



DISCUSSION FORUM

THE FINANCIAL CRISIS: COMMENTS FROM ISLAMIC PERSPECTIVES

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I plan to summarize the discussion of my three eminent colleagues along the following framework (incorporating the Islamic perspective): (i) What is the root cause of the current subprime crisis? (ii) What is the impact of the crisis on the global economy? and (iii) What lessons do we derive from the ongoing crisis to restructure the Islamic financial architecture and to improve the economic status of the underprivileged? All three colleagues discuss issues (i) and (iii). Dr. Chapra is the only exception shedding some light on issue (ii). My perspective is slightly different from all three, as I have been trained as a theorist in financial economics especially focusing on the twin issues of asset pricing and financial contracting. I will therefore emphasize on the areas of my expertise and not comment on issues relating specifically to monetary economics, where I have no exposure. Likewise, I will not comment on the issue of *bay' al-dayn* (sale of debt), which is highly debatable and needs to be re-analyzed in the light of the Qur'ān, *Sunnah* and modern financial economics.

1. WHAT IS THE ROOT CAUSE OF THE SUBPRIME CRISIS?
 - a. Both Dr. Chapra and Dr. Siddiqi attribute the root cause of the crisis to the fragility of the *ribaw* system. This was further exacerbated by the expansion of credit due to excessive liquidity and imprudent lending (resulting in high leverage ratios stemming from poor underwriting standards).

- b. Another reason pointed out by all three colleagues is the moral hazard created by financial innovation, namely securitization. In other words, this involved a very controversial issue of *bay'at-dayn*. This was supposed to distribute (or shift) risk from those unwilling (or unable) to bear it to those willing. It was done in conjunction with the use of derivatives (Credit Default Swaps - CDSs).
- c. All three colleagues advance other reasons for the crisis described as follows: (i) The lax regulatory environment (Dr. Mirakhor); (ii) Moral hazard in the financial system in the form of "Too big to fail concept," which enabled financial executives to increase the risk exposure of their respective institutions (Dr. Chapra); (iii) Agency perspective (conflict) of interest of heterogeneous economic agents leading to "moral failure" (Dr. Siddiqi).

I have been following the crisis quite closely, as we (in the United Kingdom) have faced the brunt of its spillover, starting with the collapse of Northern Rock PLC. My observation is that the crisis is quite unique, as it constitutes a classic market failure explained below.

Increasing home ownership is a very crucial public policy issue as it serves as a savings vehicle to increase wealth (i.e., reduce poverty) and enhance the social environment of the community (see my working paper, *Can an Islamic Home Financing Model Enhance the Economic Status of the Underprivileged?*).¹ Financing a home for the subprime borrowers (i.e., individuals with sketchy credit history or those who are financially strapped and/or lack adequate income) poses a dilemma in an efficient financial market. The wizards on Wall Street figured out an innovative way (which turned out to be disastrous) to get the financially strapped individuals to qualify for a home loan. This innovative way was a negatively amortized adjustable rate mortgage with an initial low 'teaser' rate. This was supposed to help these borrowers get on the housing ladder and establish some credit history to qualify for refinancing with a fixed interest mortgage. The implicit assumption was that the eventual appreciation of the home would bail out the borrower, despite the increase in principal (due to negative amortization).

Unfortunately, the opposite happened, and not only did payments drastically increase with the end of the introductory teaser rate but home prices fell too. This made it difficult for these borrowers to keep up with their payments. Also, they could not refinance their homes, as

their meagre savings in the form of home equity had reduced substantially. They had no option but to default. It is estimated that around 9 million American families have lost their homes through foreclosures. This has impacted on the global financial system, as elaborated below in Section 2. My rationale behind the crisis is quite different from that espoused by my eminent colleagues as it is based on a market failure mentioned above and described in detail in Section 3. I do accept the fact that: (i) the fragility of the financial system stems from the very nature of *ribaw* contracts; (ii) the regulatory environment prior to the crisis was quite lax; (iii) moral hazard on the part of mortgage originators also played a part in the crisis, as it encouraged careless lending and allowed originators to get around their reserve capital requirements by increasing their leverage (the ‘originate and distribute’ model); (iv) fraud too played a minor part in the system; and (v) credit guarantees in the form of CDSs proved worthless, as the guarantors themselves did not have adequate capital reserves backing their risk exposure or had reserves in assets (such as Collateralized Debt Obligations - CDOs) whose value deteriorated due to endemic *gharar* based on slicing of the CDOs in tranches using endogenous leverage.

2. WHAT IS THE IMPACT OF THE CRISIS ON THE GLOBAL ECONOMY?

Dr. Chapra describes the crisis resulting in the failure of a number of banks leading to uncertainty and a credit crunch. This has led to a tightening of credit to firms in other industries. There is also a fear that this crisis may culminate into a severe recession leading to defaults of firms in the real sector as well as the financial sector of the economy.

My view is similar to that of Dr. Chapra (see again my working paper described above). I conceptualize the crisis as leading to the increase in supply of homes for sale (due to re-possession), thereby depressing the prices of property in the adjoining locality. This has repercussions for both the real sector as well as the financial sector.

In case of the real sector, the excess supply of homes has frozen the construction sector, sales of durable goods and ultimately the manufacturing sector. Furthermore, the economic contraction (emanating from the U.S.) has impacted on the global economy through a reduction in trade, investment and remittances, leading to an environment of more protectionism. Finally, the decline in the value of

the U.S. dollar has given way to the twin crisis of commodity and food inflation, destabilizing the existing global social order.

In case of the financial sector, the reduction in value of underlying collateral (i.e., homes) has resulted in huge losses on bonds associated with these subprime mortgages, devastating the capital base of financial institutions across the globe. The ensuing credit crunch (originating from the refusal of banks to lend) has led to the tightening of credit to firms in other industries. This is anticipated to lead to a major recession similar to the Great Depression of 1929. The anxiety has led to a decline in value of assets across the globe, increased capital market volatility and is expected to “crimp” global growth. The International Monetary Fund estimates that total losses to reach \$2.2 trillion.²

3. WHAT LESSONS DO ISLAMIC ECONOMISTS DERIVE FROM THIS CRISIS?

This credit crisis is quite different from the typical banking crisis, which ensues from *riba* debt. Dr. Mirakhor has done an excellent job of illustrating the instability of the *riba* system to: (i) lack of coordination between savings and investments (Keynes, 1931); and (ii) fragility due to the fixed nature of claims (Minsky, 1936). Nonetheless, I feel that this crisis has emanated from a market failure. This is because financial innovation, which was meant to enable the underprivileged to have access to the housing ladder (in order to force them to save, reduce poverty and put their roots in a community to grow with it), failed them. This goal of enabling access to financial services for the underprivileged, is synonymous with that of Muslim policy makers as elaborated in a *uadah* conveyed via an advice given by Abū Maryam al-Azdi to Muʿawiyah bin Abū Sufyan.³

“I heard the Apostle of Allah (pbuh) say: If Allah puts anyone in the position of authority over the affairs of Muslims, and he secludes himself (from them), not fulfilling their needs, wants and poverty, Allah will keep Himself away from him, not fulfilling his need, want and poverty.”

The above necessitates careful configuration of the Islamic financial architecture to:

- (i) not only make the financial system more resilient to shocks; but also
- (ii) to integrate the institutions of *zakāh*, *sadaqah* and *awqāf* into the Islamic financial intermediation system.

With respect to (i) above, all my three eminent colleagues have discussed the issues from the perspective of the two-tier *muḥrabah* model of Uzair (1955).⁴ However, it is not feasible to use the classic *muḥrabah* facility due to adverse selection, moral hazard, lack of corporate governance, strong institutions etc.⁵ Thus, the key issue here is how to revive the resilient *muḥrabah* facility in the contemporary era? This involves a joint *ijtihād* between the *ʿulamā*, the academics and the practitioners. The rationale behind the need for the joint *ijtihād* is due to the fact that finance is a technical field and is supported by the following practices of the Prophet (pbuh), as narrated in the following examples:

فَاعْفُ عَنْهُمْ وَاسْتَغْفِرْ لَهُمْ وَشَاوِرْهُمْ فِي الْأَمْرِ

“So pardon them, and ask (Allah’s) forgiveness for them; and consult them in the affairs.” (Al-Qur’ān, 2:159)

The Messenger of Allah (pbuh) used to ask his Companions for advice about various matters, to comfort their hearts, and so that they actively implemented the decision they reached. For instance, before the battle of Badr, the Prophet (pbuh) asked his Companions if Muslims should intercept the caravan (led by Abū Sufyān). They said:

“O Messenger of Allah! If you wish to cross the sea, we would follow you in it, and if you march forth to Barkul-Ghimad we would march with you. We would never say what the Children of Israel said to Mōsa, ‘So go, you and your Lord, and fight you two, we are sitting right here.’ Rather, we say march forth and we shall march forth with you; and before you, and to your right and left shall we fight.”

The Prophet also asked them for their opinion about where they should set up camp at Badr. Al-Mundhir bin ‘Amr suggested to camp close to the enemy, for he wished to acquire martyrdom. Similarly he (pbuh) consulted the *ṣaḥābah* in matters of battle such as that of Uhud,

Khandaq etc. He even consulted them in his personal matters such as that of *Ifk* (i.e. the false accusation on his wife Aisha).

3.1 ADITH, MUSLIM: CHAPTER 986, NO. 5831⁶

“It is obligatory to follow the Prophet (pbuh) in all matters pertaining to religion, but one is free to act on one’s opinion in matters pertaining to technical skill.”

“Rafi’ b. Khudayj reported that the Prophet (pbuh) saw the people grafting the trees when he migrated to Medina. He inquired: What are you doing? They replied: We are grafting them, whereupon he expressed his disapproval by saying: It may be good for you if you do not do that, so they abandoned this practice, (and the date-palms) began to yield less fruit. They made a mention of it (to the Prophet), whereupon he said: I am a human being, so when I command you about a thing pertaining to religion, do accept it, and when I command you about a thing out of my personal opinion, keep in mind that I am a human being. ‘Ikrimah reported that he said something like this”

It should be noted that I am regarding the *‘ulamā* as successors of the Prophet (pbuh). However, the above hadith clearly indicates that in matters dealing with technical issues of ‘worldly life’, this may not be necessary as it is not in their expertise. What may be more meaningful is group *ijtihād* or *ijtihād* through mutual consultation, where those with different expertise, share their views and a truly joint decision is made.

I have attempted to initiate the revival of the *muḥārabah* facility in my 1999 paper titled “Integrating Islamic and Conventional Project Finance.”⁷ In this paper, I conceptualized a *muḥārabah* as a participating preferred stock, which is malleable in the two dimensions of return and risk. However, I believe that so far I have merely scratched the surface. It pales in comparison to what remains to be done. To conclude issue (i), I wish to state that the above exercise needs to be continued to evaluate efficient financial instruments and institutions catering to different markets (as elaborated in the discussion for issue (ii) below). This approach is consistent with the view of T.J. Al-Alwani, who espouses that a joint *ijtihād* needs to be undertaken by the *‘ulamā* and

the specialists (academics, practitioners) in his 1997 paper titled “The Role of *Ijtihād* in the Regulation and Correction of Capital Markets.”⁸

With respect to issue no. (ii), we must integrate our charitable institutions with the Islamic financial intermediation system to uplift the economic status of the underprivileged. This is in line with the view of Dr. Chapra. An example of this is given in my working paper described above. In an efficient financial market, it is difficult to have affordable mortgages for the poor. That is, the mortgages using the traditional facilities of *murāba‘ah* and *ij‘rah* would be priced so high that the underprivileged would have no access to an indispensable asset such as a home. This would hinder them from putting their roots in a community for their economic upliftment and social growth. The Islamic alternative to this is a *al-qar‘ al-ūsan* mortgage through a cooperative funded with *ṣadaqah*. I have thus initiated the process of integrating the institution of *ṣadaqah* into the Islamic financial intermediation system by proposing a cooperative home mortgage for the underprivileged (using *al-qar‘ al-ūsan*). This illustrates that the Islamic framework offers a better solution than the *ribawī* one.

To conclude my comments, I wish to highlight one more essential issue. That is, we need to have an institutional framework (termed as scaffolding by Dr. Mirakhor), where property rights, sanctity of contracts, appropriate governance, trusts as well as right values etc., are in place and operational. This will allow the *Ummah* not only to flower economically, but also spiritually. This perspective is also in accordance with the *Sunnah* as the Prophet (pbuh) has been reported by Aisha to seek Allah’s refuge from the affliction of poverty.

Narrated by ‘Aisha:

The Prophet (pbuh) used to say: “O Allah! I seek refuge with You from the affliction of the Fire, the punishment of the Fire, the affliction of the grave, the punishment of the grave, and the evil of the affliction of poverty. O Allah! I seek refuge with You from the evil of the affliction of al-masi‘ al-Dajjal, O Allah! Cleanse my heart with the water of snow and hail, and cleanse my heart from all sins as a white garment is cleansed from filth, and let there be a far away distance between me and my sins as You made the East and West far away from each other. O Allah! I seek refuge with You from laziness, sins, and from being in debt.”⁹

From the above úadŷth, it is very clear that while Islam promotes improving one's economic condition, it has to be done within a framework of good values and good economic/business practices.

ENDNOTES

1. See *Nottingham University Business School Research Paper No. 2008-04*. This paper can be downloaded from the following website: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1302922
2. See Wolf, M., 2009, Why Obama 2s New TARP Will Fail to Rescue the Banks. *Financial Times* (February 11), 13.
3. See *Sunnān Ab ́ DŪwud*, Translated by Ahmad Hasan, 1985, Vol. 2, Chapter 1101, Book 13, ū adŷh No. 2942. New Delhi, India: Al-Madŷnah Publications Pvt. Ltd., p. 832.
4. See Uzair, M., 1955, *An Outline of Interest-less Banking*, Karachi: Idaratul Ma'arif.
5. See El-Gamal Mahmoud, (2006), *Islamic Finance: Law, Economics and Practice*, Cambridge: Cambridge University Press, pp. 167-170; and Iqbal, Zamir and Abbas Mirakhor, (2007), *An Introduction to Islamic Finance*, Singapore: John Wiley and Sons (Asia) Pte. Ltd., pp. 149-170.
6. See *ŕauŷŷ Muslim*, Translated by Abdul Hameed Siddiqui, 1986, Volume 4, Chapter 986, ū adŷh No. 5831, New Delhi: Kitab Bhavan, p.1259.
7. *Thunderbird International Business Review*, Volume 41 (4/5), pp. 583-609.
8. *American Journal of Islamic Social Sciences*, 14(3), pp. 39-66.
9. See *ŕauŷŷ BukhŪrŷ*, Translated by Muhammad Muhsin Khan, 1987, Volume 8, Book 75, ū adŷh No. 388. New Delhi: Kitab Bhavan, p. 258.

THE GLOBAL FINANCIAL CRISIS: CAN ISLAMIC FINANCE HELP?

M.Umer Chapra

1. INTRODUCTION

The whole world is now in the grip of a financial crisis which is far more serious than any experienced since the Great Depression. There are fears that this crisis may have exposed the world economy to a long period of economic slowdown. There is, hence, a call for a new

architecture that would help minimize the frequency and severity of such a crisis in the future.

2. PRIMARY CAUSE OF THE CRISIS

It is not possible to design a new architecture without first determining the primary cause of the crisis. The generally recognized most important cause of almost all crises has been excessive and imprudent lending by banks. There are three factors that allowed this: inadequate market discipline in the financial system resulting from the absence of profit and loss sharing (PLS); the mind-boggling expansion in the size of derivatives, particularly credit default swaps (CDSs); and the “too big to fail” concept which tends to give an assurance to big banks that the central bank will definitely come to their rescue and not allow them to fail (Miskhin, 1997, pp. 61-62).

The false sense of immunity from losses that all these factors together provide, introduced a fault line in the financial system. Banks did not, therefore, undertake a careful evaluation of loan applications, leading to the following: an unhealthy expansion in the overall volume of credit; excessive leverage; 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

3. THE SUBPRIME MORTGAGE CRISIS

The subprime mortgage crisis in the US is a classical example of excessive and imprudent lending. Securitization or the “originate-to-distribute” model of financing has played a crucial role in this. The creation of collateralized debt obligations (CDOs) by mixing prime and subprime debt 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 (Mian and Sufi, 2008, p. 4). Consequently loan volume gained greater priority over loan quality and the amount of lending to subprime borrowers and speculators increased steeply. The check that market discipline and prudent supervision could have exercised on the serving of self-interest did not come into play.

The result is that a number of banks have either failed or have had to be bailed out or nationalized by the governments in the US, in Europe

and in a number of other countries. This has created uncertainty in the market and led to a credit crunch, which made it hard for even healthy banks to find financing. There is a lurking fear that this might be only the tip of the iceberg and a lot more may follow if the crisis causes a prolonged recession.

When there is excessive and imprudent lending and lenders are not confident of repayment, there is an excessive resort to derivatives like credit default swaps (CDSs) to seek protection against default. The buyer of the swap (creditor) pays a premium to the seller (a hedge fund) for the compensation he will receive in case the debtor defaults. If this protection had been confined to the actual creditor, there may not have been any problem. What happened, however, was that hedge funds sold the swaps not to just the actual lending bank, but also to a large number of others who were willing to bet on the default of the debtor. These swap holders, in turn, resold the swaps to others. While a genuine insurance contract indemnifies only the actually insured party, in the case 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 (including CDSs of \$54.6 trillion) is currently estimated by the Bank for International Settlements (BIS) to be \$600 trillion, more than 10 times the size of the world economy (BIS, September 2008, p. 20).

4. THE ISLAMIC FINANCIAL SYSTEM

One of the most important objectives of Islam is to realize greater justice in human society. According to the Qur'ān, a society where there is no justice will ultimately head towards decline and destruction (Al-Qur'ān, 57:25). Justice requires a set of rules or moral values, which everyone accepts and faithfully complies with. The financial system may be able to promote justice if, in addition to being strong and stable, it satisfies at least two conditions based on moral values: the financier should also share in the risk with the entrepreneur; and an equitable share of financial resources mobilized by financial institutions should become available to the poor to help eliminate poverty, expand employment and self-employment opportunities, thus, help reduce inequalities of income and wealth.

The first condition 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. 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 like Prof. Rogoff of Harvard University (Rogoff, 1999, p. 40).

Greater reliance on equity does not necessarily mean that debt financing is ruled out. While debt (and its sale) is important, it should *not* be promoted for non-essential and wasteful consumption and unproductive speculation. The Islamic financial system does not allow the creation of debt through direct lending and borrowing. It rather requires the creation of debt through sale- and lease-based modes of financing (*murāba'ah*, *ijārah*, *salam*, *istiṣnāʿ* and *ṣukūk*). Subject to the following conditions:

1. The asset which is being sold or leased must be *real*, and not imaginary or notional;
2. The seller or lessor must own and possess the goods being sold or leased;
3. The transaction must be a genuine trade transaction with full intention of giving and taking delivery; and
4. The debt cannot be sold and thus the risk associated with it must be borne by the lender himself.

The first condition will 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 only by the principal party and not by them. The second condition will help ensure that the seller (or lessor) also shares a part of the risk to be able to get a share in the return. It also puts a constraint on short sales, thereby removing the possibility of a steep decline in asset prices during a downturn. The *sharʿah* has, however, made an exception to this rule in the case of *salam* and *istiṣnāʿ* where the goods are not already available in the market and need to be produced or manufactured before delivery. Financing goes in line with the real economy and thereby helps curb excessive credit expansion.

The third and the fourth conditions 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 transactions. This will prevent the debt from rising far above the size of the real economy and also release a substantial volume of financial resources for the real sector, thereby helping expand employment and self-employment opportunities and the production of need-fulfilling goods and services. The discipline that Islam wishes to introduce in the financial system may not, however, materialize unless the governments reduce their borrowing from the central bank to a level that is in harmony with the goal of price and financial stability.

One may raise an objection here that all these conditions will perhaps end up shrinking the size of the economy by reducing the number and volume of transactions. This is not likely to happen because a number of the speculative and derivatives transactions are generally known to be zero-sum games and have rarely contributed positively to total real output. Hence a decline in them is also not likely to hurt the real economy. While a restriction on such transactions will cut the commissions earned by the speculators during an artificially generated boom, it will help them avert losses and bankruptcy that become unavoidable during the decline and lead to a financial crisis.

The injection of a greater discipline into the financial system may tend to deprive the subprime borrowers from access to credit. Therefore, justice demands that some suitable innovation be introduced in the system to ensure that even small borrowers are also able to get adequate credit. A number of countries have established special microfinance institutions to grant credit to the poor and lower middle class entrepreneurs. Even though these have been extremely useful, there are two major problems that need to be resolved. One of these is the high cost of finance. It is, therefore, important that microcredit is provided to the very poor on a humane interest-free basis (*al-qarè al-úasan*). This may be possible if the microfinance system is integrated with *zaká* and *awqáf* institutions. For those who can afford to bear the cost of microfinance, it would be better to popularize the Islamic modes of profit-and-loss sharing and sales- and lease-based modes of finance not only to avoid interest but also to prevent the misuse of credit for personal consumption.

The second problem faced by microfinance is that the resources at the disposal of microfinance institutions are inadequate. This problem may be difficult to solve unless the microfinance sector is scaled up by integrating it with commercial banks. Commercial banks do not generally lend to small borrowers because of the higher risk

and expense involved in such financing. It is, therefore, important to reduce their risk and expense. This may be done partly by a subsidy from *zakkāh* and *awqāf* funds for those borrowers who are eligible for *zakkāh*.

However, Islamic finance is still in its infancy and shares a very small proportion of international finance. In addition, the practice of Islamic finance may not genuinely reflect the ethos of Islamic teachings. The use of equity and PLS is still very small while that of debt-creating modes is preponderant. Moreover, even in the case of debt-creating modes, all the conditions laid down by the *sharʿah* are not being faithfully observed by the use of legal stratagems (*ʿūyāl*). This is partially due to a lack of proper understanding of the ultimate objectives of Islamic finance, the non-availability of trained personnel, and the absence of a number of shared or support institutions that are needed to minimize the risks associated with anonymity, moral hazard, principal/agent conflict of interest, and late settlement of financial obligations. The system is, thus, not fully prepared at present to play a significant role in ensuring the health and stability of the international financial system. This is changing and with the passage of time, it will complement the efforts now being made internationally for promoting the health and stability of the global financial system.

5. CONCLUDING REMARKS

Since the existing architecture of the conventional financial system has existed for a long time, it may perhaps be too much to expect the international community to undertake a radical structural reform of the kind that the Islamic financial system envisages. However, the adoption of some of the 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:

1. The proportion of equity in total financing needs to be increased and that of debt reduced.
2. 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 and gambling

3. Leverage needs to be controlled to ensure that credit does not exceed beyond the ability of the borrower to repay.
4. If the debt instruments, and in particular collateralized debt obligations (CDOs) are to be sold, 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 lender has incentive to underwrite the debt carefully.
5. 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 the original lender only 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.
6. 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.
7. Some arrangement needs to be made to make credit available to subprime borrowers at affordable terms to enable them to buy a home and to establish their own microenterprises. This will help save the financial system from crises resulting from widespread defaults by such borrowers.

SELECTED REFERENCES

- Mian, Atif, and Amir Sufi (2008), "The Consequences of Mortgage Credit Expansion: Evidence from the 2007 Mortgage Default Crisis," (<http://ssrn.com/abstract=1072304>).
- Miskhin, Frederic (1997), "The Causes and Propagation of Financial Instability: Lessons for Policymakers", in Federal Reserve Bank of Kansas City (1937), *Maintaining Financial Stability in a Global Economy*, Proceedings of a Symposium Sponsored by the FRB Kansas City, Jackson Hole, Wyoming, August 28-30, 55-96.
- Rogoff, K. "International Institutions for Reducing Global Financial Instability," *Journal of Economic Perspectives*, 4 no.13(1999) 21-46.

THE CURRENT FINANCIAL CRISIS AND ISLAMIC ECONOMICS

M.N. Siddiqi

1. INTRODUCTION

The current crisis emanating from the US financial markets has threatened a global meltdown leaving the entire world poorer and full of forebodings regarding future. It started as a credit crunch due to highly over-stretched leverage, was aggravated by the complexity of the products and reached its zenith due to moral failure, generating conflicts of interest and mismatch between incentives of the various groups and individuals involved in the saga.

Islamic economics stands for abolition of *ribℓ*' and *maysir* in financial dealings as well as on a regard for the interest of others in one's pursuit of material gains. Hence, the purpose of this brief note is to examine the relevance of Islamic economics in light of the present crisis. Does Islamic economics have a message for humanity insofar as its current financial problems are concerned?

In what follows we first outline the broad features of the crisis, trying to establish the thesis that most of them are rooted in a moral failure that leads to exploitation and corruption. This is followed by an explanation of *ribℓ*' and *maysir* that includes bank interest and gambling-like speculation based on risk shifting as distinct from risk sharing. It will be argued that debt-finance coupled with speculative products whose intricacies defy understanding, provide ample opportunities to greedy profit-maximizing agents to exploit the aspirations of ordinary investors and for goading home owners and consumers into living beyond their means and chasing untenable dreams. Even the calls for more and more deregulation, and the philosophy of non interference with financial markets have [im]moral dimensions. There is a hidden agenda behind this call [Joseph Stiglitz and Bruce Greenwald, *Towards a New Paradigm in Monetary Economics* (2003), p. 206].

Though they swear by the name of efficiency and innovation, the champions of deregulation and laissez faire capitalism have their self interest in view, not social interest. A world of banking and finance without *ribℓ*' and *maysir* will be suggested as the best alternative to the current scenario. In this new environment, risk sharing will replace risk shifting while a morality rooted in spirituality is the way forward.

This alternative model must also be robust and resilient and must also provide a basis for willing acceptance of social norms, state supervision, regulation and intervention in the market based on values rather than interests.

2. THE ECONOMICS OF THE CURRENT CRISIS

The root cause of the crisis seems to be one of moral failure and a mismatch between the incentives of various players in the financial arena. The reason: some of the other elements of the situation described above are partly a product of this factor. Currently, financial institutions include banks, investment companies, insurance companies etc., and are managed by hired professionals. Those who govern financial conglomerates by virtue of owning enough shares have motives different from ordinary shareholders. Almost the entire population in developed countries is involved in supplying capital through purchase of stocks, bonds, insurance policies, pension funds, etc. While these 'principals' are interested in profits they care about many other things too, among them stability, jobs, social justice, and anxiety free communities. Not so the hired managers who consider profit maximization to be their mission as it earns them maximum bonus and continued employment. There are those amongst middlemen who earn fees. They earn more when transactions multiply. In an environment where no one cares about others, focused as everyone is on his or her own interest, public interest is supposedly guarded by regulators. How can the same self-focused assembly of individuals create regulators who would work to protect and promote public good, remains a moot question for neo-classical economics. An answer to this question is, however, provided by the public choice school: public servants too, elected as well as appointed, seek to maximize private gain!

Without committing myself to this rather bleak view of man in society, I suggest that we embark upon a discussion on other factors from the vantage point provided by this very view. It means I regard *maysir*-infested financial products[like CDS, Credit Default Swaps], the inverted pyramid of debts[with a slender base of real assets] and the dearth of liquidity, to be rooted in the moral failure briefly described above. It could have been different. The reason it is what it is, can be found in the separation of economics from morality after the secularization of society in the wake of the enlightenment. Islamic civilization has the instruments to pre-commit man in society to certain values leading to

rules [abolition of interest and gambling, for example] that guard the society from falling prey to shortsighted predators. I proceed to elaborate the above-mentioned elements of the crisis one by one.

3. CASINO ECONOMICS AND HUMAN WELFARE

What is wrong with gambling? Firstly, gambling does not create additional wealth. Games of chance only transfer wealth from its (losing) owners to new (winning) ones. Considering the human resources consumed in the process, wealth transfers through games of chance cannot be considered to be efficient. They do not serve any social purpose. The satisfaction and thrill they provide to the players do not justify the opportunity cost involved. Other exonerating circumstances like the revenue to the state in the form of taxes or employment generated by casinos, lotteries, etc. cannot be considered as 'advantages' until the acceptability of gambling itself is established.

I argue that risk shifting is gambling. One who buys risk exchanges a definite amount of money (the price) for an uncertain amount of money, whose delivery itself is not certain. Credit Default Swaps (CDS) are an appropriate example. The millions of loans made by a bank are each subject to the risk of default (credit risk) in various degrees. As Stiglitz and Greenwald (2003, p. 271) have rightly pointed out 'credit is not homogenous like money.' The risks attached to each loan are unique. The institution undertaking to pay for all defaulters among, say a million borrowers has no scientific basis for measuring the risk it is taking. There is no long history to fall back on. The law of large numbers does not apply. It is just taking chances, gambling. The banks that so protect themselves against credit risks are emboldened to give more and more loans. That is how aggressive lending policy gained an impetus.

The sub-prime mortgage crisis would not have occurred without the speculative deals like CDS. Aggressive lenders offered to refinance mortgages on the basis of rising home prices, virtually converting owned homes into ATM machines, sending people on a buying spree, some of it on installment purchase basis, encouraging an expansion that had little basis in the fundamentals: earning powers, disposable incomes and savings and investments.

4. ISLAM AND RISK

The Islamic approach to risk is realistic but cautious. It does not allow deals involving excessive uncertainty (*gharar kathif*). It encourages sharing arrangements for facing risks. The additional wealth created with the use of existing wealth through risky ventures should be shared between fund users and fund owners, while both bear the risks involved and the resulting losses. Differences in the participants' perception of risks involved will be decisive in determining the terms of bargain between those sharing risk. Even though the motive of each party is making profits, it is very different from taking chances in gambling. There is real wealth to be created, real gain to be reaped. It is different in case of risk shifting (as in CDS). Neither the buyer nor the seller of risk has any stakes in real wealth creation. As in gambling, only one party actually gains: either the seller of risk or the buyer. It is different in risk sharing, in which both parties gain (or lose). Like gambling, risk shifting is a zero sum game.

Risk sharing fits-in with a system that integrates risk management and value creation. The Islamic institutions of *musharakah* and *mu'arabah*, for example, target value creation and are good ways of managing risk. In a healthy venture, fear of loss works to counter-balance hope for gain. When a system allows shifting the risk (at a cost), the fear factor becomes inoperative insofar as the seller of risk is concerned. It is worse when the government takes over the risk (as in case of Fannie Mae and Freddie Mac in the US). Such a system is heavily tilted towards the rich and leads to greater inequality as it protects the lenders but leaves the borrowers to fend for themselves. This is the feature of the current system that led to an almost universal cry that it amounted to privatizing gain and socializing pain; profits go to the corporations, losses are borne by the taxpayers.

Let us ponder over the Islamic approach as encapsulated in the following verse of the Qur'an:

Believers! Have fear of Allah and give up all outstanding interest if you do truly believe. But if you fail to do so, then be warned of war from Allah and His Messenger. If you repent even now, you have the right of return of your capital; neither will you do wrong nor will you be wronged. But if the debtor is in straitened circumstances, let him have respite until the time of ease; and whatever you remit by way of charity is better for you, if only you know.[Al-Qur'an, 2:278-81]

In effect the above is advising how to handle a crisis caused by default. A crisis like the sub-prime crisis in the US (if it ever occurred in an Islamic interest free system based on risk sharing) would be handled not by extending credit to lenders but by giving more time to borrowers and writing off some of the debts.

5. CREDIT WITHOUT CREDIBILITY

Over extended leverage, outstanding credits amounting to an ever-increasing multiple of existing capital of the relevant institutions, is a direct result of financing through interest bearing debts. The business of lending to thrive requires continued expansion of credit. After all, the primary concern of the lending institutions is making money that comes in the form of interest on loans outstanding. Every loan recovery kills an existing income stream, every loan extension generates a new income stream. With credit defaults swaps available and insurance companies like AIG supposedly providing cover, sub-prime lending looked attractive. The rest of the story is well known.

Debt financing of productive enterprise amounts to preferring risk shifting to risk sharing. This is immoral as well as counterproductive. The environment in which productive enterprise takes place does not guarantee creation of additional wealth. It is only a probability. The lender's demand for a guaranteed positive return to the sum lent is unfair. Actually, it cannot be met at the macro [i.e., society's] level in the long run. Some enterprises do fail. Some others end up without any positive return to capital invested. Repayment in these cases can come only from old wealth already existing when the debt financed new projects were launched. Repayment of the borrowed sum with interest added, by those whose ventures failed to create wealth, causes a transfer of wealth from the entrepreneurs to the owners of money capital, who would not share risk, yet want a return. Putting producers/innovators at a disadvantage as compared to those having money to spare does not bode well for society. Easy money for those who have contributes to a life style at the top of the wealth pyramid that creates problems at its bottom. Society can continue meeting its debt obligations as long as there is growth at an accelerated rate. But the planet earth, its ecology, environment and resources are not designed for limitless growth. Deterioration in the environment, increase in inequality, and social tensions are direct results of heavy reliance on debt finance.

The problem is aggravated when monetary expansion too takes place in the form of interest bearing debts, as is the case with the current monetary system. In order for new money to come in circulation, a loan must be given, a new debt must be created. For every loan to be paid back with interest, borrowers need more money than they have. This additional money leads to additional debts, and so on. As pointed out in the previous paragraph, the debt imperative creates a growth imperative that contributes to the destruction of the ecosystem.

5.1 SELLING DEBTS

Some debt financing has always been part of the financial markets. Even in the hey day of Islamic civilization, trade credit, a form of debt financing, thrived. Islam has no problem with that as it fits in with prohibition of exchanging money now with a larger amount of money after a period of time. The problem starts with sale of debt, whether created by a money loan or owed as a price of goods sold on credit. Sale of debt is allowed at par or face value. But there can hardly be a market for exchanging debts at par. You have a market for debt when bond [i.e., debt] prices are determined by supply and demand. Sale of debt implies selling risk [or shifting risk]. A thriving market for debts at prices determined by supply and demand [as in conventional bond markets] is vulnerable to gambling-like speculation, as there exists no objective basis for measuring risks of default. The changing prices reflect changing subjective perceptions of the risks involved, and these perceptions can sometimes be manipulated.

Remarkably, a ban on selling debts would drastically reduce the outstanding volume of debt. In effect it would scale down the volume of outstanding debts to the level of existing real assets. The inverted pyramid of debts, standing on a slender base of real wealth, would be replaced by a rectangular column of debts, owed against an equal amount of real goods and services acquired. The volatility in the bond market is directly related to the total volume of bonds. The larger the volume of debts, the weaker its connection with real wealth, and the more the scope for gambling-like speculation.

5.2 DERIVATIVES

Derivatives also involve excessive uncertainty. They facilitate managing certain market risks (related to prices, rates of exchange, etc.).

Derivatives too are a zero sum game: you lose what I gain, unlike the win-win situations in trade or risk sharing. The claim that they increase liquidity and improve operational market efficiency in financial markets remains unsubstantiated. What can be empirically established is that, whatever the initial benefits for a certain class of investors, availability of derivatives invites speculative activity. This is evidenced by the fact that currently the volume of derivatives being traded stands at many times the world GDP. The market for derivatives literally becomes a casino.

6. THE NATURE AND ROLE OF LIQUIDITY

The demand for liquidity increases with expansion of credit. The current liquidity shortage is rooted in over extended leverage. Unbridled risk taking as in sub prime mortgage, results in lack of trust in the stability of the current prices as well as in defaults, leading to strains on bank liquidity. The situation leads to a decrease in peoples' confidence in the banks, resulting in widespread withdrawals. Pouring in more cash in the system could be more effective if it were to be given to the ultimate debtors-consumers, small businesses, poor home owners, etc.-who would then use it to meet their financial obligations or engage in new purchases. As it works in the current system, it is given to the banks and insurance companies. It enters the market as loans, creating another chain of debt obligations. This amounts to solving a crisis by methods that sow seeds for another crisis.

7. CONCLUSION

There is already a wealth of material available on the current financial crisis. I seek the readers' response to my central point: All the technical flaws and tactical mistakes leading us to the current crisis are rooted in a moral failure. If we are given or able to create a society in which individuals care about public good and cooperate with one another to promote it, even after securing their self-interest in order to ensure survival, we could escape much of the troubles currently facing us. Only such a society of individuals who care for public good can opt for the right mix of state intervention and private initiatives. Such a society is possible. Let us first shed the illusion that we have been living for decades now under the best of all arrangements, social, political,

economic and financial. We have not. However, let all join the search for such an alternative.

LESSON OF THE RECENT CRISIS FOR ISLAMIC FINANCE

Abbas Mirakhor

1. CRISES AND CAPITALISM

History has recorded numerous, recurrent crises in capitalist economic systems, some with devastating consequences. The same history also indicates that the majority of these crises originated in the financial system of these economies. What is it about financial capitalism that renders it crisis prone? Is there something unique about the structure of the financial system of these economies that generates instability? The economics profession has provided some answers. Briefly, there are two major views.

The first dates back to the classical economics arguing that markets are basically and inherently equilibrium- and stability-seeking systems. Left to themselves, they tend always toward equilibrium and that only shocks external to the system and/or bad policies create crises. The second view holds that a financial capitalistic system - one in which profit motive seeks accumulation of capital and wealth along with a financial system that serves it - left to its own devices, is inherently unstable. This view holds that in order to ensure stability, these systems require specific institutional supporting structure which includes a big government, a big central bank, and a strong and dynamic regulatory framework. The latter has to be flexible and adaptable in order to stay ahead of the curve of financial innovations - a hall mark of dynamic capitalism- intended to maximize regulatory arbitrage opportunities. The first view is associated with the neoclassical school and the second with the Fisher-Keynes-Simons-Minsky line of thought.

The second line of thought argues that generally in the real world humans operate under conditions of Knightian uncertainty, the idea that not all events and phenomenon in the real world are reducible to probability distributions and to risk, which can then be insured against. This means that in a market economy with a large number of economic

agents, coordination among these independent agents is problematic. There is no guarantee that the decisions of the producers, investors and consumers in the real sector, and those of the savers and entrepreneurs in the financial sector, can be well coordinated to ensure full employment of the society's resources. Coordination between the savers (surplus finance units) and investors (deficit finance units) within the financial sector is particularly crucial in a market system because the latter facilitates the process of resource allocation, production and distribution. The closer the coordination between the surplus and deficit units, the more efficiently the financial sector plays its role of supporting the real sector operations.

The Classical school held that in the market for finance, there will always be an equilibrium between the supply of loanable funds and demand for them. At the core of the second view's explanation of disturbance in financial capitalism is the real phenomenon of the saving-investment process. Coming from two different sub-sectors of the economy- producing and consuming - makes their coordinated behavior subject to uncertainty. That the saving-investment equality is not always assured is at the core of the Keynesian analysis of market economies as opposed to the equilibrium theory of Classical - Neoclassical economists. A crucial insight of Keynes was that the structure of the financial sector of capitalist economies is flawed, which exacerbates the problem of coordination between saving and investment, thus preparing the ground for inherent instability of the entire system. The flaw he asserts (see his *Treatise on Money*, the *General Theory* and his article in the 1931 issue of the *Economic Journal*) was that the financial system of these economies were dominated by interest-based debt contracts. Here there was no assurance that a sum of money lent in the spot market for more money guaranteed in the future was indeed heading toward employment-generating investment projects in the real sector of the economy. It could be used for consumption or for purchases of financial assets generated from previous period investments.

In other words, an additional layer of uncertainty of coordination problem is piled on top of the already existing saving-investment coordination problem of a market economy of independently operating agents. Keynes saw no economic justification for the institution of interest and called for the "euthanasia" of those that demanded it. He believed that without this institution, the surplus units would have to invest their funds directly in employment-generating investment projects-with rates of return contingent on the outcome of these projects - in

order to earn income on their liquid assets. Keynes saw two problems with financial capitalism: its inability to generate full employment and inequitable distribution of income and wealth. Both of these he blamed on the “villain of the piece”: the institution of interest-based debt contracts that dominates the financial structure of modern capitalism.

In his *General Theory* he advocates policies that can render financial capitalism more stable. Among these is an active policy of the “euthanasia of rentier.” He maintained that the “rentier” holds surplus funds because of preference for liquidity and demands a “rent” to part with liquid assets based on a debt contract of spot money for more money in the future with the payment of both the principal and interest guaranteed in the contract and enforced by the government. He was convinced that the rentier was able to extract such rent because of the scarcity of capital. The “non-violent euthanasia of rentier” he thought could be brought about by increasing the stock of capital. For this, he commends a policy of “socialization of capital investment.” In his *General Theory* he seems to suggest that the latter could be undertaken through some forms of public - private partnership.

2. ALTERNATIVE VIEWS ON CRISES IN MODERN ECONOMICS

While no other economist of note (excluding Marx and Marxians) has so directly placed the burden of the flawed financial structure of capitalism on the institution of interest, there have been well-known economists who have recognized the source of the instability of financial capitalism as the dominance of interest-based debt contracts within its financial sector. The inherent coordination problem of a market economy, referred to above, becomes highly exaggerated when an interest-based debt dominated system also includes fractional reserve banking as well as highly leveraged non-bank financial institutions. A structural characteristic of leverage is borrowing short and investing in longer-term assets, creating mismatches of maturity and values between assets and liabilities. In the upside of cycles when prices of assets increase, these institutions are able to expand their balance sheets by increasing leverage and creating additional credit, allowing them to take greater risk. On the down phase of the cycle when asset prices are declining, the reverse happens.

Thus leverage has a pro-cyclical characteristic. As a remedy, a number of economists (on the economics faculty of the University of Chicago, as well as Irving Fisher and other noted economists) proposed

a 100 percent reserve banking system to ensure the safety and security of the nation's payments system and to limit leverage and credit expansion ability of the financial system. Proposed in 1936 during the Great Depression, the plan became known as "the Chicago Plan" and has resurfaced from time to time in a variety of forms. Among the economists asserting the inherent instability of financial capitalism was Hyman Minsky (d. 1996). His view is summarized in his financial instability hypothesis (FIH) which states that in financial capitalism, periods of prosperity sow the seeds of financial instability as the financial structures of firms and households become more fragile. The fragility of the financial system is a function of its capital structure (debt/equity). The more the system is interest-based debt contract dominated, the more fragile it is.

Minsky believed that as asset prices rise, units, especially financial firms, become more leveraged. Initially, equity capital dominates, and, whatever debt the firms contract is validated by a stream of income that easily services the debt and repays the underlying obligation. These units, Minsky referred to as "hedge units." As asset prices increase, these units exploit profit making opportunities by increasing their short term debt obligations to acquire longer - term assets. Greed trumps caution and as debt obligations grow, these firms become "speculative units." A chief characteristic of these units is that they have to roll over the principal while servicing the interest payments due. As asset prices continue to grow, these firms morph into "Ponzi Units," that is their debt obligations are relatively so large that they will have to roll over principal and interest payments coming due. Once asset prices begin to decline, these units will have to sell assets in a declining market to meet their obligation. Due to the interdependence between asset markets, decline in one market becomes contagious and the downward spiral, buttressed by the de-leveraging of financial institutions and leads to crisis. The contagion would ensure that turbulence is transmitted from Ponzi to speculative, and to hedge units in short order.

Minsky believed that a big government, a big central bank, and a strong regulatory framework could mitigate the risk that the inherent fragility would evolve to become full fledged crisis. A growing body of analysts are finding Minsky's views helpful in explaining the recent crisis. These analysts believe that the seeds of the 2007 crash and its aftermath were sown long ago in the deregulation movement that began in the early 1980s, and in the financial innovations that expanded the reach of debt dominance to new heights. Deregulation allowed banks to take direct positions in all aspects of the financial system. This

allowed the development of the “originate and distribute” model of banking operations that facilitated the process of removing assets and liabilities off balance sheets to expand leverage. Regulatory passivity and forbearance allowed financial innovations the freedom to rapidly financialize and securitize assets, commodities, and debt. The process created “rolling bubbles” from one asset market to another as high liquidity and expanded credit in search of yield moved from developing country debt markets to dot-coms, to real estate and to commodities markets. When the crash came, the system’s failure became evident. It was recognized that the belief in the notion that markets can properly assess risk and can hedge as well as shift risk to those that can best bear it, and that market forces will discipline decision making, was basically flawed.

3. ISLAMIC ECONOMICS/FINANCE AS AN ALTERNATIVE

It is often contended that Islamic finance is resilient to shocks due to its inherent stability. This conception is formed based on the analytic results obtained from theoretical models that have demonstrated this characteristic. These models however are themselves based on explicit and implicit assumptions which may or may not obtain in practice. One is the assumption regarding the architecture of the system. It is assumed that the system is bifurcated into a banking subsystem which holds 100 percent reserve against deposits and a subsystem of non-bank financial intermediaries. The first protects deposits as well as the economy’s payments system thus obviating the need for deposit insurance. The second plays the traditional role of intermediating between surplus fund holders and entrepreneurs in need of finance to undertake real sector investment projects. There is no guarantee of the nominal value of funds made available for investment. The most important assumption is the absence of interest-based debt contracts in the system. Hence any surplus fund in search of yield will have to directly invest in projects where returns are contingent on the outcome of the venture.

Therefore, in such a system there are only two assets: money and shares. The latter may be a position which the surplus funds unit takes in a portfolio of assets, trade ventures, temporary or long-lasting projects or a position in a share-based instrument spanned from a basic share portfolio. There are no pecuniary returns to holding money. The surplus unit’s decision is to compare the expected rates of return to real sector investment and its preference for remaining liquid. With these (explicit)

assumptions, it has been demonstrated that the system is stable and resilient to a variety of shocks. The intuition behind these results is the serious limitation on credit creation and leverage operations as well as the absence of asset-liability maturity and value mismatching. Assets and liabilities values adjust simultaneously in response to any price shocks.

An understanding has always been implicit in these theoretical investigations that the underlying models only tangentially represented an Islamic financial system. It has been understood that there is a formidable institutional structure, i.e., a network of rules of behavior, within which Islamic finance has to operate. The available theoretical models of Islamic finance incorporate only very few of these rules. When the institutional scaffolding (property rights, sanctity of contracts, appropriate governance framework, trust, etc.) is in place and fully operational, the stability of the system is fortified immensely. Aside from stability, it can be demonstrated that the institutional framework of Islam enhances efficiency of the system by eliminating informational problems that plague the conventional system.

At the present nascent stage of its development where the institutional framework prescribed by Islam is not in place, where Islamic finance operates side-by-side with conventional system and where there exists a fractional reserve banking subsystem, Islamic finance faces the same vulnerabilities as the conventional financial system. It can be argued that some risks are much more serious in the former. For example the reputational risk of failure of a few institutions or instruments could easily transform into a systemic risk and be particularly damaging at this stage of development of Islamic finance. Consequently, the need for an effectively strong regulatory framework is acute. Such a framework will have to develop *shar'ah* standards as well as the usual regulatory-prudential-supervisory standards aimed at achieving safety and security for Islamic financial institutions and instruments.

One of the important lessons of the recent crisis is the ineffectiveness of a fragmented regulatory framework based on a flawed conception of divided asset-money-commodities markets. Financial innovation, information technology advances of recent decades, and the rapid pace of financialization have blurred the traditional differentiation between various markets calling into serious question a fragmented regulatory authority. Arguably, the interrelationship of markets would be stronger in Islamic finance making the case for a unified regulatory framework more compelling. Because Islamic finance

is derived from the core universal message of Islam, it can be argued that it is imperative that the unified regulatory standards must find globally uniform adoption by jurisdictionally oriented regulatory authorities. This may require legislatively-based mandate in each jurisdiction for the adoption of the standards.

Since Islamic finance operates within a fractional reserve banking system, a safety net framework is also needed to protect the deposit of the banking system and the security of the payments system. Additionally, a work-out system is needed for the intervened and failed banks as well as for non-bank financial institutions and instruments for an orderly settlement of obligations in order to pre-empt contagion effect on other institutions and instruments. An incentive structure that would permit regular safety checks of financial institutions and instruments-aside from regulatory standards- would be highly desirable. Again, it would be helpful if these additional elements of the architecture were uniformly and globally adoptable by all Islamic financial systems in Muslim countries as well as Islamic financial institutions operating in hybrid systems.