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Articles

Islamic Research & Training Institute (IRTI)

Establishment

The Islamic Research and Training Institute (IRTI) was established by the Board of Executive Directors (BED) of the Islamic Development Bank (IDB) in conformity with paragraph (a) of the Resolution No. BG/14-99 of the Board of Governors adopted at its Third Annual Meeting held on 10th Rabi-ul-Thani, 1399H corresponding to 14th March, 1979. The Institute became operational in 1403H corresponding to 1983. The Statute of the IRTI was modified in accordance with the resolutions of the IDB BED No.247 held on 27/08/1428H.

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C. Conduct policy dialogue with member countries.
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The Looming International Financial Crisis: Can the Introduction of Risk Sharing in the Financial System as Required by Islamic Finance, Play a Positive Role in Reducing its Severity?

M. UMER CHAPRA*

Abstract

The paper discusses the causes of financial crises and, in particular, the most recent one which started in 2007 and lasted for around 19 months. It argues that since one of the major causes of the crises is the unhealthy rise in international debt in recent years, it is very likely that there will be another serious crisis in the near future because the factors that enable the banks to lend excessively continue relatively unperturbed. The paper then argues whether it is possible for the healthy discipline that the fundamental principles of Islamic finance try to build into the financial system can help rein to some extent the excessive credit extension and thereby contribute to a reduction in the severity and frequency of such crises in the future.

Keywords: Islamic Finance, Financial Crisis, Financial System
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1. Introduction

The most recent international financial crisis, which started in December 2007 and lasted for around 19 months until June 2009, was far more serious than any

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experienced since the Great Depression. It swept away around 8 million jobs and led to the foreclosure of 4 million homes. It took around 18 trillion dollars or more than 30 percent of the world gross output, by a number of industrial countries, to stabilize the financial system and to revive the international economy. Regulators responded with new and tighter regulations which are in the process of being implemented. Monetary authorities cut interest rates sharply and expanded liquidity through asset purchases. Nevertheless, the adverse effects of the crisis persisted for quite some time through the continuation of economic slowdown and unemployment.

2. Need for a New Architecture

Since more than a hundred financial crises have been experienced so far since 1945, there is naturally a call for a new architecture to help minimize the frequency and severity of such crises in the future. It is, however, not possible to suggest the design of a new architecture without first analyzing the causes of the crises and, in particular, those of the most recent one. This should help us know why these crises have become an inherent feature of the conventional financial system and why it is very likely that another crisis will soon start looming on the horizon. Once the causes are known, it should become possible for us to know whether it is possible for Islamic finance to help us design some of the major ingredients for the desired new architecture.[1]

There is no doubt that the crises have a number of causes, but the generally recognized most important cause of almost all past crises has been excessive and imprudent lending by banks over a long period.[2] This raises the question of what makes it possible for banks to resort to excessive lending when this is generally recognized to be an unhealthy practice which is not only detrimental to the banks' own long-run interest but is also responsible for hurting the parent country's domestic economy and destabilizing the international financial system.

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1 For some background on Islamic banking and finance, see Chapra (1985), Hassan (2016), Zaher, and Hassan. (2001), Shaikh (1997), Rosman; Abd Wahab and Zainol (2014); and Darrat (1988).

2 This was clearly recognized by the Bank for International Settlements in its 78th Annual Report released on 30 June 2008 by stating that "the fundamental cause of today's problems in the global economy is excessive and imprudent credit growth over a long period." See, Bank for International Settlements (BIS), BIS 78th Annual Report (Basel: BIS, 30 June 2008), p.3.

Even according to the G-20 Summit held on 15 November 2008, excessive leverage was indicated to be one of the root causes of "vulnerabilities in the system" (G-20 Summit (2008), "Declaration of the Summit on Financial Markets and the World Economy" (Washington D.C.: White House, 15 November).

There are a number of factors that make it possible for banks to indulge in excessive lending. The first of these is the inadequate market discipline in the financial system resulting from the absence of risk-sharing. The second is the repeal of the Glass Stegall Act in 1999. It was passed in 1933 to prevent banks from using depositors funds for risky investments. This led to the consolidation of commercial and investment banking and the formation of big banks for whom it is relatively easier to indulge in excessive lending. The third is the ability of banks to create credit which leads to an expansion in the deposits of the banking system several times more than the primary deposits which provide the banking system's reserves held in the form of cash and deposits at the central bank.

Creation of credit is what makes it possible for banks to resort to excessive expansion of credit and it is the proportional reserve requirement which makes this possible. The excessively low rates of interest provide an incentive to borrowers to borrow excessively and to banks to offset the loss of income that the low rates cause, by lending excessively through credit creation[3]. In contrast with this, high rates of interest exacerbate debt burdens and create problems for borrowers. Within this perspective a fairer solution for business loans would be risk sharing.

The fourth factor responsible for excessive lending is the mind-boggling expansion in the amount of derivatives, particularly credit default swaps (CDSs), which help reduce the risk involved in lending and thereby encourage excessive credit expansion. The fifth is the Federal Reserve Bank's excessive commitment to liberalism, thereby leaving the market free and not doing anything significant to prevent the crisis from catching momentum. And the sixth is the "too big to fail" concept which tends to give an assurance to big banks that the central bank will come to their rescue and not allow them to fail[4].

The excessive expansion of credit along with a false sense of immunity from losses that the CDSs provide to banks has introduced a fault line in the financial system. There is a proverb in Arabic which says that "whoever is immune from punishment may do what he pleases." Banks do not, therefore, undertake a careful evaluation of the loan proposals. This leads to an unhealthy expansion in the overall volume of credit and contributes to an unsustainable rise in asset prices, living beyond means, and speculative investment. Unwinding later on gives rise to a steep decline in asset prices, and to financial fragility and debt crises, particularly if there is overindulgence in short sales. Jean Claude Trichet, President of the European

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[3] See McLeay, Radia and Thomas (2014), pp 1-8.
[4] See, Mishkin (1997), pp. 61-62.

Central Bank from 2003 to 2011, rightly pointed out that "a bubble is more likely to develop when investors can leverage their positions by investing borrowed funds".

The subprime mortgage crisis in the grip of which the U.S. became deeply engulfed during the period stretching from December 2007 to June 2009 is a classical example of excessive and imprudent lending. The easy availability of a vast amount of credit triggered a steep rise in home prices followed later on by a decline which promoted mortgage delinquencies, foreclosures and devaluation of housing securities. Securitization, or the "originate-to-distribute" model of financing, played a crucial role in this. The creation of collateralized debt obligations (CDOs) by mixing prime and subprime debt and then securitizing them for sale to an unknowing public made it possible for mortgage originators to pass the entire risk of default of even subprime debt to the ultimate purchasers who would have normally been reluctant to bear such a risk. Mortgage originators had, therefore, less incentive to undertake careful underwriting[5].

Consequently, loan volume gained greater priority over loan quality and the amount of lending to subprime borrowers and speculators increased steeply. According to Mr. Ben Bernanke, Chairman of the US Federal Reserve for two terms from 2006 to 2014, "far too much of the lending in recent years was neither responsible nor prudent. In addition, abusive, unfair, or deceptive lending practices led some borrowers into mortgages that they would not have chosen knowingly". While the Federal Reserve failed to prevent the 'abusive, unfair or deceptive lending practices' from continuing, the budgetary deficits of the United States provided a substantial proportion of the high-powered reserves that the banks needed for such credit expansion.

Even the check that market discipline could have exercised on the serving of self-interest did not come into play. This is because there was an excessive resort to derivatives like credit default swaps (CDSs) to seek protection against default. The buyer of the swap (creditor) paid a premium to the seller (a hedge fund) for the compensation he would receive in case the debtor defaults. If this protection had been confined to only the actual creditor, there may not have been a significant problem. What happened, however, was that the hedge funds sold the swaps not to just the actual lender but also to a number of others who had not lent themselves but were willing to bet on the default of the debtor. These swap holders, in turn, resold the swaps to others. The whole process continued several times. Thus, while a genuine insurance contract indemnifies only the actually insured party, in the case

[5] See, Mian and Sufi, (2008) ; see also, Keys, Mukherjee, Seru and Vig (2008).

of CDSs there were several swap holders who had to be compensated. This accentuated the risk and made it difficult for the hedge funds and banks to honour their commitments.

The notional amount of all outstanding derivatives is estimated by the Bank for International Settlements to have risen to $683.7 trillion in June 2008, more than 47 times the size of US GNP of $14.5 trillion and 12 times the size of the gross world GNP of $54.3 trillion in 2007.[6] No wonder Warren Buffett described derivatives as "financial weapons of mass destruction." The result was that a large number of banks either failed or had to be bailed out or nationalized by the governments in the US, the UK, Europe and a number of other countries[7]. Without such bailing out by the authorities, the international financial system may have become destabilized with adverse effects on the world economy. To avoid such bailing out at the ultimate expense of the tax payers , it is crucial that the central banks keep a close eye on what is going on and take appropriate action in time to avert the disaster.

3. The Islamic Financial System

Within the framework of this background, it may be easier for the reader to appreciate the reform that Islam wishes to introduce in the financial system. The principal pillar of the reform is the imperative of risk-sharing so that the lender and the borrower both share in the risks of banking. This should help introduce greater discipline into the financial system by motivating financial institutions to assess the risks more carefully and to effectively monitor the use of funds by the borrowers. The double assessment of risks by both the financier and the entrepreneur should help inject greater discipline into the system, and go a long way in reducing excessive lending. Moreover, Islam does not allow the sale of something, which the seller does not own and possess. This removes the possibility of short sales, which increase unnecessarily the volume of sales during a downturn and create an unhealthy decline in the price of assets involved.

Islamic finance should, in its ideal form, help raise substantially the share of equity and profit-and-loss sharing (PLS) in businesses. Greater reliance on equity financing has supporters even in mainstream economics. Prof. Rogoff of Harvard University states that "in an ideal world, equity lending and direct investment would play a much bigger role." He further asserts that "with a better balance between debt

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6 For derivatives, see Bank for International Settlements (BIS) (2008), p.20; and for the world GDP, see the World Bank (WDI) (2008).

7 See Antoniades (2015).

and equity, risk-sharing would be greatly enhanced and financial crises sharply muted".

Greater reliance on equity does not necessarily mean that debt financing is ruled out. This is because all the financial needs of individuals, firms, or governments cannot be made amenable to equity and PLS. Debt is, therefore, unavoidable. It should *not*, however, be promoted for nonessential and wasteful consumption and unproductive speculation, and should not rise beyond the ability of the borrower to repay. For this purpose, the Islamic financial system does not allow the creation of debt through direct lending and borrowing on the basis of interest. If it is without interest then it is called *qarḍ ḥasan* and is encouraged as an act of virtue. In general the creation of debt which is not *qarḍ ḥasan* will in Islamic finance be through the sale of real assets by means of its sales-based modes of financing. The purpose is to enable an individual or firm to buy now the urgently needed real goods and services in conformity with his/her ability to make the payment later. It has, however, laid down a number of conditions, some of which are:

a) The asset which is being sold must be real and not imaginary or notional;
b) The seller must own and possess the goods being sold;
c) The transaction must be a genuine trade transaction with full intention of giving and taking delivery; and
d) The debt cannot be sold and, thus, the risk associated with it must be borne by the lender himself instead of being shifted to an unknowing third person.

The first condition that the asset being sold must be real should help eliminate a large number of derivatives transactions which involve nothing more than gambling by third parties who aspire to claim compensation for losses which have been actually suffered by only the principal party and not by them.

The second condition that the seller must own and possess the goods should help ensure that the seller also shares a part of the risk to be able to get a share in the return. Once the seller (financier) acquires ownership and possession of the goods for sale, he bears the risk. This condition also puts a constraint on short sales, thereby removing the possibility of a steep decline in asset prices during a downturn. The Sharīʻah has, however, made an exception to this rule in the case of *salam* and *istiṣnāʻ* where the goods sold are not already available in the market and need to be produced or manufactured before delivery. If a seller cannot sell what he does not own and possess, then how can a bank lend what it does not have. This would require regulation of credit creation by banks. It would also help induce them to increase the mobilization of deposits to be able to lend more Financing extended through the

Islamic modes can thus expand only in step with the rise of the real economy and increased deposit mobilization. This should help curb excessive credit creation which is generally agreed to be the primary cause of excessive lending and financial crises.

The third and the fourth conditions that the transaction must be a genuine trade transaction and that the debt cannot be sold will not only motivate the creditor to be more cautious in evaluating the credit risk but also prevent an unnecessary explosion in the volume and value of debt transactions. This will release a substantial volume of financial resources for the real rector and thereby help expand employment and self-employment opportunities. It will also help put a brake on the governments' borrowing from the central bank and thereby bring government borrowing to a level that is in harmony with the goal of economic and financial stability. Mian and Sufi (2014) have argued that mortgage contracts built on the principle of risk-sharing would have prevented the housing bubble from emerging in the US in the first place. The inability to borrow excessively could have also helped inject greater discipline in government spending .

4. Contribution of Government Budgetary Deficits to the Rise in Private Credit

If the discipline that Islam wishes to promote had prevailed in the U.S., it may not have become engulfed in the difficult position that it did recently. The U.S. has been suffering from continued budgetary deficits for a long time. Over the last 75 years (1940-2014), the U.S. has had budgetary deficits over 63 years and surpluses over only 12 years, contributing to a net cumulative deficit of $11,401.3 billion which is 63.5 percent of the U.S. GDP of $17,947.0 billion in 2015. While these budgetary deficits have helped the US economy and society in different ways, they have not only shifted the burden of the present generation to the future but also provided high-powered reserves to banks in the U.S as well as other countries. Along with the budgetary deficits of other countries, these reserves will make it possible for banks to continue their excessive lending which is now generally recognized to be a major cause of financial crises. There is very little likelihood that the U.S. budgetary deficits will decline in the near future because of the unemployment problem, the generous promises made to the electorate by the candidates during the election campaign, the associated need to increase spending for raising the rate of economic growth necessary to fulfill these promises, and the general reluctance of governments to raise taxes. The deficits of other industrial countries are also likely to continue.

These deficits will give rise to a boost in the reserves of banks around the world and enable them to increase their lending to both the public and private sectors. This may make it even more difficult to control financial crises. However, it is heartening to note that governments around the world have adopted a number of regulatory responses to prevent the recurrence of crises in the future or reduce their intensity if they do happen to occur again. Time alone will indicate whether these regulatory responses are adequate to prevent the occurrence of crises in the future without removing the principal weakness of the financial system which is the absence of risk sharing.

5. The Potential of Islamic Finance

The Islamic financial system carries the potential of helping reduce the severity and frequency of financial crises by getting rid of the major weaknesses of the conventional system. Firstly, it introduces a moral dimension into the financial system, which can help check some of the unscrupulous ways in which lending and borrowing have tended to expand, particularly during the period 2007-2009. Secondly, it introduces greater discipline into the financial system by requiring the financier to share in the risk. Thirdly, it links credit expansion to the growth of the real economy by allowing credit primarily for the purchase of real goods and services which the seller not only owns but also possesses and the buyer wishes to take delivery. Fourthly, it requires the creditor to bear the risk of default by prohibiting the sale of debt, thereby helping ensure that he evaluates the risk more carefully.

Islamic finance is, however, still in its infancy[8]. The first full-fledged Islamic bank was the Dubai Islamic Bank established in 1985 while the conventional financial system has been in existence for nearly 200 years. There has, however, been a relatively rapid progress since then. The latest available data indicate tentatively that the total assets of all Islamic banks amounted to $1.8 trillion in 2015. Islamic finance thus shares a relatively very small proportion of the total assets of not only all international commercial banks but also of all commercial banks in Muslim countries.[9] It, however, continues to make substantial progress by growing at around 15 per cent per annum. It is generally expected that the system will continue to maintain its growth momentum for at least sometime in the near future and thus be strong enough to complement, at least to some extent, the efforts now

8 See Chapra (1985), Hassan (2016), Zaher and Hassan. (2001), pp155–99, Shaikh (1997) pp 117–27, Rosman, Abd Wahab, and Zainol (2014) pp. 76–90.

9 The world's largest bank (The Industrial and Commercial Bank of China) had assets of $ 3.21 trillion, and the world's ten largest banks had total assets of 24.2 trillion (data accessed on 28 March 2017 through the internet).

being made by the saner elements around the world to promote the health and stability of the global financial system.

The significance of Islamic banking should not, however, be gauged from its small size at present or even in the near future. It lies rather in the concept of risk sharing which, if adopted internationally, carries the potential of helping control excessive lending by banks in general and thus helping reduce the magnitude and frequency of financial crises. This has become vindicated to a certain extent by the performance of Islamic banks during the 2007-2008 crisis when all of the Islamic banks were able to survive even though their income was affected as a result of the economic decline. However, those in the GCC countries were even able to enhance their credit growth relative to conventional banks.

6. Activation of Some Common Elements of Both Systems

The activation of some of the generally accepted elements of the Islamic system, which are also a part of the western heritage, is indispensable for ensuring the health and stability of the global financial system. These are:

a) The proportion of equity in total financing needs to be increased and that of debt reduced.
b) It is important to ensure that the credit extended to any borrower does not exceed the ability of that borrower to repay.
c) Credit needs to be confined primarily to transactions that are related to the real sector so as to ensure that credit expansion moves more or less in step with the growth of the real economy and does not promote destabilizing speculation.
d) Islam does not allow the sale of debt. This should help motivate the lenders to evaluate their credit extension more carefully and thus help reduce the excessive expansion of debt. However, if the debt instruments, and in particular collateralized debt obligations (CDOs), are to be sold in the conventional system, then there should be full transparency about their quality so that the purchaser knows exactly what he is getting into. It would also be desirable to have the right of recourse for the ultimate purchaser of the CDOs so as to ensure that the original lender has an incentive to evaluate the debt carefully.
e) While there may be no harm in the use of credit default swaps to provide protection to the lender against default, it needs to be ensured that the swaps do not become instruments for wagering. Their protective role should be confined to only the original lender and should not cover the other

purchasers of swaps who wish to wager on the debtor's default. For this purpose the derivatives market needs to be properly regulated to remove the element of gambling in it.

f) All financial institutions, and not just the commercial banks, need to be properly regulated and supervised so that they remain healthy and do not become a source of systemic risk. This is necessary because individuals and firms often lose sight of the systemic risks they are creating in their effort to maximize their profit,

g) Respite needs to be given, in accordance with the teachings of Islam and a number of other religions and value systems[10], to debtors who are in strained circumstances. This will help avoid the causing of misery and agony to them by auctioning off their assets at heavily discounted prices at a time when a recession is prevailing in the economy and making it difficult for the borrowers to repay. The giving of respite to such debtors could have also helped reduce the rapid downward slide in asset prices caused by the forced auction of their assets at heavily reduced prices for the benefit of the creditors and bargain hunters.[11] The respite could have even helped dampen the severity of the recession to some extent.

7. Prognosis for the Future

If most of the reforms indicated above do not get internalized in the conventional financial system, it is very likely that the future crises may turn out to be more severe than any experienced in the past. This is because, while the trillions of dollars of liquidity injected into the economy have helped overcome the recent crisis and revive the economy, they have also increased the reserves of banks. These reserves will make it possible for the banks to lend more extensively, giving boost to the familiar cycle of excessive lending followed by a rise and then fall in asset prices, leading ultimately to a recession. The additional liquidity that has been injected into the economy has already been a major factor in more than doubling the cash assets of U.S. commercial banks to around $ 10.6 trillion in 2015 from $ 5 trillion in the year 2004. This will enable the banks to lend even more aggressively, particularly when

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10 The Qur'ān specifically states, "If he [the debtor] is in strained circumstances, then give him respite until ease comes. However, if you forgive the loan, then it is better for you" (al-Qur'ān, 2:280). See also Bible (Luke, 7: 41-43)

11 The conventional financial system seems to be biased in favour of the creditor without due concern for the debtor even when his inability to repay on time is not necessarily due to his own fault. It is rather the result of a recession, which has engulfed the whole economy. In such a situation, why should it be only the debtor to suffer and the creditor to go scot-free. All that is required of the creditor is to give some respite to the debtor until ease comes.

interest rates are also at their lowest level and the banks' senior management is pushing for higher salaries and bonuses. Such lending is likely to generate the well-known phenomenon of an asset price boom followed by a crisis necessitating once again the pumping of further liquidity into the system to overcome the crisis.

Therefore, instead of relying primarily on the standard monetary policy instruments, the more desirable approach would be to concurrently introduce greater discipline into the financial system to check excessive and imprudent lending. The *Economist* magazine had rightly observed recently that "the world needs new ways of thinking about finance and the risks it involves." The Bank for International Settlement has also made a similar observation by emphasizing the introduction of a 'new normal' in financial markets. It is here that risk-sharing required by the Islamic financial system can make a valuable contribution to the international financial system.

Adoption of the risk-sharing principle carries the potential of playing a positive role in reducing the excessive lending by banks. This should help contain the severity of the financial crisis that is looming large in the horizon as a result of the bulge in reserves that persistent fiscal deficits of the US and other major industrial countries are providing to international banks. The extra reserves carry the potential of enabling these banks to expand their credit excessively at a time when interest rates are also low and the banks desire to use these extra reserves to expand credit to be able to meet, among other things, their senior management's demand for higher salaries and bonuses and their shareholders' demand for higher dividends. The result of this is not difficult to visualize. Credit will probably continue to expand excessively and the future crises may consequently tend to be more severe than the recent one unless a discipline is introduced into the financial system by means of risk-sharing which is one of the main characteristics of Islamic finance.

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Determination of Mark-Up Rate under Zero-Interest Financial System: A Microeconomic Approach

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A. Wahhab Khandker **

Abstract

Misunderstood and maligned, the determinants of mark-up (MU) rate under Murābaḥah financing deserve scrutiny of its structural formulation. Some suggest that MU rate is really interest rate. Is MU transaction pure trade? We analyze by considering the underlying market structure, central bank imposed minimum reserve requirement, deposit sum, a bank's fixed and variable costs, etc. Perhaps for the first time, the capacity to charge ribā is traced to market imperfection. Banks with no Islamic credential are entering the market suggesting presence of positive economic profit. By promoting proper costing, accountability, efficiency and standardization of MU rate across industry become possible. Prediction and hypothesis testing become possible. Associated with this, we also explore how the deposit rate is determined. The transparency thus afforded should mitigate the contentious debate about MU financing as opposed to interest-based lending.

Keywords: Mark-up rate, *Murābaḥah*, ZIFS, Islamic banking.
JEL Classification: G10, G11
KAUJIE Classification : K1, K4

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1. Introduction

The massive growth of zero-interest financial system (ZIFS) banks relative to interest-based financial system (IFS) banks is evident from Earnst & Young December 2012 report: ZIFS assets, which "had been growing 50% faster than the overall banking sector assets with an average annual growth of 19% over the past four years, grew to $1.3 trillion in 2011, and is forecast to grow beyond $2 trillion by 2014." The reason for this increasing popularity is put forward very eloquently by the Malaysian Prime Minister, Datuk Seri Najib Tun Razak (2015), speaking at the 11th World Islamic Economic Forum (WIEF),

> "More non-Muslims are using Islamic Finance (IF) than Muslims in Malaysia and that is an indication of how widespread the support and acceptance for it is. The popularity of IF around the world was bolstered by the global financial crisis in 2008. The crisis resulted in a sharp demand for alternative economic and business models, specifically financial models which reduced the level of speculation. Unlike the inherent weakness in the conventional model, Islamic finance offered a genuine partnership where both risk and profit is shared. As a result, IF has gained a lot of traction."

This increasing popularity, support and acceptance have attracted a large number of IFS banks to tap into this ZIFS market. While ZIFS is promising, it has its own share of possible pitfalls. Zahir and Hassan (2001) state that, mark-up (MU) "contracts may open back door to interest. So, while permissible, it should still be restricted or avoided." While recognizing both MU and PLS (profit-loss-sharing), Chapra (1985), and Kahf and Khan (1992), realize that the former is more likely to violate the underlying religious bidding. Commenting on this issue, Tariqullah Khan (2015) wrote, "We know that *Murābaḥah*[1] is often abused and turned into *Tawarruq* which creates same level of credit as interest-based lending. The monetary reform movements whether in Switzerland or Iceland, and including IF, can benefit from the potential role of genuine *Murābaḥah*"[2].

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[1] Also referred to as Mark-up financing.

2 Khan wrote: "In a genuine financial *Murābaḥah*, the bank creates financing only to the extent of the needs of the real markets to finance a car, a house, a project etc. It also makes room for benefiting from the fractional reserve system. However, we know that *Murābaḥah* is often abused and turned into *Tawaruq* which creates same level of credit as interest-based lending.

Tawarruq arises perhaps because loan for the sector with tangible profit is also being extended under MU arrangement (e.g., as with *Istiṣnā*'). So, it appears that there is no avenue for direct liquidity

Currently, some secular Muslim and non-Muslim banks from Muslim and some non-Muslim countries (AB Bank of Bangladesh; Lloyds Bank of England; Breitbart; Bank of England) have come forward with “Sharīʻah” or *ribā*-free window for depositors and borrowers preferring ZIFS. Since interest rate can be easily disguised under the cloak of the MU rate, it raises the question: is there any real difference between MU rate and interest rate in the minds of such newly encroaching entities? Are the two world views one and the same? Or does the assumed mechanics of operation of ZIFS leave room for creative interpretation by profit-seeking or opportunistic non-ZIFS financial institutions? More importantly, is there positive economic profit arising from market power beckoning the newcomers?

In this paper, our purpose is to understand the nature of the MU (or cost-plus) rate in a genuine cost based *Murābaḥah* system and how this MU rate differs from the interest rate. It is claimed that one of the most important ways interest-based banking differs from MU banking is that while the interest rate is determined by the supply and demand for loanable funds with risk premium added to it at the discretion of the banking system, the MU rate is essentially a cost-based rate.

We address this issue with the expectation that this will produce greater transparency and build confidence about it. It may allow us to better discern the market structure of MU banking. So, we query about the nature of MU rate. How is it formed - what are its determinants and how do they relate to it? How is it affected by PLS investment, if at all? Do operational size, i.e., volume of amount loaned, deposit level, minimum reserve requirement, depositors’ expected rate of return, and bank’s average cost impact the MU rate announced by a ZIFS bank?

Given their differentiating characteristics, the ZIFS banks are likely imperfectly competitive. Regardless, our analysis below is also able to handle market structures of perfect competition, monopoly (by virtue of being the sole operator), natural monopoly (declining AC) and monopolistic competition. To note, ex post, it is possible for both the interest rate and MU rate to take close or same values. That need not be interpreted to mean that there is no difference. On the other hand, the mathematical modeling used here for determining the MU rate could very well be used to parse the interest rate posed by banks. So, could this common foundational approach be the reason that secular banks are opening up interest-free lending window? That, of course, begs the question how, then, is MU rate different from interest or *ribā*? One thing for sure as we figure out the genesis of MU rate, it must be rooted in the cost structure of the ZIFS bank. The lower bound of the MU rate

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insertion to borrowers. This is to be expected when the PLS tool for lending is absent or weak. Therefore, viewing *Tawarruq* as interest bearing loan may be incorrect.

should be determined by the average cost consistent with its definition. After all, the LIBOR – London Interbank Offer Rate - as it stands today is less than 1% (WSJ, 2015). So, although it may be used as a measure of opportunity cost by some ZIFS banks in Muslim countries in calibrating MU rate in a world with ZIFS and IFS banks, it is too low to be the primary determinant of the value that MU rate takes.

On the other hand, currently there is no upper bound of the MU rate on the basis of the argument that the normative economic environment of ZIFS recognizes property right, free and open market, as well as the drive for profit. However, the question arises when, under MU arrangement, an application for a monetary loan made to a ZIFS bank in order to obtain a product is converted into financing of the same product to be sold (traded) by that bank, should the freedom to extract as much profit as the market will bear be followed through? Several points may be made as to why that should not be the case as it otherwise appears to be the current operative assumption. Section II, on Literature Survey, discusses several issues related to this.

In this paper, we try to derive a just MU rate with an upper limit to avoid exploitation and a lower limit to reflect that it is cost-based and hence different from interest rate. While we may idealistically conjecture MU and PLS undertakings of the ZIFS bank to be integrated, we are constrained by the fact that the financial objectives of the two sectors differ substantially. The MU rate is limited by a ceiling on it. The PLS sector is profit driven and is free of any profit restrictions. So, unlike as in Khaled and Khandker [2014], we cannot possibly have one objective function, subject to joint optimization, that includes income and cost flows of both sectors. So, funds flowing into the two sectors have to be separately designated at the time of deposit. After all, the risks faced as well as how the pay-outs are achieved will be different.

Again, as to the deposit rate, since it is determined and distributed post profit flow, it is an endogenous variable, not market determined like the interest rate. So, in economies with ZIFS and IFS banks, everything else being equal, it will not be sufficient to match the year-ending deposit rate with the average annual interest rate in the deposit market. This should address the contention of competing IFS banks that the deposit rate offered by ZIFS banks to their depositors is pre-determined and fixed. Further, announcing an expected deposit rate does not clarify how it was obtained, consequently leaving suspicion as to whether it is mimicking the interest rate in the alternative market. Now, since any deposit in a ZIFS bank is supposed to reflect risk share, should the ex post deposit rate not reflect the gain from that aspect? Further, being risk-sharers in a very unique sense, albeit under *Muḍārabah*[3]

3 Where the depositor cedes to the Bank the right to decide on his behalf what to do with the deposit.

arrangement, should the depositors not have the right to know how much profit was earned and how much was distributed as the return to capital? This will assure depositors that market trend in this regard is being followed, allow assessment of the efficiency of the bank and be enabled to judge the fairness of the share delegated to them. And only then the *Fuqaha'* oversight of such banks will be effective. So, in order to avoid exploitation of depositors in the MU sector, the bank could announce in advance a profit sharing rule between entrepreneurial capital and entrepreneurial effort.

The literature survey is in Section II. Section III deals with definitions and assumptions, where the MU rate is defined and assumptions about the ZIFS bank dealing with MU financing is explored. In Section IV, the actual model of *ribā*-free banking is developed. Before concluding in Section VI, Section V deals with implications of the model.

2. Literature Survey

Throughout the ZIFS literature ample references are found about the MU rate. Unfortunately, however, little – if any – allusion exists as to how such a number is calculated. Some tangential reference exists as to the role of opportunity cost, say, LIBOR.

Mark-up is not a new idea in economics. Any firm doing costing and pricing has to face it squarely early in its planning or operational phase. Likewise, the ZIFS banks know it, too. However, as it appears, none of them has come forward and presented formally how it determines the MU rate. Clearly, it is protected, perhaps for business or legal reason, or both. However, as to why academics have not explored this matter is a mystery. That arbitrariness or mistake could lead to *ribā* is a weighty matter not to be ignored.

This secretiveness or lack of attention to an essential detail of ZIFS banking has given fodder to its detractors so much so that many openly claim that the MU rate is simply market interest rate in subterfuge. Thus, the MU rate has a serious PR problem in certain quarters. Such misperception can only be dispelled through adopting a formal, openly bandied about, methodology for this metric. Rhetoric, adjuration, innuendo and assertion will simply not fly.

In this theoretical paper, we extend what we have done over three earlier papers [Khaled and Khandker, 2014, 2015; Khaled, 2015], understand the microeconomics of ZIFS. However, just like other research papers in the field, [Mirakhor (1987) and Siddiqui (2006)], we took the MU rate as given. Khan [1995] recounted the various reasons why PLS has failed to take hold generally, but no exploration of the nature and limitation of MU financing is tabled. After all, not studying this critical metric at all implies that the *Murābaḥah* program is not well constructed.

With regard to whether MU financing is pure trade, based on Public Finance literature as well as Faith-based literature, several points are raised. This pertains to ascertaining the upper bound of MU rate.

1. In Public Finance, for example, based on two features that defines a Public Good (Military, Sewer Service, etc.) – Non-excludable (NE; not having to pay upfront) and Non-rival (NR; not having to share) - we identify three other types of goods: Private (E and R; Ice Cream, Cigarette, etc.), Club Good (E and NR; watching a game in a stadium, taking an airline trip, Cable TV, etc.) and Common Resources (NE, R; Ocean Fishing, Environment, etc.). [Mankiw, 2015] In this vein, like Club Goods or Common Resources, any good financed under MU seems to have dual aspects – trade and loan.

2. Our explanation of why MU financing is not a pure trade is based on the Principles of Deductive Law, *Uṣūl al-fiqh* to be precise. [Al-Alwani, 2003] In Islamic Jurisprudence (Sharī'ah), when no prior ruling exists regarding a novel situation, using the Principle of Analogy (*Qiyās*) could allow application of the old ruling to the new situation. Such a ruling transfer is possible for as long as the core cause (*illah*) of both situations are identical. Thus, for example, the ruling of prohibiting alcohol (khamr) applies to drugs as well because of shared *illah*: Like alcohol, drugs disturb the mind and rob it of the capacity to think and act rationally. It can be shown that typical trade (tejarat) and "trade" under MU share a common *illah* only partially, at best. That is because the two intentions (*nīyyah*) differ: one seeks to sell a product, while the other, in the guise of a new instrument, seeks to advance money. Further, a bonafide trader has warehouse facility, supply chain, inventory, license, product advertisement, warranty and maintenance plan, service department, etc. A ZIFS bank has none of these trappings. The ZIFS bank, utilizing Qur'ānic verse 2:175, appears to convert a loan into a trade, but it is not a pure trade. As MU financing is a mixture of trade and loan, it is the latter aspect that should restrain MU rate resulting in an upper bound just as *ribā* was constrained on all loans.

3. A few other practical arguments may be raised why the MU rate should have a ceiling even though profit seeking is allowed:

    a) If a borrower avoids, say, 20% *ribā* on a loan, should he now be required to submit to a MU rate of at least 20% simply because it is a trade being financed? Would that not be exploitation and as a result impermissible?

b) Would it be justified to not show due regard for the negative perception and dismissive opinion that an unbridled MU rate is likely to produce in the minds of competing traditional IFS banks and potential borrowers? By failing to do so, how damaging would that be in the long run for the industry and the faith of the people in ZIFS? People will eventually see through the smoke. After all, they will get educated and sophisticated!

c) Finally, as is argued in the paper, the profitability of MU financing for ZIFS banks because of the way it is structured today may be precluding the real test of ZIFS by way of lending under PLS arrangement. If that is the case, then it is a great disservice to the normative position of Islam against *ribā*.

3. Definitions and Assumptions

Definitions. In the absence of any testable definition of *ribā*-free mark-up rate, the question arises what is "mark-up" rate that presumably mitigates the incidence of *ribā*? By word choice, mark-up implies "cost-plus" pricing, i.e., an additional amount over and above all costs except return to entrepreneur. So, mark-up is essentially the return for entrepreneurship. While *ribā* is defined as unjust exploitative gain on money lent when it produces excessive or undeserving profit for the business, only the entrepreneur's worth, i.e., the opportunity cost of entrepreneurship, as accrued by normal profit, is acceptable as the rightful compensation for its service. Abnormal profit implies return to entrepreneur higher than its opportunity cost, and hence, in our definition, constitutes *ribā*. This "ideal definition" of *ribā* leads us to the true *ribā*-free MU rate, which is m = AC for any amount financed, that produces zero-economic profit. In this formulation, all factors, including capital providers and entrepreneurs, earn their opportunity costs. Under this definition, the mark-up rate could vary among banks should banks tie their individual MU rate to corresponding financed amount.

Now, before proceeding further, two other established methods of determining mark-up can readily be discarded when compared to our definition of *ribā*:

i. Based on standard Microeconomics of the Firm, our argument suggests that an ability to charge *ribā* can arise only from exercising market power inherent to imperfect competition (monopoly, oligopoly, or monopolistically competitive market structure). Thus, normal practice of setting MR = MC for profit maximization and choosing a mark-up rate corresponding to the intersection point from the demand curve, would constitute *ribā*, simply because it exceeds the corresponding AC allowing abnormal profit to be reaped.

ii. Marginal cost pricing, also known as socially desirable or allocatively efficient pricing, will also fail to produce *ribā*-free MU rate under 'normal' monopoly or monopolistic competition (Figure 2) as it will produce abnormal profit. Under natural monopoly, or under monopolistic competition as described below in Situation I, marginal cost pricing, on the other hand, will produce an economic loss and hence will not sustainable.

Below, three evolving market situations under imperfect competition are explored to see how the break-even rule, m = AC, could play out.

Situation I: The falling segment of the AC curve intersects the demand curve for MU financing (AR). This is the likely short-run situation for a start-up ZIFS bank or a ZIFS bank with a small market size or market share under monopolistic competition. Its business presence in the area as well as its expertise are not yet quite known and endorsed. So, the demand is waiting to expand over a period of time as name recognition takes hold. Figure 1 represents this situation[4]. Below, 'L' is defined as the amount of loanable funds actually invested in the MU sector. Where the AC curve intersects the AR curve, m = AC rule will produce a shortage of funds for all available loanable funds less than L^*. Consequently, m^* is the break-even MU rate corresponding to L^*.[5]

Situation II: The rising segment of the AC curve intersects the demand curve for MU financing (AR). This is likely the situation when the ZIFS bank has matured somewhat in its business. Figure 2 represents this situation. This diagram corresponds to the normal case of a monopolistically competitive firm in the short-run. It also represents the case of a monopoly where only one firm dominates the market possibly by virtue of being the first mover.

Situation III: The falling segment of the AC curve is tangent to the demand curve for MU financing (AR). This is the situation of a monopolistically competitive firm in the long-run when the market for ZIFS banks has matured and stabilized. Figure 3 represents this situation.

4 This can also be the case of a natural monopoly.

5 In case the AC curve intersects AR at two different points, the higher L will be associated with a lower m.

Figure 1
Monopolistic Competition, Short-run Start-up Phase

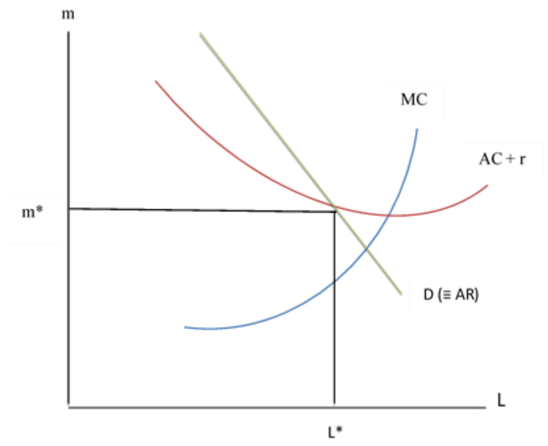


Figure 2
Monopolistic Competition, Short-run Competition Evolving

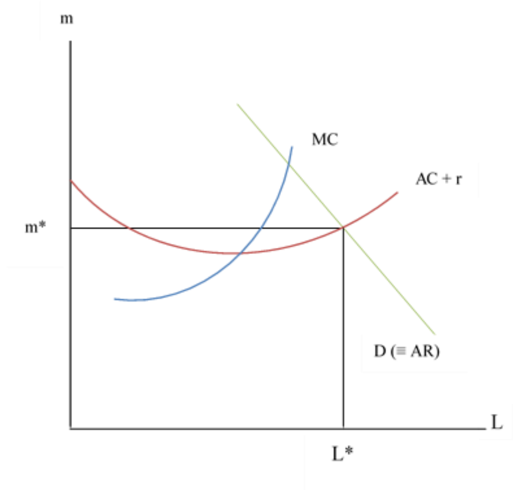
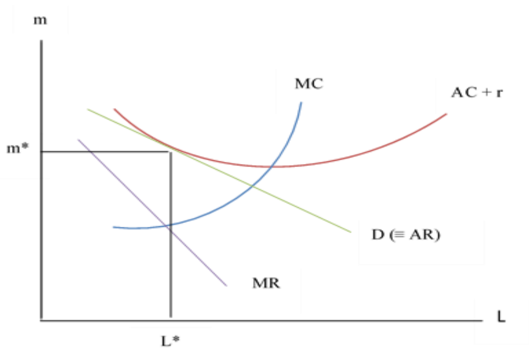


Figure 3
Monopolistic Competition, Long-run Mature and Stable



For Situations I and II, m is determined by the amount financed, L, that the bank is willing and able to finance under our "ideal definition" of *ribā*-free MU rate. Here, m is determined by the individual banks. It would be free to set its own 'm' anywhere on the AC curve from its point of intersection with the demand curve (i.e., where AC = AR) moving to the left. At any such point, the bank would be breaking even, i.e., profit would be same. So, no matter the solution (L, m), the bank would be able to extract its opportunity cost and no more. Based on this, at least two options are possible for a "not for-profit" bank:

i. Finance using all of available L up to the point L^* where AR = AC. That would mean maximizing the number of borrowers served. In this scenario, should the amount of money available to the bank fall short of L^*, then m will settle on AC at the point matching this sum.

ii. Finance to the point where m is at its minimum, i.e., when AC bottoms out. That would mean providing the cheapest financing possible to best serve the community.

As for the bank that, driven by market opportunity, charges a MU rate greater than m = AC, this alternative solution may pose a problem. Such a "for-profit" bank, unlike the not-for-profit bank, will tend to reduce the amount of L financed, as extending a greater amount only increases work-effort without impacting profit. In a world with banks striving to maximize their profit, this is a serious limitation brought on by the "ideal definition" of *ribā*-free mark-up. As a result, we could "compromise" our ideal definition with a "second best" option. In this situation, the central bank would set $m^* = AC = AR$ as the maximum possible MU rate. This has both standardization and regulatory aspects to it. The not-for-profit banks may still go for solution (i) or (ii). However, for the for-profit banks, this opens the scope to reap abnormal profit in a limited way while still adhering to a global *ribā*-free MU rate. It will, in this case, finance $L < L^*$ where $m^* = MC$ to maximize its profit and reap some acceptable abnormal profit.

Assumptions. When a ZIFS bank is dealing with two essentially non-substitute products: MU and PLS financing, its optimization problem has different characteristics. These two types of financing differ in their degree of riskiness. MU financing is associated with minimal risk compared to PLS financing. The characteristics of this bank can be portrayed through the following assumptions.

i. Risk averters will choose to deposit their money in the transactions account which can only be invested for MU financing. Because of the risk associated with it, transaction account funds cannot be invested for PLS financing. Investment account depositors, on the other hand, are willing to take higher risk for higher profit. Their funds, however, can be invested in projects, both in PLS and MU sectors, where they earn highest profit. Thus, the objective functions and the associated optimization routines will be separate and different.

ii. This characteristic of the investment funds ensures that, while no excess fund may flow from MU to PLS, funds could flow from PLS to MU whenever marginal dollar earns higher return from MU investment.

iii. While the ZIFS bank has a fiduciary responsibility toward the depositors, and also a business imperative to share profit to attract and retain them, there is no legal promise of any payment whatsoever except to share in profits earned. This may involve revealing the adopted profit sharing formula between capital and entrepreneur for both groups of depositors.

iv. Outside of the optimization routine, there is a risk-share arrangement between the bank and its clients. This may affect the nature of the problems related to Adverse Selection and Moral Hazard (both unexplored here) which depositors face with respect to the bank and the bank faces with respect to both species of borrowers.

v. MU and PLS activities are viewed as two separate divisions of the same firm. Here, while the revenues earned are distinct, the costs incurred by these two entities are not completely separate. A pro-rated system is used to assign costs appropriately.

4. Model

T_A = Total customer deposit that can be used only in MU sector (Transactions Account)

T_I = Total customer deposit that can be used in both MU and PLS sectors (Investment Account)

C = Capital amount invested in the bank by the owners of the bank

E = Opportunity cost for entrepreneur's time and effort

ρ = Opportunity cost of C based on return on second-best investment opportunity ($\rho > 0$)

d = Expected (ex-ante) market rate of return to depositors

TFC = $(dT_A + \rho C + E) + OFC$ = Implicit fixed costs (payables to depositors, capital owners and entrepreneurs) + Other fixed costs for MU and PLS activities

TVC_M = Total variable cost of MU investment

TC_M = Total cost of MU investment = $[TVC_M + dT_A + T_A/(T_A + T_I)(\rho C + E + OFC)]$

K = Bank owned cash available for MU financing, where $K < C$

σ = Required Reserve ratio on T_A, $(0 \leq \sigma < 1)$

$(1 - \sigma)T_A + K$ = Loanable funds available to the bank for MU investment

L = Amount of loanable funds actually invested in MU sector = $\alpha\{(1 - \sigma)T_A + K\}$, $0 \leq \alpha \leq 1$

r = Fraction of losses to investment as a moving average for a chosen number of prior years

m = Mark-up rate bank charges on MU investment

Below, for determining the *ribā*-free 'm' under imperfect competition, we set out the breakeven relationship between total revenue and total cost for the bank. To simplify, the principal sum financed, L, has been deducted from both sides of the equality.

Further, like most other businesses, financing undertaken by ZIFS banks is not risk-free. A portion of the monies financed is lost when the borrower fails in his project thereby becoming unable to service his debt. So, what can the bank do to protect itself? When such an event occurs, the bank stands to lose on two fronts:

unpaid principle and unpaid MU earnings. We use a multi-year moving average of losses and monies financed in previous years to represent the fraction of loss suffered. This parameter is applied to current expected total amount financed to estimate total expected loss, which is then used to calculate net total revenue.

Given the earlier definition of m, for breaking even,

Net TR = TC_M
Or, $(m - r)L = [TVC_M + \{dT_A + T_A/(T_A + T_I)(\rho C + E + OFC)\}]$
Or, $m = TC_M/L + r$

For *ribā*-free m, we have:

$$m = TC_M/L + r = AC + r \qquad (1.0)$$

Now, any point on the AC curve that satisfies equation (1.0), under the circumstances described in situations I – III, would give our ideal *ribā*-free MU rate. However, our "second best" definition of *ribā*-free MU rate gives:

$$m^* = AC + r = AR \qquad (1.0.1)$$

Comparative Static Analysis. Below are the derivatives of m from Equation (1.0) with respect to the underlying variables.

$$\delta m/\delta d = T_A/L > 0 \qquad (1.1)$$

$$\delta m/\delta\rho = CT_A/(T_A + T_I)L > 0 \qquad (1.2)$$

$$\delta m/\delta C = \rho T_A/(T_A + T_I)L > 0 \qquad (1.3)$$

$$\delta m/\delta E = T_A/(T_A + T_I)L > 0 \qquad (1.4)$$

$$\delta m/\delta TVC_M = 1/L > 0 \qquad (1.5)$$

$$\delta m/\delta OFC = T_A/(T_A + T_I)L > 0 \qquad (1.6)$$

$$\delta m/\delta r = 1 > 0 \qquad (1.7)$$

$$\delta m/\delta\sigma = \alpha TC_M.T_A/L^2 > 0 \qquad (1.8)$$

$$\delta m/\delta T_A = [L\{d + (\rho C + E + OFC)T_I/(T_A + TI)^2\} - TC_M\,\alpha(1 - \sigma)]/L^2 >=< 0 \qquad (1.9)$$

$$\delta m/\delta TI = -TA(\rho C + E + OFC)/\{(TA + TI)2L\} < 0 \qquad (1.10)$$

$$\delta m/\delta L = -TCM/L2 < 0 \qquad (1.11)$$

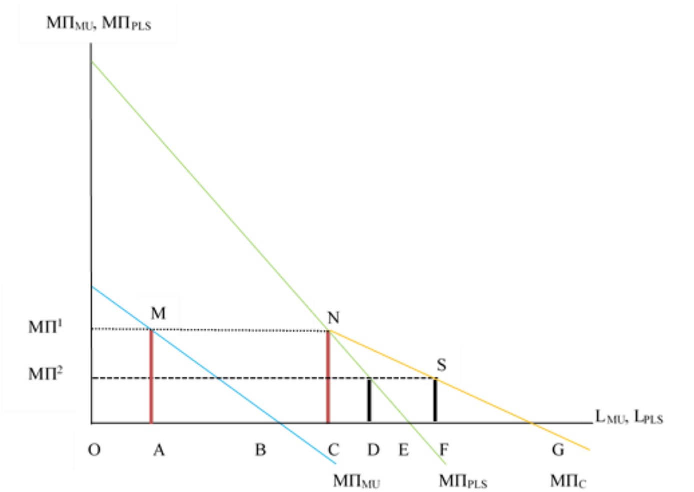
First Order Conditions Interpreted**.** Since the MU rate, m, is defined as mark-up above the average cost of financing, an increase in the cost of financing will definitely increase the MU rate. Equations (1.1) – (1.7) reflect this result. Equation

(1.8) says that as the minimum reserve requirement, σ, increases, so does the MU rate. This is because an increase in σ will allow fewer funds available for financing. Since banks have to pay depositors for all of the deposited funds irrespective of whether they are used for financing or not, an increase in σ will increase the average cost of financing. An increase in transactions account deposit, T_A, on the other hand, has an indeterminate effect on the MU rate, depending on the level of L, as shown by inequality (1.9). MU rate will fall as T_A increases if L is below, will rise if above, and remain constant at the minimum AC financing amount of L. Finally, inequality (1.10) indicates that an increase in investment deposit will reduce the fixed cost of financing MU investment by shifting a part of the fixed cost to PLS financing, thereby reducing the MU rate. Finally, (1.11) indicates the MU rate falls as the amount of available loanable fund actually invested in the MU sector rises

5. Implications of the Model

Inter-sectoral Allocation of Fund. In our model, we made the point that a ZIFS bank has or can have two items in its portfolio: MU and PLS investments. We also explained that the two deposit accounts, TA and TI, are dedicated to these two ends. Point was also made that, compared to PLS, the risk on MU was lower and that the bank, in order to maximize profit, could divert TI toward financing MU investment. We have also established the rate of return on MU investment as the MU rate, m. This is based on zero economic profit accrual. The PLS investment has no such limit. So, the question then is: under what circumstance would TI be diverted toward financing MU portfolio?

Figure 4
Possible Reallocation of Fund From PLS Sector to MU Sector



Suppose we designate the marginal profit of PLS investment by $M\Pi_{PLS}$. When total profit is rising at a diminishing rate, $M\Pi_{PLS}$ is falling, and eventually when total profit reaches its maximum, $M\Pi_{PLS} = 0$. Thus, $M\Pi_{PLS}$ diminishes as PLS investment increases. Similarly, when MU sector can accrue some profit, marginal profit in the MU sector, $M\Pi_{MU,}$ also diminishes as MU investment increases. As long as $M\Pi_{PLS} \geq M\Pi_{MU}$, none of the T_I will be deployed for financing MU investment. Profit maximization rule might dictate banks to move funds from MU to PLS sector, however, restrictions on T_A will prohibit banks to do so.

In Figure 4, we explore the possibility of transfer or reallocation of funds, T_I, from the PLS sector to the MU sector. By assumption, none of the MU fund, T_A, will transfer in the other direction. First, we construct diminishing marginal profit functions $M\Pi_{MU}$ passing through M and B and $M\Pi_{PLS}$ passing through N and E for the MU and PLS sectors, respectively. When loanable fund in MU sector, L_{MU}, is at least equal to OB, then profit will be maximized in MU sector allocating OB amount to MU investments. At that time, no scope arises for any transfer of T_I to the MU sector.

Now, should L_{MU} fall short and be only equal to OA amount, say, then the circumstances under which some of T_I fund could move to MU sector are explored below. We construct another line, NG, which is the horizontal summation of NE and the difference between MB and MA, and designate it as $M\Pi_C$. With OA amount of fund in MU sector, the $M\Pi_{MU}$ at OA investment is equal to $M\Pi^1$. No amount of fund will move from T_I to MU sector as long as $T_I \leq OC$ since $M\Pi_{PLS} \geq M\Pi^1$. However, when $T_I > OC$, say OF, $M\Pi_{PLS} < M\Pi^1$. With both sectors present, marginal dollar invested in the MU sector is more profitable than it is in the PLS sector.[6] Since joint profit is maximized when marginal profits in the two sectors are equal, NG line will help us determine the transfer of T_I funds into MU sector. With funds $T_I = OF$, equality of marginal profit in two sectors can be achieved at $M\Pi^2$ determined by the vertical line FS. Hence, for joint profit maximization, DF will be transferred to the MU sector while retaining OD in the PLS sector. Incidentally, the more elastic is the MP_{MU} curve, the larger is the amount of transfer.

<u>Reflection on Deposit Rate</u>**.** Now, the MU rate, m, was derived by taking d as given. So, we turn to ex-post profitability and residual distribution among depositors and entrepreneur's own capital and entrepreneurship. With normal economic profit, the corresponding per unit distribution of residual would be as planned: d, ρ and E. Even under this situation, how the value of d is picked needs examination for under-paying depositors is as much inequitable as over-charging borrowers. It is clear that

6 In the absence of a MU sector, profit would be maximized by investing OE < OF in the PLS sector keeping EF unutilized.

given m, d is inversely related to both ρ and E. Of course, the depositors entrust their monies to the bank under *Muḍārabah* arrangement. That means the bank is free to decide how to use those monies and to choose the value of d. To the extent d is market driven and that market is imperfect, d is likely to settle favoring the bank.

If the bank earns positive economic profit, there will be a two stage distribution of such profit. In the first stage, the distribution will be as under normal profit distribution outlined above. The leftover sum of the residual could be subject to a pre-existing rule. Should the suppliers of fund (depositors and entrepreneurs) and the entrepreneur be considered as equal partners, then this additional sum will be shared on a 50-50 and pro-rated basis. In other words, say, with $1m positive economic profit, $0.5m would go the bank for its entrepreneurship. Of the remaining sum, should depositors provide 80% of the bank's (T_A + K), then $400,000 would accrue to them in the form of enhanced d.

On the other hand, with a short-run economic loss, the pre-arranged distribution of economic loss could actually reward the depositors below the projected market rate d. In that case, the bank may have to let go some of its own income from ρ, E, or both so as to reward depositors as planned in order to remain competitive. The bank, in this case, absorbs the loss with the expectation that the desired flow of deposit will not be disrupted.

<u>Special Case #1 - No Depositors and only MU Financing (Housing Market)</u>. Suppose, a financing institution gathers its loanable fund not from depositors but from an outside investing firm which expects a fixed periodic payment[7]. Also, the investing firm having sanctioned a sum of money and created an account for the financing company expects the latter to pay only when it draws down an amount, T_A, from that account. However, this T_A is not subject to minimum reserve requirement, i.e., $\sigma = 0$. Also, the investing company expects a fixed, upfront payment rate, a, on its money. As the financing institution does not engage in any PLS investment or elicit corresponding deposit, $T_I = 0$. So, the relevant MU rate under m = AC rule would be a special case of Equation (1.0):

$$m = [TVC_M + aT_A + \{\rho C + E + OFC\}]/L + r \qquad (2.0)$$

Interestingly, to what extent does the typical mortgage rate in affected communities in the US or the UK, for example, differ from that suggested by Equation (2.0) above?

7 It is a possibility in the west, or may already be happening by some anecdotal reports, in the name of Islamic financing in (Muslim segment of) the housing industry.

Special Case #2 - Leasing Market for Capital Equipment. If, as in special case #1 above, the loanable fund, L, is partially gathered, as T_A, from an outside investing company, but which does not seek a fixed periodic payment, the mark-up rate will affect the rate of return to investing company. Now, unlike as in Equation (2.0), but similar to Equation (1.0), the cost to the financing company is a fixed cost depending on the volume of outstanding financing processed, where $L = T_A + K$. Also, there is no PLS activity, and the ZIFS bank gives the same implicit value, ρ, to its own money as it does to that of outside investing company. So, again, under m = AC rule, we get:

$$m = [TVC_M + \{\rho(T_A + C) + E + OFC\}]/L + r \tag{3.0}$$

Equation (3.0), also, awaits empirical verification.

6. Conclusions

The goal here was to mathematically derive the *ribā*-free MU rate logically consistent with the literature that most likely would be representative of heretofore unknown formula of the MU rate as employed in *Murābaḥah* financing. Here, as with the rest, the overall strategy has been to formalize the theory for a clearer grasp of the issues widely discussed in the literature, to derive optimization rules wherever necessary, draw up testable hypothesis, and to make prediction possible while creating elasticity measures.

In the particular case explored here, very little theoretical discussion, if any, exists. The MU rate's presence has been universally taken as given without questioning how it could come about. Also, unexplored is the fact that beyond a thorough MU rate determination process, there remains a scope for *ribā* by over-charging the borrowers under the existence of monopoly power. So, a real opportunity to fill in the blank presented itself. We have resorted to standard microeconomics on costing and pricing to get this work done. Further, there is no analysis how the deposit rate is determined and whether its current practice may be extracting reverse-*ribā* by underpaying the depositors under all form of "monopsony-type" market arrangement.

Now, for the first time in the industry, based on our interpretation of the *ribā*-free MU rate, we are able to empirically evaluate the true nature of the existing MU rate. Our assumption that the MU financing market is imperfect is also a testable premise. By suggesting MU market to be imperfect, we bring up the point that the MU sector, as it exists today, may actually be enjoying abnormal profit while under nominal condition of risk thereby causing the riskier PLS sector to be shut out. This is an altogether novel reason why the PLS sector has not caught on. Since the suggested AC-based MU rate reduces economic profit to near zero, it will encourage banks to pursue more PLS investment in search of higher profits: a result highly desirable in this industry. On the other hand, if banks get completely out of MU investment and pursue PLS investment only, restrictions may be imposed by the central bank that only banks that subject themselves socially and ethically to this formulation will have the opportunity to participate in the riskier but more profitable PLS sector.

The first order conditions allow for predicting sign and magnitude of change in the MU rate owing to changes in underling variables. Also, corresponding elasticity formulations are readily possible, which lead to macroeconomic management implications.

Also, being able to assess the nature of financing residential houses as well as financing leasing of industrial equipment significantly extends the assessment of *Murābaḥah* financing as it exists today.

Finally, a couple of interesting systemic implications may be observed on account of prohibition of *ribā* that appear to have a modern day aspect to them. First, without a doubt, the concept of market structure was absent among the Arabs when the Qur'ān was revealed. However, in our effort, we have conjectured that a situation of imperfect market must have existed in order for there to be *ribā*. So, the Qur'ānic prohibition against *ribā* anticipates modern regulatory structures applied to a supplier with highly concentrated market presence. Further, just as in Suratul Ma'un [Asad] where the quality underlying the practice of formal spiritualism is connected with real acts of goodness, even those appearing to be like small favors, the imposition against *ribā* is suggestive of the modern understanding that money is like blood to the economy and that what money does or leaves undone in the real sector is of actual import. Thus, again, even though the Arabs of the prophetic era lacked sophisticated economic concepts, the prohibition of *ribā* appears to make the normative point that the nominal sector should be treated as being subservient to the real sector.

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Risk-Sharing Securities: Accelerating Finance for SMEs

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Abstract

Small and medium-sized enterprises (SMEs) play an essential role for job creation, employment, investment, innovation and economic growth. Despite its huge potential to support economic growth, SME lending continued to face constraints especially after the 2007 crisis. The present debt-based financial system hinders SMEs from fairer access due to the perceived high risk of the SMEs. Risk-sharing finance on the other hand promotes pro-active risk management through the sharing of risks in the economy according to the risk-bearing ability of the participants. In many ways, risk-sharing finance is naturally aligned with Islamic finance. The risk-sharing model operates on an asset-driven balance sheet management thereby ensuring that the financial sector grows in tandem with economic growth. It eliminates financial oppression/repression and predatory lending as compensations to investors are determined by the actual performance of the real economic activities. This ensures prosperity is shared equitably amongst those who share the risks of any economic venture. The rise of fintech has opened a new door of opportunity for the financial industry to push the present limits of debt-based finance. For Islamic financial institutions, the benefits of fintech go beyond as it could spur more risk-sharing financial activities that uphold the risk-reward principle. With creative rethinking, technology innovations can be the game-changer needed to propel the growth trajectory of Islamic finance to the next stage of development. The paper recommends for the introduction of retail low-denominated risk-sharing securities as a new investment instrument that are issued by SMEs and tradable via fintech-enabled platforms. Internet- and

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mobile-based platforms would reduce the cost for financing for SMEs and increase investment opportunity to the members of public.

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JEL Classification: G00, G23
KAUJIE Classification: L44, K1

1. Introduction

Small and medium-sized enterprises (SMEs) play an essential role for job creation, employment, investment, innovation and economic growth. Globally, the SMEs contribute to about 90% of businesses and more than 50% of employment, and thus represent a crucial source of growth and prosperity for most countries. In view of their important role in the economy, therefore it would sensible for countries to provide an enabling environment that ensures viable SMEs have access to finance.[1]

Notwithstanding this, the OECD (2016) reported that SME access to finance remains a concern in some years to come. Although SME lending has improved, many continue to face credit constraints. SME loans in 2014 were still below the 2007 pre-crisis levels in 12 out of the 30 countries monitored by OECD suggesting that the financial crisis has had a lasting effect on SME lending. Especially for the micro-enterprises that have 10 or less employees, they typically face more constraints and tighter conditions when applying for financing. In terms of cost, the smaller SMEs generally face more costly financing due to the costlier financial instruments used such as overdrafts, factoring and collateralized loans. This leads to some micro-enterprises avoiding to seek bank financing for fear of being refused. Moreover, because their creditworthiness is underestimated they tend to be subject to additional guarantees than other more established businesses. In most countries, more than half of all SME loans are collateralized. Similar scenario is taking place in the equity financing space worldwide. SMEs are perceived as being high risk and therefore venture and growth capital investments in them continue to be very small compared to bank lending, asset-backed finance or trade finance. In most countries, it accounts for less than 0.4% of GDP (OECD, 2016).

Based on the above, this paper proposes for the introduction of risk-sharing securities as a new instrument to provide SMEs access to capital. It is further

[1] SME Finance Forum extracted on 30 August 2016. https://www.smefinanceforum.org/post/g20-action-plan-on-sme-financing-joint-action-plan-of-g20-gpfi-sme-finance-sub-group-and-iiwg

proposed that these risk-sharing securities be traded on fintech-enabled platforms as the marketplace to facilitate price discovery and reduce the barrier to participate through faster speed, lower cost and greater efficiency. To this end, the paper starts with a discussion of the concept of risk-sharing and its relevance to Islamic finance. It then discusses the risk-sharing financial intermediation model and its return of investment potential viz-a-viz the debt-based risk-transfer model.

2. Risk Sharing and Islamic Finance

Based on the Qur'an and Sunnah, the essence and strength of Islamic finance is its mission of facilitating the sharing of risk and prosperity in the society (Kuala Lumpur Declaration. 20 September, 2012; available from ISRA's internet site). The significant potential contribution of risk-sharing finance to increase prosperity has been a subject that Nobel Laureate Robert Shiller has been advocating since the early 1990s. The major difference between risk-sharing finance and Islamic finance is that the latter is embedded in a network of rules (institutional scaffolding) that allows efficient and just distribution of financial resources of the economy. These rules are prescribed in the Qur'an and in the Sunnah. They include, inter alia, sanctity of human dignity; sanctity of property; sanctity of contracts; trust; cooperation; rules governing consumption, saving, investment; rules of governance; and rules governing market behavior of participants.

In the context of finance, risk sharing is recognized as one of the strategies to manage risk. Kenneth Arrow (1964) asserted that risks in the economy should be shared according to the risk-bearing ability of the participants. His proposition led to the foundational theory for pricing assets and derivatives through the notion of primitive theory known as Arrow-Debreu securities. Risk sharing provides 'skin-in-the-game' (Taleb, 2013) where all participants are entitled to returns that are contingent on the outcome. Under this arrangement, the upside potential (profit) and the downside risk (loss) are shared ex-post. No risk is to be shifted or transferred, and any liability must always be tagged to the right to profit (Mirakhor, 2014). In a broader context, risk sharing involves a "contractual or societal arrangement whereby the outcome of a random event is borne collectively by a group of individuals or entities involved in a contract, or by individuals or entities in a community" (Askari et al., 2011, p. 70-71). One important inference of the risk-sharing concept is that it can become a powerful tool to reduce the uncertainty of future ventures, yet without reducing the undertaking of risk itself. This is in line with the Islamic virtue "*AlGhunum bi AlGhurum*" (*"(Entitlement to) gain is accompanied with liability (for associated expenses and possible loss)"***الغنم بالغرم**). In Islam, risk-taking investment is a virtuous act though risk taking is not quite the same as risk-loving. The former is purely human nature hence highly encouraged whilst the latter is about excessiveness hence discouraged (Rosly, 2005 p.57). Risk avoidance when risk taking was necessary or shifting your risks to others, is considered an immoral act and thus is abhorred in Islam as it entails 'extracting and eating wealth with wrongful means'. In modern Islamic banking however the acts of risk avoidance is rampant by way of transferring and shifting of the risk exposures to others.

However, as the level of understanding on risk sharing has been limited, this has inadvertently caused confusion and misconception of the concept. To some extent, this has led to a negative perception on its potential as a powerful financial and investment intermediation tool. The following paragraphs aim to provide further explanation and clearer distinctions between risk sharing and other risk related terminologies.

a) Risk Sharing versus Profit and Loss Sharing

In the Islamic finance sphere, the notion of risk-sharing was articulated by Uzair (2000) in mid 1950s. He opined that rewards to capital providers in value-creating economic activities are justifiable both from the conventional and Islamic perspectives. However, instead of receiving interest (*ribā)* as payment to moneys lent in the case of interest-based system, Islamic finance is premised on pro-active participation of capital by investors in the process of production in the form of investment and business ventures on risk-sharing basis. In his book 'Interest-free Banking', Uzair (2000, p.114) enumerated four conditions of risk-sharing finance: (1) The capital (provider) participates as…joint sponsor of business or production (2) It shares the risk and responsibility as...justification for reward (3) It will have to accept the risk of sharing profit or loss and share some agreed proportion of the reward of the enterprise and (4) The amount of profit and loss will be 'uncertain' depending on outcome. Following that Siddiqi in 1969 proposed an interest-free banking model based on a two-tier *Muḍārabah* that operates on profit and loss sharing (Siddiqi, 2003).

The risk sharing and 'profit and loss sharing' (PLS) terminologies are frequently mistaken to carry similar meanings hence often used interchangeably. However, both are related concepts, as without risk sharing there can be no PLS. The difference is that risk sharing precedes PLS since the proportion of reward or share parameter is determined at the beginning of a project during contract negotiation (ex-ante) aiming towards reducing information asymmetry.

As an illustration, in Islamic equity system (*Muḍārabah* and *Mushārakah* contracts) parties to the contract have to decide on a share parameter at the outset, before any production or sale of product takes place. The future is unknown at the time of the negotiations for the share parameter. The decision is, therefore, subject to risk and uncertainty. Hence, ex-ante, the partners decide on a share parameter according to their abilities to put at risk their financial or other resources. Subsequently, the profit or loss is shared after the project is completed (ex-post) based on the share parameter established (ex-ante) before the contract goes into effect. Thus, the ex-post profit and loss sharing is ex-ante risk sharing.

b) Risk Sharing versus Risk Taking

Another common misconception is to equate risk sharing and risk taking. The former refers to a means through which one can pro-actively reduce his/her exposure to a situation by sharing risk. Meanwhile the latter refers to an inherent or given situation whenever someone engages in any activity. Without risk taking, there is no justification for one to claim for any remuneration or reward. An example of risk taking is driving a car: one is inherently exposed to the risk of colliding when driving. In this scenario, sharing of risk is achieved when every road user assumes the responsibility to take all the precautions and compassion to avert any collision.

c) Risk Sharing versus Risk Transfer

Risk sharing is permissible and highly encouraged in Islam. Unlike risk transfer, risk sharing requires the contracting parties to mutually share the risk and the reward of a contract and that all parties do not violate the Islamic property rights principles. Property rights would be violated, for example, when the claim on a property is attained without commensurate work or compensation. Such is the case in acquiring asset by dishonesty, theft, bribery, interest and gambling.

While risk sharing as a concept has become a buzzword in today's Islamic finance, how it should be operationalized has not been well discussed until recently. Bacha and Mirakhor (2015) have proposed a framework of a risk-sharing model that can help to reform present business model of Islamic financial institutions. The main idea of the proposed model is to securitize their assets through the issuance of low-denominated tradable investment securities. These securities which are offered to investors would have the same underlying contract and average "duration" as customer financing. This feature minimizes funding gap issues by ensuring that the risk profiles of the assets perfectly match the risk appetite of the investors. Assets with smaller values would be pooled into tranches of similar maturity periods and then securitized. Assets with larger values could have securities issued tagged directly against them without the need for bunching (Bacha and Mirakhor, 2015 p.2).

3. Risk Sharing Financial Intermediation Model

The proposed Risk Sharing Financial Intermediation (RSFI) model adopts the modus operandi of mutual funds which upholds risk-sharing principle. In this set-up, the investors' funds under management are directly tagged to a specific portfolio, creating a pass-through profit and loss mechanism. Investors bear the risk of losing their investments as its return is solely determined by the performance of the portfolio. In the event of loss, the fund manager bears the risk of losing his job. The fund management company however is unaffected and continues its usual operation as the losses are fully absorbed by the investors. For the services rendered, the investors pay a management fee to the fund manager. An interesting element of the mutual funds model is that unlike banks, it is less fragile, hence offering stability to the financial system. The fund management company is not affected by losses because the risk and reward are passed through to the investors. What makes it less fragile is the fact that the assets and liabilities of mutual funds are directly linked (Bacha and Mirakhor, 2015 p.7, Khan M. S. (1986), Sayyid Tahir (2006b)).

To appreciate the new model, it is worthwhile reiterating Mirakhor's (2014) articulation on the four characteristics of a risk-sharing financial system. It must (1) forge close (one-to-one) relationship with real assets; (2) facilitate financial inclusion by providing all members of the society the opportunity to share in prosperity and to hold financial instruments to hedge their idiosyncratic (personal and particular) risks; (3) result in a stable financial system that is highly resilient to shocks; and (4) empower all stakeholders to have effective voice and vote in the governance of the financial sector.

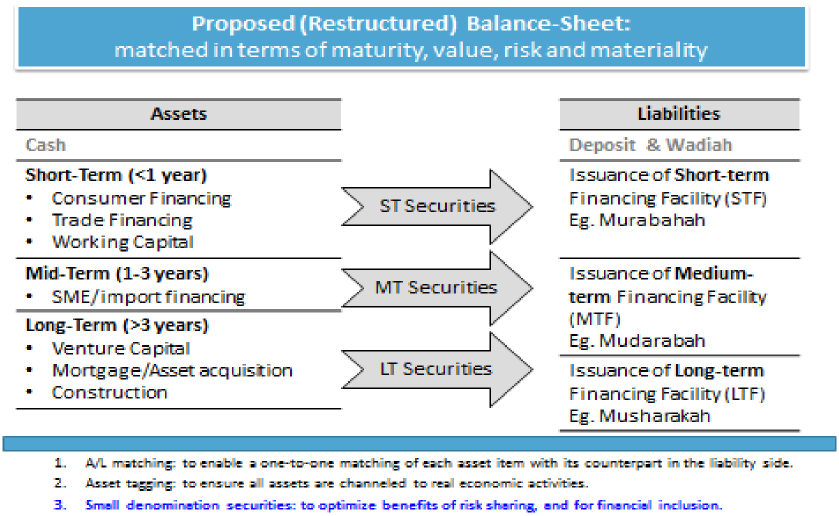
The fundamental difference from the debt-based model is that this model requires the assets and liabilities to be matched where the fund providers (liability side) fully share the investment risks (asset side). Furthermore, instead of having depositors as the supplier of funds, the risk-sharing model would have a multitude of security holders who co-own the assets.

Vis-à-vis the conventional finance that operates on creditor-debtor relationship, the risk-sharing model demands the following two conditions to be met. First, there must be a one-to-one match of the assets and liabilities in terms of maturity, value and risk and each asset-liability match has to be effected via an appropriate Sharīʻah contract. Second, the returns for the investment must be determined ex-post i.e. the actual returns would be calculated ex-post but based on the proportional sharing agreement made ex-ante. There are several benefits of having this arrangement. It resolves the fragility issue emanating from the mismatched balance sheet. It creates a pass-through profit and loss mechanism, and enables the depositors/investors to enjoy the upside potential. RSFI entities are freed from having to put aside capital allocation on the assets at risk. Overall, it requires less complex regulation.

The main challenge to operationalise risk-sharing finance is to create the appropriate investment platform which is accessible to SMEs and attractive to retail investors. In this regard, the authors proposed for RSFIs to securitize their assets to investors through the issuance of securitized papers. The asset securitization would dissipate the risk from concentrating at the RSFI level and enable the investors to participate in the investment opportunities.

As illustrated in the figure below, once an asset allocation strategy has been decided, the RSFI entity would issue a range of security papers, all of which are structured according to the profile of the assets requiring funding. For example, short-term securities are issued to raise funding on short-term assets. Within these, there will be securities which have different values and risk characteristics to match the profile of the asset and risk appetite of the investors.

Figure 1
Risk-sharing Securities catering to the needs of SMEs



In terms of determining the appropriate Sharīʻah contracts to be used, the following rule-of-thumb could be applied. For low risk and short-tenured assets such as short-term consumer financing, trade financing and working capital, it is proposed *Murābaḥah* to be the structure of the short-term investment papers due to its low risk nature. For medium-term financing such as leasing, SME/import financing and hire purchase, *Ijārah* and *Muḍārabah* contracts are better suited. *Muḍārabah* and *Mushārakah* on the other hand are appropriate for long-tenured and higher risk type of financing. All these contracts are risk sharing in nature as long as they are not attached with additional credit enhancers which would enable one party of the contract to transfer his risks to the counterparty.

To attain optimal risk-sharing benefits, these papers should be sold to depositors and members of the public, hence providing them the opportunity to participate in project financing. This would dissipate the risk from concentrating within the bank's own assets. At the point of issuance, the papers will be priced based on the expected rate of return of the underlying project. The actual returns on investment will however depend on the final outcome of projects.

With regards to the securities issuance, the modus operandi is very similar to that of mutual funds companies. The difference is in the underlying product offer. Mutual funds offer the opportunity for long-term investment in a portfolio of companies. RSFI entities offer investment in finite projects and business ventures. To raise funding, the bank will announce each issuance size prior to opening the application. Information on the projects including the risk-reward profiles will be made transparent. Tahir S. (2006a) alluded that "Islamic finance industry is likely to be divided into (1) normal banking institutions, (2) development finance institutions, (3) microfinance institutions, (4) mutual funds and (5) life insurance companies and their other equivalents". The mutual fund model will cater to "return-conscious depositors who want maximum flexibility in investment and withdrawal of funds". This should prompt the Islamic banks to consider creating secondary markets for the investors, "such as Islamic stock market (for Islamic shares) and Islamic money market (for divisible and tradable Sharīʻah-compliant financial instruments)". Internet-based technology such as private or bank-sponsored crowd-funding platforms could be used as the information delivery channel and secondary market trading of the securities. If the securities are oversubscribed for the month, the bank will allocate the securities to all applicants in increasing multiples of say RM100, until the individual gets the full amount applied for, or when all available securities have been allocated, whichever comes first.

The securitization can be done at pre-determined intervals, such as monthly or quarterly. Actual issuance of the securities can thus be done at a fixed date on a monthly basis. In determining the total face value of issuance, provisions for potential bad debt and prepayments would also have to be factored in. There is also a need for a one-to-one correspondence mechanism to align the changes of value in the asset and liability. Thereafter, the papers are tradable in the secondary markets at the prevailing price as determined by its demand and supply.

Meanwhile the risk sharing securities should have the following key attributes. One, the face value of the securities must be in small denominations as to optimize financial inclusion amongst all levels of the society. Two, the total papers that are issued cannot be more than the value of the assets. Three, there should not be any multiple claims on an asset or a given portion of an asset. As such, a mechanism that keeps track of the ownership of assets during its entire life is necessary. Three, transaction cost needs to be kept minimal to ensure optimal secondary trading. Four, there should not be any deposit insurance and implicit guarantees as these will increase the cost of operation and induce moral hazard. Five, there needs to be the 'skin-in-the-game' rule requiring the bank to co-own the assets. It is proposed that a 10% ownership of each asset category to be imposed on the RSFI and these portions are funded directly from RSFI shareholder funds. Six, the asset financed by investors will have its own buffer to manage any liquidity risk on the portion owned by investors. The buffer will be sourced from the investment account, not from the bank.

4. Fintech: Game-Changer for Islamic Finance?

The next main challenge in operationalizing the model is to create a well-functioning secondary trading market for the securitized papers. Information asymmetries and difficulties in assessing the risk of financing small businesses at reasonable costs constitute a longstanding stumbling block to SME financing. An active secondary market serves to (1) dissipate risks broadly so as to minimize systemic risk and (2) lead price discovery for determination of cost of funds or required rates of return for the asset class. The rapid advent of financial technology or fintech in recent years saw the birth of peer-to-peer lending and crowdfunding platforms that offer products at faster speed, lower cost and great efficiency.

By combining technology and innovation, RSFIs could increase SME access to capital funding through a wider range of platforms and financial instruments, including peer to peer and marketplace lending, merchant finance, invoice finance, supply chain finance and trade finance. At the same time, fintech solutions could enhance SMEs' critical back-end processes such as the adoption of invoice financing to manage receivables, supply chain financing for inventory management, trade finance and P2P lending for liability management, as well as equity crowdfunding for equity management.

In the Islamic finance sphere, eight fintech start-ups came together to form a consortium called the Islamic Fintech Alliance (IFT)[2] in March 2016 to help boost the adoption of financial technology using Islamic finance. The alliance intends to bring together technologies and financial innovations to "better synergise and harmonise" efforts. The proponents include EthisCrowd (Singapore – real estate crowdfunding), which launched several successful real estate crowdfunding including affordable homes in Indonesia, funds for Pahang flood relief victims and development of *waqf* land in Putrajaya. It also recently launched the *Waqf*World.org, providing an online aggregator service of *waqf* campaigns using crowdfunding technology[3]. Another Islamic fintech is Kapital boost which employs *murābaḥah* and *muḍārabah* contracts to provide financing for SMEs in Indonesia, Singapore and Malaysia. Others in the IFT include Narwi (Qatar – *Waqf* crowdfunding), Blossom (USA, Indonesia – equity micro-finance crowdfunding), Easi-up (France, Luxemburg – community building crowdfunding), Funding Lab (Scotland, Palestine – reward-based crowdfunding), Launch Good (USA – crowdfunding for creative and entrepreneurial endeavours), Skola Fund (Malaysia – crowdfunding for underprivileged undergraduates) and Ata-plus (Malaysia – equity crowdfunding platform).

Some of the techniques used by fintech to gauge creditworthiness is to use data captured by wholesale suppliers and online merchants, payment history on usage of utilities (water, electricity, gas etc.) prepaid mobile history, phone usage, psychometric testing to measure knowledge, abilities, attitudes and personality traits, social media usage and other online activity. By deploying state-of-the-art financial solutions, RSFIs could develop business models that are in tune with the expectations or demands of the future generation. At the same time, technological innovations provide the opportunity for the Islamic finance industry to realise its true potential in supporting the real sector. For these reasons, fintech can be a game changer for the Islamic finance industry to leapfrog to the digital age. The adoption of the risk-sharing model could serve as the main differentiating factor for Islamic financial institutions as they could completely move away from risk-transfer model. The risk-sharing model equipped with technologies like distributed ledger technology, smart

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[2] http://www.crowdfundinsider.com/2016/04/83978-islamic-fintech-alliance-launched/

[3] Global Islamic Economy Gateway. 4 August 2016. http://www.salaamgateway.com/en/digital/story/new_waqf_crowdfunding_platform_to_address_misconceptions_about_islamic_endowments-salaam04082016135725/ extracted on 22 August 2016

contracts and fame game could potentially create a new value creating asset class for Islamic finance and investors through real sector-linked investment intermediation. It may also offer greater stability and resilience than the risk-transfer model. In this regard, the following section discusses a simulation on the RSFI model.

5. Simulation Methodology

This simulation exercise involves a three-step process. Step 1 estimates the rate of return of the real sector. Step 2 simulates the potential profit generated under RSFI model and compares it with the existing risk transfer model.

5.1 Step One

The objective is to derive the rate of return (ROR) of the risk-sharing securities to visualize the prospect on investors' return. However, because there is presently no such market and instrument, a proxy (ROR of the real sector) is derived as follows.

- Obtaining all equities from Bursa Malaysia (Source: Thomson Reuters IEKON)
- Selecting only Sharīʻah compliant companies with positive performances
- Extracting the ROR for selected companies and compute portfolio ROR
- Applying portfolio ROR to risk-sharing Balance Sheet

The outcome of this exercise is the ROR of the securities. The ROR estimation involved a 10-step procedure summarized in the following diagram.

5.2 Step Two

The objective is to estimate the return on investment based on RSFI model compare it with the existing risk transfer model. For this purpose, the Special Investment Account and General Investment Account of 16 Islamic banks in Malaysia were used as proxy for potential source of investment (source: BNM Quarterly Bulletin).

Figure 2
Process for Estimating ROR

Source: Author's own

6. Simulation Result

6.1 Deriving Rate of Return (ROR) for Risk-sharing Securities

The following step is to derive the price of the securities. However as such a market price is not yet in existence, we have used a simplistic proxy based on the performance of actual companies listed in Bursa Malaysia represented by their rate of return (ROR). Since information on companies' ROR is not readily available, we manually estimated the ROR using the return on long-term assets (ROLA) of the Sharīʻah compliant companies publicly listed at Bursa Malaysia selected as the proxy. ROLA is calculated as Net Income Before Tax (NIBT) divided by Long Term Assets. Prior to calculating the ROR, we first selected the companies.

A total of 896 companies representing all the 10 economic sectors in Malaysia were screened involving a two-layer filtering: (i) omitting companies with negative and greater than 100% ROLA for the whole 15 years, and (ii) omitting companies with negative and greater than 100% ROLA for the last five years. After two rounds of filtering, 424 companies were finally selected. The objective of the two-layer filtering was to eliminate the outliers.

We consider ROLA a fair proxy on the basis that they are typically the earning assets of companies. The estimated ROR based on ROLA was 20.98%. After adjusting to portfolio risk of 0.98%, the risk adjusted ROR was 20.77%. In order to check the reasonableness of the derived ROR, other estimations based on the return on total assets (ROA) and the pre-tax return on equity (ROE) were also made. The returns based on ROA and ROE were 12.48% and 19.50% respectively. In addition to these proxies, we also referred to other estimates of the real sector returns from secondary sources. The Morningstar reported that the average returns of the top 100 companies in the world are in the range of 15% (for 3-year average) and 14% (5-year average).[4] Studies had proposed that the equity premium in Malaysia is in the range of 8 to 11% (Mirakhor, 2015). Meanwhile, AIBIM[5] in 2015 reported that the potential return of real sector estimated by the banking fraternity is in the range of 11 to 18%.

Table-1
Estimated Rates of Return of Real Sector

Proxy	ROR Estimation
Return on Long-term Assets (ROLA)	20.98%
Return on Total Assets (ROA)	12.48%
Return on Pre-tax Equity (ROE)	19.50%
Average Return of Top 100 Global Companies*	13% - 15%
Equity Premium in Malaysia	8 - 11%
Return of Real Sector**	11 - 18%

Sources: * Morningstar, ** AIBIM

Based on the estimations of the ROR of the real sector by the above-mentioned proxies, it can be concluded that the real sector indeed offer higher return than what the present deposit rate and financing rates are offering (3-4% and 6-7% respectively in Malaysia as of June 2015). This conclusion therefore implies that should the financial institutions mobilize investment accounts to finance real sector activities

[4] Bacha & Mirakhor (2015)
[5] AIBIM is the Association of Islamic Banking Institutions Malaysia

through risk sharing, their returns would naturally be contingent on profits and thus at higher rates than the prevailing interest rate environment, leaving both depositors and banks better off. As mentioned above in the limitations, this is a simplistic approximation and adjustments would need to be made to incorporate differing risk/return profiles of the risk-sharing instruments especially given that they would have a differing tenure/duration to listed corporate returns.

6.2 Profit Comparison between Existing Model and Illustrative Risk-sharing Model

Table-2
Depositor's Return and Bank's Margin: Current Model

Model	**Current Model (Risk Transfer)**		
Risk[6] (%)	1.76	3.52	5.28
Risk Adjusted Financing Rate (%)	5.29	5.19	5.10
	Baseline	**Adverse**	**Extreme**
Depositor's Return (RM)	83,118,891	583,118,891	583,118,891
Change in RM		-	-
Change in %		**-**	**-**
Bank's Margin (RM)	378,777,437	361,544,766	344,312,096
Change in RM		(17,232,670)	(34,465,341)
Change in %		**(4.5%)**	**(9.1%)**

Deposit rates are fixed under each scenario. There are two reasons for this treatment: (i) to reflect the risk-transfer principle in the present model where risk and reward are not directly linked and the management of liabilities (Special Investment Account (SIA) and General Investment Account (GIA)) is separated from the management of assets (financing), and (ii) the pre-IFSA practice of Islamic co-mingling investment accounts with other types of savings where Islamic banks often limited the exposure of depositors to rate changes to remain competitive to conventional banks, a form of displaced commercial risk, hence Islamic banks in Malaysia utilized profit equalization reserve (PER) mechanisms. Table 2 above illustrates the stress test result on depositor and bank's revenues under risk-transfer model.

[6] Represents the OPR volatility stress-tested at 2 and 3 standard deviation.

The stress test on the risk-transfer model shows that the bank's margin could decline by 5% or RM17 million when the volatility is doubled and a decline of 9% or RM34 million when the volatility is tripled. Indeed this can be translated into a significant risk to Islamic banks operating in a low financing rate environment. For instance, banks' margins could be negatively impacted (and ultimately earnings) if the central bank decides to cut the Overnight Policy Rate[7] (OPR) as financing rates will be re-priced downward more than deposit rate.

Under the risk-transfer operating model, Basel capital requirements are necessary to ensure Islamic banks have sufficient buffers to absorb any sudden volatility. In such debt-based system, studies argue that the greater proportion of debt tends to make banks more vulnerable to losses, given that debt capital has lower loss absorbency capacity than equity.[8] Such eventuality could be avoided if Islamic banks fully employ a risk-sharing banking model that offers straight pass-through and in-built loss absorbing and profit accreting mechanism.

The following paragraphs discuss the micro stress test conducted on the balance sheet of risk-sharing model. To this end, the earlier estimated ROR of 20.98% was treated as the baseline and was shocked at 2 and 3 standard deviations. As the bank is operating under risk-sharing principle, investment account holders would be exposed to any adverse impact of volatility. Since the investment account is a pass-through risk-bearing instrument, depositors fully absorb the impact of ROR declines and benefit from upsides as well. Compared with the current model where the bank absorbs the impact of volatility, the risk-sharing model spreads the impact amongst the investors thus upholding the risk-reward principle.

In both the adverse and extreme scenarios, the test results suggested that bank profitability is less sensitive to shocks than in the risk-sharing model with greater resilience. At 2 standard deviation the risk-sharing bank's profit declined by only 0.6% whereas the current model declined by 5%. At 3 standard deviation the profit margin declined by 1.3% compared to the current model which was far more exposed to a 9% decline. In short, the above micro stress tests suggested that in the event of adverse situations, risk-sharing model is more stable than risk-transfer model.

Based on the above micro stress testing, the risk-sharing model offers advantages over the present risk-transfer model with a balance sheet that is less fragile owing to the matched assets and liabilities structure and the one-to-one tagging of the assets

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[7] It is the interest rate at which a depository institution lends immediately available funds (balances within the central bank) to another depository institution overnight.

[8] IMF FSAP 2014 Stress Test on Malaysia, p. 15

to the real economic project/activities. It saves the banks in terms of capital allocation on assets that are at risk, which the bank would otherwise have to provide under the present model. In terms of fragility, the stress test illustrates that the risk-transfer model is more fragile as it performs worse than risk-sharing in adverse situation. The finding concurs with Calomiris and Haber (2014) that the present banking system is indeed fragile by design.

Table-3
Depositor's Return and Bank's Margin of Risk-Sharing Model

Model	**Risk-Sharing Model (ROR 20.98%)**		
Risk (%)	1.00	2.00	3.00
Risk Adjusted ROR (%)	20.77	20.56	20.35
	Baseline	**Adverse**	**Extreme**
Depositor's Profit (RM)	3,736,064,424	3,698,326,399	3,660,588,375
Change in RM		(37,738,024)	(75,476,049)
Change in %		**(1.0%)**	**(2.0%)**
Bank's Profit (RM)	1,490,334,217	1,480,899,711	1,471,465,204
Change in RM		(9,434,506)	(18,869,012)
Change in %		**(0.6%)**	**(1.3%)**

Note: Depositor's profit is derived from 80% contribution of total financing. Bank's profit is derived from 20% own contribution and 3% *Wakalah* fee

From the government's perspective, the risk-sharing model has a more far-reaching agenda in inducing financial inclusion and creating incentive for asset building for low- and middle-income groups in the society. Furthermore, it requires no deposit insurance and lender-of-last-resort facility. These safety net mechanisms create unintended moral hazard for banks to over-leverage and lose rigor in selecting high quality funding opportunities. The risk-sharing model also addresses the adverse selection and moral hazard issues, through the 'skin-in-the-game' requirement proposed by industry participants where banks need to co-own a percentage of securities issued for investment projects. In this study, the RSFI entities are proposed to fund and retain 20% of the total value of each project financed.

The model however is an illustrative first step undertaken under certain time and resource constraints and as such suffers from some major limitations including, inter alia:

i. the unavailability of data for the ROR of the real sector;
ii. no estimate or adjustment was made for any leverage-based effects on the illustrative estimated ROR;

iii. no estimate or adjustment was made for differing risk and maturity profiles that would be present under the different asset tranches;
iv. no estimate or adjustment was made for any differential in "default" and recovery rates between the two models; and, importantly,
v. no estimate or adjustment was made for any costs differentials in terms of transition to and subsequent operation of a risk-sharing banking model, in terms of costs to banks (up-skilling bank officers, cost savings from Fintech), bank customers (in terms of greater alignment between funding and real activity) and externalities costs and savings.

7. Conclusion

Small and medium-sized enterprises (SMEs) play an essential role in economic growth through job creation, employment, investment and innovation. Therefore SMEs' access to capital should not be limited and constrained. Presently the debt-based financial system hinders SMEs from fairer access due to the perceived high risk. Risk-sharing finance on the other hand promotes pro-active risk management through the sharing of risks in the economy according to the risk-bearing ability of the participants. In many ways, risk-sharing finance is naturally aligned with Islamic finance. The risk-sharing business model of real estate, asset and equity crowdfunding or peer-to-peer platform bears close resemblance with the *muḍārabah* and *mushārakah* contracts in Islamic finance. The risk-sharing model operates on an asset-driven balance sheet management thereby ensuring that the financial sector grows in tandem with the economy, not creating bubbles (as it did in pre the Global Financial Crisis (GFC)) or hold back growth (as it has in the post GFC). It eliminates financial oppression/repression and predatory lending as compensations to investors are determined by the actual performance of the real economic activities. This ensures prosperity is shared equitably amongst those who share the risks of any economic venture.

The rise of fintech has opened a new door of opportunity for the financial industry to push the present limits of traditional finance. Fintech contributes towards efficient and cost effective processes, improvements in customer experience and greater access to financial services. For Islamic financial institutions, the benefits of fintech go beyond as it could spur more risk-sharing financial activities that uphold the risk-reward principle. With the emergence of new technology, new set of competencies also need to be quickly developed given the rise of new risks. For jurisdictions aspiring to be fintech-savvy Islamic financial centres, public and private investment on R&D and well-coordinated win-win strategic collaboration amongst fintech start-ups, incumbents, regulators and Shariah scholars should also be intensified. With creative rethinking, technology innovations can be the game-changer needed to propel the growth trajectory of Islamic finance to the next stage of development. Further research to explore the role of Fintech in furthering the advancement of Islamic finance is necessary to ensure the risks and transaction costs of market participants could be kept minimal. Fintech could potentially create value to the Islamic financial system such as in establishing trusted investor-entrepreneur matching platform, seamless financing/investment selection and funding processes, low-cost and efficient secondary markets for the trading of the risk-sharing securities, and transparent real-time project monitoring mechanism.

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APPENDIX

Kuala Lumpur Declaration

The Second Strategic Roundtable Discussion, jointly organized by the International Sharīʿah Research Academy for Islamic Finance (ISRA), the Islamic Research and Training Institute (IRTI) and Durham University, met on 20th September 2012 in Lanai Kijang, Kuala Lumpur.

After lengthy deliberations on the issue of risk sharing, the participants acknowledged that the financial crisis which started in 2008 highlighted the fact that the most salient feature of the dominant conventional financial system is the transfer of risks away from financial institutions onto customers, governments and the public at large. Islamic finance is in a unique position to offer an alternative to the present interest-based debt financing regime that has brought the whole world to the edge of collapse.

Bearing this in mind, the second annual ISRA-IRTI-Durham Strategic Roundtable Discussion (2012) agreed on the following:

- The Sharīʿah emphasizes risk sharing as a salient characteristic of Islamic financial transactions. This is not only exemplified in equity-based contracts, like *mushārakah* and *muḍārabah*, but even in exchange contracts, such as sales and leasing, whereby risk is shared by virtue of possession.
- Risk transfer and risk shifting in exchange contracts violate the Sharīʿah principle that liability is inseparable from the right to profit.
- Sales must be genuine transactions in open markets.
- Although the Sharīʿah recognizes the permissibility of debt, it is acknowledged that excessive debt has detrimental effects on society.

The recommendations of the Roundtable Discussion are as follows:

1. Governments should endeavour to move away from interest-based systems towards enhancing risk-sharing systems by levelling the playing field between equity and debt.

2. Accordingly, governments should increase their use of fiscal and monetary policies based on risk sharing.

3. Governments could issue macro-market instruments that would provide their treasuries with a significant source of non-interest-rate-based financing while promoting risk sharing, provided that these securities meet three conditions: (i) they are of low denomination; (ii) are sold on the retail market; and (iii) come with strong governance oversight.

4. There is a need to broaden the organizational structures beyond traditional banking models to formats such as venture capital and *waqf*s to fulfil the social goals and risk-sharing features of Islam finance.

Source: https://www.google.com/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8#q=kuala+lumpur+declaration+2012+ISRA

EVENTS AND REPORTS

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"I for Impact: Blending Islamic Finance and Impact Investing for the Global Goals"

Description: This report launched in May 2017, is the product of a joint initiative of Islamic Research and Training Institute, IDB Group, United Nations Development Programme (UNDP), and Istanbul International Center for Private Sector in Development (IICPSD).

by

Authors: IRTI and IICPSD Team (Hylmun Izhar and Gokhan Dikmener)
Pages: 105, A4 size.
Link to download
http://www.irti.org/English/News/Documents/IRTI_UN_Islamic_Financial_Report.pdf

Summary

The scale and ambition of the 2030 Agenda for Sustainable Development, as embodied in the 17 SDGs, call for substantial financial and technical resources, estimated at US$5-US$7 trillion each year for the next 15 years. These sums are far beyond the scope of individual governments and the multilateral funding agencies. Private sector funding, capabilities and know-how need to be mobilized to sustain the new development agenda and the global partnership for sustainable development, to operationalize the policies and actions outlined in the Addis Ababa Action Agenda and end poverty within a generation.

Impact investment, defined as the deployment of funds with the aim to generate social and environmental impact as well as a financial return, has established itself as an important source of funding the SDGs. Its global reach is growing rapidly. As much as three quarters of total impact investment assets is in developing countries and a fifth is allocated to microfinance, contributing to development efforts. Private debt and equity together account for 65 percent of impact investments, with bonds a prominent instrument. While institutional investors are currently constrained from large-scale participation in impact investing by their legal and fiduciary responsibilities, high net-worth individuals (HNWIs) are key players. Impact investment funds and development finance institutions (DFIs) are also prominent as impact driven organizations. Critical drivers of impact investing include the failure of governments to increase and deliver on their ODA commitments and the emergence of the “value-investor”.

The Islamic finance sector, meanwhile, has grown from a market of US$200 billion in 2003 to an estimated US$ 1.8 trillion in 2014 , and is expected to reach US$2.7 trillion in 2021 . This represents a strong potential source of financing for the SDGs, fostering development and helping to end poverty. Although Organisation of Islamic Cooperation (OIC) member countries account for 22 percent of the world population, they house 40 percent of the world’s poor who live on US$1.25 a day or less. Reaching more of those at the bottom of the pyramid by deepening and widening the range of Islamic financing solutions available to the poor, especially microfinancing products, would be a major contribution to the 2030 Agenda. Its resilience to the 2008 financial crisis has enhanced the prominence of Islamic finance and the market for its products and services is growing. Its key pillars: asset backed; ethical; participatory and good governance underline its suitability for deployment in pursuit of the 2030 Agenda and the elimination of poverty. Islamic financial assets are currently concentrated in the three markets of Malaysia, Saudi Arabia and Iran. The Islamic fund industry, dominated by Malaysia, Saudi Arabia and Luxembourg, is growing, but still of limited scale. Individuals, notably HNWIs, Sovereign Wealth Funds, and pension funds, are among the key actual and potential investors. Among the DFIs, the Islamic Development Bank Group (IDBG), fully compliant with Islamic financing principles, is preeminent, with 57 member countries.

With their rigorous moral and social criteria, their emphasis on inclusiveness and broader understanding of business-society relations, the principles of Islamic finance and impact investing complement each other. Both Islamic finance and impact investment occupy value-based investment universes, associate themselves with a moral purpose, offer access to finance to those directly or indirectly kept out of the conventional financial investing arena and share a broader understanding of the relationship between business and society. These similarities suggest that bridging the two sectors offers a promising avenue to respond to the growing challenges related to development financing through collaboration, cross-learning and reaching new markets. “Islamic financing impact investing” offers a potent new mechanism for fulfilling SDG poverty-reduction targets by harnessing private sector finance targeted, in particular, at MSMEs that are often excluded from conventional financing mechanisms.

The market for impact investors can access new sources of finance and develop new markets by addressing Islamic finance; this will increase the range of impact investing tools and has the potential to help speed and simplify access to finance for small companies using Islamic financial instruments. For Islamic financiers, partnering with the impact investing sector, especially in monitoring and evaluation methodologies, offers the potential for expansion of scope and scale and for greater worldwide recognition. The poorer segments of society in OIC member countries could gain greater access to finance and development opportunities and the toolbox of Islamic financing instruments could be greatly enlarged.

Among the principle aims of this report is the identification of ways to enlarge the area of overlap between Islamic finance and impact investing and to develop collaborative strategies. It makes a number specific recommendations for this endeavour, based on research undertaken during preparation.

An enabling environment to promote "Islamic finance impact investing" should be created as part of the larger dialogue on inclusive financial systems and responsible investing principles. Support should be offered to the creation and functioning of an effective capital market system for Islamic finance impact investing, including supporting existing and new intermediaries. Well thought out, comprehensive regulatory, accountability, tax and legal frameworks are needed and it is important to raise the awareness of the current and potential levels of convergence of Islamic and impact investing. Standards for impact measurement and reporting should be established so that the sector's metrics are aligned with the common practices of the global impact investing community. Key stakeholders from governments, the private sector and support organizations in both the Islamic and conventional impact investing spaces should be brought together to discuss critical bottlenecks, learn from best practices, establish relationships and benefit from cross-pollination of ideas and shared beliefs. A centre of excellence should be established to take the lead in positioning Islamic finance impact investing as part of the global dialogue on politically neutral, inclusive financial systems and to connect innovators and interested parties to raise awareness and encourage cooperation.

To further these recommendations, UNDP and the Islamic Development Bank established the Global Islamic Finance and Impact Investing Platform (GIFIIP) in 2016 to position Islamic finance impact investing as one of the leading enablers of SDG implementation around the world through private sector engagement. UNDP and the Islamic Development Bank aim to create a collaborative working space among stakeholders to address above-mentioned challenges, and nurture an Islamic finance impact investing business ecosystem.

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Practical Means of Integrating *Zakāt* and *Waqf* Into The Poverty Reduction Agenda of OIC Member Countries

by

Authors: Nasim Shah Shirazi, Salman Syed Ali and Mohammed Obaidullah

The majority of the OIC member countries fall in the low or lower-middle-income category. The countries with low income accommodate more poor, with high-income inequality, unemployment, and hunger. They are spending less on their health and the progress in education is slow as well. They have low access to finance. All these factors reinforce each other and consequently, these countries are not getting out of poverty.

Social assistance or social safety net programs of various countries focus on reducing poverty and income inequality, risk and vulnerability. It has been observed that each country has at least one social assistance program. Conditional and unconditional in-kind transfers are equally prevalent among low-income, middle-income, and upper-middle-income countries, while in-kind assistance and public works programs are dominant in low-income and lower-middle-income countries. The cash-based transfer programs are expanding and now reaching one billion people of the developing countries. More than 1.9 billion people of the developing countries are beneficiaries of social safety net programs. Among the types of social safety net programs, cash transfer programs account for over 50 percent of the beneficiaries.

Social assistance covers about one-third of the population of the OIC member countries. The average per capita transfer in OIC member countries is USD 0.40 (PPP, 2005) per day. It reduced the income inequality by about 2 percent, poverty headcount by about 6 percent and poverty gap by about 12 percent. The targeting efficiency is very low (0.24). In the countries where coverage of poor, the amount transferred and the targeting efficiency is higher, this resulted in a higher drop in the incidence of poverty and income inequality compared to countries where any one of the aforementioned factors was lacking. It has been observed that CCT is more effective in reducing poverty headcount and poverty gap when the lowest 20 percent of the population is targeted compared to its effect on the extremely poor. The effect of CT on the headcount reduction is almost zero in the case of OIC lowest quintile compared to OIC extreme poor (about 4 percent). The effect of in-kind programs on headcount reduction and poverty gap is minimal.

Some countries like Palestine, Malaysia, Syria, and Pakistan performed well in reducing the poverty gap by CCT in the range of 50 percent to 97 percent. Other countries including Azerbaijan, Kyrgyz Republic, Yemen, Iraq, Gabon, Senegal, and Maldives were above the OIC member countries' average (about 20 percent), and the rest of the OIC member countries lagged behind in implementing CCT successfully. As for the income distribution, the effect of various components of social assistance was minimal.

To achieve broad-based growth and poverty reduction, most of the developing countries set their own investment priorities within the framework of PRSP. Generally, PRSP focuses on pro-poor growth, human development, provision of the basic services and social safety nets, and good governance. Countries are allocating sufficient amounts, raised through internal and external resources, to the identified areas for achieving objectives of broad-based growth and poverty alleviation. As observed, countries spend a handsome amount on social services. However, almost no country has explored the untapped source of raising revenue from social finance (i.e., *Zakāt* and *waqf*) for social assistance and making it a part of pro-poor budgetary expenditures.

Zakāt and *waqf* are important sources of revenue for the social assistance, but the Muslim communities and countries have not taken these institutions seriously. The actual collection of *zakāt* in the countries where *zakāt* is compulsory or voluntary is an insignificant proportion of their GDP. However, if *zakāt* is collected to its potential then the majority of the OIC member countries could generate enough *zakāt* funds that would be sufficient for the poor defined under USD 1.9, while other countries could partially fulfill their poverty gap reduction targets. If the target is the poor defined under USD 3.10 then some countries can generate sufficient resources for the reduction of poverty from their countries, while the majority of the other countries can generate *zakāt* resources to full their poverty gap requirements partially. Assuming that an international fund is established to which *zakāt* surplus countries contribute their surplus, which is then distributed to fill the poverty gap in each resource deficit country. Then a surplus fund can be generated after meeting the requirements of all the poor defined under USD 1.9 per day and half of the poor can be covered by this fund if the poor are defined under USD3.1 a day.

Estimating potential of *waqf* is difficult due to lack of data. However, a rough estimate of the potential of *waqf* in the case of Indonesia shows that it can generate about 0.85 percent of the GDP. No doubt social finance is a significant source of fund that can be utilized for the social assistance of the poor. Nevertheless, the question is how social finance can be managed and channelized for the optimal benefits targeted to the poor.

Muslims are paying their *zakāt* on their own to the poor and to different charitable institutions. However, all these transactions are not passing through proper channels, are un-recorded, unplanned and not a part of any strategy. Therefore, one cannot assess the effectiveness of *zakāt* in poverty alleviation. The same is the case with the institution of *Awqāf*.

On the other hand, it has been observed that countries are providing resources for education, health, and other basic services, but this is for all people and general purpose. Poor people cannot take benefits of such allocations due to user fees. Countries may continue with the PRSPs but special attention is needed for the poor.

We suggest that the extremely poor and the poor may be identified and the funds collected from *zakāt* and *waqf* may be earmarked for the poor. They may be provided free education and health services. They may not be charged user fees or there may be cash (conditional or non-conditional), or in-kind transfers. This will prepare them for the future and increase their earning capabilities, which will become a source of smoothing aggregate demand and growth in the economies.

For their immediate needs and for the unexpected events a system of permanent safety nets for the extremely poor and the poor may be designed within the PRSP. There should be direct cash transfers to the extremely poor, which is more effective in the case of the extremely poor, and conditional cash transfer to the lowest quintile, which is more effective in this case.

For raising funds, it is suggested that *zakāt* should be compulsory and be implemented in its true spirit. For additional funds, a voluntary fundraising movement through other charities and *waqf* may be the priorities of the Muslim communities and countries. Experience has shown that the countries covering a larger portion of the poor and transferring sufficient amounts, at least equal to poverty gap, and having high targeting efficiency was able to reduce poverty and income inequality significantly. This experience may be applied for any effective poverty reduction program of the countries.

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ABSTRACTS OF ARTICLES PUBLISHED IN *DIRASAT IQTISADIAH ISLAMIAH* IN VOL. 23 No. 1

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نموذج النفقة والاعتدال حسب كتابات الشيباني

حسن بلقاسم غصان•

استخلاص

(Published in Dirasat Iqtisadiah Islamiah Vol. 23 No.1)

للعقيدة الإسلامية دور مهم في توجيه السلوك الاقتصادي، يتمثل في ربط الحياة الدنيا بالآخرة على مستوى الأفراد والمجتمعات، مما يبرز أهمية البعد الإيماني والأخلاقي في التحليل الاقتصادي الإسلامي. ويعتبر الثواب من أهم الحوافز لالتزام الفرد والمجتمع المسلم بضوابط القيم الإيمانية والأخلاقية تبعا للنصوص الشرعية من القرآن والسنة. وينشأ عن هذا الالتزام سلوكيات طلب الكسب الحلال والاعتدال في النفقة، لأهميته في تحقيق المنافع الحلال ذات الفلاح في الدنيا بالإشباع المادي وفي الآخرة بالثواب وعبر الابتعاد عن الإسراف والإقتار. ليس من الصواب تحليل منفعة المستهلك المسلم بالاعتماد فقط على الأدوات والفرضيات التقليدية السائدة في معظم البحوث، بل نعتمد كذلك على استقراء التراث العلمي في الاقتصاد الإسلامي للإمام الشيباني (750-805م، 131-189هـ)، الذي تناول تحليل الكسب والمنفعة الاستهلاكية والإنفاق الاجتماعي بأبعاد متعددة. ويتضح أن المستهلك السوي يرتب نفقاته طبقا للترتيب الثلاثي القائم على الكسب الواجب على الضروريات لتلبية المنفعة الواجبة، ثم على الحاجيات من الكسب المندوب للاستجابة للمنفعة المندوبة، ثم على التحسينات من الكسب المباح قصد المنفعة المباحة. وتتمثل مساهمة البحث أولا في تقدير مبدئي باستعمال

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متغيرات مساعدة لإيجاد متغير يدل على مستوى الاستهلاك الأخلاقي والاستهلاك غير الأخلاقي، الذي يتمثل في الإسراف والإقتار. ثانيا، نبين بالإضافة إلى أثر الزكاة، أن الكسب الحدي بدافع التكافل الاجتماعي له أثر على دالة الميل الحدي للاستهلاك الكلي ويرتبط أساسا بالفروق الأولى بين الميل الحدي للفئة الأقل كسبا والميل الحدي للفئة الأكثر كسبا، وبالنمو الاقتصادي. ثالثا، نعتبر الفئة الغنية لقدرتها على تناول كل طبقات المنفعة، وعلى افتراض أنها لا تسعى إلى تلبية المنفعة المباحة إلا جزئيا عبر معامل مدى الإيثار الشرعي. مما يجعل المنفعة الحدية المباحة، وتبعا لشكل دالة المصلحة الاجتماعية، ذات ارتباط بمدى التفاعل الإيماني للمستهلك الثري، الذي يتمثل في نقل قدرات شرائية فعلية نحو الفئة المستهدفة. ويحقق البعد الإيماني للفئة الغنية على أقصى حد مرونة نفعية أحادية أو تحت أحادية في الدنيا، بينما يولد لها متغيرة ذات أبعاد أخروية تتمثل في الثواب الذي يناله المسلم في الآخرة على الخصوص وفي دعم خفي ثوابا دنيويا. ويؤدي هذا الثواب إلى دالة منفعة دار القرار، التي يتولد عنها مرونة نفعية فوق أحادية.

الكلمات المفتاحية :الإيمان، الأخلاق، النفقة الاستهلاكية، المنفعة الحلال، الكسب الحلال، الشيباني، الاعتدال.

The Models of Expenditure and Moderation According to the Writings of Al-Shaybani

HASSAN BELKACEM GHASSAN≠

Abstract

The Islamic faith plays a very important role in guiding the economic behaviour. It links this life and the life of the hereafter at both the levels of individuals as well as societies. This highlights the importance of faith and moral dimensions in Islamic economic analysis. The reward is one of the most important incentives for the

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commitment of the individual and the Muslim community to the values of faith and ethics according to the legal texts of the Quran and Sunnah. This commitment stems from the behaviour of seeking halal gains and moderating expenditures and their importance in achieving falah (prosperity) through material satisfaction in this life and the reward of the hereafter by moving away from extravagance and stinginess. It is not right to analyse the utility of a Muslim consumer by relying only on the traditional tools and hypotheses prevailing in most researches. We need to rely also on the deductions that can be extrapolated from the Islamic economic heritage of Imam al-Shaybani (131-189H/750-805G), who dealt with the analysis of earning, consuming and arranging one's expenses according to the tripartite arrangement based on the necessities, comforts and luxuries. A rational consumer would prioritize his expenditure accordingly.

The contribution of this research is first, to estimate a variable that indicates the level of moral consumption and immoral consumption, and the level of extravagance and stinginess, using explanatory variables. Second, in addition to the effect of zakat, we show that the marginal gain due to social solidarity has an effect on the slope of the function of marginal total consumption and is mainly related to the differences between the marginal propensity of the less advantaged group and the marginal propensity of the more advantaged group and economic growth. Thirdly, we consider that the rich group are able to handle all kinds of utilities, assuming that it seeks to satisfy the permissible benefit only partially through the coefficient of legal altruism. This makes the permissible marginal benefit, depend on the function of the form of the social interest, which is related to the extent of the rich consumer's faith interaction, which is to transfer actual purchasing power to the target group. The religious dimension of the rich class achieves maximum utilitarian or monotonous flexibility in the world, while it generates a variable with an extra dimension, namely the reward that the Muslim receives in the Hereafter, particularly, and in the support of the hidden, worldly constants. This reward leads to the function of the decision-making utility, which gives rise to utilitarian supremacy.

Keywords: Faith, morality, consumer spending, halal benefit, halal gain, shaybani, moderation.

تنافسية عواصم الاقتصاد الإسلامي: التمويل الإسلامي نموذجاً

أهمية الاستفادة من القواعد الفقهية في مجال حماية البيئة

د. عادل عبدالرشيد غلام

الملخص

تناول البحث أبعاد العلاقة بين القواعد الفقهية وحماية البيئة، موضحاً إمكانية استفادة الثانية من الأولى. وقد تم في البحث التعرف على نماذج من القواعد الفقهية ذات الارتباط بمجال حماية البيئة، وأمثلة على تطبيقها في التراث الإسلامي، وذلك في سبيل إعادة الاستفادة من هذه القواعد في مجال حماية البيئة في العصر الحديث.

The Importance of Benefiting from the Rules of Jurisprudence in the Field of Protecting the Environment

ADEL ABDUL RASHID GHULAM

Abstract

The study deals with the dimensions of the relationship between jurisprudential rules and environmental protection. It explains the possibility of the latter benefiting from the first. The study has also identifies examples of jurisprudential rules related to the field of environmental protection, and examples of their application in the Islamic heritage, in order to re-use these rules in the field of environmental protection in modern times.

تنافسية عواصم الاقتصاد الإسلامي: التمويل الإسلامي نموذجاً*

د. فضل عبدالكريم محمد البشير•

المستخلص

يهدف هذا البحث إلى تحديد ملامح عاصمة الاقتصاد الإسلامي: التمويل الإسلامي نموذجاً، في ضوء التنافس القائم حالياً بين أربع عواصم مختلفة هي: لندن، وكوالالمبور، ودبي، والمنامة، من خلال العرض والتحليل والدراسة لتوجه هذه العواصم الأربعة نحو الاقتصاد والتمويل الإسلامي؛ وإضافتها لهذا لقطاع إلى القطاعات الاقتصادية الأخرى في هذه الدول، في ضوء الأبعاد المختلفة التي أدخلها مفهوم التنافسية على صناعة الخدمات المالية الإسلامية؛ مما شكل واقعاً متجدداً يسعى نحو تطوير هذه الصناعة. يتناول البحث بالعرض والتحليل والمناقشة تنافسية التمويل الإسلامي في هذه العواصم الأربع، ويحلل مكوناته المتعددة؛ من حيث حجم الأصول المصرفية، والصكوك الإسلامية، والصناديق الاستثمارية، والتأمين التكافلي، والمؤسسات العلمية والعملية الفاعلة والداعمة لهذه الصناعة. كما يناقش البحث الدعم الحكومي الذي تقدمه حكومات هذه الدول، والمبادرات المختلفة التي تتبناها لجعل الاقتصاد والتمويل الإسلامي رافداً جديداً معززاً لدور القطاعات الاقتصادية الأخرى في تحقيق النمو والتميز والابتكار وتطوير المجتمعات؛ في ظل الإقبال الكبير على منتجات الصناعة المالية الإسلامية. ويسعى البحث للوصول إلى نتائج تساهم في إبراز قدرات العواصم المتنافسة على قيادة الاقتصاد الإسلامي عبر استخدام مؤشر تطور التمويل الإسلامي في قطاعاته المختلفة الصادر عن

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* أتوجه بخالص بالشكر والتقدير للمحكمين اللّذَيْنِ أبديا ملاحظات قيمة، أفدت منها في تحسين هذه الورقة. ويتحمل الباحث وحده مسؤولية ما ورد فيها من آراء.

• معهد الاقتصاد الإسلامي – جامعة الملك عبدالعزيز

مؤسسة تومسون رويترز، والمؤسسة الإسلامية لتنمية القطاع الخاص، في مجال التطور الكمي في التمويل الإسلامي والتعليم، والحوكمة، والمسؤولية الاجتماعية، والوعي والمعرفة بقطاع التمويل الإسلامي، للتمييز بين أفضل عواصم الاقتصاد الإسلامي.

الكلمات المفتاحية: التنافسية، عواصم الاقتصاد الإسلامي، التمويل الإسلامي، الاقتصاد الإسلامي

Abstract≠

This research aims to highlight key features of the four important cities (London, Kuala Lumpur, Dubai, and Manama) that are competing to become hubs of Islamic economics and finance activities. The paper analyzes the differences among these hubs in their orientation towards Islamic economics and their financial intermediation models. The competitiveness of Islamic finance among these four hubs is evaluated in terms of multiple components, these included: banking assets, Islamic instruments, investment funds, takaful insurance, and the existence of knowledge and practice institutions that provide active support to the industry. In addition, it discusses the support that the governments of these countries offer and the various initiatives adopted to render Islamic economics and finance as a new arm to enhance the role of other economic sectors in achieving growth, innovation and development of communities. The paper also evaluates the leadership role of these Islamic finance hub cities by using the ICD-Thomson Reuters Islamic Finance Development Indicators (IFDI) that look at five key dimensions for the development of the Islamic finance industry, namely: quantitative development , knowledge, governance, corporate social responsibility, and awareness.

Keywords: competitiveness, the capitals of Islamic economics, Islamic finance, Islamic economics.

≠ Summary of the Arabic abstract.

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This book of readings provides fruitful policy recommendations on various financial development issues in the Arab World such as operational efficiency and service quality in banking. It also examines different aspects related to stock markets development such as efficiency, volatility, hedging, and returns

Actes de Séminaires

☐ **L'ORGANISATION ET LE FONCTIONNEMENT DU CONSEIL MALAIS DE DIRECTION DES PELERINS ET DU FONDS DU PELERINAGE (1987),** 109 pages — **Prix $ 10.00**

Comme institution consacrée à l'organisation du pèlerinage, TABUNG HAJI (Conseil de Direction des Pèlerins) a servi comme modèle type à cette journée d'étude.

☐ **L'ADMINISTRATION PUBLIQUE DANS UN CONTEXTE ISLAMIQUE (1995),** 150 pages — **Prix $ 10.00**

Yassine Essid and *Tahar Mimm, (éd.)*

Outre l'histoire de l'administration en Islam, cet ouvrage traite de nombreux aspects tant théoriques que pratiques de l'administration d'un point de vue islamique et qui touchent à l'actualité du monde islamique.

☐ **LA ZAKĀT: ASPECTS JURIDIQUES, ECONOMIQUES ET SOCIAUX (1995),** 248 pages — **Prix $ 20.00**

Boualem Bendjilali and *Mohamed Alami (éd.)*

Actes de séminaire sur LA ZAKĀT dont l'objectif est d' ouvrir de nouvelles voies à la reflexion et de faire connaître les concepts, la méthodologie et les principes de base de la collecte et de la répartition de la Zakāt.

☐ **DEVELOPPEMENT D'UN SYSTEME D'INSTRUMENTS FINANCIERS ISLAMIQUES (1995),** 328 pages — **Prix $ 20.00**

Mohamed Ariff and *M.A. Mannan* (éd.)

Actes de séminaire dont l'objectif principal était d'identifier les voies et moyens pour l'émission d'instruments financiers islamiques viables qui pourraient préparer le terrain à une mobilisation efficace des ressources financières dans les pays membres de la BID.

☐ **INTRODUCTION AUX TECHNIQUES ISLAMIQUES DE FINANCEMENT (1997),** 210 pages — **Prix $ 20.00**

Actes de séminaire don't l'objectif principal était d'offrir aux cadres supérieurs des pays francophones membres de la BID une introduction d'ordre théorique et pratique sur les modes de financement islamiques utilisés par les banques et les institutions financières islamiques.

☐ **CONFERENCES EN ECONOMIE ISLAMIQUE (1996),** 555 pages **Prix $ 20.00**
Ausaf Ahmed and *Kazim Awan*
Actes de séminaire dont l'objectif principal est de servir comme outil de base pour les étudiants et aux enseignants en économie islamique.

☐ **LE DEVELOPPEMENT DURABLE, (1997),** 256 pages **Prix $ 20.00**
Taher Memmi (éd.)
Actes d'un séminaire sur le développement durable qui présente, entre autres, la stratégie en cette matière de quelques pays membres de la BID.

☐ **PROMOTION ET FINANCEMENT DES MICRO-ENTREPRISES (1997),** 187 pages **Prix $ 10.00**
Taher Memmi (éd.)
Actes de séminaire sur la promotion et financement des micro-entreprises qui peuvent être utiles à tous ceux, décideurs, hommes et femmes du terrain, soucieux de faire de la micro-entreprise un outil efficace et durable de lutte contre la pauvreté.

☐ **LA ZAKĀT ET LE WAQF : ASPECTS HISTORIQUES, JURIDIQUES, INSTITUTIONNELS ET ECONOMIQUES (1998),** 387 pages **Prix $ 20.00**
Boualem Bendjilali (éd.)
Actes de séminaire qui visent à faciliter l'accès des lecteurs francophones à la littérature sur l'économie islamique en général et la Zakāt et le Waqf en particulier.

☐ **LES MODES DE FINANACEMENT ISLAMIQUES (1993)**, 48 pages **Prix $ 10.00**
Boualem Bendjlali (éd.)
Rapport d'un séminaire sur les modes de financement islamiques tenu en Mauritanie en 1413H (1992).

☐ **LES SCIENCES DE LA CHARI'A POUR LES ECONOMISTES: LES SOURCES DU FIQH, SES PRINCIPES ET SES THEORIES; LE FIQH DES TRANSACTIONS FINANCIERES ET DES SOCIETES; ET SON APPLICATION CONTEMPORAINE (2001),** 572 pages **Prix $ 25.00**
Boualem Bendjilali (éd.)
Actes de séminaire sur les sciences de la Chari'a pour les économistes dont l'objectif principal est de servir comme outil de base aux chercheurs, étudiants et enseignants en économie islamique sur les sources du *Fiqh.*

Recherches

☐ **LA COOPERATION ECONOMIQUE ENTRE LES PAYS DU MAGHREB (1985),** 138 pages **Prix $ 10.00**
Ridha Saadallah
Cet ouvrage traite de nombreux thèmes dont les ressources naturelles et humaines au Maghreb, le potentiel de coopération agricole et industrielle au Maghreb, etc.

☐ **PROFITS ET INTERETS BANCAIRES ENTRE L'ANALYSE ECONOMIQUE ET LA CHARI'A (1994),** 150 pages **Prix $ 10.00**
Abdelhamid El-Ghazali
Cet opuscule traite de l'intérêt bancaire face au profit en tant que mécanismes de gestion de l'activité économique. Une analyse de deux points de vue différents, celui de l'économie conventionnelle et celui de la Chari'a.

☐ **LA MOUDHARABA SELON LA CHARI'A ET SES APPLICATIONS CONTEMPORAINES (1994),** 83 pages — **Prix $ 10.00**
Hassan El-Amin
Cette étude traite de nombreux aspects pratiques: légal, économique et bancaire.

☐ ***JOUALA* ET *ISTISNA,*** — **Prix $ 10.00**
***Analyse juridique et économique* (1994) ,** 65 pages
Chaouki Ahmed Donia
L'intérêt de cette recherche réside dans le fait qu'elle aborde un nouveau domaine d'application des transactions économiques islamiques se basant sur deux contrats, à savoir "La Jouala et L'Istisna".

☐ **LA PROPRIETE FONCIERE EN ISLAM (1994) *(Enquête),*** 52 pages — **Prix $ 10.00**
Mahmoud A. Guilaid
Le but de cette étude est d'examiner les questions les plus importantes concernant le droit de propriété foncière en Islam.

☐ **LES RELATIONS COMMERCIALES ENTRE LE CONSEIL DE COOPERATION DU GOLFE ET LA COMMUNAUTE EUROPEENNE (1995),** 152 pages, — **Prix $ 10.00**
Du Passé Récent au Lendemain de 1992
Ridha Mohamed Saadallah
Cette étude procède à une analyse minutieuse des statistiques passées, des échanges commerciaux entre les pays du CCG et ceux de la Communauté Européenne en vue de dégager les tendances profondes et les caractéristiques structurelles du commerce Euro-Golfe.

☐ **ERADICATION DE LA PAUVRETE ET DEVELOPPMENT DANS UNE PERSPECTIVE ISLAMIQUE (1995),** 180 pages — **Prix $ 10.00**
Abdelhamid Brahimi
Cette recherche, divisée en deux parties, traite dans la première des facteurs internes et externes de blocage et de l'impasse. La seconde est consacrée à la conception et à la mise en oeuvre de politiques économiques dans une perspective islamique.

☐ **JUGEMENT DU TRIBUNAL FEDERALISLAMIQUE DU PAKISTAN RELATIF A L'INTERET *(RIBA)* (1995),** 478 pages — **Prix $ 25.00**
Ce document constitue un outil de travail et une référence indispensables à tous ceux, parmi les décideurs politiques et chercheurs dans les pays membres de la Banque, qui sont désireux de voir se développer l'alternative d'un système financier exempt d'intérêt.

Eminents Spécialistes

☐ **LES CONDITIONS MONETAIRES D'UNE ECONOMIE DE MARCHES DES ENSEIGNEMENTS DU PASSE AUX REFORMES DE DEMAIN (1993),** 64 pages — **Prix $ 10.00**
Maurice Allais (Prix Nobel d'Economie - 1988)
L'auteur, dans son examen, critique du système monétaire international, appelle à des réformes tant économiques que morales.

☐ **JURISPRUDENCE DE LA *MAṢLAḤAH* ET SES APPLICATIONS CONTEMPORAINES (1995),** 92 pages — **Prix $ 10.00**
Hussein Hamed Hassan
L'étude, présente le point de vue islamique se rapportant à la question de l'intérêt publique, son lien avec la législation, ses conditions et ses dimensions juridiques; avec un certain nombre d'applications contemporaines.

☐ **JURISPRUDENCE DE LA NECESSITE (*FIQH* DE LA *DHARURA*) ET SON APPLICATION DANS LA VIE CONTEMPORAINE : PERSPECTIVE ET PORTEE (1996),** 259 pages — **Prix $ 20.00**
Abd al-Wahab I. Abu Sulayman
Cette recherche sur le *Fiqh de la Ḍarūrah* aborde le point de vue de la Chari'a islamique par rapport à la notion de *Ḍarūrah* (nécessité), ses conditions et ses perspectives juridiques.

☐ **COOPERATION ECONOMIQUE POUR UNE STABILITE REGIONALE (1996),** 37 pages — **Prix $ 10.00**
Bacharuddin Jusuf Habibie
Cet ouvrage porte sur l'importance coopération économique entre les pays en développement en général et entre les pays islamiques en particulier.

☐ **LE QIYAS ET SES APPLICATIONS CONTEMPORAINES (1996),** 139 pages — **Prix $ 10.00**
Mohamed Mokhtar Sellami
Uni conférence qui traite de l'une des sources de la jurisprudence, reconnue dans la science des fondements du droit sous le nom d'analogie (Qiyâs) et reconnue par l'ensemble des écoles juridiques comme preuve légale et méthode d'extraction des jugements.

Prix de la BID

☐ **LE SYSTEME BANCAIRE ISLAMIQUE : LE BILAN, (1996),** 65 pages — **Prix $ 10.00**
Ziauddin Ahmed
Le but de ce papier est d'examiner et d'évaluer la situation actuelle dans le domaine des banques islamiques aussi bien du point de vue théorique que pratique.

☐ **QU'EST-CE QUE L'ÉCONOMIE ISLAMIQUE? (1996),** 81 pages — **Prix $ 10.00**
Mohammad Umer Chapra
Conférence donnée par Dr. Chapra lauréat du Prix de l'économique islamique 1409H (1989) sur : l'économie conventionnelle et l'économie islamique.

☐ **EVOLUTION DES ACTIVITES BANCAIRES ISLAMIQUES: PROBLEMES ET PERSPECTIVES (1998),** 30 pages — **Prix $ 10.00**
Saleh Kamel
Conférence donnée par Cheikh Saleh Kamel lauréat du Prix de la BID en système bancaire islamique pour l'année 1416H (1995/96). Elle constitue une grande contribution à la compréhension de l'économie et du système bancaire islamiques et à leur évolution.

Traductions

☐ **VERS UN SYSTÈME MONÉTAIRE JUSTE, (1997),** 352 pages **Prix $ 20.00**

Mohammad Umer Chapra

Ce livre développe avec habilité la logique islamique de la prohibition du *Riba*, et démontre avec rigueur la viabilité et la supériorité du système de financement basé sur la participation au capital.

Documents occasionnels

☐ **DEFIS AU SYSTEME BANCAIRE ISLAMIQUE, (1998),** 90 pages **Prix $ 10.00**

Munawar Iqbal, Ausaf Ahmad et Tariquallah Khan

Le but de ce document occasionnel est que les théoriciens et praticiens dans le domaine bancaire islamique doivent explorer les voies et moyens permettant au système bancaire islamique de soutenir son rythme de progrès au moment où il entre dans le 21ème siècle.

TRANSLITERATION TABLE

Arabic Consonants

- Initial, unexpressed medial and final:

ء	’	د	d	ض	d	ك	k
ب	b	ذ	dh	ط	t	ل	l
ت	t	ر	r	ظ	z	م	m
ث	th	ز	z	ع	[	ن	n
ج	j	س	s	غ	gh	هـ	h
ح	h	ش	sh	ف	f	و	w
خ	kh	ص	s	ق	q	ي	y

- Vowels, diphthongs, etc.

Short	َ	a	ِ	i	و	u
Long	أ	a	ي	i	و	u
Diphthongs	ؤ	aw	ئ	ay		

Notes To Contributors

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7. Detailed derivations of the main mathematical results reported in the text should be submitted separately. These will not be published.
8. References should be listed at the end of the text in the following style:
9. Articles: Al-Qari, Mohamed Ali (1993), "Towards an Islamic Stock Market", *Islamic Economic Studies*, Vol. 1, No. 1; Books: Khan, A. R. (1993), *Financial Intermediation*, New York: Springer Publishers. Page references to works referred to in the text should take the following form: Al-Qari (1993:17). Citations within the text should follow Harvard APA style.
10. The verses of the Qur'ān quoted should carry *surah* number and *ayah* number as (3:20).
11. Complete reference to the source of aḥādīth quoted should be given.
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