the rules of behavior and therefore, would require crafting rules pertaining to these instruments as envisioned by the *Shari'ah*. The next step would be to establish these institutions and to integrate them with the rest of the economic and financial system. In this process, either existing channels of distribution, i.e. banks or post offices can be utilized to interact with the customers, or new means can be introduced leveraging of new technologies. Finally, there should be mechanism to ensure enforceability of rules through transparent means.

The objective of institutionalization of redistributive instruments is to formalize and standardize the operations to facilitate each instrument. For example, for *Zakah*, *Khairat*, and *Qard hassan*, a formal network of institutions needs to be developed to collect, distribute, and recycle the

²²For example, Mohieldin, Iqbal, Rostom and Fu (2011) estimate the resource shortfall to fill the poverty gap using *Zakah* collection and find supporting evidence that 20 out of 39 OIC countries can actually alleviate the poorest living with income under \$1.25 per day out of the poverty line simply with domestic and remittances *Zakah* collection. They argue that they do not consider it a totally new source of poverty reduction mechanism using *Zakah* as it is already collected and distributed to the poor in several Islamic countries but they argue that proper collection, streamlining, accountability, prioritization, and allocation to productive activities can have significant impact on enhancing access and opportunity for the poor segment of the society which will ultimately lead to reduction in poverty.

²³ See Mirakhor (2004) for further details. He argues that given the number of poor in Islamic countries, critics argue that, a priori, Islamic institutions, which were meant to redistribute income and wealth from the more well-to-do to the weaker segment of the society, have not shown the necessary potency in performing their function, and they could be right. It is a serious problem that very little effort has been expended by our researchers and scholars in empirically investigating the behavior of Muslims vis-à-vis these institutions, i.e., why the latter have failed to achieve the objectives for which they were designed, and how the situation could be remedied. Admitting that these institutions have, by and large, failed to alleviate poverty in Muslim countries does not obviate the need to consider their potential.

funds in most efficient and the most transparent fashion.²⁴ In some countries, point of sale such as Automated Teller Machines (ATM) or cash dispensing machines are used to give choice to the customers to make donations or contribution at the spot to make it easy for the customer to make such contributions. The financial institution can collect and aggregate funds and then disburse to needy through selected channels.

The use of *Qard hassan* for micro finance sector should be exploited further. Many of the characteristics of the *Qard hassan* based funds could be shared by micro finance institutions. Therefore, the infrastructure of the latter can be utilized to effectively achieve the objectives of the former. While it is difficult to explain why this very important Islamic redistributive institution is so underutilized in the Islamic world— and requires some research effort by sociologists and economists to investigate the behavioral causes—one can speculate that lack of knowledge, in the first instance, and concerns about safety and security of the contributed principal may be important factors. The latter could be provided by a credible Islamic financial institution through issuance of financial instruments that would provide safety and security to the contributors. The Islamic financial institution can also instrumentalize the asset side of its balance sheet. Furthermore, it can provide *Qard hassan* resources to existing micro finance institutions to reduce the burden of their interest rate charges on their borrowers. But, how would such an Islamic financial institution cover its administrative costs? There are two possible sources: (i) through investing a fraction of the mobilized resources, and (ii) through profit-sharing via *Qard hassan* resources through which the Islamic financial institution invests in productive investment projects of young entrepreneurs that have no access to formal credit markets.

Policy-makers need to pay attention to this set of tools to enhance access and they should encourage development of such institutions through development of legal framework to protect the institutions, donors and stakeholders, and to ensure transparent governance. With well-

²⁴An example of a Muslim country where the institution of *qard hassan* has been utilized effectively to provide microfinance is Iran where these institutions are widespread throughout the country. They provide small consumer and producer loans and, in some cases, engage in profit-making activities that supplement the principal amounts deposited with the fund. These *qard hassan* funds are usually associated in each locality with mosques or other religious organizations and, at times, with guilds or professional group associations. The capital is contributed by the more well-to-do who are at liberty to withdraw their funds at any time. These funds operate with very low administrative costs since most are managed through volunteer service contributed by the people within the group. See Sadr (2007).

developed redistributive institutions supplemented by formal and semi-formal sector financial institutions, one would expect more effective approach to poverty reduction.

5.4 Financial Engineering

Financial innovation and application of financial engineering have changed the face of global landscape in the last three decades. Although, some of the innovations have been criticized and have been the source of volatility in the markets, yet their positive contribution cannot be denied. There is no reason why the financial engineering cannot be used in the area of financial inclusion and to enhance the financial access. One way could be to introduce the application of securitization to securitize assets generated by micro finance and SMEs. $\eta uk \perp k$ are a successful application of securitization and working on the same lines, a marketable instrument can be introduced to provide funding for much needed Micro finance and SME financing. With the introduction of securitization of Micro and SMEs, financial institutions would be able to pool their assets and issue marketable securities. In this way, they will share the risks with the market as well as free-up the capital for further mobilization of micro and SME financing.

Several researchers have put forth ideas of formalizing and institutionalizing Islamic modes of redistributions through an integrated approach by applying financial engineering and by combining different modes. These approaches include establishing a nonprofit financial intermediary based on the *Qard-al-hassan* model or establishing microfinance institutions based on hybrid of *Zakah*, *Awqaf*, and *Sadaqāt*. The institution of *Awqaf* (trust or endowment) was once a very well-established institution in Muslim societies but with gradual decline, it lost its effectiveness. Policy makers need to encourage revival of these institutions and should encourage financial engineering to create hybrid solutions where Islam's redistributive instruments are mixed with market-based instruments to address the issue of sustainable development.

Let's take an example of financial engineering where a market-based solution is combined with a redistributive instrument to strengthen its viability in the market. As argued earlier, securitization could be used to securitize MSME sector assets and to mobilize funding from the market. However, given the perception of high risk and lack of credit enhancement tools which are a standard feature in conventional securitization, both the originators and structurers shy away from securitization of such portfolios. In addition to conventional credit enhancement techniques through tranching, one could raise enough funds based on *Qard al-hassan* to

provide additional buffer of security to the investors against the credit risk. If the securitized portfolio consists of micro-lending, a default by the micro-borrower could be covered by the *Qard al-hassan* which could be forgiven if a business loss occurs despite the earnest efforts of the borrower.

Similarly, issuing an equity instrument on the portfolio of domestic development projects has an added advantage of improving domestic income distribution. Provided that these instruments are issued in low denominations sold in the retail market, these instruments can serve the households and firms in their attempts to hedge their idiosyncratic risks. In essence, they would be macro-market instruments similar to those proposed by Shiller (1993, 1999, 2004). These instruments could anchor the development of the high-end of the risk spectrum.

Above mentioned innovative techniques should be explored further by the Islamic financial institutions. Policy makers should aim to develop a financial system where financial innovation is encouraged but there are checks and balances as well as incentive mechanisms to avoid misuse of financial engineering. Availability of enabling environment and the supporting institutions are pre-requisites and should be developed before such innovations could take place.

6. Conclusion

Risk sharing serves one of the most important desiderata of Islam: the unity of mankind. Islam is a rules-based system in which a network of prescribed rules governs the socio-economic-political life of society. Compliance with these rules renders the society a union of mutual support by requiring humans to share the risks of life. Risk sharing intensifies human interaction. The dizzying pace of financial innovations of several decades prior to the crisis created opportunities and instruments of risk shifting - where risks were shifted to investors, borrowers, depositors and, ultimately, to taxpayers - rather than risk sharing. The financial sector became increasingly decoupled from the real sector with the growth of the former outpacing that of the latter by double-digit multiples (Epstein, 2006; Mirakhor, 2010; Menkoff and Tolksorf, 2001).

Instruments of Islamic finance allow risk sharing and risk diversification through which individuals can mitigate their idiosyncratic risks. On the other hand, mandated levies, such as *Zakah*, are means through which the idiosyncratic risks of the poor are shared by the rich as an act of redemption of the former's property rights in the income and wealth of the latter. Other recommended levies, beyond those mandated,

such as *Sadaqāt* and *Qardh Hassan*, too play the same role. They help reduce the poor's income - consumption correlation. In other words, the poor are not forced to rely on their low (or no) level income to maintain a decent level of subsistence living for themselves and their families. It is possible that at some point in time even these levies can be instrumentalised to be included in the full-spectrum Islamic finance menu of instruments for risk sharing. In the event, Islamic finance becomes a risk manager of the society.

Its instruments of risk sharing will help blunt the impact of economic shocks, disappointments and suffering on individuals by dispersing their effects among a large number of people. It will have instruments of finance available for all classes of people to allow them to reduce their idiosyncratic risks and smooth their consumption. It will ensure that innovators, entrepreneurs, small and medium size firms have access to financial resources without the need to take all risks on themselves or, alternatively, abandon productive projects altogether. It will have instruments of insurance that not only provide protection against health and accident risks but also insure against risks to livelihood and home values to protect people's long-term income and livelihood. Such a full-spectrum Islamic finance can then truly be said to have "democratized finance" without transferring risks of any venture to a particular class or to the whole society. This would be in sharp contrast to the results of the "democratization of finance" project which led to the recent global financial crisis of the conventional system in which the risks of financial innovations were shifted away from financiers. Consequence was that while the gains of this "democratization of finance" project were privatized, its pains were socialized (Sheng, 2009).

Given the rules governing property rights, work, production, exchange, markets, distribution, and redistribution, it is reasonable to conclude that in an Islamic society-- a rule-complying and Allah-conscious society--, absolute poverty could not exist. It can be argued that there is no topic more emphasized in Islam than poverty and the responsibility of individuals and society to eradicate it. There is a saying, sometime reported as that of the Holy Prophet (pbuh)²⁵, that poverty is near disbelief and that poverty is worse than murder. It is almost axiomatic that in any society in which there is poverty, Islamic rules are not being observed. It means that the rich and wealthy have not redeemed the rights of others in

²⁵ That narration is said to be weak / *Mauzo'o* as per the standard set by *Muhadditheen* (*Al Dhabi, Meezan al I'tidal*, 4 / 416; *Albani, Al Silsilah al Dhazifah*, No. 1905).

their income and wealth and that the state has failed to take corrective action.

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Construction and Seasonal Patterns of Islamic *Hijri* Calendar Monthly Time Series: An Application to Consumer Price Index (CPI) in Pakistan

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Abstract:

Time series data are compiled and analysed in accordance with Gregorian calendar, given its world-wise use. This paper presents a simple method of constructing time series in accordance with *Hijri* Calendar from an already compiled Gregorian time series. Preliminary seasonal analysis of *Hijri* time series for CPI in Pakistan provides new insights of price behavior that depends both on Gregorian and *Hijri* seasonality. A spliced series of monthly CPI from January 1976 to December 2008 spanning 33 Gregorian years (396 Gregorian months) is used to capture a full cycle of 34 *Hijri* years (408 *Hijri* months). Method presented is general and can be used to construct and analyse any variable of interest. Paper proposes that statistical agencies and central banks of Islamic countries should also compile data according to *Hijri* Calendar, in addition to existing compilation according to Gregorian calendar. This will add to a better understanding of socioeconomic behaviours in Islamic countries.

Key words: *Hijri*, CPI, Seasonal Effects, Gregorian, Time Series.

1. Introduction

Time is one of the most important manifestations of existence in the universe and beyond. Life, natural events and other phenomena are observed and analyzed with the measurement of time. Almost every kind of analytical process related to any subject usually takes place within the Gregorian calendar because of its universal acceptance and adoption in secular matters. Business and economic time series are only available in Gregorian calendar and analyses of socioeconomic and business trends are restricted to this calendar. This does not necessarily constrain the evolution of knowledge in western societies where socioeconomic

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behaviours are mostly secular or influenced by Christian traditions. In Islamic societies, however, the analysis of time series within Gregorian calendar conceals many important aspects that are profoundly influenced by Islamic tradition and *Hijri* calendar. This is also true for other societies largely following a non-Christian tradition or non-Gregorian calendars. An excellent taxonomy of different calendars still in use today is provided in Dershowitz and Reingold (2008).

The paper presents a simple method to construct a long monthly time series of consumer price index in Pakistan according to Islamic *Hijri* calendar. This construction reveals some simple characteristics of *Hijri* time series which remain largely concealed under conventional Gregorian time series analysis. While it is possible to isolate Islamic *Hijri* calendar effects within a Gregorian time series as shown in Riazuddin and Khan (2002), it has been shown by Yucel (2005) that these effects are better captured when *Hijri* calendar is used. Yucel (2005) suggested a simple method to transform the values of inflation recorded in Gregorian calendar to the values of inflation in accordance with *Hijri* calendar. This author formalized the method and applied it to CPI in Pakistan for the 33 Gregorian-year period between 1-January-1976 to 31-December-2008, which contains a complete cycle of 34 *Hijri* years between 1-*Muharram*-1396 to 30-*Zilhaj*-1429¹.

Rest of the paper proceeds as follows: Rationale of the period chosen is described in section 1 along with the data and method of transforming a Gregorian variable to corresponding *Hijri* variable. Section 2 presents the basic statistical features of Gregorian and *Hijri* CPI time series along with a preliminary comparison of seasonal characteristics under Gregorian and *Hijri* calendars. Section 3 presents some basic regressions that reproduce average monthly changes in CPI under the two calendars, besides providing significance tests for presence of seasonal effects. Final section concludes and also presents some suggestions for the way forward in *Hijri* time series analysis.

Section 1: Gregorian Data and Method of Transformation to *Hijri* Calendar

Gregorian calendar dates of the beginning of *Hijri* months become the starting point of constructing a *Hijri* time series. It would be much simpler to transform Gregorian daily data into *Hijri* calendar by just reorganizing

¹ Numbers of days in a *Hijri* year are 10-12 days less than a Gregorian year. Thus after 33 Gregorian years, the difference becomes one *Hijri* year.

it into *Hijri* months and years by using Gregorian-*Hijri* dates. This can be done easily for the data on stock market prices, foreign exchange rates, gold prices, atmospheric temperatures² etc. or any other variable recorded daily. Consumer prices are usually recorded within a period of month to compute a consumer price index (CPI) for any given Gregorian month. These have to be transformed appropriately to conform to the *Hijri* calendar. This is done as follows.

Let

CPI_{Hj} = consumer price index for the j^{th} *Hijri* month

CPI_{Gt} = consumer price index for the t^{th} Gregorian month given that the j^{th} *Hijri* month ended during the t^{th} Gregorian month

n_{jt} = number of days of j^{th} *Hijri* month overlapping with t^{th}

Gregorian month

n_t = number of days in t^{th} Gregorian month

CPI for *Hijri* calendar can then be easily constructed as

$$CPI_{Hj} = CPI_{Gt-1} + \frac{n_{jt}}{n_t} (CPI_{Gt} - CPI_{Gt-1})$$

This transformation simply takes an index from a Gregorian month and adds (subtracts) the component of differential change in CPI during the next Gregorian month, adjusted by the overlap ratio of *Hijri* month with the next Gregorian month in which the *Hijri* month terminates. Assumption implicit in above construction is that the change in CPI within a month is spread uniformly over the number of days of given month. This assumption will not create any distortion because there is only one value of index available for a Gregorian month. Proposed transformation takes monthly Gregorian index and converts it into monthly *Hijri* index.

The author used a spliced series of monthly CPI (base year: 2000-2001) from January 1976 to December 2008 to generate a *Hijri* monthly series of CPI from *Muharram* 1396 to *Zilhaj* 1429 (shown in Annexes A & B). Numbers of days of *Hijri* months overlapping with Gregorian

² One should not expect any seasonal pattern in atmospheric temperatures for *Hijri* calendar.

months are shown in Annex C. The author has chosen 33 Gregorian years (396 Gregorian months) to ensure that a complete cycle of 34 *Hijri* years (408 *Hijri* months) is present in the time series. While the method does not necessarily demand such a long series, a complete overlap of all 12 *Hijri* months with all 12 Gregorian months is advantageous to produce a more rich analysis of seasonal behavior. A shorter series will not be able to provide a complete picture of these overlaps, although transformation can easily proceed. A summary of *Hijri*-Gregorian monthly overlaps is shown in Table 1 (given in the Annexure). Each *Hijri* month is fully represented in the chosen span of 33 Gregorian years.

Section 2: Statistical Features of *Hijri* and Gregorian Time Series of CPI

A picture is worth a thousand words and, therefore, summary characteristics of series of data can aptly be shown in histograms, box plots and time series plots. The author first computed the monthly percent changes in CPI for each calendar series. A comparison of statistical features of *Hijri* and Gregorian CPI month-on-month changes is shown in Figure 1 (in the Annexure). The first noteworthy point is the presence of outliers in both original Gregorian and transformed *Hijri* series of monthly changes in CPI. Second noteworthy feature is the non-normality of their distributions. Compared to the normal distribution, both are characterized by high skewness, kurtosis and thick tails. Departure from normality is more severe for the Gregorian series, which is apparent from a value of Jarque-Bera statistic that is more than twice of *Hijri* value. Spread of *Hijri* series in terms of standard deviation of monthly CPI changes is 20% lower than that of Gregorian series. This means that fluctuations in price changes under *Hijri* calendar become considerably dampened compared with those under Gregorian calendar. Any further statistical analysis has to take cognizance of these features.

The author now comes to the question of whether seasonal monthly effects are present in *Hijri* CPI series and how do they compare with the Gregorian seasonal effects. A pictorial representation can be much more effective in displaying the strength of seasonal effects. Figure 2 (Please see the Annexure) presents a comparison of *Hijri* and Gregorian seasonal means and medians of CPI month-on-month percent changes. Top pair of graphs in Figure 2 shows arithmetic means by *Hijri* and Gregorian months. Here, the influence of outliers is visible. *Hijri* monthly mean price changes seem to vary from each other, but less so compared with those of

Gregorian means. Highest average monthly change occurs in the month of *Sha'aban* for *Hijri* series and July for Gregorian series.

Middle pair of Figure 2 compares the box plots of monthly price changes for *Hijri* and Gregorian months. Differences in mean and median changes come across as more visually significant compared to the top pair. The bottom pair of graphs in Figure 2 shows the comparison of seasonal medians of monthly price changes for *Hijri* and Gregorian series. Here, the presence of seasonal pattern is even more pronounced than earlier pair of graphs.

One particular feature of *Hijri* medians seems to distinguish itself from those of Gregorian medians. *Hijri* seasonal medians were never negative compared to Gregorian medians, which are negative for May and December. Also, all *Hijri* seasonal medians are much closer to their global median (of 408 monthly CPI changes). In contrast, all Gregorian medians fluctuate widely from their global median (of 396 monthly CPI changes). This means that seasonal effects while present in *Hijri* CPI series, are much more dampened compared to the seasonal effects of Gregorian CPI series. For a lay person (not appropriately aware of the seasonal effects), *Hijri* monthly inflation is less likely to convey a confounding message about expected signal of inflation direction, compared with relative confounding signals of “fall” in inflation when it is not actually falling! Likewise, in case of increasing inflation, chances are greater for unadjusted Gregorian inflation to convey an exaggerated sense of increase.

In other words, it seems that the need for seasonal adjustment is much more acute for Gregorian series than *Hijri* series. It also seems that unadjusted *Hijri* series may be better suited to probing casual analyses compared with unadjusted Gregorian series. This, of course, requires further research before firm conclusions are drawn, but the underlying behavior of inflation seems to be captured in a better way by *Hijri* time series.

Section 3: Strength and Significance of *Hijri* and Gregorian Seasonal Effects in Gregorian Time Series

In this section the author used simple regressions of monthly changes in Gregorian CPI on indicators of Gregorian months and fractional indicators of presence of *Hijri* months in Gregorian months (through *Hijri*-Gregorian overlap ratios).

Let us define $G_g = 1$ if regressor y belongs to g^{th} Gregorian month

= 0 otherwise

$H_{hg} = \frac{n_{hg}}{n_g}$ for overlapping h^{th} *Hijri* month with g^{th} Gregorian month

= 0 for non-overlapping *Hijri* months such that

$$1 = \frac{n_{hg}}{n_g} + \frac{n_{(h+1)g}}{n_g} = F_{hg} = H_{hg} + H_{(h+1)g}$$

Where $F_{hg} = 1$ if regressor y belongs to h^{th} and $(h+1)^{\text{th}}$ *Hijri* months overlapping with g^{th} Gregorian month. Regressor y is taken as month-on-month % changes in Gregorian CPI.

n_{hg} = number of days of overlapping h^{th} *Hijri* month with g^{th} Gregorian month

n_g = number of days in g^{th} Gregorian month

It should be noted here that above formulation differs slightly from that of Riazuddin and Khan (2002), where the denominator of F contains the number of days of *Hijri* month rather than Gregorian month here.

To check the strength and significance of seasonal effects in Gregorian time series, following three regressions are run without intercepts.

$$y_t = \sum_{g=1}^{12} \alpha_g u_t \quad g = 1, 2, \dots, 12; t = 1, 2, \dots, 396 \quad (1)$$

$$y_t = \sum_{h=1}^{12} \beta_h H_h + v_t \quad h = 1, 2, \dots, 12 \quad (2)$$

$$y_t = \sum_{g=1}^{12} \sum_{h=1}^{12} \gamma_{gh} G_g H_h + w_t \quad (3)$$

Equation (1) runs a simple regression of month-on-month % changes in CPI on 12 Gregorian calendar indicator (dummy) variables without intercept. This reproduces the Gregorian seasonal monthly means as coefficients of corresponding indicator variables. Gregorian seasonal effects account for about 26% of total variation in monthly changes in

CPI. Strength of Gregorian seasonal mean is highest for July³, followed by April, August, March, June, October, February, September, January, November, December and May respectively. Last two of these are negative but not statistically significant. Top ten of these are significant at less than 1% level. While equation (1) decomposes the global Gregorian monthly mean CPI change as mean of 12 Gregorian monthly means, it is better to include a first order autocorrelation term in regression to check the levels of significance. As can be seen from Table 2 (Annexure), coefficients and p-values do not change much, although autocorrelation came out as significant.

Equation (2) is a regression of month-on-month % changes on fractional indicator variables of overlaps with *Hijri* months. Although the coefficients of these are not identical with *Hijri* monthly seasonal means (of monthly changes in *Hijri* CPI), these are weighted means adjusted for the number of days of presence of particular *Hijri* month in the total span of 396 Gregorian months. Weighting scheme is complex, determined by the inverse of product of transpose and entire (396x12) matrix of fractional indicators. All *Hijri* seasonal effects are statistically significant at less than 10% level; effects of ten *Hijri* months are significant at less than 5% level. Strength of *Hijri* seasonal effect is highest for *Sha'aban*, followed by *Shawwal*, *Rabi-ul-Awwal*, *Ramzan*, *Rajab*, *Ziqa'ad*, *Muharram*, *Rabi-us-Sani*, *Jamadi-us-Sani*, *Safar*, *Zilhaj* and *Jamadi-ul-Awwal*. Inclusion of autocorrelation term does not alter the coefficients much; hence the resulting coefficients can be interpreted as seasonal effects also.

One is surprised to see that *Ramzan* does not emerge with the highest seasonal change in monthly CPI. This is in conformity with the results arrived by Akmal and Abbasi (2010) and Bukhari et al (2011). However, emergence of *Sha'aban* with the highest price change is in accordance with the common experience of Pakistanis with the special onslaught of inflation prior to the holy month of *Ramzan* every year. Significant increase in *Ramzan* is not observed because prices are already largely adjusted upwards in *Sha'aban*. Notice that all *Hijri* seasonal effects are positive in contrast with 10 positive and 2 negative (May and December) Gregorian seasonal effects. Results of equations (1) and (2) are shown in Table 2.

Equation (3) is a regression of month-on-month % changes on 144 possible interactions (overlaps) of 12 Gregorian months with 12 *Hijri*

³ A strong possibility for July increase is the post-budget adjustment of prices every year.

months. These interactions account for all possible overlaps, either partial or complete. Partial overlaps of *Hijri* month in any Gregorian month are much more common than complete overlaps of a particular *Hijri* month with any Gregorian month, which seldom occur. This regression essentially decomposes the average monthly change in Gregorian CPI during the chosen span of 396 months into 144 separate additive monthly average changes for each of 144 interactions. Out of these, 36 interaction effects are statistically significant, 29 at less than 5% and 7 at less than 10% level of significance. Results of equation (3) are shown in Table 3. Estimation of equation (3) with first order autoregressive term shows autocorrelation to be insignificant and resulting coefficients and p-values seem to hardly change. Hence, coefficients can also be interpreted as effects of Gregorian-*Hijri* seasonal interactions.

Highest effect (average monthly change in CPI) was observed when the month of July overlapped with *Sha'aban* (6.41%), followed by July's overlap with *Ramzan* (3.25%), etc. Within *Hijri* months, the highest number (7) of significant interaction effects were reported for *Sha'aban*, followed by *Shawwal* (4), *Rabi-ul-Awwal* (4), *Jamadi-us-Sani* (4), *Rabi-us-Sani* (3), *Rajab* (3), *Ramzan* (2), *Ziqa'ad* (2), *Safar* (2), *Zilhaj* (2), *Muharram* (2) and *Jamadi-ul-Awwal* (1), all totaling to 36 significant overlaps.

Counting the number of significant interactions Gregorian month-wise reveals that no significant overlap occurred in December, preceded by May (1), January (1), February (2), June (2), September (2), November (2), March (3), October (3), August (5), April (7), and July (8), all summing to 36 significant interactions.

These results show the extreme importance and need for accounting the seasonal effects of both Gregorian and *Hijri* calendar while explaining the process of monthly evolution of inflation through econometric exercises done using Gregorian monthly time series. Gregorian-*Hijri* interactions alone explain around 36% (adjusted $R^2 = 0.3623$) of variation in monthly inflation.

Section 4: Conclusion and Implications for Future Research

This author has presented a simple method of transforming Gregorian monthly time series of any variable to *Hijri* time series using Gregorian-*Hijri* overlap ratios. Its application to Gregorian CPI in Pakistan reveals several new insights. Seasonal effects of all *Hijri* months are statistically significant, although their strength is lower than those of Gregorian

seasonal effects. Seasonal pattern that emerges after transformation to *Hijri* time series offers a rich information set not revealed by usual analysis of Gregorian series. Highest price change occurs in the *Hijri* month of *Sha'aban*, just prior to the holy month of *Ramzan*.

More research is necessary for developing superior methods of seasonal adjustment that account for both Gregorian and *Hijri* seasonal effects. Importance of this topic is paramount for all Islamic countries and those having a significant share of Muslim population. A deeper analysis of socioeconomic and business behaviours requires either the original compilation of statistics according to *Hijri* calendar, or at the least, compilation through transformation approach suggested in this paper. It is proposed that statistical agencies and central banks of Islamic countries adopt this method as it does not require changing the existing statistical compilation procedures. An essential requirement is the documentation of past actual dates of occurrence of *Hijri* months in Gregorian calendar.

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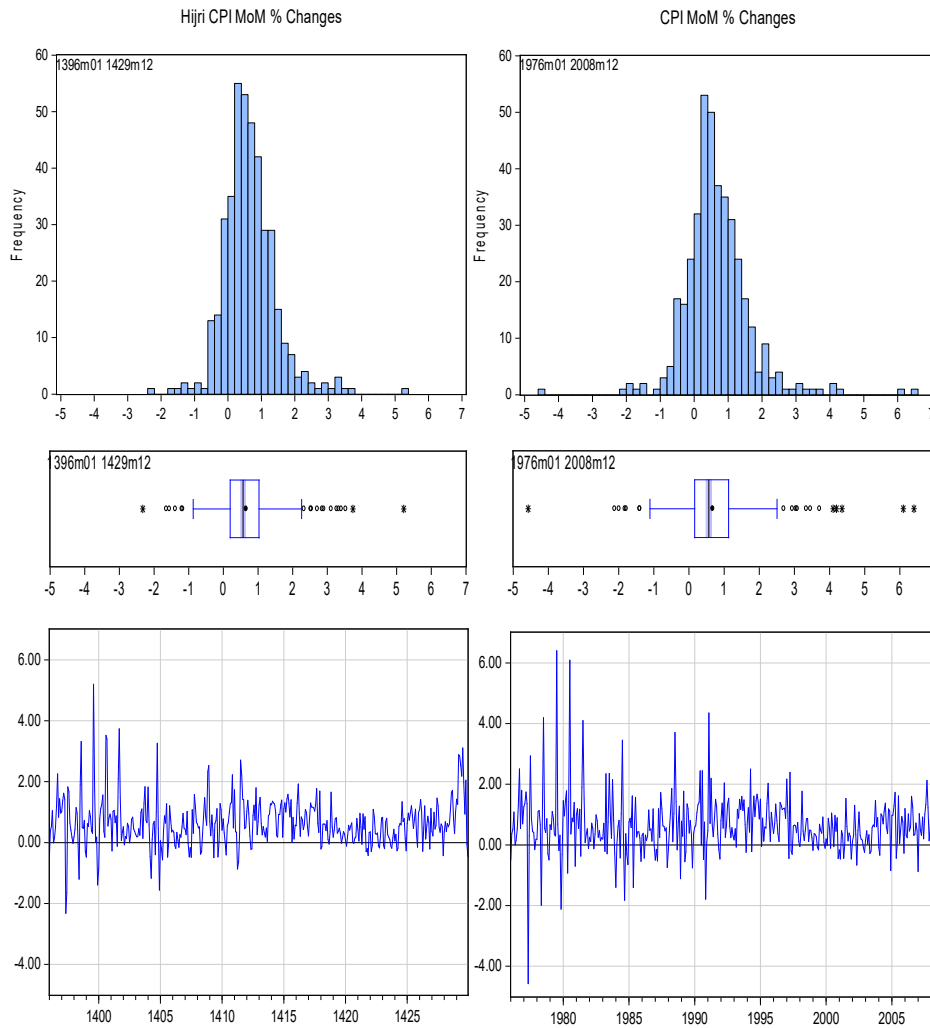
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Annexures

Figure 1: Comparison of Statistical Features of Gregorian and Hijri Time Series of CPI MoM % Changes



Mean	0.651987
Median	0.568060
Maximum	5.203516
Minimum	-2.327008
Std. Dev.	0.791018
Skewness	0.993790
Kurtosis	7.414144

Jarque-Bera	398.3974
Probability	0.000000

Sum	266.0106
Sum Sq. Dev.	254.6637
Observations	408

Mean	0.673238
Median	0.564925
Maximum	6.400745
Minimum	-4.576579
Std. Dev.	0.988860
Skewness	0.981793
Kurtosis	10.47521

Jarque-Bera	985.6186
Probability	0.000000

Sum	266.6023
Sum Sq. Dev.	386.2488
Observations	396

Figure 2: Comparison of Hijri and Gregorian Seasonal Means and Medians of CPI MoM % Changes

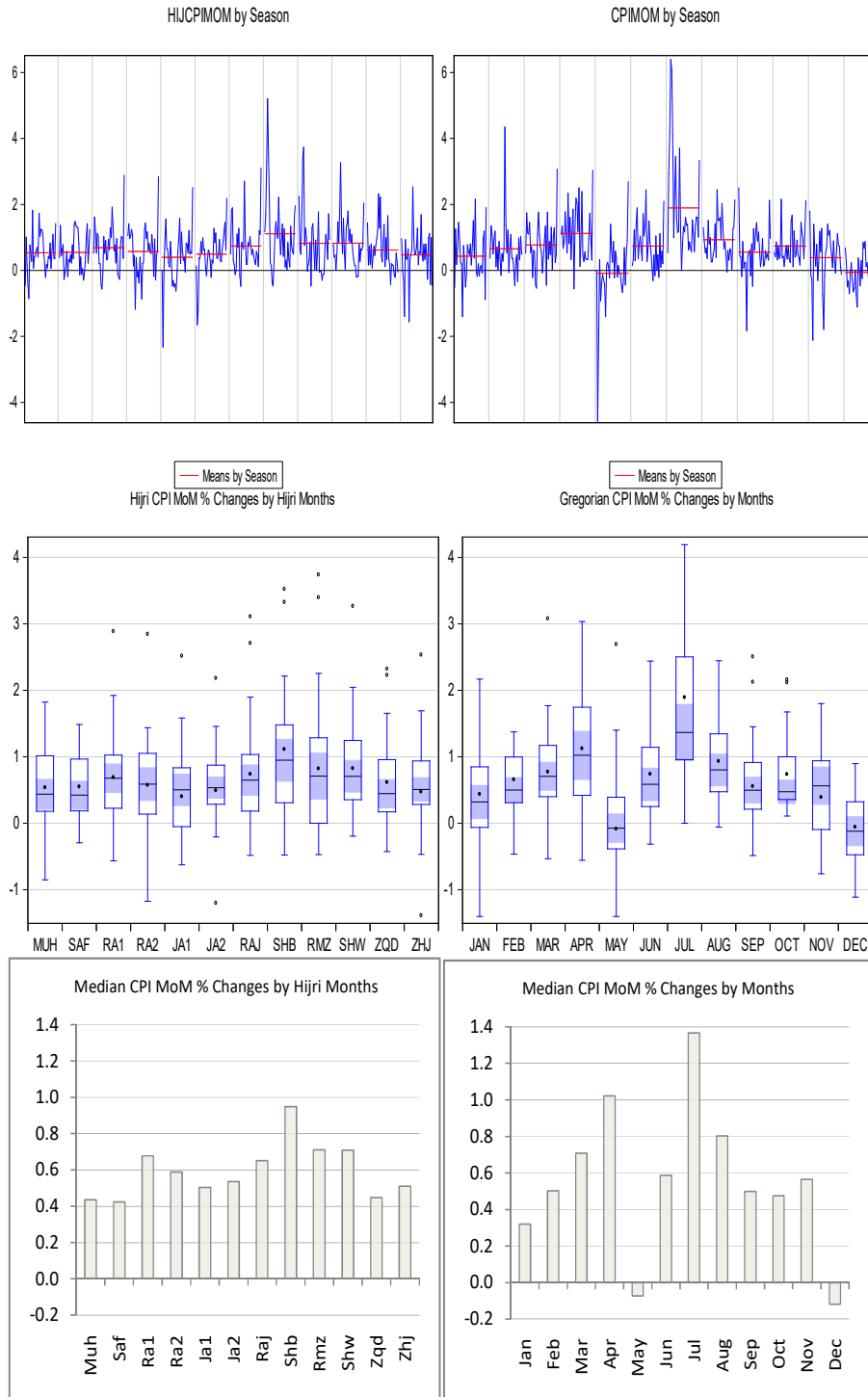


Table 1: Number of Days of Hijri Months overlapping with Gregorian Months during 1-Jan-1976 to 31-Dec-2008 (27-Zhj-1395 to 2-Muh 1430)

	Muh	Saf	Ra1	Ra2	Ja1	Ja2	Raj	Shb	Rmz	Shw	Zqd	Zhj	Gregorian month total	%
Jan	91	87	84	83	86	84	81	85	86	83	83	90	1023	8.5
Feb	81	86	79	77	74	79	78	73	77	81	72	76	933	7.7
Mar	82	89	94	85	86	82	84	84	83	84	87	83	1023	8.5
Apr	82	79	84	93	81	83	79	81	83	81	81	83	990	8.2
May	85	85	82	85	99	82	86	84	82	86	84	83	1023	8.5
Jun	80	82	82	81	81	96	79	81	82	81	82	83	990	8.2
Jul	87	82	83	85	84	84	100	81	83	86	83	85	1023	8.5
Aug	84	87	84	81	85	85	83	100	81	86	84	83	1023	8.5
Sep	81	82	82	80	80	82	83	80	96	80	82	82	990	8.2
Oct	85	86	83	83	85	82	84	87	83	97	84	84	1023	8.5
Nov	81	81	81	84	79	80	83	80	82	82	92	85	990	8.2
Dec	90	84	82	86	83	82	85	86	82	85	86	92	1023	8.5
Hijri month total	1009	1010	1000	1003	1003	1001	1005	1002	1000	1012	1000	1009	12054	100
%	8.4	8.4	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.4	8.3	8.4	100.0	

Note: Span of Hijri period covers last 2 days of 1395 and initial 2 days of 1430, i.e., this particular 33-year Gregorian span has 4 more days compared with overlapping 34-year Hijri span

Source: Calculated from actual Hijri dates in Pakistan compiled from past newspapers by the staff of SBP Library. Author acknowledges the efforts of Zia ur Rehman, Amir Abbasi and Omar Farooq for compilation of actual Hijri-Gregorian dates.

Table 2: Results of equations 1 and 2. Coefficients and significance probability values of seasonal means of Gregorian and Hijri CPI monthly changes.													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Equation 1	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12	
Coefficient	0.43	0.66	0.77	1.12	-0.09	0.74	1.89	0.93	0.56	0.74	0.39	-0.06	
Prob.	0.00	0.00	0.00	0.00	0.56	0.00	0.00	0.00	0.00	0.00	0.01	0.69	
	R-squared			0.260	Mean dependent var			0.673					
	Adjusted R-squared			0.239	S.D. dependent var			0.989					
	S.E. of regression			0.863	Akaike info criterion			2.573					
	Sum squared resid			285.9	Schwarz criterion			2.693					
	Log likelihood			-497	Hannan-Quinn criter.			2.620					
	Durbin-Watson stat			1.746									
Equation 1	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12	ar1
Coefficient	0.44	0.60	0.69	1.03	-0.23	0.75	1.80	0.70	0.44	0.67	0.30	-0.11	0.12
Prob.	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.01	0.00	0.05	0.47	0.01
	R-squared			0.271	Mean dependent var			0.673					
	Adjusted R-squared			0.249	S.D. dependent var			0.989					
	S.E. of regression			0.857	Akaike info criterion			2.562					
	Sum squared resid			281.4	Schwarz criterion			2.693					
	Log likelihood			-494.3	Hannan-Quinn criter.			2.614					
	Durbin-Watson stat			2.000									
	Muh	Saf	Ra1	Ra2	Ja1	Ja2	Raj	Shb	Rmz	Shw	Zqd	Zhj	
Equation 2	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	
Coefficient	0.60	0.48	0.82	0.55	0.39	0.50	0.66	1.40	0.69	0.94	0.62	0.42	
Prob.	0.01	0.03	0.00	0.02	0.08	0.03	0.00	0.00	0.00	0.00	0.01	0.06	
	R-squared			0.050	Mean dependent var			0.673					
	Adjusted R-squared			0.023	S.D. dependent var			0.989					
	S.E. of regression			0.977	Akaike info criterion			2.822					
	Sum squared resid			366.8	Schwarz criterion			2.943					
	Log likelihood			-547	Hannan-Quinn criter.			2.870					
	Durbin-Watson stat			1.772									
Equation 2	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	ar1
Coefficient	0.54	0.42	0.77	0.46	0.33	0.46	0.61	1.33	0.54	0.86	0.51	0.36	0.11
Prob.	0.02	0.07	0.00	0.05	0.15	0.04	0.01	0.00	0.02	0.00	0.03	0.12	0.03
	R-squared			0.062	Mean dependent var			0.67324					
	Adjusted R-squared			0.033	S.D. dependent var			0.98886					
	S.E. of regression			0.972	Akaike info criterion			2.8143					
	Sum squared resid			362.2	Schwarz criterion			2.945					
	Log likelihood			-544.2	Hannan-Quinn criter.			2.86608					
	Durbin-Watson stat			1.97923									

Table 3: Results of Equation 3. Coefficients and significance probability values of 144 interactions of Hijri months with Gregorian months

		Muh	Saf	Ra1	Ra2	Ja1	Ja2	Raj	Shb	Rmz	Shw	Zqd	Zhj
Coefficient		H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12
Dec	Jan	0.281	0.977	0.728	-0.474	0.000	0.737	0.276	1.355	0.537	-0.191	0.127	0.801
	Feb	0.608	0.758	0.998	0.608	0.542	-0.065	1.522	1.864	0.247	0.792	-0.322	0.290
	Mar	0.760	0.725	1.669	1.297	0.489	0.379	-0.278	1.878	-0.137	0.828	0.816	0.702
	Apr	0.061	0.724	1.192	1.673	0.863	1.357	1.287	1.025	0.736	2.405	0.775	1.280
	May	0.072	-0.349	-0.377	0.895	-0.127	-2.058	0.252	-0.896	-0.021	0.624	0.528	0.319
	Jun	0.704	-0.202	0.632	0.167	0.547	0.859	0.671	1.393	0.543	0.979	1.732	0.800
	Jul	0.920	1.674	0.577	1.032	0.894	1.779	1.235	6.478	3.237	2.192	1.745	1.281
	Aug	1.452	1.602	1.583	0.834	0.150	0.583	0.541	1.928	0.098	1.322	0.348	0.482
	Sep	0.782	0.067	0.878	1.386	0.368	0.568	0.297	0.494	1.938	-0.048	0.685	-0.983
	Oct	1.231	0.065	0.678	0.534	1.267	0.505	0.416	0.975	0.739	1.420	0.356	0.536
	Nov	0.862	-0.223	1.389	-0.786	-0.096	1.571	0.611	0.416	0.345	0.834	0.722	-0.902
	Dec	-0.380	-0.198	-0.263	-0.652	-0.137	-0.245	0.786	0.465	-0.547	0.093	-0.123	0.423
Prob.		H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12
Dec	Jan	0.650	0.115	0.273	0.487	0.999	0.251	0.682	0.033	0.394	0.775	0.846	0.202
	Feb	0.306	0.184	0.097	0.326	0.392	0.913	0.013	0.004	0.684	0.176	0.619	0.642
	Mar	0.254	0.245	0.005	0.039	0.441	0.563	0.666	0.004	0.836	0.196	0.188	0.289
	Apr	0.926	0.265	0.053	0.004	0.179	0.036	0.049	0.110	0.251	0.000	0.216	0.042
	May	0.911	0.597	0.567	0.161	0.822	0.002	0.695	0.161	0.974	0.341	0.414	0.616
	Jun	0.266	0.752	0.325	0.790	0.384	0.123	0.296	0.027	0.384	0.129	0.007	0.199
	Jul	0.142	0.010	0.379	0.110	0.163	0.006	0.028	0.000	0.000	0.001	0.008	0.048
	Aug	0.024	0.010	0.015	0.210	0.815	0.361	0.405	0.001	0.883	0.033	0.593	0.474
	Sep	0.239	0.915	0.164	0.034	0.561	0.363	0.638	0.439	0.001	0.940	0.269	0.133
	Oct	0.062	0.920	0.293	0.417	0.056	0.441	0.520	0.131	0.248	0.015	0.587	0.398
	Nov	0.171	0.737	0.033	0.193	0.883	0.018	0.322	0.521	0.594	0.182	0.214	0.144
	Dec	0.533	0.757	0.697	0.304	0.831	0.718	0.226	0.457	0.412	0.888	0.845	0.480
Highlighted cells show significance below 5% (yellow/dark grey; 29 cells) and 10% (olive/light grey; 7 cells)													
R-squared				0.5955				Mean dependent var				0.6732	
Adjusted R-squared				0.3659				S.D. dependent var				0.9889	
S.E. of regression				0.7874				Akaike info criterion				2.6352	
Sum squared resid				156.25				Schwarz criterion				4.083	
Log likelihood				-377.77				Hannan-Quinn criter.				3.2088	
Durbin-Watson stat				1.8244									

Annex A: Consumer Price Index according to Islamic Hijri Calendar in Pakistan during Muharram 1396 to Zilhaj 1429												
Hijri Years	Muh	Saf	Ra1	Ra2	Ja1	Ja2	Raj	Shb	Rmz	Shw	Zqd	Zhj
1396	13.58	13.63	13.70	13.85	13.85	13.87	13.94	14.10	14.42	14.54	14.75	14.89
1397	15.04	15.25	15.49	15.71	15.35	15.09	15.37	15.63	15.73	15.79	15.82	15.81
1398	15.84	15.91	16.09	16.25	16.24	16.05	16.35	16.89	16.98	17.06	17.18	17.13
1399	17.05	17.16	17.25	17.43	17.58	17.64	17.70	18.62	18.94	18.94	18.97	18.71
1400	18.55	18.70	18.91	19.14	19.44	19.51	19.55	20.23	20.92	21.04	21.20	21.40
1401	21.57	21.51	21.73	21.96	22.10	22.30	22.27	22.74	23.59	23.94	23.95	24.04
1402	24.16	24.14	24.19	24.23	24.38	24.51	24.51	24.56	24.75	24.96	25.07	25.16
1403	25.23	25.28	25.33	25.44	25.50	25.76	26.04	26.08	26.42	26.90	27.10	27.27
1404	27.77	27.93	27.81	27.48	27.51	27.68	27.87	27.76	28.04	28.95	29.09	28.63
1405	28.65	28.60	28.44	28.55	28.80	28.98	29.35	29.21	29.20	29.56	29.78	29.88
1406	30.00	30.10	30.07	30.01	30.11	30.14	30.09	30.17	30.22	30.38	30.67	30.82
1407	30.95	31.03	31.35	31.34	31.19	31.14	30.99	31.33	31.42	31.92	32.30	32.52
1408	32.71	32.87	33.04	32.92	32.81	32.91	33.19	33.68	33.97	34.16	34.95	35.84
1409	36.09	36.17	36.50	36.65	36.47	36.70	36.96	37.38	37.20	37.22	37.69	38.10
1410	38.25	38.55	38.68	38.68	38.52	38.73	38.99	39.37	39.87	40.40	41.30	41.49
1411	42.21	42.36	42.51	42.14	41.87	42.00	43.13	44.09	44.71	45.34	45.55	45.78
1412	46.25	46.90	47.34	47.44	47.33	47.24	47.66	48.24	48.60	49.47	49.60	49.94
1413	50.56	51.31	51.63	51.76	52.03	52.20	52.30	52.55	52.56	53.03	53.52	54.21
1414	54.88	55.63	56.35	57.06	57.64	57.76	57.87	58.40	58.94	59.68	60.51	60.62
1415	61.29	62.09	62.72	63.62	64.63	65.45	66.00	66.93	66.93	67.49	67.57	67.95
1416	68.33	69.22	70.55	71.23	71.38	71.98	72.52	72.82	73.27	74.06	74.80	75.18
1417	75.34	75.96	76.95	77.85	78.75	79.65	80.47	81.49	82.94	83.46	83.74	85.16
1418	84.98	84.87	85.38	85.90	86.42	86.76	87.39	87.48	87.44	87.75	89.20	89.66
1419	89.82	90.19	90.89	91.63	91.91	92.24	92.68	92.97	92.95	93.09	93.42	93.69
1420	93.76	93.66	93.87	94.40	94.79	95.30	95.92	95.94	95.92	96.06	96.24	97.00
1421	97.42	97.47	98.41	98.91	98.85	99.78	100.22	101.07	100.77	100.57	100.15	100.48
1422	100.84	100.54	100.45	101.54	102.39	102.69	102.97	103.29	103.18	103.00	103.21	104.04
1423	104.91	104.81	104.60	105.30	106.15	106.42	106.61	106.72	106.61	106.41	106.60	107.06
1424	107.13	107.42	107.13	106.94	107.51	108.19	108.83	110.28	111.04	111.92	112.08	111.77
1425	112.48	113.57	114.40	115.49	116.89	117.94	118.48	119.37	120.68	121.01	120.83	122.01
1426	123.34	125.09	126.37	126.00	126.62	128.14	128.29	129.02	130.13	130.99	130.71	132.18
1427	132.67	132.96	134.28	134.88	135.65	137.63	139.30	139.98	140.46	141.32	142.07	141.45
1428	141.95	142.92	143.44	144.34	145.09	145.99	147.58	150.01	152.58	153.74	154.19	155.72
1429	157.94	159.92	164.54	169.22	173.48	177.26	182.77	186.35	188.10	191.95	191.86	190.96

Source: Calculated using Spliced series of CPI in Annex B and applying the method described in this paper

Annex B: Consumer Price Index (CPI) in Pakistan : Base Year 2000-01												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1976	13.58	13.63	13.70	13.85	13.85	13.87	13.94	14.12	14.48	14.55	14.82	14.92
1977	15.11	15.31	15.58	15.79	15.07	15.11	15.56	15.69	15.76	15.83	15.80	15.83
1978	15.86	16.04	16.22	16.33	16.00	16.20	16.88	16.97	17.04	17.18	17.13	17.05
1979	17.16	17.25	17.44	17.59	17.65	17.70	18.84	18.97	18.93	18.99	18.59	18.53
1980	18.80	18.98	19.26	19.60	19.42	19.69	20.89	20.97	21.15	21.31	21.61	21.46
1981	21.67	21.93	22.05	22.31	22.23	22.65	23.58	23.94	23.96	24.04	24.17	24.14
1982	24.20	24.23	24.40	24.53	24.50	24.59	24.83	25.03	25.09	25.21	25.24	25.30
1983	25.35	25.53	25.48	26.08	26.00	26.20	26.81	27.08	27.14	27.73	27.95	27.87
1984	27.48	27.49	27.65	27.88	27.76	28.05	29.02	29.09	28.56	28.67	28.58	28.39
1985	28.61	28.86	29.02	29.49	29.08	29.28	29.74	29.81	29.94	30.07	30.14	29.98
1986	30.07	30.19	30.06	30.16	30.20	30.29	30.64	30.78	30.95	30.98	31.35	31.35
1987	31.19	31.15	30.98	31.35	31.43	31.97	32.35	32.55	32.75	32.91	33.09	32.84
1988	32.80	32.97	33.33	33.95	33.98	34.34	35.61	36.12	36.06	36.33	36.80	36.39
1989	36.67	36.77	37.42	37.22	37.13	37.63	38.09	38.23	38.54	38.68	38.38	38.53
1990	38.76	39.00	39.42	39.94	40.50	41.49	41.49	42.51	42.30	42.62	41.86	41.89
1991	42.09	43.92	44.23	45.20	45.50	45.62	46.01	46.70	47.29	47.46	47.38	47.16
1992	47.54	48.20	48.46	49.45	49.58	49.90	50.56	51.34	51.65	51.78	52.07	52.23
1993	52.32	52.60	52.56	53.18	53.64	54.45	55.08	55.97	56.60	57.44	57.83	57.69
1994	58.12	58.84	59.08	60.56	60.43	60.94	61.93	62.50	63.41	64.47	65.38	65.94
1995	66.93	66.90	67.49	67.57	67.97	68.34	69.28	70.68	71.32	71.39	72.16	72.64
1996	72.91	73.42	74.41	75.02	75.30	75.38	76.43	77.43	78.33	79.27	80.22	80.93
1997	82.68	83.58	83.21	85.20	85.03	84.77	85.29	85.85	86.39	86.74	87.38	87.48
1998	87.43	87.75	89.30	89.70	89.84	90.26	91.04	91.83	91.94	92.39	92.83	93.05
1999	92.88	93.23	93.55	93.80	93.73	93.58	94.22	94.66	95.02	95.89	95.97	95.87
2000	96.06	96.05	96.89	97.44	97.33	98.35	98.91	98.85	99.82	100.26	101.16	100.71
2001	100.55	100.08	100.56	100.90	100.44	100.45	101.99	102.61	102.74	103.14	103.43	102.95
2002	103.06	103.39	104.74	105.10	104.40	104.90	106.04	106.37	106.57	106.74	106.65	106.39
2003	106.56	107.06	107.09	107.45	107.14	106.92	107.53	108.24	108.89	110.49	111.15	112.15
2004	112.05	111.67	112.81	113.89	114.68	115.96	117.56	118.25	118.69	120.10	121.44	120.41
2005	121.58	122.78	124.37	126.53	125.97	126.09	128.13	128.18	128.82	130.03	131.02	130.66
2006	132.23	132.66	132.97	134.33	134.94	135.73	137.91	139.63	140.07	140.57	141.59	142.26
2007	141.01	142.47	143.17	143.62	144.94	145.23	146.70	148.64	151.80	153.66	153.87	154.77
2008	157.73	158.50	163.38	168.34	172.87	176.50	182.39	186.29	188.10	192.08	191.85	190.90

Source: Spliced from CPIs (with base years of 1975-76, 1980-81, 1990-91 and 2000-01) released by the Federal Bureau of Statistics

Dec-84	24	7	31	Jun-01	23	7	30
Jan-85	22	9	31	Jul-01	22	9	31
Feb-85	21	7	28	Aug-01	20	11	31
Mar-85	23	8	31	Sep-01	18	12	31
Apr-85	21	9	30	Oct-01	18	13	31
May-85	21	10	31	Nov-01	16	14	30
Jun-85	19	11	30	Dec-01	16	15	31
Jul-85	19	12	31	Jan-02	15	16	31
Aug-85	17	14	28	Feb-02	13	15	28
Sep-85	14	16	30	Mar-02	16	15	31
Oct-85	15	16	31	Apr-02	14	16	30
Nov-85	14	16	30	May-02	13	18	31
Dec-85	13	18	31	Jun-02	12	18	30
Jan-86	12	19	31	Jul-02	11	20	31
Feb-86	10	18	28	Aug-02	10	21	31
Mar-86	12	19	31	Sep-02	8	22	30
Apr-86	10	20	30	Oct-02	7	24	31
May-86	10	20	31	Nov-02	6	24	30
Jun-86	8	22	30	Dec-02	5	26	31
Jul-86	8	23	31	Jan-03	4	27	31
Aug-86	7	24	31	Feb-03	2	26	28
Sep-86	6	24	30	Mar-03	3	27	31
Oct-86	5	26	30	Apr-03	3	28	30
Nov-86	4	26	30	May-03	1	29	31
Dec-86	3	28	31	Jun-03	1	29	30
Jan-87	2	29	31	Jul-03	1	29	31
Feb-87	28	29	28	Aug-03	29	2	31
Mar-87	1	29	31	Sep-03	27	3	30
Apr-87	28	2	30	Oct-03	27	4	31
May-87	28	3	31	Nov-03	25	5	30
Jun-87	27	3	30	Dec-03	24	7	31
Jul-87	27	4	31	Jan-04	23	8	31
Aug-87	27	4	31	Feb-04	8	21	29
Sep-87	6	24	30	Mar-04	22	9	31
Oct-87	24	6	30	Apr-04	21	9	30
Nov-87	24	7	31	May-04	20	11	31
Dec-87	22	8	30	Jun-04	19	11	30
Jan-88	22	9	31	Jul-04	18	13	31
Feb-88	20	11	31	Aug-04	17	14	31
Mar-88	19	10	30	Sep-04	16	14	31
Apr-88	19	12	30	Oct-04	15	16	31
May-88	17	13	31	Nov-04	13	17	30
Jun-88	17	14	30	Dec-04	13	18	31
Jul-88	15	15	31	Jan-05	11	20	31
Aug-88	15	16	31	Feb-05	18	10	28
Sep-88	13	17	30	Mar-05	11	20	31
Oct-88	13	18	31	Apr-05	10	20	30
Nov-88	11	19	30	May-05	9	22	31
Dec-88	11	20	31	Jun-05	8	22	30
Jan-89	9	22	31	Jul-05	8	23	31
Feb-89	7	21	28	Aug-05	6	25	31
Mar-89	9	22	31	Sep-05	5	25	30
Apr-89	7	23	30	Oct-05	5	26	31
May-89	6	25	31	Nov-05	3	27	30
Jun-89	5	25	30	Dec-05	3	28	31
Jul-89	4	27	31	Jan-06	1	29	31
Aug-89	28	4	31	Feb-06	28	1	28
Sep-89	2	28	30	Mar-06	1	29	31
Oct-89	2	29	31	Apr-06	29	1	30
Nov-89	30	2	30	May-06	28	3	31
Dec-89	29	2	31	Jun-06	27	3	30
Jan-90	28	3	31	Jul-06	27	4	31
Feb-90	26	2	28	Aug-06	25	6	31
Mar-90	27	4	31	Sep-06	24	6	30
Apr-90	26	4	30	Oct-06	24	7	31
May-90	25	6	31	Nov-06	22	8	30
Jun-90	25	6	30	Dec-06	22	9	31
Jul-90	24	6	31	Jan-07	20	11	31
Aug-90	23	6	31	Feb-07	18	10	28
Sep-90	8	9	30	Mar-07	20	11	31
Oct-90	22	9	31	Apr-07	18	12	30
Nov-90	21	9	30	May-07	17	14	31
Dec-90	20	11	31	Jun-07	16	14	30
Jan-91	19	11	30	Jul-07	16	15	31
Feb-91	18	13	31	Aug-07	14	17	30
Mar-91	17	14	28	Sep-07	13	17	31
Apr-91	15	15	30	Oct-07	13	18	31
May-91	15	16	31	Nov-07	11	19	30
Jun-91	13	17	30	Dec-07	11	20	31
Jul-91	13	17	31	Jan-08	10	21	31
Aug-91	11	20	31	Feb-08	8	21	29
Sep-91	10	20	30	Mar-08	9	22	31
Oct-91	9	22	31	Apr-08	7	23	30
Nov-91	8	22	30	May-08	6	25	31
Dec-91	7	24	31	Jun-08	5	25	30
Jan-92	6	25	31	Jul-08	4	27	31
Feb-92	5	24	29	Aug-08	3	28	31
Mar-92	5	26	31	Sep-08	1	29	30
Apr-92	4	26	30	Oct-08	30	1	31
May-92	4	27	31	Nov-08	29	1	30
Jun-92	2	28	30	Dec-08	29	1	31