Issues in the
International Financial Crisis
from an Islamic Perspective

Prepared by
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Introduction

Praise be to Allah (SWT), and Peace and blessings be upon His beloved prophet Mohammed (SAWS).

This is a special book about the international financial crisis containing researches and dialogues that have taken place in the Islamic Economic Research Centre (IERC). The book consists of contributions from researchers of the IERC and others. Some of these contributions published before the crisis and others after its occurrence.

Those articles, which have been published by the IERC before the crisis, have been selected because of their strong relation to the crisis. These articles represent refereed paper targeting the specialized persons in the field of Economics and Finance. Other articles are analytical papers directed to an ordinary educated person to deepen his/her awareness and understanding of certain aspects of the crisis.

The book contains variety of papers; some of them are related to banking, while others relate to financial markets, to examining what Islamic Finance in particular, and Islamic Economics in general can offer in ideas and suggestions to help get out of the crisis, or at least reduce its severity. The book also contains other papers that examine the crisis; its causes and solutions, the advantage of Islamic Finance in achieving financial stability and reducing the severity of "business cycles", and the inclination of Islamic Economics in developing financial markets that are free of ***Riba*** and gambling.

We hope that the reader will find in this book material that will help in the diagnosis of the crisis and some suggested solutions from the viewpoints of researchers of Islamic Economics. We ask Allah (SWT) that there will be a benefit from producing such a file and a similar one in Arabic. ***Ameen.***

CONTENT

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Current Financial Crisis and Islamic Economics

Prof. Mohammad Nejatullah Siddiqi

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The current crisis emanating from US financial markets and spreading to other developed and fast developing countries like China, India and Brazil, is threatening 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 *riba* and *maysir* in financial dealings as well as on a regard for the interest of others in one's pursuit of material gains.

The purpose of this brief note is to examine the relevance of Islamic economics today. Does it 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 under the four headings noted above, trying to establish the thesis that most of them are rooted in a moral failure that leads to exploitation and corruption. This would be followed up by an explanation of *riba* and *mysir* that equates them to 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 have their self interest in view, not the social weal. In conclusion a world of banking and finance without *riba* and *maysir* will be suggested as the best alternative to the current scenario. In this new environment risk sharing will replace risk shifting and morality, advising people to be moderate in their material pursuits and considerate about public good in their private decisions, coupled with realism, will serve as the corrective to self-destructive outgrowths of current financial capitalism. It will be noted that for

this alternative model to be robust and resilient, morality has to be rooted in spirituality. This will provide a basis for willing acceptance of social norms, state supervision, regulation and intervention in the market based on values rather than interests.

The Economics of Current Crisis

We begin with the fourth element of the crisis noted above, i.e. 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., 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 throw up 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 of the first three 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…,all the remaining three features of the current situation, 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 denudation of economics from morality after the secularization of society in the wake of 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 taking the above-mentioned elements of the crisis one by one.

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 state in 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 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 Joseph Stiglitz and Bruce Greenwald have rightly pointed out credit is not homogenous like money [*Towards a New Paradigm in Monetary Economics* (2003), page 271]. 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.

The Islamic approach to risk is realistic but cautious. It does not allow deals involving excessive uncertainty (*gharar kathir*). 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 with value creation. The Islamic institutions of *musharakah*, and *mudarabah*, 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 USA). 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 them selves. This is the feature of the current system that lead 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.

As an aside take a minute to ponder over the Islamic approach as encapsulated in verse 278-281 of the second chapter of Quran:

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.[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 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.

Credit without Cerdibility

Over extended leverage, outstanding credits amounting to an ever-increasing multiple of existing capitals 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 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.

Selling Debts

Some debt financing has always been part of the financial markets. Even in 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. As is well known these perceptions can sometimes be manipulated through planting stories in the media.

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.

Derivatives

Derivatives also involve excessive uncertainty. They facilitate managing certain market risks (related to prices, rates of exchange, etc.). Chance remains the basic element in the situation, however, expectations being based on pure speculation. 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.

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.

Conclusion

I wish I could go on. But there is already a wealth of material available on the subject. 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.

Given a society in which individuals care about public good and cooperate with one another to promote it, even though 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. Let all join the search for an alternative.

2

The Global Financial Crisis: Can Islamic Finance Help?

Dr. Mohammad Umer Chapra[*]

- **Introduction**
- **Primary Cause of The Crises**
- **The Subprime Mortgage Crisis**
- **The Islamic Financial System**

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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. In spite of more than three trillion dollars of bailout and liquidity injections by a number of industrial countries, the crisis is showing no signs of abating. There is, hence, a call for a new architecture that would help minimize the frequency and severity of such a crisis in the future.

Primary Cause of The Crises

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(1). This raises the question of what makes it possible for banks to resort to such an unhealthy practice which does not only destabilize the financial system but is also not in their own long-run interest. There are three factors that make this possible. One of these is the inadequate market discipline in the financial system resulting from the absence of profit and loss sharing (PLS). The second is the mind-boggling expansion in the size of derivatives, particularly credit default swaps (CDSs), and the third is 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.

The false sense of immunity from losses that all these factors together provide, has introduced a fault line in the financial system. Banks do not, therefore, undertake a careful evaluation of the loan applications. This leads to an unhealthy expansion in the overall volume of credit, to excessive leverage, and 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 frangibility and debt crises, particularly if there is overindulgence in short sales. Jean Claude Trichet, President of the European Central Bank, has rightly pointed out that "a bubble is more likely to develop when investors can leverage their positions by investing borrowed funds".

(1) This is clearly recognized by the BIS 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 (p.3).

The Subprime Mortgage Crisis

The subprime mortgage crisis in the grip of which the US finds itself at present, 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. Consequently loan volume gained greater priority over loan quality and the amount of lending to subprime borrowers and speculators increased steeply. According to Mr. Bernanke, Chairman of the Board of Governors of the Federal Reserve System, "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". The check that market discipline could have exercised on the serving of self-interest did not come into play. Even the supervisions failed to perform their task effectively by not taking serious notice of the unfair practices at an early stage and nipping them in the bud.

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, the UK, Europe and a number of other countries. This has created uncertainty in the market and led to a credit crunch, which has 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 and leads to defaults on the part of credit card institutions, corporations, and derivatives dealers.

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. The whole process continued several times. 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. No wonder George Soros described derivatives as "hydrogen bombs", and Warren Buffett called them "financial weapons of mass destruction".

The Islamic Financial System

One of the most important objectives of Islam is to realize greater justice in human society. According to the Qur'an a society where there is no justice will ultimately head towards decline and destruction (Al-Qur'an, 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. One of these is that the financier should also share in the risk so as *not* to shift the entire burden of losses to the entrepreneur, and the other is that 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 and, thus, help reduce inequalities of income and wealth.

To fulfill the first condition of justice, Islam requires both the financier and the entrepreneur to equitably share the profit as well as the loss. For this purpose, one of the basic principles of Islamic finance is: "No risk, no gain". This should help introduce grater discipline into the financial system by motivating the 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. Prof. Rogoff of Harvard University states that in an ideal world equity lending and direct investment would play a much bigger role.

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, indispensable, but should *not* be promoted for inessential and wasteful consumption and unproductive speculation. For this purpose, the Islamic financial system does not allow the creation of debt through direct lending and borrowing. It rather requires the creation of debt through the sale or lease of real assets by means of its sales- and lease-based modes of financing (*murabahah,*

ijarah, salam, istisna and *sukuk).* 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:

1. The asset which is being sold or leased must be *real*, and not imaginary or notional;
2. The seller 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 most of the speculative transactions which involve *gharar* (excessive uncertainty) and *qimar* (gambling). 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. Once the seller (financier) acquires ownership and possession of the goods for sale or lease, he/she 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 downtown. The *Shari'ah* has, however, made an exception to this rule in the case of *salam* and *istisna* where the goods are not already available in the market and need to be produced or manufactured before delivery. Financing extended through the Islamic modes can thus expand only in step with the rise of the real economy and thereby help curb excessive credit expansion.

The third and the fourth condition will not only help eliminate a great deal of speculative and derivative transactions where there is no intention of giving or taking delivery but also motivate the creditor to be more cautious in evaluating the credit risk. This will help prevent an unnecessary explosion in the volume and value of transactions and also keep the debt from rising far above the size of the real economy. It will also release a greater volume of financial resources for the real rector and, thereby, help 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 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 may end up shrinking the size of the economy by reducing the number and volume of transactions. This is not likely to happen because speculative and derivatives transactions are not known to have contributed significantly to the total real output. Hence a decline in them is also not likely to hurt the real economy significantly. While it will only cut the commissions earned by the speculators during an artificially generated boom, it will help them avert losses and bankruptcy that are unavoidable during the decline.

The injection of a greater discipline into the financial system may tend to deprive the subprime borrowers form access to credit. Therefore, justice demands that some suitable innovation be introduced in the financial system to ensure that even small borrowers are also able to get adequate credit. Such borrowers are generally considered to be subprime and their inability to get credit will deprive them from realizing their dream of owning their own homes and establishing their own microenterprises.

There is no doubt that a number of countries have, established special 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 ranging from 30 to 70 percent in the interest-oriented microfinance system. This causes serious hardship to the borrowers in servicing their debt. No wonder, the Minister of Finance for Bangladesh described microcredit interest rates in that country as extortionate in an address he delivered at a microcredit summit in Dhaka in 2004. It is, therefore, important that, microcredit is provided to the very poor on a humane interest-free basis *(qard hasan)*. This may be possible if the microfinance system is integrated with *zakah* and *awaqf* 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(2).

Another 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 the 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 *zakah* and *awqaf* funds for those borrowers who are eligible for *zakah.*

(2) For some details, see IRTI/IDB, 2007, p. 30; and Feroz, 2007, p. 42.

Thus we can see that the Islamic financial system is capable of minimizing the severity and frequency of financial crises by getting rid of the major weaknesses of the conventional system. It introduces greater discipline into the financial system by requiring the financier to share in the risk. It links credit expansion to the growth of the real economy and minimizes *gharar* and *qimar* by allowing credit primarily for the purchase of real goods and services which the seller owns and possesses and the buyer wishes to take delivery. It also requires the creditor to bear the risk of default by prohibiting the sale of debt, thereby ensuring that he evaluates the risk more carefully. In addition, Islamic finance can also reduce the problem of subprime borrowers by providing credit to them at affordable terms. This will save the billions that are spent after the crisis to bail out the rich bankers. These do not, however, help the poor because their home may have already become subject to foreclosure and auctioned at a give-away price.

The problem, of course, is that Islamic finance has at present a very small share of global finance. However, it is the ability of the system to solve a problem that matters. If Muslims themselves establish the system genuinely and successfully with proper checks and controls, the whole world will ultimately come around to it and adopt at least some of its features.

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3

World Financial Crisis:
Lesson form Islamic Economics

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Dr. Nejatullah Siddiqi, King Faisal Prize Laureate in Islamic Economics, has prepared a note to examine the relevance of Islamic economics today and whether it has a message for humanity in so far as its current financial problems are concerned? It is a very perceptive response from Dr Siddiqi which I appreciate very much. I am writing this note just to reiterate the position, taken by this forum of I-SIE, that if we need to draw lessons from Islamic economics, we need to look into the economics embodied in the institutional framework of Islam.

No doubt, *riba* (interest, usuary) and *maysir* (gambling, speculative activities similar to gambling) are the major factors leading to the current financial crisis. Islam's prohibition of *riba* and *maysir* along with Islamic values and morals, and recognizing others' interest in one's economic fortunes, if adhered to, could not have lead the world to the present day financial crisis. Keeping individuals and Society free form financial and economic crises can clearly be seen as one of the objectives of such instiutions.

The question, however, is how to do this now? Where to go from where we are now? Even if we can declare that taking and charging of interest in banking operations is prohibited, the question remains; what is the alternative? Current practice of Islamic banking has not provided any convincing alternative. With the *Tawarruq* made Shari'a compatible, the results can not be expected much different from those of interest based banking system.

Through this forum, I like to draw the attention of all concerned about the need to investigate into the institutional framework of financial system that prevailed in the Islamic societies before they were colonized by the West. The contemporary financial system came into existence when the Muslim societies had already been colonized and their institutions demolished or diluted. The modern financial system developed without taking any lessons from the Muslim civilization.

It is curious to note that almost all branches of modern knowledge admit the contributions of Islamic civilization often referred to "medieval ages" towards their discipline, except science of Economics and Finance which does not recognize any contribution made by Islamic civilization in this field. Even Schumpeter, writing history of economic thought totally ignores the long

history of economic successes in the era of Islamic civilization. It was the period when the poverty was non existent. Basic needs of every one were met. No one was "poor" enough to look forward to receive charity. Worldwide famine type situations were intelligently and successfully dealt with. There is no evidence of financial and economic crisis in the long history spread over about 1000 years.

It is now the time that visionary economists and financial gurus look back and investigate into the institutional set in the economy of medieval ages to find solution for the current crisis. Those familiar with the economy of medieval ages do know that its financial system was not a banking-based system. Its system was either market (of goods and services) based system or it was based on Qardh Hasan (benevolent loans, normally understood as charities). Financing needs in the market were met through trade contracts. Sale contracts with deferred payments and sale contracts with advance payments met the financing needs through the market without needing financial intermediation. "Know thy client" is more relevant for maket based financial system and hence the issues of adverse selection, moral hazard and transaction cost were minimized. The financing needs that market could not or did not want to meet, were met by the institutions of Qardh Hasan, Zakah and Awqaf promoted by Islamic teachings. The issue of moral hazard, adverse selection and transaction did not occur even in these institutions. The need for developing financial intermediaries never arose despite economic growth and development.

It is not the place to discuss the details of such a system to meet the financing needs of a modern economy. Once the concept is acceptable, the details can be worked out. The point is that market itself is a better place to generate a financial system to suit its own needs. If markets are functioning well and institutions are in place to give support and protection for the market to provide financing as part of the contract of the sale and purchase of goods and services and if there are institutions to meet the social needs not met by market, there will be no need to develop banks to provide a financial system on interest basis. Even now, several businesses large and small, wholesale and retail, are doing the business by providing financing while selling/purchasing goods and services, without letting their customers go through the banking system to get the financing. They do not have to explicitly refer to interest calcualtions when providing financing for their sales and purchases. Every thing is built-in within the price.

The concept of Forward Sale as give by Islam (known as *Bai' Salam*) is wonderful guide to develop a market of Futures contract without tempting the traders and producers in the market to go into gamabling or gambling type

"speculation". (For more detailed discussion on this, see my paper on "Islamic Futures and their Market" published by Islamic Research and Training Institute and is downloadable free from their website). Modern finance, does not recognise the financial system prevailing in medieval ages because it did not borrow anything from there. Occasionally, somewhere we may find a reference to forward contracts of the medieval ages. But there is hardly any attempt to understand the nature and economics of those forward contracts in comparison with the forward and future commodity contracts of today. The financial gurus may find a lot in the economic and financial system that was in practice when Islamic civilization was on top of the world

For drawing lessons from the Islamic financial system as prevalent in the so called medieval ages, what is needed to be done is to reform the market of goods and services in a way that allows the market to develop its own financial instruments to suit the financing needs of the society. Infrastructural institutions are required to be developed to promote and protect the financing provided by the market of goods and services as part of its sales and purchases, rather than promoting and protecting the banking institutions to finance gambling and speculation.

A bank-free but market-based financial system is the key to have crisis-free financial and economic system. The developed world can take lead in introducing market-based financial system and show the way to the developing world too, how to get out of the trap of banking based financial system.

Banking-based financial system has long been losing its credibility in the eyes of financial gurus. To Frederic Mishikin, it is a puzzle, "What makes banks so important?" when there are better and less complicated options available in the market to raise financing (including loans). See his book The Economics of Money, Banking and Financial System.

The world bank report on Institutions, 2000 identifies two types of financial system. Market based financial system and banking based financial system. Germany has been mentioned to be having a more market based financial system compared to other countries in the West and now, probably, it is Germany which is in a better shape among the G-7, in this time of worst financial crisis.

It is in the interest of both the Islamic economists and conventional economists to look into the Islamic economic system which has been in practice for a very very long time. Islamic Civilization gave a lot to the modern world to develop physical and natural sciences. Let us see if there is anything for the science of economics and finance to borrow from there in the interest of the

wellbeing of man on earth. I particularly invite those working in the framework of New Institutional Economics (NIE) to take it up as a commitment to their own discipline. Let us think of an economy at least free of commercial banking. To start with, let us see how an economy would shape up if there were no commercial banks and there were no short term borrowing and lending on interest through financial intermediaries.

4

Current Global Financial Crisis: Cause and Solution

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- **Introduction**
- **Some perceived factors leading to the cause of the crisis:**
- **Some fundamentals of the free market do not work**
- **High ratio of bad loans to total loans**
- **Financial markets and Regulators Complacency**
- **Classic Strategic Failure**
- **Impacts and severity**
- **Implications/ consequences**
- **Measures taken by various nations**

Introduction

The world is currently witnessing the harsh tempers of the global economy unleashing sweeping upheavals across the world, sending shock waves around the world's stock markets, devastating the major financial institutions, causing panic and fear in individuals, corporations and governments globally. This grave situation calls for urgent and active attention to address and stop it from getting out of control whose effects could be too large and too late to deal with. The effect would spill over and spare no one as the world economies are interconnected. Various governments and central banks across the world are making frantic and serious efforts to mitigate the high risks associated with the economic and financial meltdown. This requires individual and collective approach through co-operation among the developing and developed nations in order to make the measures more effectively felt.

Liquidity concerns, had driven some central banks and some of the world's major industrial nations to intervene by taking to emergency rescue packages in bailing out defaulting financial institutions, cutting interest rates, buying stocks in financial institutions and guaranteeing 100 percent of depositors savings as well as banning of short-selling in financial stocks in US and UK

This global financial crises has exposed the weakness and failure of the economic model in use whereby other people are making calls for a radical economic reorganization and alternative financial system

This paper presents the diverse opinions collected from various world financial news identifying factors that had led to the cause of the financial crisis , impacts and severity of the crisis, measures taken by major nations to address the situation. Others are implications or consequences of the crisis, suggestions, and possible solutions as stipulated by the Islamic financial system and other ideologies.

Some perceived factors leading to the cause of the crisis:

Systemic effects of the subprime lending crises:

Systemic effects of the subprime lending crises, and the repossession of private homes .Banks and private financiers eagerness for quick profits rushed into sub-prime market seeing an easy way of putting money out at interest without the cost of supervising its use. Builders have overbuilt than needed. Home buyers willingly undertook the risk of interest payments and purchased. Reports indicate that for some decades beginning in the 1930's, the ratio of median home prices to median incomes remained relatively stable, about 3 to 1. Over the last 20 years, the financial markets that financed the housing system in the US changed remarkably. Local markets once dominated by tightly regulated savings and loans – a simple system of buy and hold- evolve into something much more complicated, partly due to the development of mortgage brokers. The new system fueled a number of mortgage backed-securities and derivatives that were terribly difficult for experts to understand. Too much leverage – combined with too little transparency meant that the market froze. Liquidity vanished. Mortgage brokers were paid on commission basis and on the basis of originating a loan; they were unconcerned with whether the loan was repaid. In the pursuit of scale mortgage banks bundled mortgages and worked with investment banks to put them into complex securities. " In 2004 and 2005 as these sub-prime loans started to emerge ,it wasn't a particular problem because of the lag effect ,because people who couldn't pay off these mortgages with toxic terms and exploding payment schedules did worry". "If I could not pay off my mortgage, I will put a "For sale" sign on the lawn, I will sell it. I will walk away. As the housing bubble burst, those exit doors were closed". All of a sudden, we started seeing record numbers of delinquencies, defaults and foreclosures Irresponsible lending to people with poor credit ratings that led to the sub-prime mortgage crises. The development of mortgage brokers created something much more complicated. This brought about a number of mortgaged backed securities and derivatives that had been terribly difficult for experts to understand. Mortgage fraud flawed oversight by mortgage brokers and excessive underwriting of high-risk mortgages

Deregulation:

Deregulation created intense competitive pressure whereby firms responded by deploying more capital and seeking higher return.

''Deregulation greed has eaten our lunch'' said one commentator. He further said that in whatever thing we do we should take moderate course and constantly adjust and refine deregulation of the financial industry, He also said that deregulation has undermined:

(a) The power and effectiveness of governments.
(b) Forced open capital and trade markets.
(c) Forced down the price of labour.
(d) Demanded excessive returns both of labour and the ecosystem and
(e) Further benefited the already rich (i.e. private- equity and hedged – fund managers and investors.

Reliance on flawed ideologies

Some fundamentals of the free market do not work

The crises and collapse of the housing prices is a test that has exposed how fragile the US financial system is. Speculators in stock markets, politicians and economists- including IMF economists continue to rely on flawed ideologies - driven economic analyses. The IMF says the fundamentals supporting strong global growth remain in place. The economists conduct their analyses without reference to the creation of credit and debt, focusing on goods and services, supply and demand. They regard money as "neutral" and on the whole ignore the role of credit.

The IMF statement on 10th August, said: *"We continue to believe that the systematic consequences of the assessment of credit risk that is taking place will be manageable", On 9th August , President Bush used his White house Press conference to comment on the issue. He said the US economy "remains the envy of the world", enjoying low unemployment and inflation. I am told there is enough liquidity in the system to allow markets to correct*".

High ratio of bad loans to total loans

Collapse of confidence over in the finance sector overburdened by debt, excessive gambling speculation and interest –taking .Some banks have gambled by lending recklessly to finance huge leveraged buy-outs, mergers and acquisitions (estimates range from $400billion upwards) One critic accused the banks of hoping to play "pass the parcel " with those debts ,forward than to other investors- but suddenly no takers. People were persuaded to borrow far beyond their means to pay The finance industry has experienced a concentration and control of a large deal of capital in the hands of smaller and smaller number of large institutions.

Financial markets and Regulators Complacency

The US long and continuous economic expansion with low inflation over the last 15 years that made financial markets and regulators complacent. They forgot there is a business cycle, Regulators in the US Federal Reserve just 18

months were focused on dealing with the so-called "liquidity glut" In this process they missed noticing the emergency risk due to asset price inflation, particularly real asset.

During these good times, financial institutions (FI's) particularly investment banks, grew very large. They took big risk and made huge profits. In recent years, FI's contributed nearly 40% as against the normal 10%, of total US corporate profits. They paid huge salaries to recruit the best and the brightest from top business schools, which in turn, helped create and sell complex financial products, credit derivatives and other securities whose risks were not understood by either investors or top management of investment banks.

The good times encouraged banks to take higher risks; highly leveraged transactions with life covenants became the norm. Investment banks themselves became highly leveraged – 32:1 for Lehman Brothers before it failed, as against 8:1 for a conservative bank. Investment banks did not have sufficient capital to support the risks on their balance sheets.

There was major failure of leadership at most FI's. Deal makers took charge and risk managers were completely sidelined, Credit was mispriced so much that there was only small difference in the yield between junk bonds and US treasuries.

Classic Strategic Failure

Most of the firms in the Wall Street followed each other around to the same parts of the market and ended up mimicking each other, which is a classic strategy failure. Therefore, when the sub-prime crises hit they were all in the same boat. Investors and lenders could not understand some of these assets on the balance sheets of these firms. The assets were complicated, and were not traded, so there was no open market and the models were difficult to understand.

As a result, not only are financial equities plunging but the overall market is plunging due to "good companies" inability to roll debt and finance working capital. This will inevitably result in more and more bankruptcies in all sectors, causing rapidly rising unemployment. The inability to obtain financing is affecting all kinds of consumers and businesses-it is cutting deep into the main fabric of the economy. The crisis reported losses of trillions of dollars involving trading without assets backing resulting also from other factors such as; moral hazard behavior, structural problems, inconsistent policies and policy mistakes of Government and Central Banks, cronyism and weak corporate governance, inaccurate credit rating, mortgage fraud and flawed oversight by mortgage

brokers, conflict of interest by rating agencies and law makers, heavy military spending etc.

Impacts and severity

A financial sector downturn – financial equities plunging and more and more bankruptcies, market weakness, market downturns and other economic effects such as : rising unemployment and workers lay offs, falling crude oil prices, inflation, currencies volatility, lost of confidence in the markets, etc Professor Robert Merton, Nobel Prize Winner in Economics in 1997 noted that the amount of loss of wealth in the current turmoil ranges between $3 to $4 trillion.

Implications/ consequences

The international institutions of finance, commodity and currency markets would be clouded by uncertainty and instability as well as lost of confidence and direction in the financial systems leading to gloomy economic picture thus presenting substantial amount of risk to the developing world.

Measures taken by various nations

A look at some regions of the world most affected by the financial crisis, and what governments are doing to try to alleviate the financial turmoil as at 27/10/2008.

CANADA

The Bank of Canada cut its key interest rate by a quarter point, to 2.25%, on 21 October, 2008.

This is the second cut this month - the bank cut the rate by half a percentage point on 8 October, 2008 in a coordinated effort with other central banks.

On 10 October, 2008, Finance Minister Jim Flaherty attempted to ease the credit crunch by announcing CAN$25bn ($21bn) of asset-swaps between the country's major banks and the government-owned Canada Mortgage and Housing Corporation (CMHC). The Bank of Canada said three days later it would provide exceptional liquidity to the financial system "as long as conditions warrant".

AUSTRALIA

Australia's central bank intervened to support its currency on 24 October, 2008 and then again on 27 October.

It had last intervened more than a year ago and before that had not done so since 2001.

On 7 October, 2008, Australia's central bank cut its key interest rate from 7% to 6% - a much larger-than-expected reduction. The government later announced it would guarantee all bank deposits with financial institutions over the next three years.

CHINA

China has also joined the interest rate offensive, cutting rates by 0.27 percentage points. It will join Japan, South Korea and other Asian countries in an $80bn reserve-pool scheme from mid-2009 to boost liquidity in the region.

HONG KONG

The central banks joined the growing number of countries to cut their interest rates. Has promised to guarantee all bank deposits until 2010.

JAPAN

Japan's Economy Minister Kaoru Yosano said on 21 October the government was ready to support major banks with public funds, so that small and medium-sized companies would not struggle to access credit.

The authorities have also relaxed regulations on companies buying up their own shares.

A 1.8 trillion yen ($18bn) stimulus plan was approved by the lower house of parliament and the Bank of Japan has put 4.5 trillion yen ($45.5bn) into the banking system.

Prime Minister Taro Aso said more action was needed to boost the country's flagging economy.

SINGAPORE

The government has offered to guarantee all local and foreign currency deposits up until the end of 2010.

SOUTH KOREA

On 27 October, 2008, South Korea's central bank cut its key interest rate from 5% to 4.25% at a rare, unscheduled meeting.

Previously, South Korea's government had pledged to guarantee foreign-currency borrowing by the country's banks to help stabilise financial markets.

The finance ministry, the central bank and the financial services commission said about $100bn of borrowed funds would be covered by the deal. The government will also provide $30bn of liquidity to banks, and there will be more aid to small businesses.

AUSTRIA

Chancellor Alfred Gusenbauer said on 13 October, 2008, that his government would provide up to 85bn euros ($114bn) in inter-bank loan guarantees and up to 15bn euros ($20bn) in equity to support the country's banking sector. The government had already announced a guarantee for all personal bank savings, applicable from 1 October.

BELGIUM

The government agreed to guarantee bank deposits of up to 100,000 euros ($136,000) - an increase of 80,000 euros.

The country's largest banking group, Fortis, needed the intervention of the Belgian and Dutch governments and the sale of some of its assets to French giant BNP Paribas, to stay alive after getting into difficulty over the purchase of Dutch bank ABN Amro.

FRANCE

The chairman of French savings bank Caisse d'Epargne has quit over the loss of 600m euros (£466m) in a "trading incident" amid global market chaos.

Charles Milhaud said he accepted full responsibility for the lost cash and is expected to leave without a pay-off.

GERMANY

On 17 October, 2008, the German parliament overwhelmingly approved a 500 billion euro ($675bn) financial rescue package. The plan includes a fund to provide up to 400bn euros in inter-bank loan guarantees and 80bn euros ($109bn) to acquire stakes in troubled banks.

German parliament backs bail-out

The government stepped in on 6 October, 2008, to avoid the collapse of Germany's second-biggest commercial property lender, Hypo Real Estate. In an attempt to prevent a subsequent run on banks, the government announced it would guarantee all personal bank deposits in the country.

IRELAND

Ireland was the first government to come to the rescue of its citizens' savings, promising on 30 September to guarantee all deposits, bonds and debts in its six main banks for two years.

The move initially prompted consternation among some European partners, but other countries have since followed suit.

ITALY

Finance Minister Giulio Tremonti said on 13 October,2008, that the government would spend "as much as necessary" to support his country's financial institutions. The governor of the Bank of Italy, Mario Draghi, meanwhile announced it would temporarily swap up to 40bn euros ($54bn) of bonds for Italian bank debt.

On 8 October, 2008, Prime Minister Silvio Berlusconi said the government was prepared to buy stakes in failing banks while waiving voting rights in an effort to guarantee stability. It would also step in to back deposits up to the current insured level of 103,000 euros ($141,000) if necessary, he said.

NETHERLANDS

Dutch insurance giant ING is to receive a 10bn euro ($13.4bn; £7.7bn) government cash injection.

The government is also offering a 200bn euro package of loan guarantees to Dutch banks.

NORWAY

The central bank, also outside the eurozone, said it would issue up to 350bn kroner ($55bn) in bonds to banks to help improve liquidity in the market.

RUSSIA

The upper house of Parliament, the Federation Council, passed a law on 13 October, 2008, giving the state-run Bank for Development and Foreign Economic Activities (Vnesheconombank) 1.3 trillion roubles ($50bn) to pay off or service Russian banks' foreign loans. It came after President Dmitry Medvedev announced 950bn roubles ($36.4bn) of long-term help for banks at an emergency Kremlin meeting on 7 October, 2008..

SPAIN

Spanish Prime Minister Jose Luis Rodriguez Zapatero announced on 13 October that his government would set aside a maximum of 100bn euros ($134bn) to guarantee interbank loans for the remainder of 2008. But Mr Zapatero said the government would not, for now, take steps to recapitalise Spanish banks, because "we do not have solvency problems".

On 10 October, the government announced the creation of a 30bn euro ($40bn) fund to buy assets from Spanish financial institutions to help stabilise them and unfreeze credit. Three days earlier, it had increased bank deposit guarantees to 100,000 euros ($136,000) from the current 20,000 euros

SWEDEN

The Swedish central bank cut interest rates by half a percentage point to 3.75% on 23 October, 2008, its second reduction in just over two weeks, and said it planned further cuts within six months.

Sweden has guaranteed new medium-term liabilities of banks up to a level of 1.5 trillion crowns (£117.2bn; $205bn). It is also putting 15bn crowns into a fund that will be used in case a bank needs emergency capital.

SWITZERLAND

Switzerland takes steps to strengthen its largest bank, UBS, by giving it 6bn Swiss francs ($5.3bn; £3.1bn) in exchange for a 9.3% stake. The bank will also be able to transfer up to $60bn of toxic assets to a fund supported by the Swiss central bank. Credit Suisse was also offered government assistance but was instead able to raise 10bn Swiss francs from global investors to shore up its position.

UK

Following negotiations, the government announced on 13 October, 2008, that it would inject £37bn ($64bn) of taxpayers' money into three major banks. Royal Bank of Scotland (RBS) is to receive £20bn, a further £17bn will be injected into HBOS and Lloyds TSB "upon successful merger", while Barclays said it would seek an alternative source for £6.5bn ($11bn).

ARAB STATES

Kuwait's central bank said on 26 October, 2008, that the government would introduce legislation to guarantee deposit in its banks - after losses were reported at Gulf Bank. Traders have been protesting, demanding more protection for Kuwait's banking system.

Saudi Arabia said it would be making funds available to help-low income citizens who were struggling amid the financial downturn.

On 21 October, 2008 it said it was pumping $3bn (£1.8bn) into its banking system to improve liquidity, reports suggested.

Share prices have dropped precipitously this year, amid fears of weakness in Dubai's property boom and exposure to global markets. However, economists expect growth to continue at a moderate rate as the region's oil wealth cushions the worst of the financial turmoil.

In an effort to boost confidence in the financial system, the Saudi Arabian Monetary Agency (SAMA) cut its benchmark interest rate on 12 October, 2008 for the first time in almost two years. The government of the United Arab Emirates, meanwhile, promised to protect national banks and guarantee deposits, and Qatar launched a $5.3bn plan to buy bank shares.

INDIA

India unexpectedly cut its repo rate by 100 basis points to 8%, in a bid to boost liquidity and stabilize India's finances.

Suggestions to Policy makers

a. Look for areas of agreement in what are the causes of the financial crises and call for debates from different ideologies for wider discussions.

b. Market participants need to change their behavior

c. Improvement of private sector standards and more effective regulation

d. Best practices in the private and official sectors

e. Development of new guidelines and increase vigilance on liquidity management.

f. Improvement in transparency and disclosure practices to clear off information asymmetry that impede smooth functioning of markets.

g. Benefiting from other systems such as the Islamic finance that is free from the flaws that had weakened the capitalist system

h. Stabilize the situation first and then look for effective treatment

i. Creation of the equivalent of the National Transportation Safety Board for examining financial crises in a technical determined way, and a strong need for talent people skilled in general management combined with highly technical training to develop a functional perspective.

J. Power to police the global economy would have to include representatives of every developed country–A United Nation of Economic Regulation. Robert Zoellick President of the World Bank identified the weakness of the current system when he said the international organizations that excluded countries such as China, India, Brazil, Saudi Arabia .South Africa and Russia were outdated.

Islamic Finance - a proposed alternative to the conventional financial system

The Quran (Shurah 2: 279) describes "*Riba*" (interest/usury) as "*Zulm*" – injustice and accordingly prohibits it, as it is an exploitation of one party by another. The *Shariah* rules that all parties to a contract must share in the risk. The Prophet Muhammed (PBUH) elaborated this principle in Hadith- (Tradition) which says "*Al Kharaj bil 'al daman*" – (Profit is linked to liability for loss) meaning that where there is a risk, profit can only be received by sharing in that risk The *Shariah* also says that risks should be limited in such a way that it does not lead to social conflict just like what we are experiencing now in the current global financial showdown. Based on this, Islam prohibits gambling and all transactions involving "Gharar"-uncertainty, which is an extreme form of risk Many forms of derivatives currently used involve the sale of securities which the *Shariah* scholars describe as "*Bai al–dayn*" (debt trading). The securitization of many assets and contracts deploying large amount of funds. The modern financial practices of these transactions violate the *Shariah* regarding *Riba*, Gambling and *Gharar*. The principle of transparency is that all available information should be shared by all those concerned. The conventional system had a built in incentive structure that promoted moral hard and asymmetric information. Islamic teachings have

condemned the circulation of capital with few people, a characteristic of the modern financial system.

Minsky in the late 1970s to early 1980 revealed that the conventional financial system was always inherently susceptible to instability as a result of mismatches between liabilities (short-term deposits) and assets (long- term investments). He points out that the nominal values of liabilities were guaranteed while the nominal values of assets are not. In the event that the maturity mismatch becomes a problem, the banks would engage in liability management by attracting more deposits with higher interest rates.. He dismissed the sustainability of this process, which could bring about lost of confidence and bank runs. A proposal for an alternative system by Lloyd Metzler during 1950s to 60s called for replacement of debt to equity contracts as it does not involve guarantee of nominal value of liability because they are tied to nominal values of assets.. He argued that such a system is safe from instability features found in the conventional banking system. In 1985 Mohsin Khan classic article in the IMF staff papers indicated the similarity of Metzler proposal to the Islamic finance model. He showed that the Islamic finance is a moderate system that has better stability than the conventional system. The Islamic finance system will help reduce the risk of moral hazard and lead to fair distribution of risk

The Islamic financial system has the potentials to correct the ongoing grave anomalies that have engulfed the global financial system stability due to its fundamental operating principles of a close link between financial and productive flows and its requirement for risk sharing .Islamic finance does not permit deals based on nominal or imaginary contracts that are some of the major causes that gave birth to the current global financial upheaval. Transactions are genuine in Islamic finance in which actual delivery of real goods and services take place without transfer of risk to another party because a contract debt is not saleable. The conventional financial system is characterized by opaque or obscure transactions like the sub-prime loans that has shattered the US housing into pieces.

The basis of Islamic finance is its value-oriented system based on the Quran, actions and sayings of the Prophet Mohammed (PBUH). Islamic banking and finance is a system aimed at promoting Islamic economic order based on social justice, equity, moderation and balanced relationships. It forbids all forms of exploitation and honors labour, encourages man to earn his living by honest means and to spend his earnings in a wise manner. Dealings in Islamic banking is sound as risk is shared between the bank and the depositor and investors have absolute right to know the manner their funds are applied.

The much complicated and complex derivative instruments used in the conventional finance and creative accounting practices that have played a huge role in letting down the conventional finance in the current global financial turmoil have no place in Islamic finance .Reports claim that the derivative market is estimated to be worth $600 trillion that has dwarfed the world economy by more than ten folds.

The Islamic principles regarding collateralized Debt Obligation would have prevented the financial crisis if there were in practice. Transactions in Islamic finance are backed by real or tangible assets unlike the repackaged sub-prime mortgage backed by dubiously rated collateralized debt securities crisis that could have been avoided under a well structured Islamic bond as the *Shariah* does not permit to sell debt against debt. The financial crisis reported losses of trillions of dollars involving trading not backed by real assets. This couldn't have happened in the *Shariah* compliant practices of Islamic finance because under the *Shariah* no one can sell what he does not possess or promise what he does not own. Islamic finance operates in moderation unlike the heavy borrowing and the excess of the conventional finance system. Islamic finance has therefore suffered minor effect in the face of the current global finance disaster and has proven to be a viable alternative to the conventional finance as it is emboldening its capability to influence and shape the world's institution of finance through its safer practice. Also during the Asian financial crisis the Islamic finance suffered minor effects relative to the conventional finance .Claims by the industry experts show that Islamic finance is the fastest growing industry with an annual growth rate of between 10 to 15 %.

In the midst of the ongoing extreme financial disaster, the conventional markets are resorting to and borrowing some of the Islamic finance ideas and principles derived from the *Shariah* Law. The belated banning of short selling of shares and cutting off interest rates by the conventional finance adherents as a result of the global financial meltdown reflects the *Shariah* principles that prevent traders from dealing with assets they don't own and prohibits interest charging as illegal misappropriation of another persons property. These principles have totally been absent from the conventional marketplace practices. In a nutshell, Islamic finance prohibits some of the excesses that have roughly shaken and devastated the Conventional financial system into ruins.

In another scenario to strengthen the above arguments,the suitability of Islamic financial system as viable alternative, Sheikh Saleh Abdullah ,Chairman ,General Council for Islamic Banks and Financial institutions working paper to The Islamic Development Bank (IDB) entitled **"The Global Financial Crisis :Challenges and Available Opportunities** on the 25th October 2008 enumerated some explicit calls by some disappointed western personalities

with the basics and principles of the western financial system . These personalities have seen the Islamic financial system governed by the principles of the Shariah as a suitable viable alternative.

These explicit calls to switch to Islamic financial system with their references cited by Sheikh Saleh Abdullah Kamel in quotes include the following :

1. The Editor in –Chief of "*Challenger Magazine* " wrote " I think that we are now more in need in this crisis **to read the Quran more than the New testament** in order to understand what is happening to us and to our banks for those in charge of our banks **respected the teachings and rules of the Quran** and applied them we would have averted the crises and disasters that are befalling us and we would not have reached this dismal condition, for money cannot beget money. The writer wondered about the ethics of capitalism which is lenient and permissive in justifying interest.

2. Rolan Laskin , Editor in Chief of "Journale de France " demanded **"Application of the principles and rules of Islamic Shariah in the financial and economic fields "** in order to put an end to this crisis which is shaking the entire world markets as a result of manipulating the rules of fictitious and illegitimate speculations. This came in an article for the writer entitled: "**Has Wall Street Qualified to Embrace the Religion of Islam?**

3. The French Supreme Council f Financial Control, which is the supreme institution monitoring the activities of banks in France, issued a **decision prohibiting fictitious dealings and nominal sales. It imposed the condition of receipt (of considerations) within three days from the date of signing the contract ,no more**. This is completely consistent with the principles and rules of Islamic Law.

4. In a book published by the Italian researcher, Louritta Napolioni, she referred to the importance of Islamic financing and its role in rescuing the global economic condition. She considered the unusual condition of the global economy is the result of rampant corruption and speculations which control the market . She added that **"Islamic Banks could become the suitable alternative to Western Banks"**.

With the collapse of the stock markets and the mortgage credit crisis, the traditional banking system started to show cracks in the structure and needs drastic and deep solutions.

5. A report issued by the Senators of French Parliament that "**The Islamic Banking System is suitable for all, Muslims and non-Muslims alike and it could be applied in all parts of the country ".** This is in addition to the fact that Islamic economics meets universal desires. This is what was recommended by the Finance and Budget Control Committee in May 2008 after organizing two seminars on the Islamic banking System .

6. There are signs of a new trend in the world shifting into a new financial era in which real money and actual exchange have become an alternative to speculative financing , over draft sales and other financial risks.

7. Two decades ago , the French economists and noble Laureate in Economics, Maurice Allei, proposed (in the context of surmounting the crisis of indebtedness and unemployment and to return to the state of equilibrium) to modify **interest rate to zero** and to **review tax rate to about 2%,**which is completely in harmony with the abolition of *riba* (interest) and the rate of *Zakat* payment on cash held according to Islamic Law.

One observer stated that the global economy will no longer be driven by two or three trading blocs as other small trans-national, regional and other ideologies are gaining significance.

5

Speculation between Proponents and Opponents*

Dr. Rafic Yunus Al-Masri

- **Definition of Speculation**
- **The Difference between Speculation and Trade**
- **The Difference between Speculation and Investment**
- **The Difference between Speculation and Gambling**
- **The Proponents' Arguments**
- **The Opponents Arguments**
- **The Moderate Opinion: Using Speculation without Excessiveness**
- **Conclusion**
- **Summary**

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If interest is the "guiding soul" of conventional banks, so is speculation for the stock markets. In studying the stock market processes, it is preferable to start with speculation before moving on to other details like short selling, options, futures and margin trading. Accordingly, the study of speculation falls under the stock market's generalities, while, contracts are considered within its specifics. Thus, we must consider speculation when studying stock-market transactions; otherwise lawful rulings would be unsound. Besides, studying speculation is an essential introduction for studying stock market transactions and it facilitates attaining the *fiqhi* (jurisprudential) rulings regarding such dealings.

This issue appears to be more important in the Arab and Islamic countries, of which some already have stock markets that need to be activated, while others have no stock markets at all, and intend to establish them. In both cases, the truth about speculation needs to be revealed. Since this issue is controversial among both Westerners and Muslims, one would hope that such controversy in an Islamic context, is not a mere echo of the Western one.

Definition of Speculation

A number of definitions of speculation used in professional writings are mentioned hereafter. However, most of them, as will be noticed, are either incomplete, ambiguous or misleading. The reader would be able to realize the meaning of ambiguity as we go further in the discussion. These definitions are as follows:

- Speculation is the prediction of a profit opportunity to benefit from, and of a loss probability to avoid.
- Speculation is to buy or sell, to benefit from price differentials that result from the expectation of change in the stock values.
- Speculation is a big venture aiming at attaining gains. Its prime goal is to increase capital rather than dividends from shares.
- Speculation is to buy or sell with the aim of increasing capital gains from the natural price differences rather than obtaining regular revenue profits.

- § Speculation is a buying or selling process followed by other reverse process, based on justified information, aiming at benefiting from the natural differences in prices.
- § Speculation is buying or selling in the present, with the hope of buying or selling in the future when a change in prices occurs.
- § Speculation is to buy, aiming at selling at a higher price or to sell to compensate for what was sold at a lower price.
- § Speculation is a fake buying or selling, not with the aim of investment, but rather with the aim of benefiting from changes in the very short-term of the stock market value. This occurs when a big difference takes place between the stock market price on one side and the nominal or book-value (the *real* value) on the other. (Mohiuddin, 1415H, p.482, and Suleiman, 1426H, 2: 672). In fact, the real value is different from the book-value and it is more appropriate to use in the definition.
- § Speculation is a buying or selling process carried out by market experts to benefit from price changes (*al-Mu'jam al-Wasit*).

Speculation is a fake reverse process of selling and buying not aiming at physically exchanging commodities (no actual "commodity" is desired for itself). In reality, it aims at benefiting from natural or artificial price differences and capital gains if the predictions of price changes in the short-term proved to be true. No matter, this prediction comes out of information, experience and study or merely out of rumors, luck or even coincidence.

The Difference between Speculation and Trade

- § The merchant possesses goods; whereas, the speculator does not. He only gets or pays the price differences (clearing). This non-possession of goods is a distinguished characteristic of speculation. Besides, in speculation, selling or buying is fake and reversed as the good in itself is unwanted. Samuelson (1985, pp. 214 and 215) says: "They (the speculators) are simply middlemen who are interested in buying cheap and selling dear. The last thing they want to see the wheat or hog truck roll up to their door (…). The speculators themselves may never touch a kernel of corn or a bag of cocoa, nor need know anything about storage, warehouse, or delivery. They merely buy and sell bits of paper".
- § The merchant does not count upon price betting, while the speculator depends upon betting either through prediction or expectation. Some authors respond to this argument by saying that the merchant also makes a bet, if his bet is true, he profits, if not, he loses. However, betting in

trade remains concerned with the commercial activity and is not isolated from it as in speculation.

- The merchant counts on price stability; whereas the speculator counts on price fluctuations.
- Price manipulation is more common in speculation than in commerce. This manipulation occurs through rumors and fake deals. Despite the fact that this manipulation could be common (with difference) to both the monopolist merchant and the monopolist speculator, yet, it is more a characteristic of monopoly rather than of speculation.
- One of the important points is that speculation causes prices to be far distant from goods or stocks' real prices and away from the real financial performance of the stock-issuing company. This leads to price increase despite having no purchase intention (*najash*). On the contrary, in commerce, the real and sell prices are close and relevant to each other.
- In trade, both the seller and the buyer win; whereas, in speculation, one of them wins what the other loses, which is known in the Western writings as 'Zero Sum-Games'. In addition, trade is productive while speculation is not, thus, the speculation's risk differs from that of commerce. Some people would argue that speculation is also productive in the sense that it transfers risks to those who are willing to undertake them and in this case these people specialize in undertaking risks. However, this argument may actually aim at embellishing speculation rather than revealing the truth about its hidden purposes.

The Difference between Speculation and Investment

An investor buys the stock and keeps it to get dividends. He may sell his stock, when needed, to attain a capital gain although this does not represent the normal case. On the other hand the speculator buys the stock to sell it in the short-term when the price increases, aiming at cashing-in a high and rapid capital gain.

Thus, investment is long-term, with relatively lower- risk and its return is more secure than speculation. While, speculation is short-term and is characterized with rapid gains and high risks. Accordingly, speculation differs from investment in its duration, the risk degree and the expected revenue. The speculator undertakes a high risk to attain the highest possible amount of capital gains in the shortest possible time. Whereas, the investor undertakes a low risk to acquire a reasonable dividends, while his expected capital gains from market prices' fluctuation comes in the second place. However, if a person wants to be an investor in the stock market, the speculators will transform his investment into speculation.

The Difference between Speculation and Gambling

The proponents of speculation differentiate between speculation and gambling on the basis that speculation depends upon information, experience and study unlike gambling that leans merely on fortune and coincidence. Yet, some believe that there are two types of speculation:

- The first type depends upon experience. This type is few in number (speculation of big professionals).
- The second type which is more popular depends upon fortune (speculation of small amateurs).

Despite the differences between them, both types are considered speculation. Likewise, modern gambling could also depend upon information, experience and study.

The proponents of speculation believe that the gambler himself creates risks, while the speculator only transfers risks as he undertakes existing ones. On the other hand, the opponents of speculation believe that there is no difference between speculation and gambling, but rather it is a new version of it. They argue that in speculation as well as in gambling a few people gain huge and rapid fortunes while the majority loses and whatever is gained by the minority comes at the expense of the majority. In addition, the chances of the minority's making a profit is very small, very close to their chances of winning the lottery. Accordingly, they are more liable to loss in both cases. On the other hand, big speculators' profits are huge and guaranteed at the expense of small speculators who are being exploited in the stock market to act as its fuel and victims at the same time.

The Proponents' Arguments

- § Speculation reduces price fluctuations so that when prices decrease, the speculators intervene and buy, this in turn limits the continued decrease due to the increased demand. Similarly, when the prices rise, they intervene through selling their shares, thus limiting the increase in price. Therefore, speculation works on stabilizing and rebalancing prices and narrowing the gaps between them. (al-Barbari, 2001, p.282).
- § Speculation reduces the merchants' risks as it either realizes profits or minimizes losses through reverse or compensating deals.
- § Speculation activates the stock market as it encourages the circulation of large amounts of stocks or goods. This in turn flourishes the stock market, enlarges its role and helps in providing liquidity easily and rapidly. Thus,

the speculators are added to the investors in the stock market. They activate the stock market with their rapid and multiple speculations. Accordingly, there are three types of deals or contracts: spot contracts, forward contracts and speculative contracts, so that if the speculation contracts were cancelled, the stock market activity would weaken. Similarly, if the forward contracts were cancelled, the stock market activity will get weaker as debts multiply activity and likewise the speculations greatly multiply it. Thus, if speculation was supported by debts or credit, the stock market would increase more and more.

§ The speculator seeks to obtain a personal profit and there is nothing wrong with that, as profit represents the main cause for establishing any economic project and it is the main incentive for any production process. Profit always depends upon price changes and fluctuations so that no economic or commercial project can avoid speculation in which you can buy with the least possible price and sell with the highest possible one. Consequently, no capital investment could be totally speculation-free.

The Opponents Arguments

§ Speculation aggravates price fluctuations as it originally relies on such fluctuations and it finds no room if the prices stayed stable. In speculation, prices rise and drop to economically unjustified levels regardless of the real value of the stock or good and of the actual performance of the stock-issuing company. Thus, speculation is an artificial heating up and an unwanted additional parasite activity.

§ The brokers and the well-informed speculators are the ones who benefit from the intense heat produced by speculation. On the contrary, this heat brings no benefit to the public but rather it is a source of harm to them as it is an attractive but intriguing activity.

§ Speculation does not differ from gambling but rather it is one of its modern forms. In fact, stock markets are nothing but dubious houses protected by law or gambling casinos where people gain unbelievable fortunes at a wink and at the same time it witnesses overwhelming losses in seconds causing disastrous impacts like bankruptcy, family disputes, divorce, heart attacks and sudden deaths. So, it is more like lottery where the minority of dominant organizers wins while the majority masses lose. In other words, the small speculators fall as an easy prey in the clutches of the stock markets' tycoons. Such dominant tycoons are very powerful and they are aware of all the stock market's secrets and they are associated with the top government leaders. In addition, they work together under cover using intrigues, plots and rumors and they control media. They also exploit credit to support speculation and they affect heated and wild

speculations to the extent that speculation becomes more like a Crazy Market. Some others argued that the people's movements in the stock market look like they are working under a spell.

However, these movements could look very attractive but they are very intriguing at the same time as such tycoons own a lot of money that flow as fast as a wink from one place to the other. Sometimes such money causes a disastrous effect like the weapons of mass destruction as they ruin some countries' economy. The 24 hours modern electronic network increased further the intensity of these speculations as it offers a minute- per- minute price quotes and displays 375-purchase orders/second with a total of 2 billion process/day. This in turn increases the risks of turbulence and financial instability all over the world as such price quotes instantly spread to international stock markets directly causing a mania in all other stock markets.

- Speculation, gambling, betting and monopoly are all characteristics of Capitalism also known as 'Casino Capitalism'. It is noteworthy that the capitalist countries together with the multinational companies secretly commenced in setting up a multi-party investment agreement that was about to be signed in 1998 except for the NGOs' efforts in Europe and the United States that fought that agreement. An American society called "Public Citizen's Global Watch" unveiled this secret plot as its chairman "Lori Wallach" wrote an article about this issue in the French newspaper, *Le Monde Diplomatique*, in December 1998 under the title: "The World Declaration of Capital Rights". Such agreement could have allowed the gigantic monopolists and multinational companies to sue any government calling for compensating any harm caused by any policy or attitude that would negatively affect the accumulation of gains and wealth (al-Barbari, 2001, p.344).
- Speculation is associated with monopoly as there are big speculators who dominate goods or stocks and control them, thus converting speculation from a price prediction tool to price enforcing tool. Yet, who could punish these tycoons? They cannot be legally sued for this predomination (al-Barbari, 2001, p.317). Punishing small investors and speculators is very easy even if they do not deserve it, but punishing those tycoons is very difficult even if they deserve it. In addition, all the claims of competitiveness, transparency and equal information is only a camouflage for monopoly, secrecy and domination. People of authority are always using such words as "reformation", "competition" and "colonization" to refer to "corruption", "monopoly" and "occupation". They have even called destructive chaos "creative chaos"!

- If the reverse contracts known as deferred sales or '*inah* sales are religiously forbidden (*haram*), even though they involve delivery of commodities, then how about the reverse contracts that do not involve any delivery or receipt of commodities (the commodity in itself is unwished-for)? So, what would be the lawful ruling regarding this issue especially if we bear in mind that it is considered an entire risk and it is not associated with trade? Since no mutual possession takes place in the stock market, then, the good is no longer important and it does not matter anymore if it is fungible or non-fungible good, suitable or non suitable for deferred contracts. In fact, the goods could be fake or symbolic like the indices and even the companies themselves could be a mere illusion.
- Gambling exists originally in playing games, yet, it could also be involved in selling, in other words, it is called gambling in playing games and *gharar* (deception) in selling. Likewise, in the stock market, speculation transforms selling into bets or fake contracts or rather games as they used to do in *Jahiliyah* (the era before Islam) such as *hasah*, *mulamasah* and *munabadhah* sales.

The Moderate Opinion: Using Speculation without Excessiveness

As it is commonly applied today, some economists argue that speculation is indispensable. According to their view, it has become like alcoholic beverages or table salt, a little of it could be good but having much of it is definitely harmful. Despite the fact that these items are not always favorable, yet, they must not be continually blamed as they have both good and bad aspects. Thus, if we want to have an active market, we could make use of it in a reasonable but not in an excessive way. (al-Ashqar, 1416 H, p.102, 106)

It appears to me that speculation is not the kind of thing that we could limit it if we permitted it. It is not also one of the things like *gharar* that few of it is allowed but much of it is forbidden. However, speculation is more like gambling and betting rather than *gharar*. Besides, *gharar* is associated with real selling, while gambling is associated with playing games and sometimes with fake selling.

Some experts believe that it is hard to differentiate between speculation and gambling so they find excuses for those who blame speculation for all the misdeeds taking place in the stock market. (al Barbari, 2001, p. 279). Thus, hypothetically, although some of speculation might be permitted, yet, we have to forbid this small permitted amount, as it would be very difficult to limit speculation in the stock market to reasonable or acceptable levels only.

In his research, Kamali (1996, p.197) cited the *hadith* that says: "Do not sell what is not with you" and the *hadith* that forbids sale prior to taking possession and the *hadith* of debt clearance sale (*bay' al kali' bi al kali'*). He found that the first *hadith* refers to "sale of specified objects (*a'yan*)" rather than "fungible goods", thus, if it meant the ability to deliver, then this is already taking place in the stock market. The second *hadith* refers to food rather than other goods that could be sold by installments. The third *hadith* is a weak one as the Holy Qur'an allowed debt as showed in the clear-cut Qur'anic debt-verse. So, Kamali tried to purify the stock market's contracts from such forbidden acts but at the end he warned against excessive speculation and *gharar*. I find myself agreeing with him on the possibility of purifying this issue from all its forbidden aspects unlike the opinion of a number of researchers and *fiqh* organizations who think that this issue is already settled and needs no more investigation. It may also be allowable to close a deal based on '*arbun* (a down-payment), to those who legalized '*arbun* and extend that to stock-market transactions. However, that is not enough to legalize the whole process.

However, Kamali's research neither showed how we could protect the stock market from this excessiveness nor referred to the impact of speculation on the small speculators. He did not also discuss the effect of reverse contracts on heating up the stock market and how its prices jump up to unjustified economic levels, which are irrelevant to the real performance of the stock issuing companies. Thus, he overlooked the fact that in order to fully understand the stock market, you have to take into consideration the small speculators who represent the public majority and they act as the stock market's fuel and victims at the same time. In addition, you have also to keep in mind the violations protected or overlooked by laws and regulations that are nothing but a delusive nominal coverage like "anti-usury law" and "anti monopoly law".

Kamali was the only Shari'ah scholar who tried to investigate the permissibility of speculation and forward transactions in the stock market. One would wish that he can elaborate on the eight points raised below in the summary.

Conclusion

A Wall Street specialist wrote a book on the stock market showing in it the manipulation that is taking place in the stocks' prices and he published it under a pseudonym "*Marchand Sage*". There are, according to him, "intrigues, lethal competitions, tense lunch-time deals, high-stake gambles, the subterfuges, cover-ups, and huge payoffs that make Wall Street the greatest playground in the whole world" (Marchand Sage, as quoted by Chapra, 1985 p. 98).

What is the solution then? Shall we ban the stock market, speculation, reverse or forward transactions?

Some believe that the proposed solution is not to dispense of the stock market but rather to dispense of speculation (a stock market without speculation = a more just and a more beneficial one, with less fuss and expenses). This could take place through canceling deferred contracts, a step already implemented in some stock markets (Muhieddin, 1415H, p. 93 and 520 and 561) and Chapra, 1985, p. 99). They argue that it is not enough to reduce these contracts through Central Bank's intervention in raising the monetary margins (the advanced cash installments) and limiting credit speculation. As for those who claim that speculation is the destiny of the stock market, according to them, nullifying speculation means nullifying the whole stock market.

How can we ban forward contracts when they are legitimately permitted by *shari'ah*? Islam permitted deferred payment (selling at installments) and allowed deferred delivery (*salam*), consequently, banning deferred contracts ultimately leads to banning something that is legitimately permitted. However, if we allowed the permitted deferred contracts, it would be difficult to ban the forbidden types of these contracts. Yet, it is worth remembering that what could not be legally banned, may be banned on religious bases.

Summary

- Speculation consists of reverse buying and selling processes resembling deferred or *'inah* sales (the good is not important) in the fact that in both cases the dealer is not interested in the good itself at all.
- Speculation exceeds *'inah* sales in the sense that it does not involve possession which means also that the good is unwanted.
- Speculation is a pure risk, separate from the commercial activity (it is a mere betting), so it is called in the Arab and Western laws.
- Speculation is a matter of price differences in which the small speculators depend only upon luck and coincidence, whereas, the big speculators use it as a mean for blackmailing, exploitation and becoming filthy rich at the cost of the general public. Thus, the outcome is that we have a few gaining party and a majority losing party, the minority gain is guaranteed while what is won by the majority is a mere lottery. What is gained by the minority is huge and what is lost by the majority is huge because in gambling what is lost by some is won by others: Zero Sum Game.
- Speculation is a dramatic and suspense heating up just as what is taking place in films and serials concealing underneath a lot of deception,

manipulation and *najash* (false bidding in which the bidder wants others, rather than himself, to buy). Thus, now after the domination of Capitalism, gambling is concealed under the cover of cultural competitions, or of trade. It is a modern game having all the effects of fanciful and exciting artistic production.

- Speculation leads to incorrect pricing of goods and stocks, as it neither reflects the company's performance nor the real value of stocks or goods.
- The solution is to have a stock market without speculation or reverse contracts lest we say a stock market without forward contracts. The suggestion of having a moderate speculation is unacceptable and impractical as it is no more than a trick hiding beneath theoretical regulations and false claims of information and experience. However, it is dominated by monopoly, deceit, rumors and misleading information aiming at deluding the public.
- Speculation, gambling and monopoly are the characteristics of Capitalism, even if capitalism pretends to stand against these practices. Capitalism either calls things with other names or mentions something theoretically and violates it in practice. It does not abide by religion or ethics unless they serve the tycoons even if this leads to the small investors' destruction. They want to impose upon us their system so that we lose the best we have and to receive the worst of what they have. This way they guarantee we stay behind in what they are already behind in.
- These methods that the "big-guys" propose are used to enable them to penetrate us and to strengthen their grip on us. Smaller investors should not fall into that trap and should not follow the "big-guys" and should not allow them to make money and power restricted to them. This manipulation of power and money by the "big-guys" will increase the tyranny of the more rich and more powerful, and result in the destruction of land and people. Instead of the affluent ones helping the needy, through this lottery and other means they are blackmailing them to the last penny (*fils*) they own.

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6

The Role of the Stock Exchange in An Islamic Economy*

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Introduction

In an Islamic economy where interest bearing loans are prohibited and where direct participation in business enterprise, with its attendent risks and profit sharing, is encouraged, the existence of a well functioning Stock Exchange is very important. It would allow for the mobilization of savings for investment and provide means for liquidity to individual shareholders. However, existing Stock Exchanges in non-Islamic economies have many drawbacks. They generate practices such as speculation and fluctuations in share prices which are not related to the economic performance of enterprises. These practices are inconsistent with the teachings of Islam.(1)

The aim of the paper is to outline a system which would establish a Stock Exchange consistent with the teachings of Islam. The paper is divided into two Sections. In Section I, we discuss the basic economic roles of the Stock Exchange and its main drawback in non-Islamic economies. In section II, we out line a proposal for Stock Exchange in an Islamic economy with its theoretical and practical implications.

The Roles of a Stock Exchange and Its Drawbacks in a Non-Islamic Economy

The basic economic roles of the Stock Exchange are:

(a) to allow savers to participate fully in the fortunes of business enterprise;
(b) to enable holders of shares and debts to obtain liquidity by selling their shares and bonds to business enterprises on the Stock Market;

(c) to allow business enterprises to raise external finance in order to expand the economic activities of their enterprise;

(1) The Qur'an says "they question Thee about strong drink - and games of chance. Say: In both is great sin, and (some) utility for men; but (the) sin of them is greater that (their) usefulness" (1:219). The Qur'an says "0 ye who believe! Strong drink and games of chance and idols and divining arrows are only an infamy of Satan's handiwork. Leave it aside in order that ye may succeed" (5:90). It must also be realized that according to Islam, an exchange contract is void unless the intention of the buyer is to buy and of the seller to sell and that no one sells what he does not have, that no one should deserve a return without bearing a corresponding obligation.

(d) to allow business enterprises to separate business and economic operations from financial activities.

The actual operations of the Stock Exchange in non-Islamic economies have been criticized for failing to fulfil fundamental economic functions and for allowing activities not compatible with social good to emerge in Stock Exchange trading. Two important criticisms have been made by J.M. Keynes; he has pointed out that investment in certain kinds of projects are governed by the expectations of share market dealers and not by those of entrepreneurs, and that speculation in shares may lead to misallocation of resources.

Central to Keynes' criticisms is the recognition that the Stock Exchange allows for revaluation of investment at regular intervals, so that individuals may revise their willingness to hold stock in a particular enterprise. Without the institution of the Stock Exchange it would not be possible to have this revaluation. Thus the Stock Exchange provides the means for making illiquid capital investment liquid for individuals although the illiquidity for the economy as a whole remains.

The major purpose of the Stock Exchange is to facilitate the exchange of claims on existing business enterprise, but in doing this the Stock Exchange makes a significant impact on current investment. This is due to two reasons:

(a) it is not worthwhile to embark on a new enterprise if a similar one can be acquired by purchasing shares on the Stock Exchange,
(b) it may be worthwhile to start a new company not because it offers long term economic advantages but because an immediate gain can be reaped by floating the company on the Stock Exchange and selling shares at inflated prices.

These were the circumstances to which Keynes referred to as follows:

Thus, certain classes of investment are governed by the average expectations of those who deal on the Stock Exchange as revealed in the price of shares, rather than by the genuine expectations of the professional entrepreneur.[(2)]

The Stock Exchange provides opportunities for gains to be made by profiting from fluctuations in the prices of shares which are not necessarily related to the economic performance of the company.

(2) **J.M. Keynes,** *The General Theory of Employment, Interest and Mone*y, New York, Harcourt, Brace and World, 1936, p.151.

Keynes has defined `speculation' as "the activity of forecasting the psychology of the market" and has contrasted this with the activity of "enterprise" defined as "the activity of forecasting the prospective yields of assets over their whole life." Keynes suggested that as the size of the Stock Exchange and other financial markets increases the probability of speculation will increase. Keynes further suggested that this was liable to lead to misallocation of resources:

> *Speculators may do no harm as bubbles on a steady stream of enterprise. But the position is serious when enterprise becomes the bubble on a whirlpool of speculation. When the capital development of a country becomes a by-product of the activities of a casino, the job is likely to be ill-done.*(3)

These factors are likely to pose serious problems in a non-Islamic economy, in an Islamic economy they are totally unacceptable. So our proposal for a Stock Exchange in an Islamic economy will involve procedures to avoid their emergence.

II
Functions, Structure and Performance of A Stock Exchange in An Islamic Economy

Functions of the Stock Exchange in an Islamic Economy

The basic role of the Stock Exchange in an Islamic economy is to facilitate the flow of funds from surplus to deficit units; deficit units in this context are business enterprises which wish to raise new funds by issuing equity capital. The Stock Exchange is organised to provide two conceptually separated but interrelated markets; these are:

(1) the new issues market in which newly created shares are offered for sale; and
(2) the secondary market which enables asset holders to trade in previously created shares.

The function of the new issues market is to enable savers to subscribe funds to business enterprises to allow for an expansion of their activities. This is the most important economic role for the Stock Exchange because it mobilizes savings for investment and assists in ensuring the maintenance of full employment.

(3) op. cit, p.159.

Thus the Stock Exchanges in an Islamic economy would perform the following functions:

(1) enable savers to participate fully in the ownership of business enterprise; sharing its profits and risks;

(2) enable shareholders to obtain liquidity by selling their shares ac cording to the rules of the Stock Exchange;

(3) allow business enterprises to raise external capital for establishing and expanding their lines of production;

(4) divorce business operations of the enterprise from short term fluctuations in share prices which are major characteristics of non-Islamic stock markets;

(5) allow investment in the economy to be guided by the performance of business enterprise as reflected in share prices.

The Structure of the Stock Exchange in an Islamic Economy

To achieve these aims it is necessary that companies issue only one type of share, i.e. a share which carries profit as a compensation for investment and risk taking. No interest-bearing bonds are to be transacted on the Stock Exchange of the Islamic economy. Hence, the Keynesian type of speculation based on the relationship between current and (expected) future rate of interest would not exist in an Islamic economy. And in order to achieve a greater degree of stability the following features would have to be incorporated in the structure of an Islamic Stock Exchange:

(a) all shares must be bought and sold on the Stock Exchange;[4]

(b) the Stock Exchange would provide trading posts where shares could be traded through brokers;

(c) all companies with shares tradeable on the Stock Exchange would be required to provide information on their profit and loss accounts and balance sheets to the Management Committee of the Stock Exchange at intervals of no more than three months;

(d) the Management Committee would determine for each Company at intervals of no more than three months a Maximum Share Price (MSP);

(e) shares would not be traded at a price *higher* than the MSP;

(f) shares may be traded at a price *lower* than the MSP;

(g) the MSP would be determined in accordance with the following

(4) It is assumed that in an Islamic economy, the Muslim believers will not sell in the black market to make personal gains.

formula;[5]

$$\text{MSP} = \frac{\text{Total Net Worth of company}}{\text{Total number of issued shares}} \qquad (1)$$

The Management Committee would have to ensure that all companies dealing in the Stock Exchange follow standard accounting practices with respect to depreciation, inventory, etc.;

(h) trading in shares would take place only in a period of one week, the trading period, after the determination of an MSP price;

(i) Companies would issue new shares only during the trading period and only at the MSP price.

This proposal meets the requirements of a Stock Exchange in an Islamic Economy: it allows trading in shares so that individual shareholders may relinquish their holdings and gain liquidity but also requires shareholders to maintain some commitment to the company by providing a period (of at least three months) during which they are unable to sell their shares.

Speculation in share prices is made difficult by the provision that shares can not be traded frequently and by the provision of an MSP. Also the Keynesian type speculation based on the relationship between current and (expected) future rate of interest would not exist in an Islamic economy.

Economic Operation of the Stock Exchange

To provide a benchmark for analysis, we start with a demand and supply analysis of the Stock Exchange in a non-Islamic economy. The demand for shares can be written:

$$D = D(p, r) \qquad (2)$$

when p = current price of shares
r = rate of interest

The supply relation for shares can be written

$$S = S(p, r) \qquad (3)$$

Where p and r defined as before

(5) The issue of new shares would not happen very frequently, hence the number (but not necessarily the ownership) of shares will be constant in the short run. Also, when new capital is raised, the total net worth of the company must increase unless the newly obtained capital was not efficiently used. The MSP, therefore, reflects the performances of the company.

The demand relationship embodies the contribution of Keynes discussed previously in which demand for shares depends on expectations of future price movements of shares as well as the current price. While there is no general theory of expectations formation available, it is likely that expectations about future prices will be volatile which will give rise to the divorce between share prices and the economic performance of business enterprise.

The supply relationship suggests that shareholders will sell share if the current interest rate is low. Since it would be expected that interest rate would rise and hence share price will fall. The reverse mechanism takes place with the buyers.

The share market in a non-Islamic economy can be represented in Figure I.

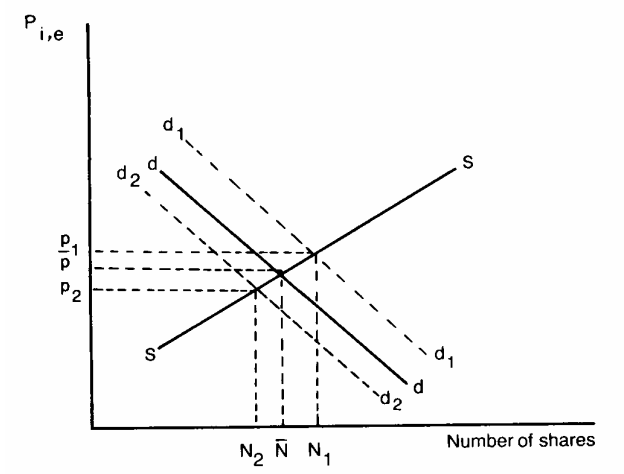

Fig. (I)

Equilibrium price and number of shares are determined by the intersection of the demand and supply curves, dd and ss to give p and N. Suppose the demand curve shifts as a result of a change in expectations to d_1 d_1 (or d_2 d_2) then equilibrium prices and quantities become P_1 and N_1 (p_2 and N_2).

The volatility of share prices can be increased by undesirable practices in the share market such as:

(1) influencing expectations by providing false or incomplete information;
(2) restricting the issue of new shares;
(3) creating false markets by selling short;

If any of these practices occur, then the market determined share price will have no relationship to the economic performance of the company.

In an Islamic economy the operations of the share market would be quite different. The demand relationship for shares could be expressed as

$$D = D(p) \qquad (4)$$

and the supply relationship

$$S = S(p, p) \qquad (5)$$

where p current price of share
p = MSP

To examine the operations of the stock exchange in an Islamic economy, we first introduce a concept of "kinked supply curve". This is shown in Figure II. The infinite-elastic part of the curve implies that P will not be affected by the quantity supplied. Hence the sellers would not gain from withholding sales on the expectations that there will be a rise in price. The maximum they can get is P.

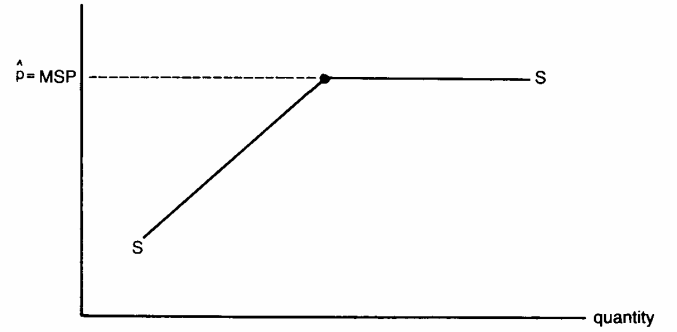

Fig. (II)

Supply of shares on a Stock Exchange in an Islamic Economy

This newly-developed kinked supply curve has two economic implications:

(i) There is a maximum price that sellers of shares can obtain. This is the price p which is an extension of the infinitely-elastic part of the SS curve. This maximum price is the price determined according to equation (1) and declared by the company at the appropriate time period. It follows that there is a maximum limit to what sellers can gain by playing the market; it does not matter how they try to influence the quantity supplied. This in itself limits the desire and the effect of speculation on the Stock Exchange of the Islamic market.

For sellers know that the maximum they can gain is determined by the *performance* of their companies and not by outside market forces.

(ii) Muslim sellers may, if they wish, sell at a price less than p (MSP) if they desire liquidity. Their supply would be determined by the portion of the SS curve to the left of the "kink".

What distinguishes the Stock Exchange in an Islamic economy from those in non-Islamic economies is that in the first type of economy the performance of share prices is directly and mostly related to the performance of the company issuing the particular share. Thus we may be able to distinguish between two types of shifts in the supply curve of shares on the Stock Exchange in an Islamic economy: (a) shifts due to changes in performance of the company and (b) shifts due to other factors e.g. a desire for more liquidity or a change in the portfolio. The first type of shift results in a shifting of the whole SS curve; up wards (indicating better performance of the company) and downwards (indicating a slack in the performance of the company). This type of shift is shown in Figure III. An upward shift indicates a rise in p (MSP) and a downward shift indicates a fall in p (MSP).

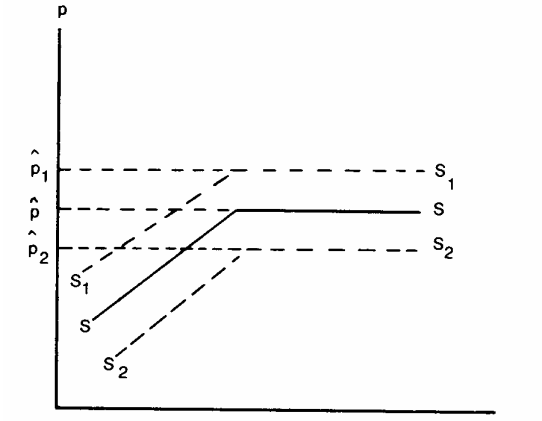

FIGURE III

Shifts in the supply of shares due to changes in the performance of the issuing company

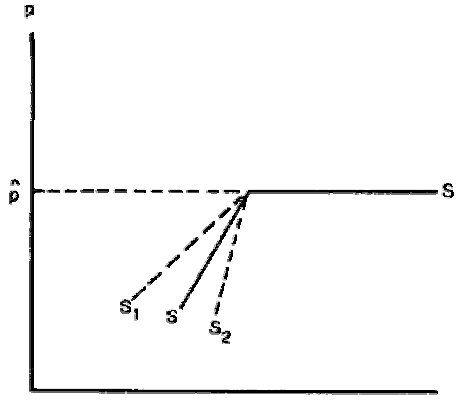

FIGURE IV
Shifts in the supply of shares due to factors other than the performance of the issuing company

Shifts in the supply curve due to factors other than the performance of the is suing company can only affect that portion of the kinked, SS curve which lies to the left of the kink as shown in Figure IV. Thus a desire for more liquidity shifts the curve to SS_2 and a desire for less liquidity (i.e. an increase in the propensity to hold the shares for longer time periods) shifts the curve to SS_1. These shifts have no effect on the maximum price p.

Equilibrium takes place at the point of intersection of the demand curve for shares and the kinked supply curve. This is shown diagrammatically in Figure V. It should be noted that this equilibrium is a comparative static one.

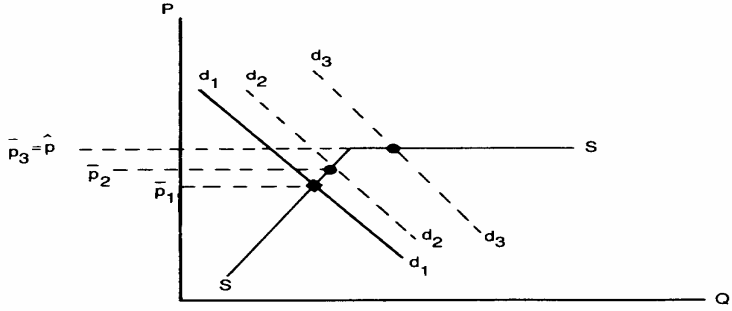

FIGURE V
Determination of the market prices of shares on the Stock Exchange of an Islamic economy

If d1 d1 was the demand curve and SS the supply curve, the market price is determined at P_1. An increase in demand, with supply left unchanged, leads to an increase in the market price. This continues as long as the demand curve intersects the supply curve to the left of the "kink". An intersection between the demand curve and the supply curve at the point of the kink or to the right of that point results in a market price which is equal to the maximum (declared) share price MSP (p). Hence further shifts of the demand curve to the right of the point of kink would have no effect on the market price of shares. These prices could only rise if the performance of the company improves, as shown in Figure VI.

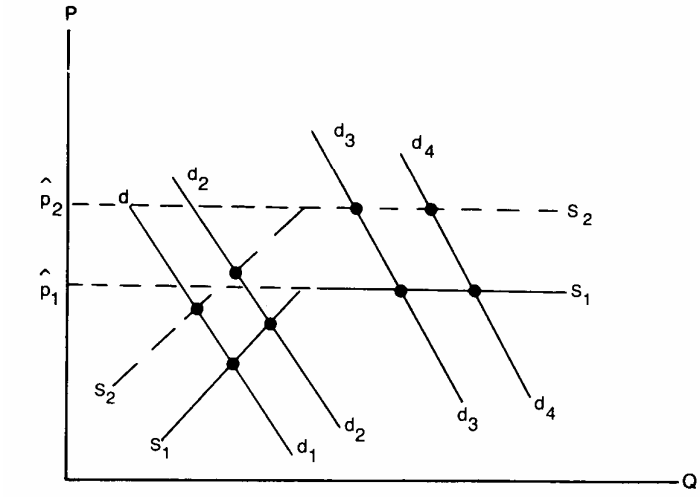

Fig. (VI)

Equilibrium on the Stock Exchange of an Islamic economy with improvements in company's performance

Conclusions

This paper examined the functions, structure and performance of the Stock Exchange in an Islamic economy. It shows that in such an economy, a Stock Exchange could perform a very valuable role. However the structure of such a market would be entirely different from that of the Stock Exchange in non-Islamic economies. Moreover, the performance of a Stock Exchange in an Islamic economy would vary from that of the corresponding markets in non-Islamic economies.

The main contributions of this study may be summed up in the following:

(1) It is possible to have a Stock Exchange in an interest-free economy based on Islamic teachings.

(2) Keynesian type speculation can be avoided given the right structure of the Stock Exchange.

(3) The proposed structure of the Stock Exchange avoids excessive fluctuations in share prices and yet maintains a high degree of liquidity and financial efficiency.

(4) The performance of the Stock Exchange in an Islamic economy would be linked directly and mostly to the performance of the companies which issue the shares.

(5) A kinked supply curve of shares is introduced as a tool of market analysis.

(6) Although the Islamic economy is basically a free-market economy, the Islamic authorities may interfere and regulate the market in cases where Islamic principles may be violated (e.g. cases of monopoly and gambling). The imposition of a maximum price could be one of the means by which Islamic authorities could uphold the Islamic principles.

7

Towards an Islamic Model of Stock Market(*)

Seif El-Din I. Taj El-Din

- **Introduction**
- **The Contemporary Custom and the Modern Joint Stock Company**
- **The Concept of Partnership in Islamic Jurisprudence**
- **The Sharī'ah Basis of Stock Exchange**
- **A Stock is Different from other Economic Commodities**
- **Market Efficiency under the Capitalist System**
- **Speculative Activity and the Benefit Accrued from Liquidity**
- **Speculation and the Problem of Objective**
- **Measurement of Efficiency**
- **Efficient Fluctuation Theory**
- **Keynes Theory of Stock Market**
- **Interaction of Professionals with Mass Psychology**
- **How Characteristics of the Islamic Model Could be Determined?**
- **What is the Appropriate Organizational Form to be Adopted?**

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I. Introduction

This research discusses a set of normative general principles and restrictions governing exchange in an Islamic stock market. It devotes itself to a critical evaluation of the modern capitalist stock market from the Islamic and economic points of view, determining the extent to which such a model is acceptable, in principle, to an Islamic society. In making this exercise, consideration is taken of the Sharī‘ah controls, which are based on the two concepts of considerations of and elimination of *gharar*, as well as on the Islamic principles that are in harmony with the concepts of economic efficiency and equitable distribution.

The paper will deal with the general principles only; the applied side of the issue will be discussed in passing, although we believe it is necessary to evaluate or rationalize the emerging experiences of stock markets in the developing Islamic countries, with the requirement of including developmental considerations in our analysis. It is felt that our need is more for founding the principles that precede or, at least, go hand in hand with the applied process for the purpose of rationalization or guidance. The research is divided into eight parts; the first three deal with the Sharī‘ah-related aspects of the study, whereas the following four discuss the economic aspects of the study from the perspective of Islamic as well as capitalist criteria of objectives and efficiency. The final part concludes the appropriate criteria for determining the optimal Islamic model. In this final chapter we shall also give some alternatives as an example without any attempt at being exhaustive.

II. The Contemporary Custom and the Modern Joint Stock Company

Modern joint stock companies play a remarkable role in terms of their great capacity to influence economic development in free-market economies. Financing of many of the gigantic economic projects is ascribed to these investment organizations, whose underlying mode of investment has received wide acceptance in contemporary Muslim societies. This mode of investment has been largely adopted by the emerging Islamic organizations, such as banks, commercial and developmental organizations, thus becoming a distinctive feature of most of the operating Islamic organizations. This is evidenced by the fact that adoption of the organizational structure of the modern joint stock

companies has acquired the power of custom not only as a result of practice, but also because of the support this structure has received from Sharī‘ah scholars.

Furthermore, preoccupation of some Islamic economists with the study of the characteristics of the stock market is by itself indicative not only of the fact that Islamic Sharī‘ah recognizes, in principle, such vehicles for investment, but also encourages existing modes of investment that are based on the pooling of large capital resources through floating large numbers of stocks for subscription by the public under specified conditions.

On the other hand, the study of the characteristics of the stock market from an Islamic perspective requires determining the necessary Sharī‘ah controls and the purpose of such an Islamic structure, in such a manner as to distinguish it from the Western capitalist model.

III. The Concept of Partnership in Islamic Jurisprudence

It is preferable to discuss this theme through a brief Islamic juridical background of the modes of investment organization (i.e. the concept of *Shirkah*) as found in our heritage of Islamic jurisprudence. This will include a quick discussion of the opinions of Muslim jurists on the subject, but without getting into details of the points of disagreement among them. Perhaps the most important issue that faced modern Muslim jurists, after laying down the principles governing the issue of *riba* (interest), is that of the Sharī‘ah position regarding the modern joint stock company with a legal and financial personality independent of its constituent shareholders, a form of investment organization that has no existence in the past Islamic eras.

Jurists of the various Muslim schools of juristic thought have written on the different forms of partnership contracts. These are summed up in the research of Dr. al-Khayyat, where he says that the types of *Sharikat* in Islamic jurisprudence may be divided into the following categories:(1)

(a) Sharikat-ul-Amwal (Stock Companies)

These are forms of partnership in which two or more partners agree to participate in commercial activities, each contributing a specific share of liquid funds.

(1) **al-Khayyat, Abdulaziz Ezzat**, *Partnerships in Islamic and Conventional Law* (in Arabic), Amman, Ministry of Endowment, Islamic Affairs and Holy Places, 1390H (1971), pp. 208-221.

This type of partnership may fall into one of two categories, the first is called *sharikat al-mufawadah*, the second *sharikat al-'inan.* In *sharikat al-'inan* the partners authorize each other to act independently in making business decisions and agree to be bound by such decisions, whether made in the presence or absence of the partners who made them. Thus each partner has the combined competence to act both as a *wakil* (agent) and a *kafil* (surety) for the others. A contract of the second category limits the ability of a partner in making business decisions; each acts as an agent and has to seek the approval of the other partners of his business decisions. Thus the first category (*sharikat al-'inan*) becomes (*sharikat mufawadah*) if such important conditions as equality of partners' shares and obligations are non-existence in the contract of *mufawadah* partnership.

Sharikat al-mufawadah is recognized by the Hanafī and Mālikī schools of Islamic jurisprudence, but is rejected by the Shāfi'ī school, which recognizes, along with the Zahirī, Hanbalī and Ja'farī schools *sharikat al-'inan* only.

(b) Sharikat-ul-Sanai

This type of partnership is normally concluded between tradesmen or craftsmen of the same or different trade or craft, where they agree to accept work assignments and to split the gains among themselves. This category could, in turn, be a *mufawadah* or an *'inan* partnership. This form of partnership has not been recognized by the Shafi'ī, Zahirī and Ja'farī schools of jurisprudence, but accepted by the Hanafī, Malikī and Hanbalī schools.

(c) Sharikat-ul-Wujuh

Adherents of the Malikī and Hanafī schools of Islamic thought differ in their definition of this type of partnerships. The Malikis do not permit this type of partnership as known to them, where a man of high stature and good reputation would sell to an unknown person who is the capital owner. The Hanafis, however, see this form as partnership between two persons having no capital of their own, who undertake commercial activities using the *maal* (wealth, capital) of a third party, where the partners draw on their goodwill and reputation to purchase commodities on credit and sell the same in cash.

This form of partnership is recognized by the Hanafis and Hanbalis as *mufawadah* or *'inan* forms.

(d) *Mudarabah*

This form of partnership involves payment of one partner (called *rabb-ul-*

maal, capital owner) to another (called *Mudarib*, manager) to invest it in a commercial enterprise for an agreed common share in the profit realized. Details of the rules governing this form of partnership have been spelled out in detail in both classical and modern sources of Islamic jurisprudence and need not be dwelt upon here(2).

If we move from this quick juristic overview of partnership types in Islamic Law to the modern form of partnerships, we will find great resemblance between Sharī'ah-compatible *Mudarabah* and what is known in conventional law as partnership *in commendam*(3), and also between stock companies (*sharikat-ul-amwal*, or *al-mufawadah* according to the Hanafi conception) and the modern joint liability company. In conventional law, these companies are called '*Sharikat-ul-Ashkhas*' (persons' companies), because they are formed on the basis of the mutual agreement of the partners. Thus the concept of partnership in the heritage of Islamic jurisprudence is the same as that of partnerships in the conventional sense.

It is noted that the concept of a stock company according to current terminology is different from that in the Islamic juristic parlance; we find that a stock company, whether of the *'inan* or *mufawadah* type, depends on the partners who participate therein by contributing both wealth and work. This entails rescission of the contract of partnership once one of the partners chooses to assign his share to another person, unless the other partners elect to keep the partnership in operation and work with the new partner. However, the modern conception of a stock company completely neglects its personal side and gives prominence to its financial side; it does not stipulate that partners should know each other, nor does the contract of such a partnership come to an end once some of its partners elect to exit. These partners have nothing apart from their capital shares in the partnership, which determine their financial responsibilities and the number of votes they have in the annual meetings of the general assembly.

Early Muslim jurists did not separate the partnership from the partners, and thus did not recognize an independent existence for the partnership aside from its partners, as it is the case in the modern joint stock company that has an independent financial and legal personality. Therefore, those jurists who dismissed the modern joint stock company as unlawful from a Sharī'ah perspective (like Sheikh Taqiyyu-d-Dīn al-Nabhanī) could not find for it a legal

(2) **al-Khayyat**, *ibid*. Vol. **2**, pp.7-12.
(3) **al-Khayyat**, *ibid*. Vol. **2**, pp.141-146.

basis in the heritage of the principles of Islamic jurisprudence(4). It has been particularly difficult to find such a legal basis due to the difficulty in meeting two basic legal conditions for the validity of the stock company contract, namely "mutual consent among shareholders" and "legal capacity". As it is known, in such type of business organization there is no 'offer and acceptance', and the individual initiative is dominant, where an individual becomes automatically a partner as soon as he acquires some stocks in the company.

Dr. al-Khayyat reviews the opinions of those who accept the modern joint stock company (partnership *in comendam*, limited liability company and joint stock company). Among these are Sheikh Mohammed Abdu, Sheikh Mahmoud Shaltout, Dr. Mohammed Yusuf Mousa, Sheikh Abdulwahhab Khallāf and Sheikh al-Khālisi. Despite some variations in the level of acceptance and the qualifications these scholars imposed on this type of business organization, they all depended in accepting this type of business organization on a preponderant public interest and the absence of any harm or injustice after mutual consent has been established. They saw that this type of business organization could be classified under *Mudarabah* (partnership *in commendam*) and stock companies (*'inan*). No doubt the modern juristic consensus in favour of modern joint stock companies depends on this principle of jurisprudence. This very same juristic principle would be adopted in this research for evaluating the trading apparatus of the stock market that goes along with this investment organization(5).

IV. The Sharī'ah Basis of Stock Exchange

In a Shariā'h compatible stock company, a stock represents a shareholder's share in the company. Such stock is the document that gives the shareholder proof of his right to a stake in the company's wealth comprising its paid-up capital, assets and retained profits. There are several types of socks: a common stock, which is subject to profit and loss, a preferred stock, which earns part of its share in the profits realized at a known pre-fixed rate and the loan stock, which earns its profit at a fixed rate of interest. The majority of contemporary Muslim jurists are in agreement on the permissibility of trading with common stocks, which are similar to the shares in a legal *Mudarabah*. They are in agreement as to prohibiting dealing with the other two stocks.

There seems to be a consensus of opinion among contemporary Muslim jurists on the permissibility of exchanging common stocks through buying and

(4) **al-Khayyat**, *ibid*. Vol. **1**, p.211

(5) Our interest here is in what is called the 'secondary market' of issued stocks as opposed to the 'primary market' which is relevant to new issues.

selling transactions[6]. This is based on custom (*urf*), applying the legal maxim "That which is known as custom shall have the force of that which is stipulated as a condition". However, purchase of a share or stock in a Shariā'h compatible stock company should not be viewed as an isolated commodity purchase transaction that is effected merely to satisfy a personal desire to own, consume or invest. As mentioned by Dr. al-Khayyat**,** a Shariā'h compatible partnership in order to be valid should meet the condition of '*niyyah*' (intention), which is one of the pillars of a partnership contract[7]. This is explained by the fact that a Shariā'h compatible partnership is not a mere formal contract as it is the case in conventional law; it contains in its essence, at least from an ethical perspective, the element of personal conviction and belief in the mission of the partnership and in the advantage of associating oneself, at the personal and financial levels, with its family of partners. This would guarantee the shareholder's resolve and keenness to make the partnership successful and to help realize its profit-making and social goals.

A shareholder with such a deep conviction and belief in the mission of the partnership would not listen to or act upon the rumours often spread by market brokers regarding the partnership's financial future by hastily selling his shares.

Dr. al-Khayyat mentioned the concept of 'pre-emptive right' (*Shufaah*) as a license of the Shariā'h which could be used in formulating the articles of agreement if found to be in the interest of the joint stock company[8]. This stockholders' pre-emptive right is recognized by Shariā'h; it gives them first priority to purchase new stock issues or the stocks of existing shareholders who would like to sell them[9]. '*Shufaah*' may be defined as "The right of a shareholder to take away, through purchase, the share of his partner that has been assigned to a third party from the hand of such third party"[10]. This pre-emptive right has many supportive evidences in the Prophet's *Sunnah*, most renowned among which is the tradition narrated by Jabir "The Prophet (P.B.U.H.) awarded *shufaah* right in things that have not been divided; once

(6) For more information, refer to the resolutions of the Fiqh Academy of the Organization of the Islamic Conference.

(7) **al-Khayyat**, *op. cit.*, Vol. **2**, pp. 127.

(8) **al-Khayyat**, *op. cit.*, Vol. **2**, pp. 217.

(9) It is worth mentioning that the American Law of Joint-stock Companies gives such preemptive right to old stockholders, although in practice it has been totally neglected. See **Sharp, W**., *Investments*, Prentice Hall: International Education, 1981, p. 333.

(10) **Ibn Qudamah,** al-Mughni wa-sh-Sharh-ul-Kabir, Beirut, Dar-ul-Kitab al-'Arabi, Vol. **5**, p. 459.

boundaries have been set, no right to *shufaah* is awarded" (unanimously accepted).

No doubt that application of the *shufaah* right restricts trading in stocks to the extent that violates the principle of an open stock market on which modern stock exchanges are based. If it is really proven that a pre-emptive right is a valid right under Shariā'h[(11)], it may be exercised unless the shareholders elect to waive it either explicitly or by custom, as is the case in a modern joint stock company. As mentioned earlier, "that which is known as custom shall have the force of that which is stipulated as a condition"; furthermore "people are bound by their stipulations". There is nothing to bind partners in a stock company to stipulate the exercise of such pre-emptive right if their interest requires compromising it.

Before we go into more details in discussing restrictions on the exchange of stocks, we would like to stress our understanding of the role played by modern joint stock companies and the financing flexibility they are characterized with, hence their ability to attract and mobilize huge capital resources. No doubt that freedom in the exchange of the stocks of this form of enterprise has had a great positive effect on its success.

A Stock is Different from other Economic Commodities

Shariā'h has placed restrictions on a financial stock which does not make it completely similar to other economic commodities in kind that have a specific utility, whether these other commodities are of an investment or consumption nature. It is this restriction that should distinguish the Islamic model of a stock market from the capitalist model. There is in fact no material difference between a person who gambles to purchase a lucky dip - the contents of which are unknown to him – depending in doing so only on his surmises and that who bargains to purchase stocks of a company about which he knows nothing but depends, in his purchase decision, on some unevaluated indications or signs. Stock markets in the Western world have even become a vent for the fans of gambling and games of luck, despite the availability of accurate economic data for those who need them. This is explained by the fact that the capitalist system is based on religious and ethical neutrality, a fact that makes the free market an apparatus that satisfies all desires and motives, be they of a productive,

(11) We were not able here to formulate the juristic roots of preemptive right pertinent to joint-stock companies and it might be worthwhile to devote an independent research for this issue.

speculative or gambling nature[12]. Contrary to this, we find that the Islamic system has specific religious and ethical directions that are manifest in the ethical controls and legal restrictions that are all derived from the two main sources of Shari'ah: the Qur'an and the Sunnah. Derivation of such rules governing the various Islamic economic systems is the research objective of modern Islamic Economics.

The Shariā'h emphasizes the importance of knowing the nature of the commodity to be bought (in quantitative and qualitative terms). It calls for the utilization of as accurate and equitable criteria as possible in estimating the quantity and quality to avoid the causes of *gharar* (uncertainty) and *jahalah* (want of knowledge). This is very clear in prohibiting all aleatory sale contracts, *nulamasah*, *munabathaha* and *muhaqalah* sales and the like. It is natural for a stock to denote diverse tangible assets in the form of commodities, utilities, retained profits or obligations and debts owed to others. This makes the financial background of a stock much more complex compared to other investment commodities that are in kind and of a known utility. Therefore, the purchase and disposal of such a stock need more careful consideration to avoid the occurrence of *gharar* and *jahalah* that are prohibited by Shari'ah, hence the suitability of the law of supply and demand for determining the exchange value of a stock. In order for an Islamic model of stock market to be Shariā'h compliant, it should meet two basic conditions aiming at mitigating *jahalah* and *gharar* in exchanging stocks:

First Condition: Availability to the public of objective and accurate data about the financial positions of stock issuing organizations and about other influencing or explanatory variables.

Second Condition: The possibility of understanding and processing of such data to estimate controllable exchange values without exaggeration.

Should these two conditions not be met and should the matter be left in the hands of the law of supply and demand to interplay in absolute freedom in an open market, there would be no guarantee to realize, or even come close to realizing the controlled economic values sought[13]. This would even open the

(12) It is noticed that the modern theory of financial investment adopts a general idea about investment that includes the traditional concept viewing investment as a really productive process, and the gambling- speculation-based one on the pretext that dissociating the two aspects is an arbitrary matter. See W. Sharp, *op .cit.*, p. 5.

(13) We shall deal with the definition of the economic value of a stock in section (6) of this research.

door wide open for the introduction of evils and malpractice, as we would see in the next section. In case we accept the necessity of realizing the discipline imposed by Shari'ah,. such discipline would place a restriction on the speed with which stocks could be exchanged in comparison with capitalist systems that usually do not monitor this discipline.

One could contend that restricting exchange or slowing it down is harmful to efficiency, as freedom in exchanging stocks without any barriers or restrictions guarantees maximum efficiency to capital markets, based on the theory of perfect competition.

This would lead us to the second section of this study pertaining to market efficiency.

V. Market Efficiency under the Capitalist System

Western economists often discuss the issue of measuring efficiency of the capital markets. There are many ways to measure such efficiency, depending on the power of the tests employed such as weak form tests, strong form tests and other means of measurement(14). The efficiency criterion is defined as the speed with which shares and stocks respond to available objective data. In other words, an efficient capital market(15) is the factor, which causes movement of liquid money in great speed and perfect accuracy, in a manner that would realize maximum returns for such liquid money.

Western economists distinguish between two types of efficiency: external and internal.

The first type indicates that appropriate economic data are available to all prospective investors at adequate speed and the least possible cost.

The second type refers to the cost of trading (deals conclusion) and to the speed with which this is done. This depends much on the role played by brokers and the commission they charge in return for the services they render to their clients. That requires meeting the condition of free competition within stock markets to the exclusion of the monopolies of some brokerage houses.

Once these two conditions are met, the market value of each type of shares and stocks would be equivalent to its real economic value.

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(14) **Elton** and **Gruber**, *Modern Portfolio Theory and Investment Analysis*, N.Y., Wiley and Sons, 1981, pp. 362-389.

(15) A note by the editor on the two variants in Arabic spellings of the adjective meaning 'efficient'.

Although there are some statistical evidence attempting to prove the quick response of security prices and consequently market efficiency in some big capitalist countries, the matter does not seem to be as simple as the way these statistical tests are conducted. It is established that the constant random fluctuations in the prices of stocks in the short term do not permit subjecting them to a scientific method that would attempt controlling or linking them to the process of objective economic data flow. Had researchers given attention to estimating the volume of scarce resources wasted as a result of constant deviations from the optimal allocation of resources and to the misallocation resulting from the speculative activity, they would have found a completely different picture than that reached by simplified statistical means.

Before elaborating on our discussion of the extent the types of efficiency mentioned earlier are realized in modern stock markets, it might be worthwhile noting that the Islamic conception of efficiency of a capital market does not completely match with the Western conception, where the latter gives the incentive of immediate profit expectation a decisive role in the process of capital movement. This difference in conception arises from the fact that the Islamic conception of an efficient stock market includes, in principle at least, an important social dimension, the effects of which on the investors' motives to invest are not easy to overlook, especially if one assumes a Shari'ah-compliant Islamic society, whose individuals behave with joint responsibility towards their society. Thus, the Islamic criterion for an efficient stock market would not be the mere speed with which liquid funds flow from the less profitable projects to the more profitable ones. Reality shows that most of the projects with a social dimension are of the first type (less profitable) because their returns are slow-moving and because of their high cost in the short term, despite the fact that such projects could, in the long run, generate constant and stable income flows. The conception of efficiency that depends on the speed of response to quick profitability indicators cannot be defended from a social perspective, as it weakens real investment incentives in the long run and lures capital owners to opt for quick profit-taking in the short, if not sometimes too short, term. Hence this basic point, together with the two conditions of Shari'ah discipline mentioned earlier, would add a new cause to slow down stock circulation in the Islamic model of stock market compared to the Western model.

In spite of the above, let us temporarily adopt the capitalist definition of the conception of efficiency and see how far it is realized in reality.

First: The criterion based on the speed of response to data (external efficiency)

Western economists and many specialists in stock markets admit that the majority of speculators in international bourses fall victims of rumours and unevaluated signs regarding price movements of shares and other securities. This means that all types of data, trivial and important alike, are absorbed quickly, and that there is an element of exaggeration in evaluating the effects of some of the real economic data among the piles of data disseminated. This fact is reflected in the random pattern of the constant movement of share prices in the short term.

Among the theories attempting to explain this random *patter* is that known as the "Theory of Interaction between Real Value and Market Value" ascribed to the Western economist 'Cootner'. He portrays the pattern of share price fluctuations as a random walk around the economic value of shares, bordered by reflecting barriers from above and below as shown in the following graph.

This theory ascribes market price fluctuations to the irrational behaviour of the majority of investors and emphasizes the role of professionals in intervening to install the reflecting barriers shown above in such a manner as not to make the market price of a stock or other security too far from their real economic values.

No doubt that this pattern has risen as a result of not meeting the two conditions imposed by Sharī'ah discipline mentioned in Section 3 above, the realization of which would result in controlling these fluctuations by limiting their random walk within the narrowest scope possible; thus market prices would become more stable and closer to their real value. However, realization of such stability cannot be achieved without introducing the element of controlled and unhurried processing of data and limiting the role of the majority of naive investors, an arrangement that would slow down circulation of a stock as mentioned in the previous section. Therefore, compliance with Islamic Shari'ah controls, mentioned earlier, would result in a more stable model, although at the expense of the speed rate of stock circulation.

The main advantage of this Shari'ah-compliant model comes from its realization of the efficiency standard in a more meticulous manner than the open capitalist model according to the standard of correspondence (or proximity) between the market value and the real economic value of a stock, which is another logical expression of the stock market efficiency standard.

The problem of an open market is not limited to quick absorption of all types of data, significant and trivial alike, nor to exaggeration in evaluating the effects of some objective data among the aggregate of available data; the problem is aggravated by some of the unethical practices which lead naïve investors (who constitute a majority) away from the real value of securities.

These unethical practices fall within what is known in Islamic jurisprudence on sale (beyou‘) as *najsh* (make-believe sale and purchase transactions aiming at ensnaring unwary customers; churning), *ghabn* (sale of a commodity to a customer at a price that is far higher than its market value, thus inflicting *ghabn* on the customer, where in this case the customer would be the object of *ghabn*) and *tadlees* (fraud, misrepresentation) and other similar ways of illegally influencing prices.

Until 1934, American Law had not intervened to prohibit such practices, which were prevalent and profitable in America prior to the Great Depression that afflicted the country in 1929. Before that, pools used to be established, attracting all possible means of influence from within and outside bourses, with each participant contributing whatever available capital or expertise he had. Then the pool would operate within the stock market, in extreme secrecy and cunning, to deceivingly convince unwary customers of unrealistic prices. The American Law is still unable to fight these practices, which have taken many forms and which are difficult to control.

On the other hand, we find that brokers play an effective role in raising the pace of stocks circulation, i.e. the continuous change of the various stocks in the portfolio of individuals and firms and the constant changing of their ownership due to variations in expectations and calculations. Such a process is stimulated by stock exchange brokers, who keep feeding it with hot tips and exaggeration of unconfirmed news. This leads to constant changes in the accounts of dealers with brokers, a phenomenon known in stock exchange parlance as ‘churning’. The American Law has tried to limit resort to this practice without much success, as it is often difficult to confirm its source.

Thus what is known as external efficiency cannot be realized by the stock market according to the experience of Western capitalism(16).

(16) We depend here on the American experience, which is considered the closest to a scientific model of an efficient stock market.

Second: Internal Efficiency Standard

If we look into internal efficiency, which constitutes the second source of efficiency, we would observe the increasing influence of intermediaries of all types, starting from floor brokers to jobbers and specialists, who work for their own account. They enter the market with huge capital, capitalizing on the benefits granted to them by the Stock Market Board of Directors.

Among the reasons for establishing an alternative market to the New York Stock Market (NYSE) was the comparative increase in the commission charges, claimed to be caused by the availability of free information. Thus, third and fourth markets have been established in a bid to have a lesser commission, especially for large-amount deals which are not given any discount in the stock market. However, NYSE is still the first and largest monopoly market, where more than 80% of the value of shares and stocks in America are traded and where seats on its Board of Directors are the monopoly of large corporations, mainly financial intermediaries with great financial influence.

Of course it is not easy to separate the phenomenon of financial brokerage and the vibrant and active nature of the mechanism. As long as the volume of daily transactions (measured in minutes and seconds) is measured in millions of dollars, the market mechanism must create other specialized bodies to promptly implement dealings, provide advice and facilitate other procedures. Therefore, it cannot be dispensed with that large interconnected network of brokers and intermediary companies. This specialization came as a result of the market volume and the speed rate of exchange in proof of Adam Smith's theory that "specialization is governed by market size".

In concluding this section, we did not aim to test the efficiency of the capitalist model of stock market more than we wanted to shed light on the difficulty of realizing this theoretical understanding of the concept of market efficiency in an open market that does not abide by Shari'ah controls. This point would be stressed more in the coming sections of this study.

Sound measurement of market efficiency should be based on the extent of the deviation of market prices around real economic values that, from at least a theoretical viewpoint, represent the points on which the condition of efficient balance of liquid capital market is based. We do not feel that any person who might do this would be able to support the claim of efficiency ascribed by some researchers to free capital markets in the advanced industrial countries.

We shall come back to this point after we review, in the next Section, the motives of financial speculation and evaluate them from an Islamic perspective.

VI. Speculation Motives: Comparison between Capitalist and Islamic Markets

First: The Capitalist Market

As it is often the case in capitalist markets, we find that most stock- holders exchange them, through selling and buying transactions, after a short time from registering them with the issuers. Not only that, a majority of these stockholders bypasses this registration stage to cut the period of holding to their stocks. They, instead, register them with a brokerage house that takes advantage of a temporary price rise and sells these stocks, waiting for the prices to come down then purchases them again at the new lower price(17). This is one of several forms of what is known as 'short-selling'(18), which are purely speculative in nature, as clearly seen.

It is this form for which many investment companies have come into existence. These companies offer attractive salaries to managers who are professionals in the art of financial speculation and to investment advisers to realize the maximum possible gains by finding an optimal balance between long and short positions, such as those known by the name of 'hedge funds'.

Thus the speculative motive, or short selling, is a factor that helps raise stocks transfer rates and stimulate exchange in the stock market. As a result of high inflation and interest rates, the modern monetary system, which is controlled by Western capital, has made it very difficult to separate productive investment in the conventional sense from investment in the modern speculative sense. The latter type is known by the name of 'price-gaining', whereas investment in the productive sense refers to a moderate and stable return resulting from the optimal investment of some real fixed or financial assets. The *status quo* indicates that understanding investment in its productive sense is no longer suitable for a financial environment whose main characteristics are high inflation rates and lack of a minimum level of certainty and economic stability, which would enable the investor to ward off risks to guarantee adequate and moderate returns.

Of course this picture is not accidental in a capitalist system, due to high inflation rates which started to show their signs after the Second World War, but rather a natural outcome of the capitalist system itself. Thus the speculative

(17) **Gub, B.** *The Basics of Investing*, N.Y. Wiley and Sons, 1979, pp. 22-23.

(18) "Short-selling" is a technical financial term meaning purchase (of stocks) for the purpose of selling them quickly thereafter.

activity is not only a result of the inflationary situation, but also its cause. There is a reciprocal relation between the two: wherever there is inflation, there is speculative activity; the other way round holds true. Financial and real estate speculation does not become active and profitable unless accompanied with high inflation rates and renewed risks; it feeds on, and is fed by such inflation and risks.

Therefore, it was not surprising to find that modern capitalist investment theories are formulated with the assumption that the wise speculator is a speculator who is busy balancing his investment portfolio to achieve an optimal allocation for his savings between the various financial assets and other fixed assets(19). In an environment characterized by low security, renewed risks and the spread of rumours, the process of trying to achieve this optimal balance becomes a dynamic one that is renewed every hour, and has no place for those who are not well-versed in the art of speculation.

Thus, with the rise of such speculative activity, joint stock companies have almost become receptacles or traps, into which and out of which stocks come and go continuously. This phenomenon would result in a loss in efficiency, which Western analysts ignored when measuring the efficiency of capital markets, as the inefficient management of joint stock companies would continue for longer periods because of the diminishing sense of belonging among stockholders vis-à-vis specific companies and because of spending most of the time watching changes in stock prices. Hence, incompetent and inefficient management would remain beyond accountability, where most stockholders would be complacent just to sign proxy statements.

Speculative Activity and the Benefit Accrued from Liquidity

Some analysts ascribe to speculative activity in the stock market the benefit of generating liquidity that helps investment expansion in society "through making available that category of investors who are willing to buy and sell at prices that would realize to them short-term gains"(20). This argument is obviously incorrect for exchange in the capital market (which is a secondary market), no matter what motives it may have, is linked to the exchange of other stocks and securities issues, and does not generate additional liquidity. Speculative activities in these markets is a mere transfer tool for expected capital gains; that is transfer of such capital gains expected to accrue to

(19) **Christy** and **Glednenin**, *Introduction to Investment*, N.Y. McGraw Hill, 1981, p.1.

(20) **Al-Rukaibi**, *Saf'aq*: Comment on the paper entitled "Investment and the Stock Market from an Islamic Perspective", Conference of the League of Arab States, November 1985, Tunisia.

stockholders, to others who are waiting for a temporary rise in the prices of such stocks in order to buy them from their holders. Once bought, they draw on their knowledge and sound judgement, and re-sell them after a short period at a higher price. The renowned British economist, J. M. Keynes confirms this fact by pointing out that "there is nothing among the principles of orthodox finance that is more alien to society than that fetich called liquidity. This theory overlooks the fact that it is impossible to have liquid investment for the entire society"[(21)]. This is because the sale and purchase of existing assets, whether financial or fixed, is nothing more than exchanging the positions of liquidity and financial obligations among sellers and buyers.

Perhaps the 'liquidity argument' is more appropriate for defending the mere need for a regulated stock market; since the existence of such market would urge those households with no experience in the field of business to channel an important portion of their private savings to the purchase of shares and stocks characterized by liquidity (i.e. ease of sale to get cash through the organized forums whenever needed). This would give a clear incentive to owners of savings to participate with their savings in the formation of a social capital with the least possible risk. This does not of course mean that these forums have the ability to generate liquidity, but rather refers to the economic role these forums could play in urging and encouraging investment spending and in expanding the base of those who participate in it[(22)]. We have seen in the previous part of this research that the modern capitalist organization of such financial forums has made them a hotbed for speculative activities. In the next section of the study, we shall come back to the issue to explain the disorderly disturbance this speculative activity causes to the attempt at objectively measuring capital market efficiency.

Second: In an Islamic Market

Islamic Shari'ah urges and encourages that type of exchange that results in the creation of real utility, whether done directly or indirectly by way of productive mediation or through auxiliary production services in the short or long run. The Islamic conception of investment should realize that particular

(21) **Keynes, J.M**., *The General Theory of Employment, Interest and Money*, London: Macmillan, St. Martin's Press, 1970, p. 155.

(22) It is known that the process of creating additional liquid resources to finance investment expansions is realized through what is called the 'primary market', where new issues of stocks are purchased and sold. This aspect has been excluded from this research as our interest is mainly centered on already issued stocks, or the 'secondary market'.

form of commercial exchange that involves the creation of utility by lawful means and to steer away from any commercial exchange that aims only at generating profits to one of the exchange parties without providing real value to society, such as in the parasitic mediation and most of the financial and real estate speculative activities which are dominant in the modern capitalist system.

One can explain how keen Islamic Shari'ah is on linking commercial exchange to production by citing the important juristic maxim stipulating receipt of the commodity bought prior to selling it. Modern means of exchange have made the exchange of legal certificates of ownership a means par excellence for the exchange of commodities among the largest number of brokers so that each could get his share of profit without any material development of the commodities involved. Physical development of a commodity here does not include changing the physical appearance of the commodity involved only; the merchant plays the same role as the manufacturer in 'developing' the physical appearance of a commodity by way of transporting it from one place to another, storing it or preparing it to be at the direct disposal of the consumer. The merchant need not do himself these processes of commodity development; his agent who may complete this cycle more efficiently could accomplish them (such as the relationship between a wholesaler and a retailer). This in fact constitutes the theoretical principle on the basis of which it is allowed to add the trade or distribution sectors to the other productive sectors when calculating national income according to the recommendations of the UN experts in national income statistics(23). It is this principle that made Al Sadr distinguish between the exchange of 'corporeal property', which is encouraged by Islam for the real utilities it creates, and 'legal title' which characterizes capitalist system. When Ibn Abbas was asked about the wisdom of the Prophet's prohibition of exchanging food for food prior to receiving it, he said "That is an exchange of *darahim* for *darahim* and the food is deferred". One can see the analytic economic dimension of this succinct answer. In his book *Al Umm*, Imam Shafi'ī expanded, as the Malikis did, the rule governing receipt to include not only foodstuffs, but all types of movable assets. This is because he applied the Prophet's tradition narrated on the authority of 'Itab bin Ussayd when sent by the Prophet to Makkah and advised him to "Instruct them not to accept profit from that which they did not guarantee and the sale of that which is not in their possession". This is also the view of Imam Abu Hanīfah and Imam Ibn Hanbal; to them the concept of legal possession applies to everything according to its nature.

(23) U.N. Statistical Office, *A Manual of National Accounts at Constant Prices*, Based on the SNA, 1968, pp. 10-15.

These remarks were connected to our discussion of Sharī‘ah controls, which make out of investment-based exchange a productive and useful activity, not a speculative one as is the case of short-selling of stocks, the effects of which obliterate each other.

VII. Speculation and the Problem of Objective Measurement of Efficiency

In Section 4 of this paper, we have mentioned the theory of Cootner, which shows the random fluctuations of the market price of a stock in a random walk that goes around the economic value of a stock. This random walk is bordered from above and from the bottom by reflecting barriers as a result of interventions from professional investors who control its direction in such a manner as to keep it not too far from the economic values. We have seen also how the behaviour of the majority of naive investors, who fall an easy prey to unevaluated signs, explains the phenomenon of random fluctuations.

Despite its acknowledgement of the disturbing discrepancy between the economic value of stocks and their actual market prices, Cootner's theory is considered an optimistic one as it gives 'professionals' a positive role in correcting the random walk of market prices in order not to go far from their real economic values. To clarify this point, we shall need to define the economic value of a stock as included in Cootner's theory. What is meant by the economic value of a stock is that value determined by the share of the stockholder in the monetary yield expected to accrue from investing real (capital) assets in the production process. But since the investment decision related to the purchase of productive capital assets depends on long-term expectations (that is the essence of the theory of capital marginal efficiency), the economic value of a stock, as found in Cootner's theory, is its value in the long-term too. Had intervention by professionals, or competition among them, been conducive to bringing stocks market values closer to their stable economic values, it would have been a good cause for optimism about the efficiency of an open stock market. Reality shows the contrary; we find that the efforts and energies (both analytic and consultative) of professionals are directed towards finding the best way of seizing expected gains in the short-term just before they become known to the majority of naive investors. This means that the motive of the financial investor (as opposed to the real investor) is linked to short-term, expectations. It means as well that the role of professional investors is not as described by Cootner's theory; rather it is closer to that found in Samuelson's theory known as the "theory of the efficient fluctuation of stock prices".

Efficient Fluctuation Theory

The well-known American economist, Paul A. Samuelson, expanded on the theory of Cootner and introduced the concept of 'efficient fluctuation'. The content of this concept is that the random walk of market prices does not revolve around a stable value as in Cootner's theory, but rather around another random walk. This means that, 'economic values' of stocks are not stable values but fluctuating and swinging; they fluctuate in accordance with the constant changes that befall short-term production circumstances of the issuing parties. The gist of this theory is that an efficient capital market is a market the prices of which fluctuate and swing to correspond, in all times, with economic values in their fluctuations and swings. This is based on the assumption that 'professionals' play their role of correcting the general random walk, by drawing on their knowledge and expertise, to make it in harmony with random fluctuations of economic values in the short term.

Even if we assume that professionals are keen on reading these fluctuations of economic values in the short term and on directing market prices in accordance with them, this role complicates the problem and adds a heavy burden on professionals to improve their follow-up on, and evaluation of, economic and administrative news that are constantly changing and renewable. The most competent among these professionals might be able to sift in-coming pieces of information and ascertain those that are objective, despite the fact that such professionals are prone to misjudgment, whether arising from exaggeration or illusion. No doubt that to hit a randomly moving target would be much more difficult than hitting a still one, or one which is slightly moving in a controlled manner. This means that the degree of random deviation around randomly changing points would be greater than around relatively stable points. This is made clear in the following figures.

It is obvious that figure 'C' represents the theory of efficient fluctuation adopted by Samuelson, where the economic value of a stock changes randomly while actual market prices keep away more randomly around that value. This phenomenon could be considered as a result of the constant random movement of the reflecting barriers, upper and lower. Therefore this theory is taken as a natural extension of Cootner's theory. The second case, as represented in figure 'B', is a special case that indicates the fluctuations of economic values resulting from repeated and regular factors in the short term and are predictable, like the seasonal fluctuations of some types of production during the year. But the pattern we find in capitalist markets is subject to the application of Samuelson's theory as represented in figure 'C', a fact that is supported by some empirical studies. In one of these studies, it has been proven that random

fluctuations taking place within a day and the following one are independent of each other, where yesterday's general level of prices does not account for more than 1.5% of today's prices(24). The question that arises is: what are the original information the daily absorption of which leads to this constant fluctuation? No doubt that the information published in the financial newspapers, the special news bulletins, the events and advertisements disseminated by the media and the rumours spread by people all have a direct impact on market price fluctuations.

Keynes Theory of Stock Market

Keynes sums up all these interactions that control prices in the financial market in the expression 'market mass psychology'. He considers it the effective factor that directs the course of security prices. If this is true, the essential point to which we should pay attention here is the role of 'professionals' in directing this 'market mass psychology' in accordance with the way it is reflected in the impressions of the majority of share and stockholders and their reactions to economic, administrative and other news.

VIII. Interaction of Professionals with Mass Psychology

In our review of the concept of 'efficient fluctuation' (see previous Section), we were assuming that professional investors would follow up on short-term changes in the economic values of securities, contrary to Cootner's theory, which assumes rather their follow up on stable economic values (i.e. long-term ones). We also discussed the extra burden that would fall upon these professional investors in their attempt to estimate these fluctuating economic values and in directing the actual movements of market prices in such a manner as not to keep them too far from these fluctuating economic values.

What is interesting in this conception is that it is still an optimistic one, in spite of the fact that it gives a confusing picture about the efficiency of an open market economy (where the degree of random deviation of market prices around the real economic values increases). To give professional investors that corrective role (though stumbling) in directing price movements towards their variable economic values, implies that these professionals are the ones who control the market 'mass psychology' in order not to go far away from the objective evaluation of the real market conditions.

(24) **As-Sadr, Mohammed Baqir**, *Iqtisaduna*, (Our Economics-in Arabic), Beirut, Dar Al Ma'arif, 1401H (1981), pp. 680-683.

However, reality shows that it is this mass psychology which controls these professionals' estimates and not the other way round, a fact that obliterates the positive corrective role ascribed to the population of professional investors, and consequently the total destruction of the theory of 'efficient fluctuation'. Keynes was right when he described professional investors in stock markets as "…(people) who are not interested in knowing the real value of investment… but in the market evaluation of investment under mass psychology…"[(25)]. This indicates that the skill of the professional investor is embodied in his ability to know the trends of 'mass psychology' through deduction – that is in his ability to predict what the public would do a short while before the public knows – and not, as we were assuming, in attempting to correct and direct such mass psychology.

This is not surprising if we understand that financial speculation is the motive that controls a professional's conduct and calculations. He seeks to follow the best course that would enable him realize capital gains as a result of fluctuations in stock prices, regardless of the factors that govern such fluctuations. He is not responsible for the extent these price movements are in harmony with the objective economic changes. Should there be some power that is able to direct such movements, it should be assigned to the economic entities issuing the stocks; it is these entities that should be responsible for convincing the public of their sound economic conditions. Thus the final conclusion of this conception is that the public is the final judge in the process of evaluating the impact of constant economic and administrative changes and other factors on the exchange values of shares and stocks, and in fact it is the public that direct the decisions and predictions of professionals, not the other way round.

Thus to acknowledge that the majority of dealers in modern stock markets fall prey to unevaluated signs and propaganda campaigns, an acknowledgement that is found in principle in Cootner's and other modern financial investment theories, would directly lead to the conclusion that these markets are inefficient. A scientifically-based attempt at measuring efficiency, according to the criterion of closeness between real economic values and market prices, would lack the necessary objective basis as a result of the lack of an internal power (or a built-in regulator) within the increasing speculative waves that would correct the random walk of market prices and direct them towards economic values. Keynes was referring to this issue when he was warning of the dangers of gradual shrinking of the role of real economic knowledge in evaluating investments. This is the knowledge acquired by businessmen as a

(25) **Elton** and **Gruber**, *op. cit.*, pp. 366.

result of their direct connection with production and the increasing role in evaluation of the community of shareholders who do not participate in business management nor endowed with special knowledge(26). Although it was Keynes who first included the concept of 'speculative motives' into the analysis of demand for money, we find him saying in some of his reflections on the speculative practices found in stock markets:

"The funny picture of our modern investment markets makes me lean towards concluding that our contemporary ills may find a successful remedy if we make the process of purchasing and investment a life-long commitment that is not subject to liquidation (inescapable), like marriage, unless revoked by death or any other grave reason(27).

Importance of Adopting Sharī'ah Controls

Before we conclude this section, we would like to refer, in passing, to the implications of developing countries' adoption of a system of an open stock market and of allowing financial speculations in such a market. The low per capita income in developing countries compared to that in developed countries, and the small volume of personal savings therein ensure not only a small volume of stocks exchanged in the aggregate, but also lead to keeping such exchange limited within the community of investors who are interested in buying stocks in the modern but developing monetary sectors. However, one should not conclude from this that the limited speculative practices in the developing stock markets are not dangerous because of the small size of the market and its poor capabilities that do not encourage exchange at the pace found in the advanced industrial countries. The comparison between the two groups of countries is relative to a great extent. This is because developed countries have reached a stage of development that enables them to achieve automatic growth, and no matter how wide financial speculative activities might become, the infrastructures of real production activities therein, whether material or human, could resist or absorb whatever shocks they might receive. In developing countries, the small size of the stock market and the limited spread of financial speculative activity therein are matched by the small production base characterized by a weak intrinsic immunity against factors of instability. This makes developing countries more keen to re-organize stock markets and to direct them in such a manner as to help achieve the objectives of real growth.

(26) **J.M. Keynes**, *ibid*., pp. 154-55.
(27) **J.M. Keynes**, *ibid*., p. 153.

Adopting the Shari'ah controls discussed in Section (3), that are keen on reducing uncertainty (*gharar*) and lack of knowledge (*jahalat*) and on keeping stock market prices close to their real economic values, and re-organizing stock markets in accordance with these Shari'ah controls, would make our stock markets more efficient and able to support development objectives. We shall now move to the concluding part of the study which discussus the characteristics of the organizational form that would embody the Islamic model of stock market.

IX. How Characteristics of the Islamic Model Could be Determined?

Our previous discussion has crystallized in the saying that most of the problems violating the concept of efficiency in financial markets stem from the decreased role of real economic knowledge in determining the market value of current investments, as well as from the increased evaluative role of the community of shareholders who do not possess such knowledge. We have seen in section (3) of this study that a stock is unlike a corporeal commodity having a known utility to participants in market transactions, and that to allow the laws of supply and demand to determine the exchange values in an open market would result in making the market value of a stock more prone to *gharar* and *jahalat*, in their Islamic juristic senses, in comparison to other corporeal commodities. Emphasis of Islamic Sharī'ah on the importance of knowledge about the subject of the sale means in other words that it is important that the seller and the buyer know what they are selling or buying; this knowledge is basic to the concept of the consumer's or producer's economic rationality according to economic theory. Whereas the degree of *gharar* in sales of corporeal property is insignificant or immaterial, thus making the principle of an open market appropriate and not inconsistent with efficiency to a noticeable degree, the degree of such *gharar* in the sale of shares and stocks is not immaterial. This highlights the need to re-consider the principle of an open financial market. Phrased in such a manner, it is hoped that this statement have succeeded in explaining the nature of harmony between compliance with the controls of Sharī'ah and the need for an efficient financial market. Following are some of the features that should, in our opinion, characterize the Islamic model of stock market:

I. Subordination of the Financial Market to the Corporeal Property Market, in the sense that movements of the financial market should follow and be strongly linked to movements in the corporeal property market; this means supremacy of the real economic knowledge in directing the movement of stocks.

II. Market values are based on long-term expectations instead of short-term changes; this would limit purely speculative trends and encourage long-term investments.

III. Satisfaction of the motives of the community of investors is not limited to the expected cash returns only; it goes beyond that to satisfy the desire of positive participation to achieve the economic objectives of the Muslim society. We have explained in section (4) that the dominance of speculative motives and devotion of investors' time to following up on the minute changes in the expected cash returns in the short-term are reasons for weakening investors' sense of belonging towards specific companies. We also concluded that this would lead to the continuation of inefficient management as a result of the lack of accountability, where most investors would tend to be complacent, signing proxy statements and keeping away from their companies.

What is the Appropriate Organizational Form to be Adopted?

Finally, it might be important to touch upon the issue of choosing the organizational form most suitable for a stock market. No doubt that this issue needs further studies and unified academic efforts. However, there should be first an agreement on the main principles on which any alternative organizational form should rest. Our objective in this Study has been to discuss these principles. Owing to the close connection between behavioural motives in society and the orientations of economic activity, the appropriate organizational form cannot dispense with the guiding and stimulating role of the State to support investment behaviour in the stock market in such a way as to realize the three characteristics mentioned above.

Therefore, the minimal restriction required to be imposed in order to re-organize the stock market on an Islamic basis is to establish the organizational controls that solve *gharar* and *jahalat* risks related to stocks as the subject matter of selling and purchasing transactions. It is worth mentioning that immaterial *gharar* is acceptable by the majority of Muslim jurists to remove hardship from business dealings, for there is no room, in fact, to take inventory of all sources of *gharar* and *jahalat* and to subject them to strict control… Th Prophet (P.B.U.H.) permitted the sale of food by way of estimation (when dry measures or scales are not available for controlling quantities), although he prefers the use of ("Sā'", a tool for taking dry measurements) in order to take exact measurements when selling foodstuffs(28).

(28) **Ibn Qudamah**, *Ibid*., Vol. **4**, pp. 219-220.

Determining what constitutes a reasonable degree of *gharar* or *jahalat* is, no doubt, arbitrary, as there is no exact rule that enables us to make such determination. However, the rule requires restricting and limiting, as much as possible. The best model, in our view, would be that which would utilize available control tools in the best possible manner to restrict sources of *gharar* and *jahalat* without going into any of the two extremes of immoderation and negligence. Excessive attempts at controlling *gharar* and *jahalat* would be tantamount to an attempt at their total eradication, which is impossible, let alone the great hardship and strain this radical attempt would cause to the interests of people. The other extreme means neglecting of the application of these two Sharīʿah controls and to adopt instead the Western capitalist model as it is, the shortcomings of which, such as loss of economic efficiency and other harms they cause to the stock market, have been discussed in other parts of this research. The following two alternative models are presented as examples and are not meant to be exhaustive.

Alternative I: Aiming at Blocking the Means (sadd-uth-tharai') or Pricing

This alternative ensures replacement of the market body by a central, and technical and inadequate one that would include experts who are specialists in financial and investment analysis. They would estimate the exchange values of stocks through renewable field statistical studies that would embrace, in a disciplined manner, all objective economic indicators that influence the stock market. No doubt that, although unbiased, such changes would not be free from statistical errors, which means that it would be impossible to eliminate the element of *gharar* altogether.

It might be true to say that this model, which tries to replace the direct meeting of the supply and demand sides by field surveys and quantitative analysis of economic data, is not practical, as it consists of complex organizational and financial procedures to ascertain its technical efficiency and requires keeping abreast of events to a degree that would ensure actual compliance with its estimations. Perhaps this alternative is, to some, on the side of the extremism and may harm interests.

Alternative II: Technical Advice

The previous alternative could be modified in the following manner: To establish the independent technical body, supplying it with all the necessary technical and analytical expertise, in order only to provide free advice to stock owners and prospective investors. Thereafter, exchange values of stocks would be determined by business activity in the market as usual. Such a body may be

financed partially through a fee imposed on stock owners, an arrangement that would direct them to benefit from this consulting service, the price of which they would have paid anyway, and guarantee limiting the effects of *gharar* and *jahalat* on market exchange values.

This might constitute the minimum restriction that is needed to formulate an Islamic mode of stock market. We consider this as sufficient for the purpose of this study, looking forward to undertaking further studies in the future aiming at deepening the principles of this subject.

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The Stock-Exchange from an Islamic Perspective*

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I. Introduction

This paper examines the general principles and the special constraints which characterize the normative Islamic stock exchange (NISE). We set forth to provide a *Shariah*-oriented appraisal to the contemporary stock exchange (CSE) together with an appraisal of its efficiency hypothesis. We portray the NISE as one which abides by *Shariah*, bearing in mind that *Shariah* rules are focused on the targeting of maximum possible social merits at the least possible demerits, thus requesting both informational and operational efficiency. We are mainly concerned with the basic forces underlying the stock exchange rather than its routine operational and managerial aspects, a matter which we may address only casually. Of course, it could have been a vital issue to address the alternative topic of critically evaluating the newly growing stock exchange markets in Arab and Muslim countries to help re-direct them more closely towards their developmental targets. However, we believe priority must be given at this stage to the theoretical statement of basic norms that must be adhered to in the process of setting up an Islamic stock exchange.

The paper consists of three main sections. In the first section we demonstrate the *Shariah* aspects which characterize what we call the Normative Islamic stock exchange (NISE), as opposed to the contemporary one (CSE). The second section questions the pertinence of the efficient market hypothesis to the CSE, with special reference to some fundamental *Shariah restraints*. In the third section we highlight the consequence of violating *Shariah* restraints by the CSE. We conclude the paper by deriving suitable criteria determining the NISE while offering possible directives to show how it can be projected in real life.

II. The Modern Corporation in the Jurists' View

The stock exchange is the market place where various forms of financial securities are bought and sold. Since modern stock markets are mainly dominated by corporate shares, and bonds to a lesser extent, it is only natural to start examining the Islamic stand as regards the acceptability or otherwise of the modern corporation as a form of business organisation.

The corporate sector, indeed, is the spearhead of economic growth in the developed world, as it has facilitated the mobilization of massive capital investments, to finance ambitiously large scale projects. The emergence of the limited liability concept, as stated by Hicks (1982), has historically been associated by the construction of the British railway system. In the contemporary Muslim nations this idea has been widely advocated and encouraged by governments to face harsh developmental challenges. Most notably, the pioneering Islamic entrepreneurs have quickly picked up the corporate idea, to the effect that incorporation is presently a distinctive organizational feature for most Islamic banks. The concomitant provisions of independent legal entity and limited liability provision have already been established, not only through a strong social convention in the Muslim world, but more directly through the explicit approval by contemporary Muslim jurists. The critical element that remains of utmost concern to Muslim jurists is to ensure that corporate bonds and other interest-based tools of financing are categorically banned.. Otherwise, acquisition of corporate shares is allowed provided that they represent companies that are engaged in permissible real economic activities, hence excluding banks and financial institutions that operate in money markets, as well as dealers in gold and silver, together with producers of alcoholic products, pigs meat, gambling activities, weapons, and other non-ethical products(1).

Given the latter provision, we set forth to discuss the fundamental principles which characterize the Islamic stock exchange model (NISE) as opposed to the contemporary model (CSE).

The Juristic Concept of 'Company'

As a background for our present inquiry it is worthwhile providing a brief note on how the concept of *company,* (*sharikah*) as it is known in the received Islamic jurisprudence differs from the modern concept of a corporation. The latter was never known in earlier Islamic history, thus justifying the initial debate among contemporary Islamic jurists about the acceptability (or otherwise) of company as a an independent legal entity with a limited liability provision - a matter which remained for sometime a controversial issue. Perhaps, that was the second most crucial issue to be faced by contemporary Islamic jurists ranking next in importance after the issue of interest-rate prohibition, though it is now settled through explicit consensus that the modern corporation, in general, does not violate *Shariah*. Still, it is interesting to draw some useful insight from the special nature of company contracts that had been recognized by the received *Shariah* jurisprudence. In

(1) This juristic view is supported by various fatawa issued by notable contemporary scholars like Sheikh Mohammed bin Salih bin Othaimin, Sheikh Abdullah bin Manee', Sheikh Mustafa Alzarqa, *Shariah* Board of AlRajihi Banking and Investment Corporation, and the Fiqh Acadamy of the Organisation of the Islamic Conference (OIC).

general, jurists classify company contracts into three main classes as follows[(2)].

a - Financial (or Properties) company

It is formed when two or more partners come together in a joint contract to contribute specific shares of capital for trade purposes. Such companies are classified further into equal shares companies (*Mufawada*) and unequal shares companies (*'Anan*). In *Mufawada* contracts partners authorize each other to act on behalf of each other during both the presence or absence of the other partner, and are held committed to each other's actions. Every partner enjoys the status of being both 'agent' and ' guarantor' in the *Mufawada* company. But in *'Anan* company the actions of partners are restricted such that every partner enjoys the status of 'agent' subject to approval for his actions, but not that of 'guarantor'. The *Mufawada* company turns into a *'Anan* company whenever the condition of equality of partners capital or debts is violeted.

Unlike *'Anan* company which is generally accepted by the main schools of jurisprudence, the *Mufawada* company is rejected by Shafi'i, Hanbali, Zahiri, and Ja'afari schools while accepted only by Hanafi and Maliki schools.

b- Works Company

It arises when the partners are skilled workers possessing similar or different skills, combining their efforts in a single company to offer their services at market price to the public. The works company is also classified into *Mufawada* and *'Anan* but it is rejected by Shafi'i, Zahiri, and Ja'afari schools while being accepted by Hanafi, Maliki, and Hanbali schools.

c- Credit Company

It arises when partners do not possess more than popular names in trade and they simply carry out trade using the capital of an inactive partner. This type of company is highly controversial in Islamic jurisprudence and it is only accepted by Hanafis and Hanbalis.

d- The Mudarabah Company

It arises when one party(*Rabbulmal*) puts up capital to another party (*Mudarib*) in order to carry on trade on profit-sharing basis. If profit is realized it would be distributed between the two parties in accordance with an agreed upon profit sharing ratio. Whereas if loss is incurred the *Mudhrib* loses any reward for his effort and the whole financial loss would be born by *Rabbulmal*. The *mudarabah* company is fundamentally accepted by all schools of Islamic jurisprudence and it is presently advocated by Muslim economists as the main alternative to interest-based finance.

(2) See **Alkhayat, Izzat A.**, Vol. **2**, pp. 7-12.

In the light of the above brief review we may notice sharp similarities between *Mudarabah* company and the modern financial trust, and also between financial company and the modern partnership. It clearly appears that the juristic concept of company falls in line with the modern class of personal companies, that is, the class of companies initiated through the conclusion of mutual agreement between two or more individual partners to carry out business for profit and bear the consequences of their actions on the basis of full personal responsibility. However, the concept of financial (as opposed to personal) company in modern terminology differs significantly from the corresponding juristic concept in the sense that the latter is specifically based on the contracting partners who have deliberately combined both money and physical effort in the running of their company. As a result the company's contract shall automatically be liquidated if any one partner decides to discontinue in the company. Even if someone else offers to take his position, the remaining partners may legitimately liquidate the company and refuse the new offer. In contrast, the contemporary concept of a financial corporation ignores the personal element completely. Partners need not know each other and the company's contract is insensitive to exit of old partners or entry of new partners. Partners are related to the modern financial corporation only through their financial shares which define both their financial liabilities and the number of votes they may exercise annually in the general assembly's meeting.

Obviously, earlier jurists did not look at 'company' and 'its partners' as two distinct entities like the case of modern financial corporation which possesses its own legal entity independently of its partners(i.e. shareholders). This point explains why it was difficult for some contemporary jurists to justify the modern corporation in terms of the received rules of Islamic jurisprudence. It was particularly so because of the rules related to mutual consent and ascertainment of personal qualification and due to lack of explicit 'offer/acceptance' mechanism (as in the juristic concept). As against this in the corporate form the matter relies wholly on individual's initiative to join the company simply through purchase of a share. Khayat reported contemporary jurists' views, including those of Sheikh Mohammed Abdu, Sheikh Mohammed Shaltute, Mohammed Yousuf Musa, Sheikh Abdulwahab Khallaf and Sheikh AlKhalsi who have justified the modern corporation, the modern financial trust and the joint-stock limited liability company on the basis of the received rules of Islamic jurisprudence. These scholars have appealed to the juristic principle of mutual consent on a matter of preponderant merit devoid of harm or injustice. Also, that the modern financial corporation may fall under special forms of Mudaraba company, or 'Anan company.[3].

(3) *Ibid*, pp. 208-221

As it appears the same juristic tradition of 'preponderant merit' that has justified the modern corporation, should also be observed in our appraisal of the concomitant stock exchange.

Exchange of Shares from Shariah Perspective

Corporate share carries the same meaning as a partner's share in the juristic *financial* company**.** It is the document which testifies a partner's ownership of a portion of the company's paid up capital, in terms of assets and retained profit. We are concerned here with ordinary shares (also referred to as common stocks), since their acquisition is permitted by Islamic jurists to the exclusion of non-permitted interest-bearing bonds, debentures and preferred shares.

Juristic consensus also seems to approve of the current practice which allows free market exchange of ordinary corporate share, through appeal to the juristic tradition that *: accepted convention is like an explicit condition*. But the crux of the issue is that the act of purchasing a share cannot be visualized like the act of purchasing any ordinary commodity intended to satisfy an individual's consumption or investment motive. Khayat has expressly pinpointed that the act of joining a corporation must fulfill the condition of *niyya* (deliberate intention) by the individual.(4) This is because a traditional juristic corporation cannot be based on a purely casual decision. Rather, the individual who joins a traditional juristic company must be satisfied by its goals and possess a sense of active belonging both financially and personally to the family of its partners. If such a pre-requisite is applied to the modern corporation, the shareholder should be keen on the success of the company in the attainment of its economic as well as social targets, rather than quickly parting with its shares in the face of any negative hot rumor circulated by market brokers.

Taking the example of the juristic company, Khayat has argued that a clause of ' pre-emptive right 'can be adopted in the modern corporation chart as it may prove useful for its success. The pre-emptive right is an established property in *Shariah*, giving existing shareholders priority over potential shareholders whenever new shares are issued, or existing shareholdings are negotiated. More formally it can be defined as "entitlement of a partner to claim his partner's share if it has passed to a third party's hands".(5) The pre-emptive right (*shuf'a*) is supported by various reports of the Prophet's Tradition, most notably the report by Jabir bin 'Abdillah stating that : "The Apostle (PBUH) has imposed *shuf'a* on the undivided plots but when borders are drawn and paths are cut out, there will be no *shuf'a*".(6)

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(4) *Ibid*, p. 127.
(5) **Ibn Qudama**, (*Al-Mughni*), Vol. **5**, p. 459.
(6) It is an authenticated report but we only translate the sense.

No doubt, the option of adopting pre-emptive right introduces a significant restraint in the velocity of shares circulation, thus deviating from the pure model of free exchange on which the modern stock exchange is based. But in any case shareholders are free to adopt the pre-emptive clause or to waive it, depending on what they consider most fit for their objectives. It is reported in the Prophet's tradition that: "people are governed by the conditions they have agreed upon". Hence, judging on the Islamic advisability or otherwise of restrained shares' circulation depends on the underlying considerations of market efficiency, which is firmly tied up with the attainment of socio-economic goals. We now turn to investigate a fundamental share's peculiarity that must give room to a policy of restrained circulation.

Share is unlike other Economic Goods

G*harar* is a central concept in Islamic jurisprudence, which means uncertainty about any one of the objects of exchange : either amount of *price* to be paid for a specific commodity, or nature of *commodity* to be bought at a given price. Avoidance of *gharar* is a fundamental *Shariah* restraint which renders a corporate share unlike other economic goods that are freely tradable as consumer's or producer' goods ; for unless buyer of shares knows precisely what they really stand for he would be committing serious *gharar*. In the absence of accurate and reliable information about what the 'share' stands for, its mere purchase turns out like playing any gambling game. Serious *gharar* is indistinguishable from prohibited gambling. Thus, avoidance of serious *gharar* marks the main point of departure between the normative Islamic stock exchange model (NISE) and the contemporary one (CSE) which takes too little guards against *gharar* or gambling motives. In actual practice the CSE provides a fertile soil for the satisfaction of professional gamblers, quite apart from the gharar-prone speculative motive which accounts for the bulk of turnover rates. A large amount of scarce resources seem to be devoted to the handling of purely speculative 'short sales'.

To avoid *gharar*, *Shariah* lays special emphasis on the provision that a purchasing party must be sufficiently informed about the object of purchase, both quantitatively and qualitatively. And since 'share' is a composite non-tangible good combining heterogeneous forms of corporate assets (including cash and receivable debt), it is not at all easy for any purchaser of a share to analyze the company's balance sheet and its income statement, and to assess the contribution of other diverse information (like changes in dividend policy) in the valuation of the company's share.

In theory, it is known that the current 'true' market exchange value of a stock is equal to the present value of the future expected stream of dividend income

discounted at the firm's cost of capital - no matter whether the share is kept for earning dividend income or sold shortly to reap a quick capital gain. That is, short-term capital gains are themselves defined in terms of the future expected dividend income stream.(7) Thus, unless participants in the stock exchange are well-equipped to carefully analyze all such financial indicators, the mere interaction of supply and demand may not yield any sensible prices. We can safely conclude avoidance of serious gharar is possible through two main conditions:

> *First: Making accessible all relevant information and financial indicators for the use of participants in the stock exchange.*
>
> *Second: Participants must acquire (or somehow seek the service of) the analytical ability to carefully process such information to obtain consistent estimates for the true expected exchange values of the shares.*

If the above two *Shariah restraints* are satisfied, then the free supply/demand mechanism is bound to yield consistent prices based on true expectations of a share's future dividend income stream, in sharp contrast with the current practices in the CSE which appears to satisfy the *First* restraint but not the *Second* one. Indeed, the daily market operations of the CSE may not differ significantly from the supply/demand determination of a fair gamble's price under different waves of optimism and pessimism. This shortcoming of the CSE yields an instability that was rightly noted by Keynes as:

> *".. there is the instability due to the characteristic of human nature that a large proportion of our positive activities depend on spontaneous optimism rather than on mathematical expectation.....Most, probably, of our decisions to do something positive, the full consequences of which will be drawn out over many days to come, can only be taken as a result of animal spirits - of a spontaneous urge to action rather than inaction and not as the outcome of a weighted average of quantitative benefits multiplied by quantitative probabilities"* (Keynes, 1970, p 161).

Therefore, careful enforcement of both *Shariah restraints* should ensure maintaining the real exchange values of corporate shares at all times, but of course at the cost of negatively affecting the shares' velocity of circulation. We would have to address the popular counter argument that market efficiency and its liquidity would be sacrificed due to restricting exchange and lowering the circulation velocity. This leads us to the following section.

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(7) See **Kolb** and **Rodriguez** (1992), pp. 148-150.

III. The Efficiency Hypothesis of the CSE

Economists have addressed the difficult issue of how to ascertain and measure market efficiency using various statistical formulas, e.g. weak form, semi-strong, and strong form tests. Using such measures, financial economists have attained the conclusion that modern stock markets (CSE) seem to satisfy the semi-strong test and hence they are operating fairly efficiently(8).

Market efficiency is generally defined as the speed at which stocks' prices respond to changing information such that no participant can outwit the market, i.e. take an informational advantage that is not yet publicized. An efficient stock market is defined as one which quickly and accurately mobilizes liquid capital to where it gets highest returns. More particularly, we may have to distinguish between the two complementary concepts of internal efficiency (operational efficiency) and external efficiency (informational efficiency). The former relates to accessibility of information to all participants in time and at least cost, whereas the latter refers to transaction costs and speed of concluding and finalizing financial deals and transactions, thus involving the role of brokers and the size of commissions they charge. Naturally, we are mainly concerned here with the critical appraisal of the hypothesis of informational efficiency and how it really applies to the CSE as it is held in mainstream financial economics. We shall seek to answer this question in the light of the *Shariah restraint* that has already been introduced.

Although empirical evidence on the CSE has supported the hypothesis of informational efficiency, mainly at the semi-strong level, this issue has always remained a controversial one. The main critical charge against those earlier empirical tests has been a methodological one. It is that there is a circular argument involved in the hypothesis testing procedure, since empirical tests are formulated on the basis of an equilibrium capital asset pricing model (the CAPM) whereas the CAPM itself is based on the assumption of informational efficiency. On the other hand, the CAPM itself has ever remained a target for severe criticism. Roll's well-known critique(Roll, 1977, 1978) has discredited the CAPM due to the impossibility of verifying it empirically. Recently we have attacked a new the standard mathematical assertion due to Tobin, that risk/return indifference curves for normally distributed returns must be convex from below, which is a necessary condition for equilibrium pricing in the CAPM - making the counter assertion that risk-averters would more likely possess linear indifference curves (Tag el-Din, 1991). More recently, the CAPM theoretical framework has come under new attack as market anomalies, which made it possible to outwit the market, have been discovered in a way that raises doubts against the hypothesis of informational efficiency in the CSE(9).

(8) *Ibid*, pp. 513-515.
(9) *Ibid*, pp. 536-539.

However, rather than being quickly carried away by the technical details on the issue of market efficiency it is worthwhile asserting the normative Islamic concept of market efficiency which does not rely exclusively on the pure profit motive as it is the case in the CSE. The importance of a socio-ethical element in the Islamic concept of efficiency cannot be ignored particularly in a genuine Muslim society where investment motives by funds' owners do not exclude a sense of ethical responsibility towards the attainment of social goals. Hence, the criterion of market efficiency in a genuine Islamic perspective does not rely on the speed of liquid capital's flow from *less* profitable projects to *more* profitable ones. In practice, most socially desirable projects are of the former type since they are often high cost in the short run and low -return yielding, though in the long run they are capable of generating a continuous and stable streams of income. On the other hand the purely profit-oriented concept of market efficiency cannot be defended on social grounds due to the adverse consequences it may have on the real investment motive over the long term, and the strong temptation it provides for making high profit in the short run - or indeed the very short run. If we add an additional force to the previously stated *Shariah restraints*, namely that of socio-ethical investment motives, it would undoubtedly control the velocity of shares' circulation still further.

The question, however, remains even under the CSE's pure profit motive, whether unrestrained velocity does achieve efficiency.

External Efficiency

In general, it is believed that individual share prices follow a random walk when plotted on weekly basis, implying that successive returns are independent i.e. for any week there is an equal chance that the share's price may go either up or down by the same magnitude(10). This pattern of random variation is a double-edged weapon when looked at from a market efficiency perspective :

i. On one hand it violates the stability-oriented efficiency criterion which requires actual market prices must coincide with 'true' exchange values at all times, in line with the theory of *shares' prices efficient fluctuations* (see Elton and Gruber,1981). This efficiency criterion seems to satisfy the above-stated *Shariah restraints* most directly.

ii. On the other hand, random variations can be taken as a technical proof of external efficiency so long as they represent the fact that all relevant information is already absorbed in share's equilibrium market price, apart from the random fluctuations caused by the erratic unpredictable behavior of the naive masses who often over-react to rumors.

(10) *Ibid*, pp. 523-526.

The latter criterion is the one which is currently adopted in mainstream financial theory as the basis for the empirical proof of market efficiency, being also testified by the so-called *dart-board theory of stock selection* due to Alfred Cowles which holds that: "You can throw a dart at the Wall Street Journal as a way of selecting stocks"[(11)]. However, brokers' have vested interest to spread exciting rumors (hot tips) among investors to encourage as much speculative trading as possible for the accounts of their clients, being motivated by the commissions they get in return. This phenomenon of excessive trading is well recognized in the literature as 'churning', and it is forbidden by the law but in most cases it is difficult to prove.

Cootner (1965) depicts this random walk as one with reflecting barriers placed on either side of a central line representing the true price of the share, see the figure (a).

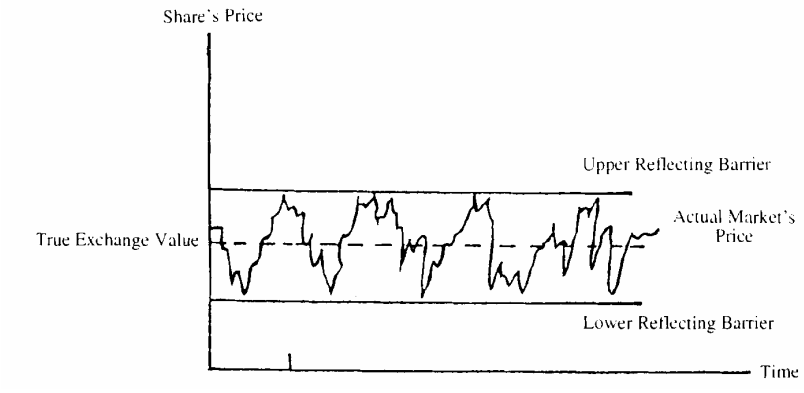

Figure (a)

In this pattern Cootner's theory goes to explain the existence of reflecting barriers in terms of the directive role played by professional experts whose constant intervention mitigates the erratic effects caused by the misguided speculative behavior of masses, and hence controls the ups and downs in the share's price to remain within reasonable bounds of the *true* exchange value.

According to this theory the naive masses play a crucial role in producing the observed unexplainable ups and downs of share prices, not due to careful processing of relevant information (as required by the second *Shariah restraint*) but due to an over-reaction to mostly irrelevant information. This point has been clearly explained by Keynes in terms of the 'mass psychology', remarking that :

(11) **Samuelson**, and **Nordhaus** (1992), p. 520.

> "A conventional valuation which is established as the outcome of the mass psychology of a large number of ignorant individuals is liable to change violently as a result of a sudden fluctuation of opinion due to factors which do not really make much difference to the prospective yield "(Keynes, 1970, p 154).

Hence, in order to minimize such fluctuations and restore greater stability in the stock exchange, the otherwise active, ill-advised speculative influence of the masses, must be replaced by discrete, better-advised participation along the previously stated *Shariah restraints*. This would, of course, result in reducing the shares' circulation velocity. In other words, the normative NISE is bound to be more stable with a relatively smaller circulation velocity and hence less shock-prone as compared with the CSE. It is rather ironic that while the CSE is judged as re-assuring in terms of efficiency measures, it has nonetheless remained threatened by catastrophic shocks exemplified by that of the black Monday, 1987.

Unfortunately, however, the standard statistical measures do not introduce a measure of stability to qualify their informational efficiency claims, which is itself a serious drawback of the tests. Had such a stability qualification been explicitly embodied by tests, they may not provide their present reassuring implications. They would rather detect 'abnormal' fluctuations and hence serve to indicate earlier warnings deeming immediate regulatory measures. The recent history of stock exchange regulation in the developed world has learned a lot from the experience of past catastrophic shocks to which the system was taken by surprise. It is interesting to see how *Shariah* has already pinpointed the relevant regulatory principles of stock exchange, though they have only been recognized recently in the developed world . In the Prophet's (PBUH) traditions free exchange is governed by basic ethical values to guard against illegitimate external influences on the true market price - e.g. *najash*, which means any mock interference by a third party with the intention to influence the pricing of a good in favour of the seller. A *najash*-like practice flourished openly in the American system before the great depression of 1929 when large profits were made out of *najash* practices until it was abolished by law in 1934. But before its legal abolishment, investors used to recruit large capital and expertise to organize a so called 'pool' which used to work actively and secretly in a tactical way within the stock exchange to misguide the ignorant participants, and hence re-direct the shares' price movement towards some desired target. It appears that the American system is still unable to limit the influence of such illegal pools.

To sum up, it is doubtful whether the claim of informational efficiency is sustainable by the CSE given the destabilizing speculative behavior of naive masses and the undetectable non-ethical practices which account for an unnecessarily high circulation velocity.

Internal Efficiency

Turning now to the other dimension of market efficiency**,** we encounter the active role of brokers at various levels within the stock exchange, ranging from the relatively small-size hall brokers to the large-size specialists who enjoy membership rights, investing large amounts of capital in their brokerage activities. It is generally held that among the main historical reasons for the establishment of Third and Fourth markets in U.S.A. as alternatives to the New York Stock Exchange (NYSE) are the high and rising commissions imposed by the NYSE brokers. The new markets were established to offer cheaper brokerage particularly to large packages.

No doubt, the need to generate sufficient returns for such highly sophisticated and specialized brokerage and investment advisory systems, must encourage brokers and analysts to fuel up the exchange velocity through undetectable churning which normally victimizes naive investors. Indeed, if the economists' belief that 'the stock exchange is informationally efficient' is truly and honestly conveyed to the participants, we wouldn't have encountered such hectic engagement by brokers and investment analysts aiming to persuade participants of a looming opportunity to make money. Obviously it does not pay brokers and analysts to promote the belief that the market cannot be outguessed. High exchange velocity is, therefore, both the cause and effect of a well-entrenched brokerage structure.

It appears clearly that the complex build-up of ancillary services around a typical CSE, is both cause and effect of unduly intense speculative activity measurable in the order of millions of dollars per second. Yet, according to the *dart-board theory*, the claim of external (informational) efficiency renders the advice by a broker or an investment analyst as worthless as reading luck from tree leaves. That is, efficiency cannot come about as a result of excessively high velocity, reflected by the large scatter around the true expected value of the share. To my best knowledge, no one as yet has attempted to estimate the amount of capital wastage resulting from large and consistent discrepancies away from the otherwise stable and true exchange value of the shares.

The Speculative Motive and Sacrifice of Managerial Efficiency

The inefficiency problem, reflected by large and consistent discrepancies away from the share's true value, is a direct result of misguided speculative activity of the naive masses. The great bulk of dealers in the CSE tend to skip the registration stage of their shareholdings with the issuing corporations. They would rather register their shareholdings with a broker who would immediately sell the shares at a time of temporary price rise and then re-purchase them when price falls. This is only one possible form of purely speculative transactions, called 'short sales ' as

commonly practiced by well-established investment companies (e.g. hedge funds), which employ highly specialized techniques to maximize income through choice of optimal combination of both short and long positions.

Widespread short sales' practices, therefore, account for the high circulation velocity which characterize the CSE. It is not surprising that modern investment theory is formulated with the assumption that the rational investor is indeed a busy speculator, figuring out the optimal re-allocation of his savings between the various income earning securities in an ever-changing environment. With accelerated speculative tendencies, as it is the case in the present economic order, the corporate sector becomes very much like a moving train where passengers exchange seats randomly for short trips with too little concern with whoever drives. Apart from signing a proxy statement, which automatically approves of existing corporate managers, the shareholder does nothing else to distinguish him from a bondholder. In this fashion, shareholders of a given corporate no longer exercise their legal right of closely cross-checking the performance of inefficient managements, a problem which would reflect negatively on the overall productivity index of the corporate sector. Hence, efficiency losses are caused either directly through the large random discrepancies or indirectly through perpetuation of inefficient managements. Although the expansionist phenomenon of mergers and acquisitions acts as a clear external threat for inefficient managements, this has resulted in the emergence of special defensive strategies by inefficient managements to ward off such a threat, like the so-called 'poison pill'(12).

Speculative Activity and the Claim for Liquidity

The most appealing argument in support of speculative activity is the argument that it generates liquidity in the stock exchange. In the first place, the very existence of a stock-exchange is justifiable by the liquidity potential it provides for shareholders, who may otherwise refrain from holding corporate shares even though they may be willing to take long positions. The need for a secondary market where shares are freely traded is dictated by the fact that once issued corporate shares are non-redeemable.

Of course the ideal way to satisfy liquidity needs of a long-positioned shareholder, is to find a potential shareholder who is willing to buy his shares also at a long position, hence avoiding the wasteful speculative practices. But obviously

(12) 'Poison pill' is defined in financial management as "strategic move by a take-over target company to make its stock less attractive. For instance, a firm may issue a new series of preferred stock that gives share holders the right to redeem it at a premium price after a take-over. **Downes, John** and **Goodman**, **Jordan Elliot** (1991), *Dictionary of finance and Investment Terms*, Barron's Educational Series Inc.

such ideal matching of two long-positioned shareholders is too hard to find in actual practice, and if enforced by law it would minimize the market's liquidity potential, making corporate shares far less attractive. A long-positioned shareholder will be more gratified to be ensured of immediate liquidity whenever he needs it even where it can only be secured by the free entry of speculative-motivated participants.

Hence, to the extent of providing liquidity potential to satisfy the immediate needs of existing shareholders, there is a maximum level of harmless speculative activity that must be maintained at all times ; for as Keynes (1970, p. 159) puts it "Speculators may do no harm as bubbles on a steady stream of enterprise". But the argument of liquidity assurance, is often taken too far by the advocates of unrestrained speculative activity, a point that is indicated by Keynes while making his historical strong remarks against speculations "Of the maxims of orthodox finance none, surely, is more anti-social than the fetish of liquidity ..... It forgets that there is no such thing as liquidity of investment for the community as a whole "(Keynes, 1970, p. 155). It should be obvious that exchange in the secondary market does not produce any new liquidity to the economy.

Therefore, the real challenge is how to decide on that critical level of speculative activity beyond which efficiency losses may dominate. To answer this question we have to investigate into an alternative role that can be played by professional analysts who are currently aggravating the problem of excessive speculations.

Unpredictable Fluctuations

The criterion on which current standard measures of stock-market efficiency are based, as we already observed, do not take explicitly into consideration the large random short term deviations of market prices from their respective *true* market values. This point which violates the two *Shariah restraints* is nonetheless taken as an empirical proof of market efficiency in the sense that no participant may outwit the market. We have also explained in terms of Cootner's model the role of professional investors whose effective participation imposes reflective barriers on either side of the true market value of a share as a means to mitigate the otherwise wild fluctuations caused by the behavior of the naive masses. It remains now to show whether professionals do perform that corrective role. Yet, we have to distinguish between two situations:

i. The case of unchanging expectation about *true* exchange value of a share, i.e where the market opinion about the expected dividends' stream and the associated risk is given. This is precisely the case represented by Cootner's random walk model where actual market prices tend to scatter around a given expected share value. Using probability theory, we may describe this situation as that the market is

drawing its actual prices from one and the same distribution, having fixed mean as *measure of location*, and fixed variance as *measure of risk.*

ii. The case of changing expectation about the true exchange value, i.e. where market participants continuously revise their opinions about the expected income stream to be earned from holding a corporate share and the risk associated with it.

Clearly, the second situation describes real life more accurately than the first one. Hence, we may safely describe the daily operation of real life stock market as drawing its actual share prices from an inventively large family of probability distributions having different means and variances. Cootner's model appears to be highly optimistic in its representation of the naive masses behavior since in actual practice the naive masses are vainly scoring at a randomly moving target, rather than a stable one. This idea of randomly moving target is the essence of the efficient fluctuation theory which implies that a 'true' share value fluctuates randomly in response to changing business conditions. Hence the actual price of a share in an efficient market must also fluctuate around such a random path.

No doubt if we still cling to the idea of random walk around a true value, the challenge becomes much more difficult than in Cootner's model, not only for the existence of naive masses who are already unable to score a stable target, but also for professionals whose effective participation is assumed to place reflecting barriers around the true market value. This time the 'reflecting barriers' must also be moving randomly if we still maintain Cootner's assumption that professionals are indeed keen to streamline the actual market price fluctuations with the true market values- a point which we shall shortly re-consider in the light of the Keynesian view. No doubt the resultant deviations of actual share prices away from the *efficiently fluctuating target* would be (absolutely) much larger than the case where a *stable* target was assumed, hence showing a much larger scatter around he the true market values than was already shown in Cootner's random walk model. Such a situation is best described in terms of figure (b):

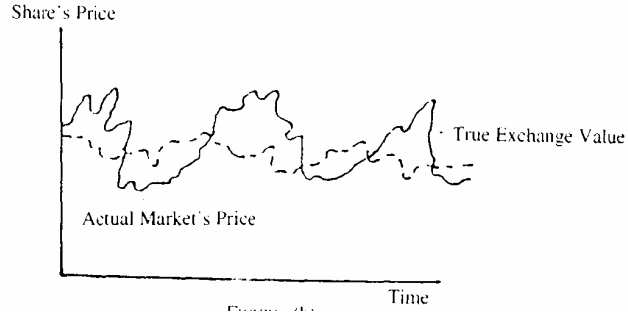

Figure (b)

The thin line in the figure represents the theory of efficient fluctuations of a market share's true value, whereas the bold line shows the real life fluctuations of the actual market prices around the thin line. We may compare this situation with a hypothetical case of figure (c) where the thin line of true share's value fluctuates in an almost predictable manner as it may be the case for the share prices reflecting seasonality in certain agricultural activities.

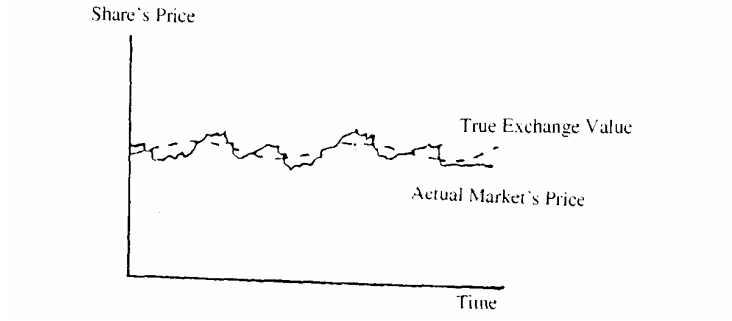

Figure (c)

Note that the bold line which shows the magnitude of actual price fluctuations around the true values is less erratic than the case shown by figure (b) above. The obvious reason is the unpredictability of true share values pattern in figure (b). In certain studies it was shown that the general level of yesterday's prices in the stock exchange does not explain more than 1.5% of today's price level, i.e. 98.5% of today's price level is an unpredictable event(13).

Keynes introduced the term" mass psychology" to describe the force which accounts for such erratic and unpredictable changes in shares' prices. Hence, it is worthwhile re-considering Cootner's assumption about the directive role of 'professionals' under the Keynesian psychologically-driven force.

IV. Failure to Meet *Shari'ah*-Restraints

Effective participation of professionals in the stock exchange under Cootner's random walk model was assumed to produce upper and lower reflecting barriers to counteract the otherwise erratic reactions of naive participants, and hence control the extent of random fluctuations around the stable true share's value. However, when the broader perspective of the theory of efficient fluctuations was introduced it proved an even much harder task for professionals to mitigate the explosive

(13) **Elton** and **Gruber** (1981), p. 366.

variations around the randomly changing true values. But in the first place, as Keynes puts it, the real question is whether professionals' role is a corrective one. The answer to this question provides an even more pessimistic characterization of the CSE than that of the efficient fluctuations theory. Indeed, it is the mass psychology which governs the professional analysts' valuation of share prices and not the reverse - thus nullifying the assumed corrective role of stock exchange professionals. It exposes the efficient fluctuations theory to question so long as the actually fluctuating share's prices determined by mass psychology are themselves considered the true shares' values ? Keynes has accurately described the job of professional analysts in the stock exchange as "*to guess better than the crowd how the crowd will behave*" (Keynes, 1970, p 157)), implying that the skill of the analyst is reflected in his ability to foresee the direction of mass psychology and make profit, rather than to re-direct it. This is not a surprising result if we appreciate that in the final analysis the professional participant is an income-maximizing speculator, and that he is by no means responsible for ensuring the economic consistency of actual market prices with their corresponding true share values. It is, rather, the responsibility of the issuing corporation to convince people of its sound financial position, hence substantiating the conclusion that the assessment of the effect of various economic and administrative changes on shares' prices is effectively carried out by naive people rather than professional analysts.

Therefore, the theoretical claim of market efficiency is hardly attainable. The admitted effective participation of naive masses who are easily victimized by hot tips and undetectable churning, and the absence of an exogenously neutral built-in stabilizer to re-direct the mass psychology towards the true shares' values makes it almost infeasible to make an objective assessment of market efficiency. In fact Keynes was pointing out to this problematic situation when he warned economists of the dwindling role of real economic information acquired by the productive investors and the increasing influence of financial shareholders who have too little real economic knowledge. He concludes his view rather dramatically by stating :

> "The spectacle of modern investment markets has sometimes moved me towards the conclusion that to make the purchase of an investment permanent and indissoluble, like marriage, except by reason of death or other grave cause, might be a useful remedy for our contemporary evils" (1970, p. 160).

Why Shari'ah Restraints?

The two previously stated *Shariah Restrains* are deliberately formalized to guard against serious *gharar* in the stock-exchange, and hence affect closer convergence of actual shares' market prices with their real economic values. We

believe, the stock-exchange would work with higher efficiency if these restraints are closely observed, bearing in mind that these *Shariah restraints* do not forbid short-sales that are driven by the capital gain motive so long as the issuing corporate shares fall within the accepted class as previously defined. People are free to buy and sell corporate shares of such a class at any time so long as serious *gharar* and gambling tendencies are well-guarded against. In this way the shares' circulation velocity is bound to be much lower and the rate of speculative-driven exchange would be substantially reduced, perhaps at no larger rate than the bare one needed to produce the necessary liquidity in the market.

A clear evidence that circulation is considered part of a broader process of production is found in the Prophet's tradition which prevents sale of a commodity before its physical acquisition. According to M. al-Baqir al-Sadr(14) this tradition implies that any specific good must be sold to the final consumers either directly by its original producer or indirectly through a middleman who physically moves the good to the place of final consumers. In the latter case the middleman has completed the production process and hence such a circulation of the good is encouraged by *Shariah*. But the mere documentary circulation of legal title to a specific good without actually being moved from its place is only a means through which profits can be generated to successive owners of a good who exchange its legal title for money without creating any added value to the good - apart from encumbering it with high cost.

Similarly, shares' circulation that does not add any real value to the social community apart from the gambling-like speculative gains, must be kept down to the possible minimum. Most particularly, in the less developed countries with relatively small imperfect markets and poor capital bases, both quantitatively and qualitatively, greater care must be taken to discourage the catastrophe-prone speculative tendencies and encourage a more productive and development-oriented role for the stock-exchange. In less developed countries where real productive enterprise activity is relatively small it may turn out to be no larger than a bubble on a whirlpool of speculation.

V- Conclusions

Now, on the basis of the preceding discussion we may conclude this paper by deriving the major characteristic norms of the NISE (Normative Islamic Stock-Exchange). We have already seen that buying a corporate share is unlike buying a tangible good with directly visible properties, a point which makes corporate shares more *gharar*-prone. Avoidance of *gharar* is simply re-assurance of the standard

(14) **Al-Sadr**, **Mohammed Al-Baqir** (1981), *Iqtisaduna*, Beirut, Dar al-Ma'arif, , pp. 680-683.

text-book economic rationality assumption that a buyer is fully aware of the utility that he may generate from the price he offers for buying the good in question. We derived two *Shariah restraints* : calling for the provision of relevant information on one hand, and the analytical ability to estimate true exchange values on the other. These two main restraints are intended to attack the problem of *gharar*, or to put it differently, they are intended to account for closer convergence of the actual share's price with its true expected economic value. Using Keynes ' critical description of the contemporary stock-exchange, the problem of divergence from true economic values is the direct consequence of real economic knowledge having a dwindling role in the valuation of real economic activity whereas the community of inexperienced shareholders continues to play greater role in the valuation process.

The paper has focused mainly on *gharar*-related inefficiencies which are seldom reported in the literature, but the following points provide s fuller description of the Normative Islamic Stock-Exchange (NISE) :

1. The NISE is a secondary market only for equities of companies that are engaged in the production of goods and services that are permitted by *Shariah*. This point carries two main implications. It implies that corporate bonds, debentures, preferred shares or similar assets which carry promised returns on an interest-rate basis cannot be exchanged in the NISE. It also implies that equities of companies producing impermissible goods like : pig meat, alcoholic products, gambling returns or devices,...etc cannot be exchanged.

2. The NISE is administered in such a way as to subordinate the financial market movements to the real goods and services market movements, and hence make the former transparent to the latter. Thus, real economic knowledge must dominate..

3. Control of purely speculative transactions to the critical level which is just necessary to generate needed liquidity without sacrificing market efficiency or corporate management efficiency.

4. Propagation of behavioral norms among shareholders to encourage them to hold longer positions in order to exercise their voting rights to choose more efficient managements, to effectively participate in the policy-making process of corporate managements, and to ensure the attainment of the stated social and economic goals.

What About The Appropriate Organizational Set-Up?

Finally, we shall touch briefly on the issue of how to institutionalize an NISE, an issue which needs more specialized effort than the current paper which focused

mainly on normative principles. No doubt any suggested organizational set-up cannot do without deliberate government involvement to take care of the above-stated policy norms. We have argued that the needed control on the velocity of shares' circulation is only to the extent of minimizing widespread *gharar* in the stock-exchange. However, it is worth-emphasizing that little *gharar* (unlike little *riba*) is tolerable by *Shariah* since in practice it is almost impossible to completely eliminate *gharar*. In the Prophet's tradition sale of food stuff without proper weight scaling is permitted whenever such scales are unavailable - but to ascertain tolerable levels of *gharar* is not at all an easy matter. The juristic general consensus as regards avoidance of *gharar* is to strike a balance between the two extremes of total control and total negligence, both of which are harmful to the operation of the stock-exchange. Within this broad range we may propose two possible alternative organizational frameworks as follows:

(A) The Conservative Organizational Model

This model utilizes a growing trend in the developed financial sectors, namely the rising demand for professional rating service of various financial products (e.g. the S&P ratings), in order to inform potential investors about the products' quality. Through experience, sophisticated investors have developed the feel of what difference it makes to them in terms of potential yield to acquire a security rated 'AAa' when compared with an alternative 'Aaa' security. Our idea is to extend the scope of this trust-worthy professional service of risk-rating further to the provide, on daily basis, computerized estimates for all the registered individual share prices, directly on the basis of the mathematical formula which defines the price of a share in terms of prospective yield adjusted for the company's risk. Further, to qualify as a registered company in the stock exchange the company must hire such a professional service to make such information accessible to shareholders.

Then, participation in the stock-exchange is to be restricted exclusively to two main categories :

1. large number of individual shareholders.
2. Intermediary institutional investors : mutual funds, unit trusts and investment companies.

In this set-up dealing directly with the stock exchange is confined exclusively to the well-versed shareholders who seem to possess the necessary economic knowledge and have positive role and presence in the setting of corporate policy. The professionally estimated prices are intended to act as guiding bench marks, not as legally binding prices. Actual prices must be bargained between the participants in a normal supply/demand mechanism with due consideration to the trust-worthy

estimates. On the other hand the large mass of ignorant household-sector investors (i.e. small shareholders where 'small' is used in a relative sense) can only deal in corporate shares through the easy entry and exit from an open-ended intermediary. Offer and bid pricing of redeemable investment units are, as usual, related directly to the original stock prices; but mass-psychology will no longer be operative since the large ignorant masses are already held back from the valuation prices in the stock-exchange.

In this set-up informative trust-worthy professionalism would dominate over mass psychology, while actual prices may fluctuate fairly slightly around the professional estimates. Also greater operational efficiency could be granted through cost reduction and elimination of the distorting roles of internalized brokers and vested-interest professional analysts.

(B) The liberal Model

The above organizational model may be considered too restrictive by those who prefer an open mass-dominated stock-exchange with minimum regulatory interference. In this case the current open system can be permitted to operate but with the provision that all registered companies must hire the service of trust-worthy professionals to produce and publicize computerized estimates of the company's share value. This is perhaps the minimum level of necessary control for the operation of the NISE, though the matter still deems to be handled more critically by future research.

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9

Debt and Equity in a Primary Financial Market: A Theory with Islamic Implications(*)

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Introduction

This paper addresses a basic financial choice problem involving a risk-free asset(*) and a profit-sharing equity in a single period model, bearing in mind the Islamic injunction against debts with guaranteed returns. The main objective is to show how an Islamic *riba*-free Pareto optimality is possible to obtain in *aprimary* financial market, despite non-conducive conditions *(i.e.* high risk-aversion rates and restricted potential for diversification of investment risk). On this basis we purport to explain why the mixed debt/equity system prevails in actual practice. A similar type of problem has been initially addressed by Masud (1984) through a formulation that did not relate directly to the portfolio theoretic approach.

In a recent study by Tag El-Din (1991), attention was drawn to an indirect implication of the standard mean-variance portfolio choice theory, which explains the observable mixed debt/equity system in a Pareto optimal set-up. The basic idea depends on the interaction of risk-averse participants in the financial market. Such a risk-aversion thesis' underlies the capital market line (CML) hypothesis which embodies the implication that all financial investors become worse off when the CML (and hence the risk-free asset) is dropped. This implication exploits strictly convex mean-variance indifference curves, but it was shown that unless investment returns are pairwise perfectly correlated, these curves may take other shapes that do not sup port the Pareto optimality; e.g. linearity case.

The present study brings together the direct interaction of supply and demand sides in the primary financial market, where debt and profit-sharing equities are yet to be issued. *Financial investors* constitute the supply side, *while real investors* (entrepreneurs) represent the demand side. We deliberately emphasize risk-averse nature of financial investors in line with the portfolio theoretic property that *borrowers are less risk-averse*(*) *than lenders*. Thus, the

(*) To sharpen the contrast between debt and equity the farmer is treated as risk-free. The findings, however, are unaffected by introducing risk into debt finance.

(*) The statement that A is "more risk-averse than B" in the mean-variance sense implies that A has a (uniformly) steeper indifference curve than B.

basic mean-variance analytical tools of portfolio theory are used, where we specify upward sloping indifference curves for both supply and demand side investors. The former (financial investors) are defined with indifference curves that are steeper than those of the latter (real investors). However, in the standard model for secondary financial markets, the risk-free debt asset is assumed exogenously given' as it is often proxied by the government treasury bills. Our primary market model develops the risk-free asset as an endogenous variable together with the risky profit-sharing equity.

In short, we deal with a free competitive market without government intervention. Demand side real investors (entrepreneurs) and supply side (financial) investors are assumed coming together for the first time.

The Assumed Environment

We start from an abstract environment involving a large number of financial and real investors. Like the Schumpeterian entrepreneurs, real investors have nothing to invest. They completely rely on financial investors for investible funds. In order to focus on the choice problem of financial suppliers, real investors are initially neutralized between issuing a risky profit-sharing equity or a risk-free one. In what follows we describe the main features of our abstract environment.

*(i) Informational Efficiency***.** At the beginning of the period all economic agents are assumed to have homogeneous *expectations* about the uncertain return on investment. This means that the distributional parameters (μ,) are known to all participants. We shall depart from such a condition in conformity with standard portfolio choice theory, though at a latter stage the consequences of relaxing this condition will be examined(*).

(ii) Distribution of Investment Returns. To make the problem analytically tractable we shall start from a long-term equilibrium with a fixed level of investment risk. This level of risk is assumed measurable and equal to σ, whereas financial suppliers are expected utility maximizers. Hence, at the fixed risk σ funds are supplied to those real investment projects showing the highest possible expected return. Let the ith real investment be characterized by a random return variable X_i (i, 2, ..., n), with parameters:

$$E(X_i) = \mu_i \text{ and } Var(X_i) = \sigma^2$$

(*) For a more elaborate definition of informational efficiency in the financial market see Copeland and Weston (1980).

then to make portfolio analysis possible through mean-variance, we assume that X_i are normally distributed i.e.

$$X_i - N(\mu, \sigma)$$

The assumption of expected utility maximization entails in the long run that competitive forces would drive out any real investments having an expected return μ_i lower than a market maximum μ.

Given the fixed risk level σ, this will lead to a long run equilibrium where all $\mu_i < \mu$ have already been driven out of the market. Thus, assuming independent returns, our point of departure will be characterized by a set of random returns (X_1, X_2, X_n) that are i.i.d. normal variables, i.e.

$$X_i - N(\mu, \sigma)$$

(iii) Equity Share and Risk-Free Rate. Also, it is impossible under the long-term (informationally-efficient equilibrium) to have more than a single risk-free rate, r. A fixed profit-sharing ratio, a, will be assumed, and the return variable $\{X_i\}$ are taken as unit dollar net returns. Thus, any financial supplier of a unit dollar is offered a random share Y_i,

$$Y_i = aX_i (i = 1, ..., n),$$

from the net dollar return of the ith. This yields the following risk/return parameters of the issued equity

$$m = E(Y_i) a\mu, \text{ and}$$
$$S = \sqrt{Var}(Y_i) a\sigma$$
$$0 < a < 1$$

Accordingly the profit-sharing equity will be denoted by the two components vector (m, s), whereas the risk-free debt asset will be denoted by (r, o).

(iv) Consequences of the i.i.d. Property. It is notable that the i.i.d. property of investment returns greatly simplifies the shape of the efficient portfolio, given any fixed ratio, a. Since m is fixed, the process of risk-diversification merely reduces the risk component, s, of the equity. Hence, for any fixed profit-sharing ratio, a, the risk/return parameters of share equity (m, s) shall be translated into the efficient frontier through risk diversification in the Markowitz sense [Markowitz (1952)], as:

$$(m, s) \qquad (m_e, s_e)$$

where $m_e = m$ but $s_e < s$ as a result of diversification.
Reduction of risk due to diversification is allowed only up to a minimum value $s_e > 0$, which denotes *undiversifiable* risk.

(v) Relevance of Moral Hazards. The problem of moral hazard is assumed away in this paper due to reasons outlined by Tag El-Din (1990). Our intent is to restrict attention to the "risk-averse thesis" of portfolio theory. The "moral hazard thesis" is however irrelevant as it cannot explain the choice problem involving bonds and equities.

Plan of the Study

Our findings are based on a simple geometrical device which we have developed to bring forth the direct interaction of supply and demand sides in the primary financial market. The new concept of Investors' Share Box (ISB) is introduced in part (1) of the paper. ISB is constructed by utilizing basic analytical tools of mean-variance portfolio choice theory, with some adaptations. Perhaps the most significant modification is the treatment of the (risk-free) interest as an *endogenous* variable(*). Also real investors are shown to have identical indifference curves as a result of their initial neutrality under conditions of the assumed environment. We rely on geometric intuition in the exposition of the theory, rather than sophisticated calculus. This is deliberately adopted since new ideas are best revealed in simple intuitive terms.

Part (2) focusses on the supply side participants of the market, keeping real investors effectively neutralized. In part (3), we shift to the demand side, relaxing the condition of informational efficiency and, hence, the neutrality of real investors. Finally, we briefly pinpoint the main concluding remarks.

Part - 1
Portfolio Analysis within ISB

Basic adaptations of the standard mean-variance portfolio analysis are needed to suit the special features of our financial choice problem. In fact, subsequent analysis is demonstrated within the Investors' Shares Box (ISB), which describes the primary financial market in terms of direct interaction between the two types of investors (*real and financial*). The ISB is defined over a closed risk/return space, for two types of financial assets: equity share and risk-free debt. It combines investors' preferences with the objective investment opportunities, in a manner that brings to a sharp focus the choice problem between the risk-free asset and the risky profit share.

1.1 The ISB and The Basic Shares Possibility Set

The ISB, essentially, represents the different possibilities of sharing a total

(*) The risk-free rate in the standard portfolio theory is assumed given exogenously. In our present study it is taken to depend on the real investors' attitude towards risk.

expected net return of a unit dollar investment, characterized by distributional parameters μ and σ, as between a real investor and any financial investor. Figure 1 is self-explanatory. Note that the south-western corner of the box represents the point of origin for financial investors' risk/return axis, while the north-eastern corner stands for a typical real investors' point of origin.

That is, if a financial investor is offered a return share ($a\mu$) the real investor is left with the remaining share (1 - a) μ. As it is shown, the return shares of the two partners are determined by the horizontal line connecting the opposite return axes.

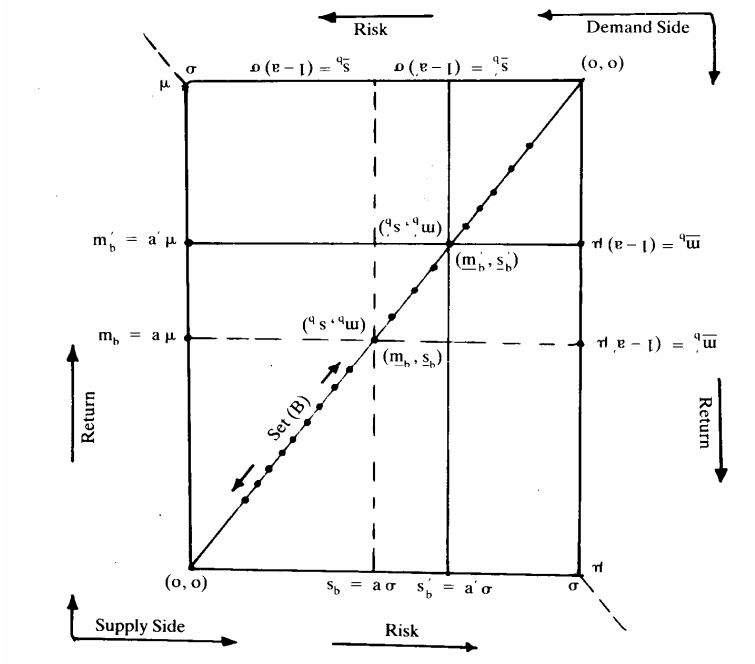


FIG. 1. The Investors' Shares Box and the Basic Shares' Set (B)
NB: $o < a < a < 1$

Similarly, the risk-shares of either partner are determined by the corresponding vertical line connecting the opposite risk axis. The two perpendicular connectors intersect at a specific point which is a single element in the basic shares possibility set (B), defined for either partner as:

$$B = \{(m_b, s_b,)/m_b = a\mu, s_b = a\sigma, 0 < a < 1\}$$

Note that the set (B) is represented by the main diagonal of the ISB

1.2 The Efficient Shares Possibility Set (E)

The set (E) is only relevant for financial investors who gainfully exploit the opportunity of diversifying investible funds over the full real investors(*). Thus, any given basic payoff:

$$(m_b, s_b) \in B$$

can be translated through the diversification process, into the corresponding efficient payoff:

$$(m_e, s_e) \in E$$

noting that $m_e = m_b$), due to the i.i.d. property, of returns, while s_b is reducible to the (minimum) undiversifiable level $s_e = ao_e$ for any fixed ratio, a. The efficient shares possibility set is, thus, defined as:

$$E = \{(m_e, s_e,) / m_e = a\mu, s_e = a\sigma_e, 0 < a < 1\}$$

and it is represented in Figure 2 by the steeper line to the left of the main diagonal of the ISB. Note that the absolute gain from diversification, g_a, rises linearly with the sharing ratio, a, since

$$g_a = s_b - s_e = a(\sigma - \sigma_e) = ag_1$$

Clearly the line representing set (E) becomes steeper for larger values of g see Figure 2.

1.3 The Universal Possibility Set (T)

The set (T) represents all possible (m, s) equity shares obtainable through profit- sharing with or without diversification. It includes not only sets (B) and (E), but also the intermediate diversified shares where funds are only allocated over a limited range of real investments. Thus, there is yet a third set of possible non-basic shares, with the risk component s_b being reduced to some s_n by partial diversification, resulting in:

$$\sigma > s_b > s_n > s_e > 0$$

Thus the non-basic shares possibility set (NB) is defined as:

$$NB = \{(m_b, s_n,) / m_n = a\mu; s_e < s_b; 0 < a < 1\}$$

(*) See Appendix (B).

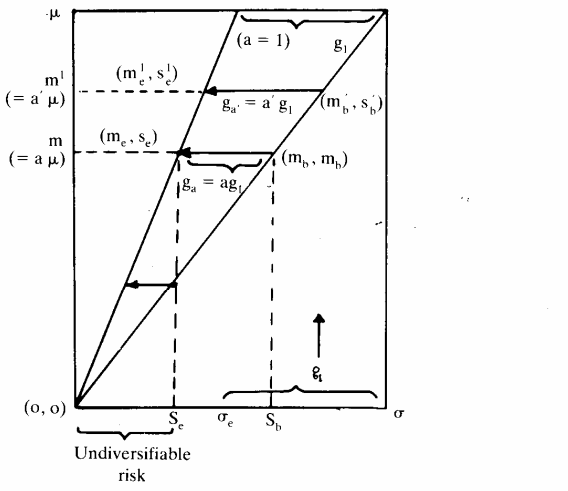
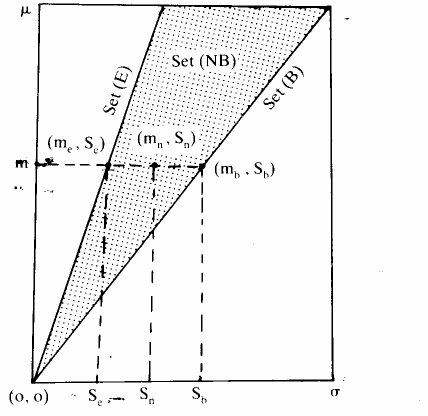


FIG. 2. Translation of Basic Shares into Efficient Set (E).
NB: $m_b = m_e (= m)$, but $S_e < S_b$
$g_1 = \sigma - \sigma_e$; $o < a < a' < 1$

and it is represented by the shaded region between the diagonal of the ISB [i.e. the set (B)]; see Figure 3.



T = B + NB + E
FIG. 3.

Accordingly, the universal shares possibility set is given by the union:

$$T = (B) \cup (NB) \cup (E)$$
$$= B + NB + E$$

since the sets (B, NB, E) are mutually disjoint. It is immediately notable that the set (T) compares to the investment opportunity set of the standard mean-variance portfolio choice theory, whereas the set (E) stands for its efficient frontier.

1.4 The Preferences Structures within The ISB

In Figure 4 it is shown how a risk-averse financial investor maximizes expected utility, by taking risk diversification to its fullest extent. That is, by choosing from the efficient frontier (E) of set (T). This result is true for any assumed curvature of the up wards sloping indifference curve and not necessarily the convex shape. We shall, however, introduce an essential rationality axiom in terms of the slopes of m-s in difference curves.

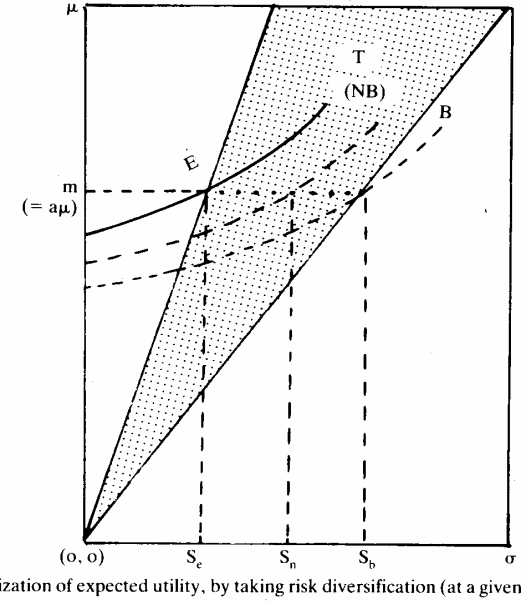


FIG. 4. Maximization of expected utility, by taking risk diversification (at a given sharing ratio) to its fullest extent up to the efficient frontier (E).

1.5 A Rationality Axiom

All that we need to impose on the preferences' structures for investors, is the following axiom:

Any share in profits is better than no share, and a larger share in profit is strictly preferred to a smaller one.

Thus, given the sharing ratios $0 < a < a' < 1$, this implies the strict preference relations:

$$m_b', s_b' \rightarrow (m_b, s_b) \rightarrow (0,0)$$

$$\text{where } m_b' = a'\mu, s_b' = a'\sigma_e, m_b = a\sigma, \text{and } s_b = a\sigma_e$$

and the two (m, s) vectors are elements in the basic shares at (B). The class of potential indifference curve is, hence, restricted by ruling out the ones violating the above rationality axiom. Figure 5(a), (b), demonstrates cases which violate this rationality axiom. The first case (a) describes a family of m-s indifference curves where a share in profit is negative utility generating. That is, where nothing is preferred to any share in profits, and that a smaller share is preferred to a bigger share. The second case (b) describes one where the bigger basic share (m_b', s_b) falls on the same indifference curve as the smaller share (m_b, s_b).

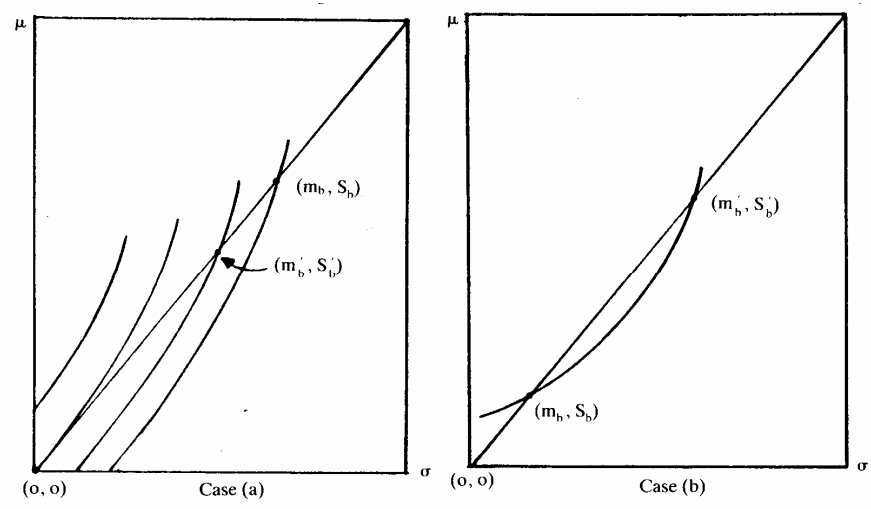


FIG. 5. Cases violating the rationality axiom: $(m_b', S_b') \rightsquigarrow (m_b, S_b) \rightsquigarrow (o, o)$.

To rule out such cases, we shall introduce the following rationality restriction uniformly within the ISB

$$0 < \left(\frac{dm}{ds}\right)_{u=uo} < \beta = \frac{\mu}{\sigma}, (for 0 < s < \sigma; 0 < m < \mu)$$

where $(dm/ds)_{u=uo}$ is the slope of the (m-s) indifference curve at any fixed expected utility level U0 = U (m, s) and β is the Slop(*) of the main diagonal of the ISB. Hence, a rational risk-averter must have a family of upwards sloping (m-s) indifference curves with slopes smaller than β. Of course this condition must also apply to the real investor. It will shortly be shown that unless the above rationality restriction is satisfied, the real investor cannot offer positive interest on debt.

We now turn to exploit the above characterization of the ISB, in the choice problem between the risk free security and the risky share equity.

Part -2
Supply Side Perspective

In order to focus on the choice problem by financial investors, it is appropriate to neutralize the real investor's (entrepreneurs') preference between issuing debt security or share equity. This implies, in the Miller-Modigliani sense, that the cost structure of capital is irrelevant to the real investor. Using the ISB, such neutralization is achieved where the cost of debt [i.e. the interest payment (r, o)] and the cost of equity (i.e. the profit share (m_b, s_b) fall on the same indifference curve of the real investor; see Figure 6. However, to embody the necessary ex-ante property

(*) The slope B is related to the coefficient of variation (C.V.) by the simple relation β = 1/C.V. The value of β is indeed a `social' parameter that can be assumed endogenously given as a reflection of entrepreneurs attitude towards risk. As a result riskier investments with relatively largere' cannot be chosen.

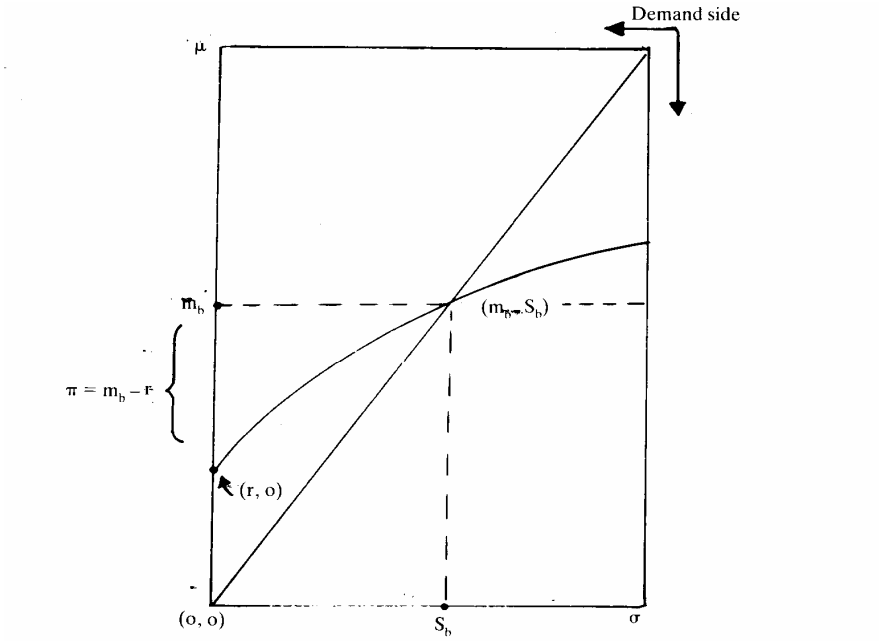


FIG. 6. Real investor indifferent between issuing equity share (m_b, s_b) or risk-free asset (r, o). The steeper is the indifference curve the lower will be the interest rate, r. To maintain $r > o$, it is necessary to maintain the 'rationality axiom.'.

$$m_b - r > 0$$

the real investor must also have an upwards sloping indifference curve. That is, he must be risk-averse. For, if real investors were risk-neutral, with horizontal (m-s) indifference curves, this will result in a zero risk premium:

$$\pi = m_b - r = 0$$

But in this case, unless all risk is diversifiable (i.e. s_e=0), no one will choose the risky equity; see Figure 7. Here all financial investors with upwards sloping indifference curves, are better off with the risk free asset implying that equities will be completely driven out of the financial market.

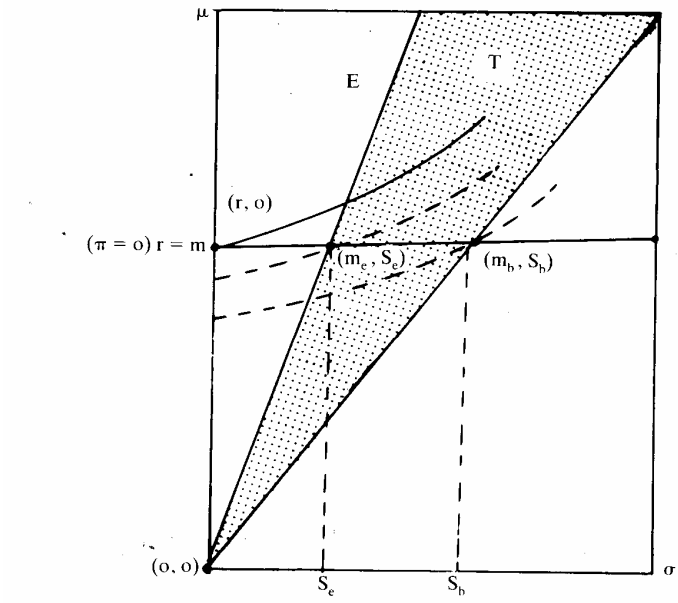


FIG. 7. A risk-neutral real investor, Π = o.
NB: Any risk-averse financial investor would prefer the risk-free asset (r, o) to the risky equity (m_b, s_b), so long as undiversifiable risk exists; i.e. $s_e > o$.

We are, thus, led to the first result below:

Result (1): Under the assumed informationally-efficient environment the existence of positive *ex-ante* risk-premia is a definite indicator of risk-aversion on the part of real investors (entrepreneurs).

We shall therefore stick to the assumption that real investors possess upwards sloping (m-s) indifference curves, like financial investors. It is also necessary to impose our *rationality axiom*, on the slope of any real investor's indifference curve, which now becomes a necessary (though not a sufficient) condition for the existence of a positive risk-free rate, $r^{(*)}$. Moreover, the existence of a single risk-free asset and a single equity in the market, can only be justified by the assumption that *all real investors possess identical (m-s) indifference curves*, and are, hence, equally indifferent between the issuance of equity or debt security. In this manner, attention will be focused on the supply

(*) It is easy to show how the rationality axiom' is necessary but not sufficient for the existence of r> 0, as just described. In fact for very low values of, a, real investors cannot offer any r > 0, even where the above axiom is maintained.

side. And to emphasize the problem of negative attitudes towards risk, we shall allow for greater risk-aversion on the supply side compared to the demand side. This implies that all (m-s) indifference curves of financial investors are at least as steep as that of the real investor.

2.1 Equity Shares without Diversification

At the outset, it is appropriate to inquire into the unrealistic limiting theoretical case where all risk is non-diversifiable (s_e=0). It is interesting to see whether diversifiability of risk is indeed a necessary condition for financial markets to accommodate risky equities.

This situation is depicted in Figure 8 where the sets (E) and (NB) are empty (i.e. E = NB = ϕ) and the universal shares possibility set (T), consists only of the basic shares set (B). Let us first consider Figure 8(a). In this figure the real investor and all financial investors are assumed to possess convex (m-s) indifference curves, thus implying increasing risk-aversion. For simplicity, a single financial investor is shown with steeper indifference curves at all levels compared to a real investor.

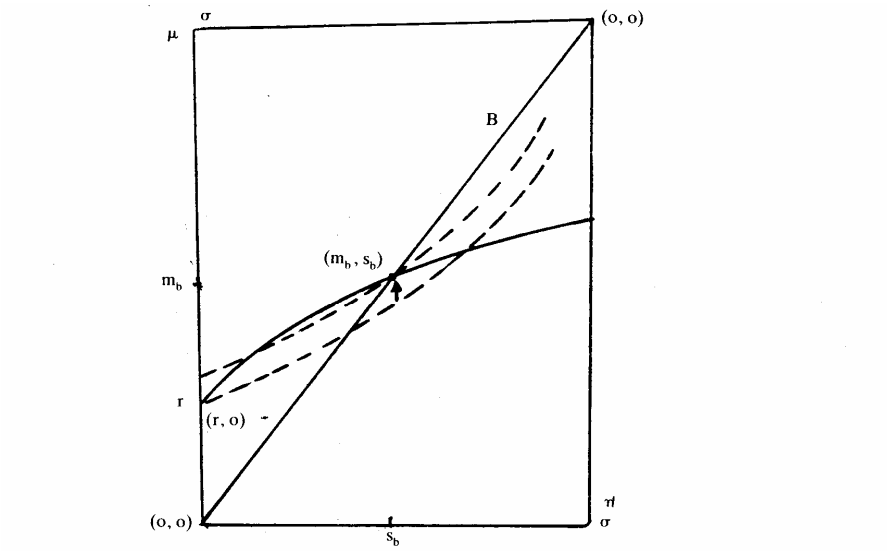


FIG. 8(a). Financial investor with uniformly steeper indifference curve than real investor. Nonetheless, he prefers (m_b, s_b) to (r, o).

the same (constant) rate of risk-aversion as the real investor. However, it is obvious that this individual is indifferent between the equity share (m_b, s_b) and the debt asset (r, o), as they both fall on one indifference curve. It follows

therefore that any other individual with a some what higher rate of risk-aversion than real investor [see Figure 81, would strictly prefer the risk-free asset to the equity share.

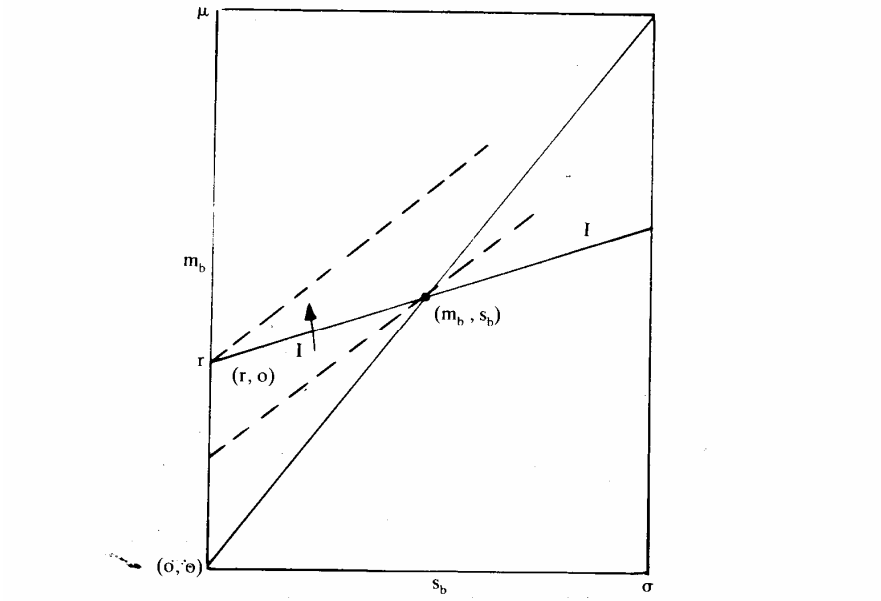


FIG. 8(b). Cases of constant risk-aversion. Any financial investor with a steeper indifference curve than real investor, would prefer (r, o) to (m_b , s_b).

This demonstration justifies the second result:

Result (2): Diversifiability of risk is not a necessary condition for the choice of risky equity share under the assumed environment even though financial investors are more risk-averse than (neutralized) real investors. That is:

a) If increasing risk-aversion prevails (i.e. convexity case) investor might, nonetheless, prefer risky equity to risk-free debt.

b) If constant rates of risk-aversion prevail (i.e. linearity case), then all financial investors would prefer debt to equity.

It may look rather surprising that the stronger case for the preference of equity without diversification is supported by the commonly adopted property of increasing risk-aversion. We should, however, recall that we are dealing with a *primary* financial market, where the risk-free asset is *recognized* in terms of demand side real investors attitudes towards risk.

2.2 Allowance for Diversifiability

We now consider the more realistic case where risk is partly diversifiable with a persistent non-diversifiable residual $s_b > 0$. In the remainder of this section we shall assume that all (m-s) indifference curves are linear as in Figure 8(b), mainly a means to simplify the analysis Stronger implications can be derived with convex in difference curves.

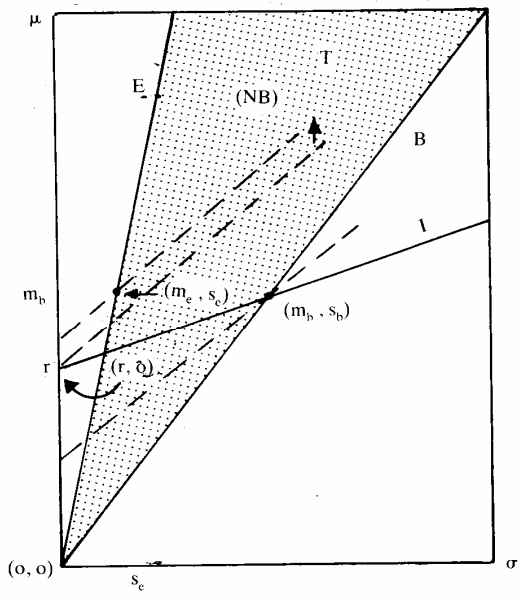


FIG. 9. As diversification is introduced the order of preference is reversed for the individual in Figure 8(b). He now prefers equity to debt.

Diversifiability of risk is now represented in Figure 9 by the set (T) which is extended to include the efficient frontier (E) and the intermediate non-basic set (NB). Note that the individual in Figure 8(b) who preferred debt to equity, has now reversed his preference. This is a typical case of individuals with higher rates of risk-aversion (relative to the real investor), who find diversifiability of risk sufficient to make the issued equity share more attractive than the risk-free asset. We are, hence, led to the following familiar result:

***Result** (3):* Although diversifiability of risk may not be necessary, it is sufficient to induce some financial investors, with linear indifference curves, who would other wise prefer debt to equity, to reverse their order of preferences.

Now, the crucial question, which is pertinent to Islamic economics, is whether a financial market based exclusively on profit-sharing, may be derived despite the wide range of high risk-aversion rates and the persistence of undiversifiable risk! We shall thus turn to explore stronger results.

2.3 Potentially Superior Assets and the Driving Out of Risk-Free Assets

Let us first introduce the idea of a relatively superior asset and then define its potential set (R).

Definition: A financial investment asset (m, s) is defined as superior relative to a rival risk-free asset (r, o), if the former drives the latter completely out of the informationally efficient financial market.

Of course this requires that every *rational* financial investor, no matter how risk averse, will strictly prefer that investment asset to the specified risk-free debt asset. As a special simple example of this concept, in Figure 10(a), note that every (m, s) asset contained within the upper triangle of the ISB is superior relative to the rival zero interest debt asset (o, o). In this simple case the set (R) of relatively superior as sets consists of two main types of potential assets:

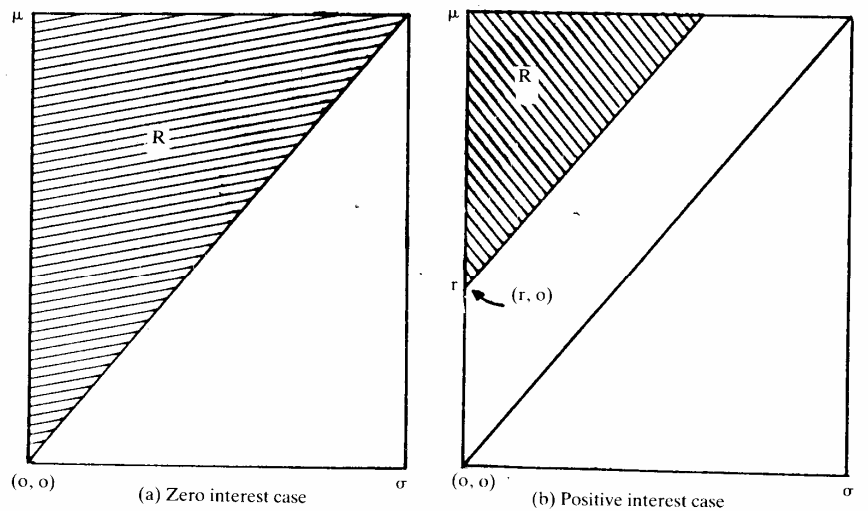


FIG. 10(a, b). Sets of relatively superior assets.

i) The first type is the positive interest risk-free assets {(r, o)}. The inclusion of this type of assets in the set (R) is trivially obvious. They represent the upper boundary of set (R), which is the vertical r-axis of the ISB.

ii) The second type is the potential (m, s) risky assets with risk components{s} falling in the range $o < s < s_b$ for any fixed m-recalling that the maximum S_b is the risk component of the basic equity share $(m, s_b) \in B$, as defined on the main diagonal of the ISB.

The inclusion of set (B) in the set (R) is justified by the previously stated rationality axiom: that any (basic) share in profits is better than nothing. And since any (m, s) point to the left of the main diagonal is strictly preferred to the corresponding (m, s_b) point on the diagonal, it follows that the latter represents the lower boundary of the set (R).

Now if the implied rationality restriction is always maintained (i.e. indifference curves always have smaller slopes than B) then it is always possible to define a set (R) of superior assets (m, s) relative to rival debt assets for any rate r in the range $0 < r < \mu$. Naturally, as r rises, the corresponding set (R) diminishes. In Figure 10(b) we exemplify for a region (R) relative to risk-free asset (r, o). In this Figure the lower boundary of set (R) is contained within the upper triangle of the ISB, parallel to its main diagonal. To verify that the given set (R) is indeed one of relatively superior as sets in the way they are just defined, we only need to establish this property for the lower boundary. Thus, we may prove the following lemma:

***Lemma*:** Given any line within the upper triangle of the ISB, and parallel to its main diagonal, the rationality axiom implied that every potential (m, s) risky asset defined on that line is 'superior' relative to the risk-free asset (r, o) defined on the same line.

[Proof is given in Appendix (A)]

This lemma provides the basis for the following result:

Result (4): No matter how risk-averse are rational financial investors, there are always potentials of risky assets that may drive the rival risk-free assets completely out of the market.

2.4 Relatively Superior Equity Shares

It remains to substantiate Result (3) by showing how potentially superior assets can be realized in terms of the equity shares contained in set (T), recalling

that T = B + NB + E. It is immediately notable that no basic equity share, (m_b, s_b)$\in$ B, can also be a member of set (R) where r > 0. That is,

$$R \cap B = \phi$$

unless r = 0. Only in the latter case where T R, it follows automatically that $R \cap B = B$.

Thus, to include equity shares in set (R) for any r > 0, the basic equity issue (m_b, s_b) must be translatable through risk diversification into an element (m_b, s_e) ∋ E (or m_n, s_b) $\in$ NB such that the translated element becomes a member in set (R).

In Figure 11(a), (b), we provide two possible situations as follows:

(a) The null case $(R \cap T = \phi)$ relative to a fixed interest rate r =r_1 > 0. At the given extent of diversifiability (g), there is no profit-sharing ratio which can yield a superior equity share (m, s)$\in$ T, relative to the risk-free asset (r_1, o) - not given the maximum ratio a = 1, yielding $m = \mu$

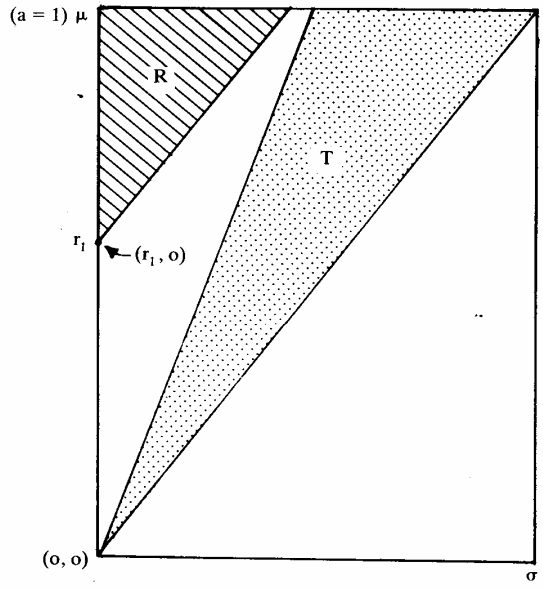


FIG. 11(a). No profit-sharing ratio may yield a 'superior equity share' not even the full share a = 1. $R \cap T = \emptyset$ (null case)

(b) *The non-null* case: $(R \cap T = Q)$ relative to a lower interest rate $r_2 < r_1$, but with the same extent of diversifiability as given in (a) above.

The necessary condition for the existence of a non-null set Q relative to any fixed interest rate is the intersection of the efficient frontier (E) with the lower boundary of set (R). This point of intersection, when it exists, determines the smallest profit-sharing ratio, a, (on financial investors' axis) that is necessary to yield a relatively superior equity share.

2.5 Exclusive Dominance of Profit Sharing

Now that a non-null set (Q) may exist relative to any risk-free asset (r, o), it remains to show how in the assumed equilibrium, profit-sharing may drive out risk-free assets.

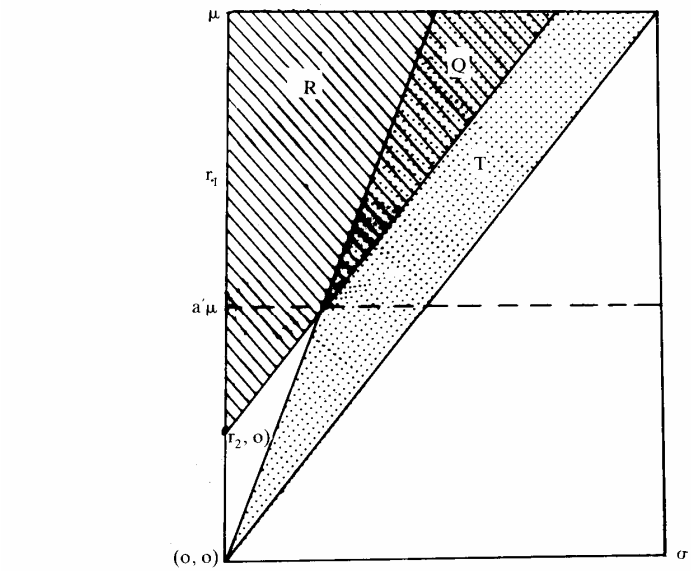


FIG. 11(b). Relative to the lower fixed rate (r_2), any profit share $a\mu$ ($a' < a < 1$) may yield a 'relatively superior' equity share.

In equilibrium, it is assumed that real investors are indifferent between issuing a risk-free asset (r, o), or an equity share (m_b, S_b) based on a fixed profit-sharing ratio a. This basic equity issue is translatable through diversification into an element (m_e, s_e) $\in$ E of the efficient frontier. Then, the question at any interest rate (r) and fixed profit sharing ratio (a), is whether (m_e, S_e)$\in$ Q, or not. Here again there are two possible situations described in Figure 12(a), (b) as

$$\text{(a)}\ (m_e, s_e) \notin Q$$

$$\text{(b)}\ (m_e, s_e) \in Q$$

The extent of diversifiability (g) is maintained at pre-specified level as usual, to allow for undiversifiable task.

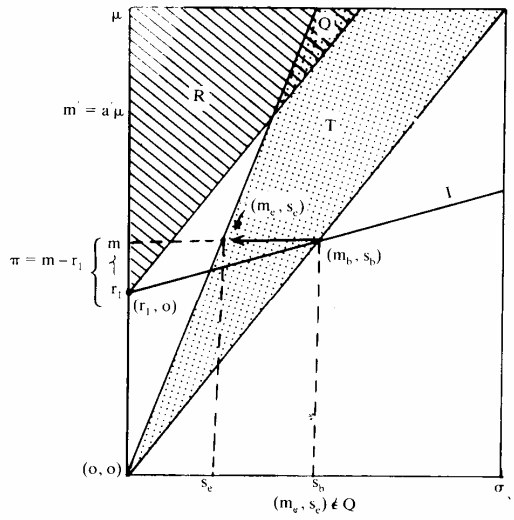


FIG. 12(a). At the given Pareto optimal equilibrium both "debt/equity" co-exist since the sharing ratio fails to yield an element in (Q). That is attainable at very high sharing ratios but it violates Pareto optimality (real investor will be worse-off).

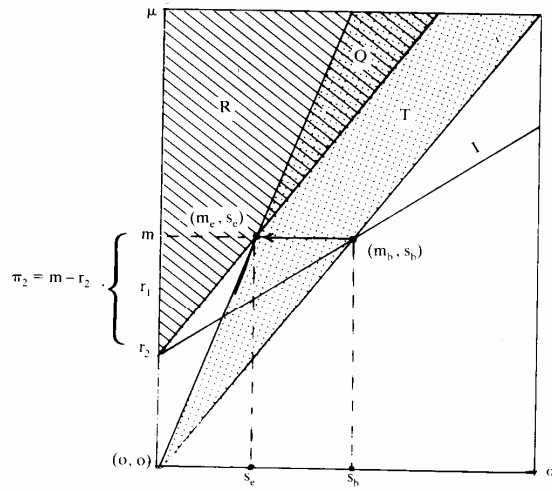


FIG. 12(b) The *ribā*-free equilibrium: Here the same sharing ratio (m = aμ) yields an element in (Q) relative to a lower interest asset (r_2, o). Here Pareto optimality is maintained.

$(m_e, s_e) \in Q \supseteq R$

N.B. real investor has a steeper (linear) indifference curve compared to Figure 12(a).

In the first case (a), the (linear) indifference curve of the real investor combines the risk-free asset (r_1, o) and the equity share (m_b, S_b) However, at this assumed equilibrium the translated efficient value (m_e, S_e) of the basic share, is not a member of set (Q). In this case the risk-free asset (r_1, o) cannot be driven out of the market. Both debt and equity will be practiced at equilibrium.

In the second case (b), we maintain the same specified extent of diversifiability and the same profit-sharing ratio as in the previous case. However, the representative real investor, now, has a higher risk-aversion rate, judging by the steeper indifference curve. This situation yields a lower interest rate r_2 (i.e. $0 < r_2 < r_1$), such that we are left with (m_e, s_e)$\in$ Q at the assumed equilibrium. The equity share is now 'relatively superior' compared to r_2.

Hence, *riba*-free Pareto optimality is already achieved in case (b) where at the assumed equilibrium the risk-free asset (r_2, o) is completely driven out of the market and all financial investors are now better off with pure equity finance. However, in case (a) the same profit-sharing ratio and the same extent of diversifiability, failed to produce such a Pareto optimality. The difference between the two cases is mainly due to difference in risk-aversion rates of the typical real investor adopted in each case. This attitudinal difference is embodied in different risk-premia, defined a:

$$a)\pi_1 = m_b - r_1 > 0$$
$$b)\pi_2 = m_b - r_2 > 0$$

where $\pi_2 > \pi_1$ since m_b is fixed and $r_2 < r_1$.

The idea is that: the more risk-averse is the real investor the lower will be the fixed interest he would promise to pay as alternative option to the fixed profit-sharing ratio. In fact, if it were not for the rationality axiom imposed on the slope of indifference curves (see p.11) the very positivity of the interest rate would be questionable!

Hence, the real investor's attitude towards risk plays a central role in our solution of the financial choice problem. In the unlikely case of risk-neutrality [perfectly horizontal (m-s) indifference curve], we have already seen in Figure 7 that:

$$\pi = m_b - r = 0$$

and no potential of diversifiability, whatsoever, can yield a situation as in case (b). But generally, the larger is the size of π, the more likely that any given extent of risk diversification would be sufficient to yield a situation as in case (b). Thus, the following result can be derived :

Result (5): Given risk-averse real investor, being initially neutralized between debt or equity issues, it is likely with any restricted extent of risk diversification that a *riba*-free Pareto optimality is attainable no matter how risk-averse are financial investors. The more risk-averse is the real investor, the more likely is the attainment of such a Pareto optimality.

2.6 Shift of Emphasis

Result (5) is perhaps the most significant finding of the present study. It asserts the possible attainment of a *riba*-free equilibrium in the efficient market, despite the explicit allowance for:

a) high risk-aversion rates of financial investors,
b) restricted diversifiability of risk, and hence persistence of undiversifiable risk.

The main significance of the above result, lies in the shift of emphasis it makes from the supply side factors to those of the demand side. Thus, what really matters is not the (limited) potentiality of risk diversification or the exceptionally high risk-aversion rates of funds suppliers. It is rather the demanders of funds attitude towards risk. The likelihood of the *riba*-free Pareto optimality is re-enforced or weakened, depending on the size of the premium π which reflects the real investor's attitude to wards risk.

Now that in real life we witness the simultaneous issuance of equity and debt, we cannot jump to the conclusion that case (a) above of Figure 2 is the appropriate description of real practice. In the first place the ideal conditions of informational efficiency are difficult to maintain in actual practice. This point is discussed in the next section.

Part-3
The Demand Side Perspective

Our point of departure has been to neutralize the representative real investor in the Miller-Modigliani sense, thus making him indifferent between issuing debt or equity. This has enabled us to focus on the supply side of the financial choice problem. The previous analysis has, however, culminated in the finding that neither high risk-aversion rates of financial investors, nor limited diversifiability of risk, are necessarily preventive to a *riba*-free Pareto optimality in the informationally-efficient market. We have, accordingly, highlighted the real investors' attitude towards risk (being reflected in the size of the premium π) as a significant demand side factor in the financial choice problem.

3.1 Why People Hold Debt Assets

Now, the question is how to derive through our simple ISB structure an explanation to the real life fact that both debt and equity co-exist as complementary financial assets. This observable fact appears consistent with the implication of Figure 12(a), where the *ex- ante* risk-premium ($\pi_1=m_b-r_1$) was not large enough to allow the attainment of *riba*-free Pareto optimality. The relatively low π_1 was an indicator of a relatively favorable attitude towards risk of real investor - as contrasted to the alter native situation in Figure 12(b).

As such, one is tempted from Figure 12(a), to confirm the commonly held belief that real investors are generally endowed with fairly favorable attitudes towards risk. This means (in terms of our ISB model) that the *ex-ante* risk-premium $\pi = m_b - r$ is sufficiently small to make debt finance more attractive to a broad range of potential financial investors.

In this sense Figure 12(a) is taken as a simple testable hypothesis that is not contradicted by factual evidence, whereas the rival, the *riba*-free Pareto optimality [of Figure 12(b)], appears to be contradicted by factual evidence.

3.2 Informational Efficiency and Testability of Hypotheses

The two situations of Figure 12 cannot be treated as simple testable hypotheses. Similar critique of testability, like what Roll[(2)] expressed towards the supportive empirical tests of the CAPM, is also relevant here. Roll regarded the various results of empirical tests (like those of BJS and FM) as tautological.

Similarly, here, if the assumption of an informationally efficient market was granted, the alternative situations of Figure 12(a, b) could be treated as simple testable hypotheses. But, in fact the hypothesis to test is a complex one, since the real life discrepancy from informational efficiency cannot simply be assumed away far from being testable.

3.3 Real Investors and the Information Factor

Fortunately, the simple analytical structure of our ISB is easily adaptable to depict deviations from the ideal assumption of informational efficiency. In fact, the very nature of a dynamic economy makes it impossible at any point of time to maintain the homogeneous expectations assumption. It is not only that information is costly, but more significantly it is the problem of uneven access to the flow of economic information for all interested agents. If we stick to our broad classification of agents into real investors and financial investors, then the dynamic flow of new economic information can greatly be simplified. The

unrealistic assumption of homogeneous expectations will then be modified by allowing the two groups of investors have heterogeneous expectations. To maintain analytic simplicity, we shall introduce the assumption of *group-specific homogeneous expectations*. That is, real investors as a group have homogeneous expectations, which are different from those held by financial investors.

Then, taking a short term perspective of the dynamic scene, the very latest productive economic knowledge would be more directly accessible to real investors (who are involved in actual production) than to the remote suppliers of investible funds. Like the Schumpeterian entrepreneurs, the group of real investors represents the spearhead of dynamic economic growth. Dynamic change is in fact the main source which generates profits to entrepreneurs in Schumpeter's approach.(3) Basically, the entrepreneur is not a capitalist and he has nothing to invest. He is, however, fast enough to acquire command over another scarce economic resource, that is, the new flow of productive economic knowledge. He is, thus, having a relative informational advantage to exploit against inactive capitalists. The Schumpeterian entrepreneur is such an active self-confident person with an egoistic spirit-a set of qualities which enable him to dig out new opportunities of future economic prospects much faster than others-and to exploit this knowledge in the short run to his own best. Emergence of profits in the short run is caused by "... the higher productivity of the new method... and not the uncertainty of the results or the unpredictable nature of innovations"(4), a point which puts the Schumpeterian system in a direct contrast with that of Knight (1921).

Now, our homogeneous group of real investors could be regarded as entrepreneurs in the Schumpeterian sense, despite our allowance for uncertainty of results. The assumed measureability of uncertainty through the mean-variance probabilistic approach, still provides a solid basis for productive economic information (i.e. ex-ante data). Admittedly, our provision for probabilistic information is in clear contrast with Knight's unmeasurable concept of uncertainty, which he uses to explain the role of entrepreneurs, but the assumption of measureability is indispensable for developing simple models.

Thus, given the group-specific assumption of homogeneous expectations as out lined above, our simple ISB model can be used to reveal the effect of informational inefficiency in a short perspective, where the group of real investors has already acquired a relative informational advantage against financial investors.

3.4 The Consequence of Informational Inefficiency

To see how the group of real investors may capitalize on their relative informational advantage, we shall adapt the simple ISB model to represent two sets of expectations. The financial investors' expectations will continue as they used to be in the long run equilibrium. They still hold at the beginning of the period the expectation that the i.i.d. return variables have mean μ and variance σ^2. However, the group of real investors has already captured new productive information which will adapt their expectations to π' and σ^2 such that $\mu' > \mu$. The risk parameter σ is assumed unchanged whereas the mean return μ' is now higher, due to the higher expected productivity value of the new knowledge.

Clearly this Situation would result in two ISB's being visualized by each of the two groups. When the two boxes are brought together they result in the situation shown in Figure 13(a). The smaller box is the one visualized by financial investors, whereas the bigger box is the one visualized by real investors. Given a fixed profit-sharing ratio a, we shall end up with two different expectations of equity shares:

(i) $m_b = a\mu$ (visualized by financial investors)
(ii) $m'_b = a\mu'$ (visualized by real investors)
and obviously $m'_b > m_b$; see Figure 13(a).

Now, if the representative real investor is to remain neutralized as we did before, then he may either issue a new debt asset (r', o) or the old equity share which is now yielding $(m'_b > s'_b)$ -given the fixed profit-sharing ratio. Note that the new interest r' is considerably higher than the old rate r.

3.5 Real Investor's Preference

Then, the problem is how the real investor may capitalize on the relative informational advantage. Naturally, we cannot keep him neutralized as before, between is suing debt asset (r, o) or an equity with sharing ratio a. He is now in a better informational position relative to financial investors, and he may exploit that position to his own best. The fixed profit-sharing ratio, a, cannot be changed in the short run and it cannot be simply lowered to the real investor's own advantage. Hence, if the real investor has to choose between issuing the old debt asset (r, o), or the equity share with new value $(m'_b > s'_b)$, he would definitely have strict preference for the former. The old debt issue now falls on a higher indifference curve than the issue of equity with the new expected value, and hence all real investors may decide to rely exclusively on issuing the debt asset (r, o) to attract investible funds. This situation is depicted in Figure 13(a).

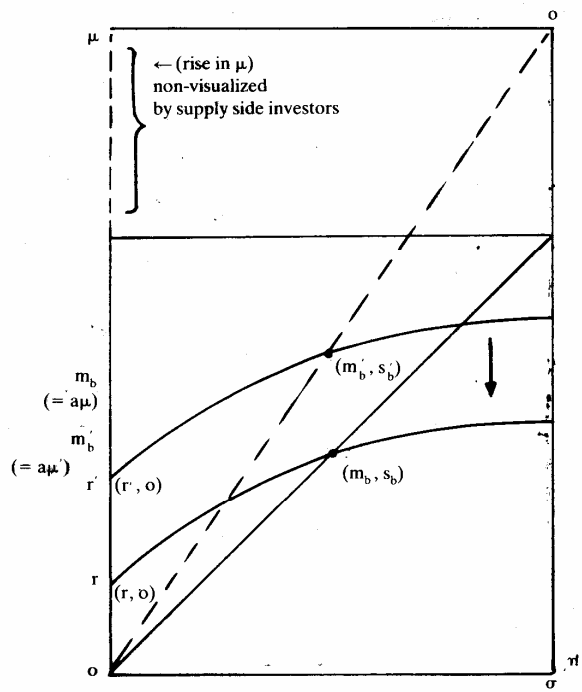


FIG. 13(a) Real investors now prefer issuance of debt asset (r, o) to equity. The enlarged box is the one visualized only by real investor.

3.6 Disturbance of a Riba-Free Equilibrium

To bring this point to sharper focus, Figure 13(b) starts from a *riba*-free long term equilibrium where the old debt asset (r, o) had already been driven out of the market. Yet, with the short term relative informational advantage they recently acquired, real investors would be far worse off if they keep issuing equity with the new value $(m'_b > s'_b)$. For in this manner they would surrender larger profit shares to the funds' suppliers whose (long term) profit expectations are too modest.

Given the fixed profit-sharing ratio, and the irrelevance of the debt asset (r, o) under the *riba*-free Pareto optimality, the most direct way for real investors is to compete for investible funds by issuing *higher interest debt assets*. This process would eventually end up at a somewhat higher interest rate r'', where:

$$r < r'' < r'$$

The typical real investor is still better off with issuing such higher interest debt compared to the equity option; see Figure 13(b). On the other hand, the rise in r will cause set (R) to diminish, thus significantly disturbing the assumed *riba*-free Pareto optimality for the last period of Figure 12(b). In the eyes of funds' suppliers (who are at a relative informational *disadvantage*) the rise in the interest r has

considerably reduced the previous risk-premium from $\pi = m_b - r$ to $\pi'' = m_b - r''$, thus making equity less attractive.

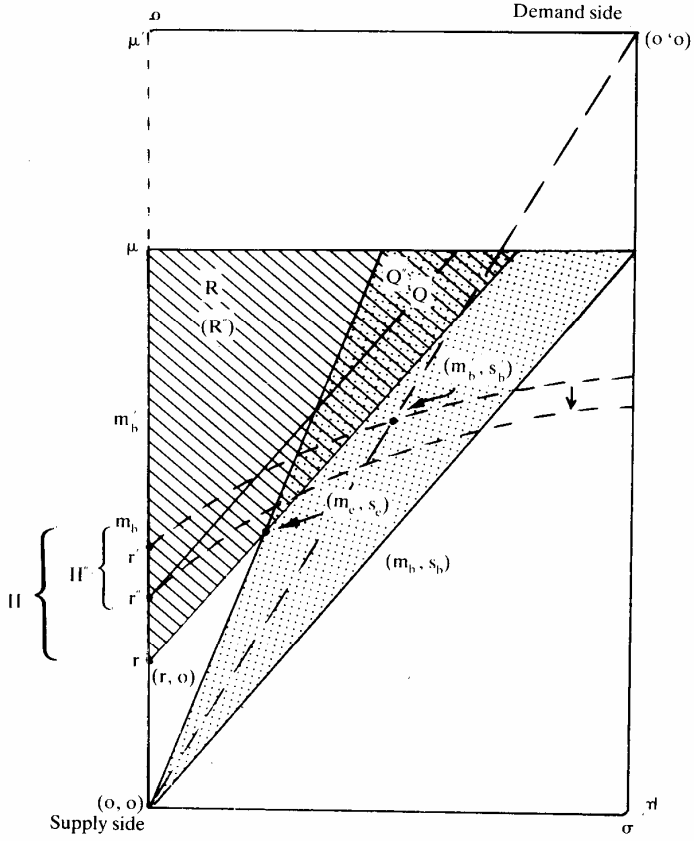


FIG. 13(b) Initially we are at a *ribā*-free equilibrium where $(m_e, s_e), \in Q$ and no one chooses (r, o). As a result of expected rise from μ to $'\mu$, real investors become indifferent between offering a much higher rate r' or new equity share m_b' b. They are, however, better off with a lower interest r'' where $r < r'' < r'$. The newly offered rate, r'', disturbs the *ribā*-free equilibrium, due to reduction of Q to Q'' i.e. $(m_e, s_e) \notin Q''$.

We have already seen how a short-term dynamic change has disturbed the condition of informational efficiency, giving practical advantage to the demand side real investors, also, how a previous *riba*-free Pareto optimality has been disturbed by the demand side initiative to issue debt assets. Hence, since in practice it is impossible to maintain the ideal type of a stable informationally-efficient market, it appears as though dynamic episodes of informational inefficiency are the significant forces which generate the observed debt activities. Such an interpretation for real life practices appears, by far, more appealing and less restrictive than that of Figure 12(a). This finding is now expressible in the following result:

Result (6)

The observable activity of debt finance is mostly a demand side initiative, taken by real investors who choose to issue debt assets in order to exploit a relative ex-ante in formational advantage.

This result describes the practice of debt finance as essentially a demand side choice, and a derivative of informational inefficiency. It lies in sharp contrast with the alternative approach which emphasizes the force of supply side choices in terms of risk-aversion, while neutralizing the demand side.

Part-4
Concluding Remarks

The previous discussion has revealed how an Islamic *riba*- free Pareto optimality can be maintained in an informationally efficient market, notwithstanding the counter forces of exceptionally high risk-aversion rates of funds' suppliers, and persistence of undiversifiable risk. These two counter forces are usually taken as the main objective forces which impose debt finance in actual practice, as it is perceivable from standard investment theory. Accordingly, the financial Islamization policy, which involves replacement of interest-based debt finance by profit-sharing equity finance, is often claimed as deterring to the 'natural' economic forces which generate investible funds in the most efficient way. Given the pioneering Miller-Modigliani theory which has provided grounds for believing that debt/equity ratio is not a critical parameter to the demand side, the emphasis continued to be placed on the supply side of investible funds. Thus, secular economists tend to believe that debt and equity must be allowed to freely operate in order not to retard the supply process of investible funds. Suppliers of funds are generally viewed as variably risk-averse, and hence, provision of debt assets would suit the tastes of those with higher risk-aversion rates. In this sense, if equities alone were issued, the financial system would fail to attract the funds of a significant portion bf risk-averse suppliers.

We have deliberately allowed for such counter forces of the financial Islamization policy, by over-emphasizing the risk-averse nature of suppliers. Such an attitudinal factor is further exaggerated by allowing the demand side real investors to have a relatively more favourable attitude towards risk. Persistence of undiversifiable risk has also been allowed for. Nonetheless, it was interesting to find out how a *riba*-free Pareto optimality may resist such strong counter forces, within the assumed informationally-efficient market.

Then, as a step towards realism, the ideal condition of informational efficiency has been relaxed. To provide a sharp focus for the effect of

informational inefficiency, our point of departure has been a long-term *riba*-free Pareto optimality. Informational inefficiency has been introduced through a short-term dynamic change, and the analysis revealed how the previous *riba*-free Pareto optimality has been disturbed through an initiative from the demand side to issue debt assets.

It appears on this ground that the observed real life debt practices are basically triggered off by the demand side. The idea is that real investors wish to borrow whenever a lucrative profit prospect is foreseen through a dynamic change. Thus, it implies *negative attitude towards sharing* on the part of real investors (who enjoy a relative informational advantage in a continuous sequence of short-terms) rather than negative attitude towards risk on the part of investible funds suppliers.

Does the System Sympathize with Risk-Avertors?

Economic systems, generally, are structured to cater for the preferences of active well-organized agents, much more than those of passive and unorganized agents. The financial structure generated by a free market system must therefore embody the vested interests of active profit-making beneficiaries who are located at the forefront of productive economic information.

It is not surprising, therefore, that the modern financial debt system has been established through the significant role that was historically assumed by industrialists. The initial stages of the industrial revolution in Europe marked a historical turning point where large profits started to accrue to the enterprising industrialists out of technological innovations. It was not a sheer coincidence that the same historical stage of lucrative profit prospects witnessed the earlier conflicts and dialogue between the Christian Church and the industrial pioneers to legalize the debt system. That was essentially a 'demand' rather than a 'supply' side concern. This demand side historical background may be contrasted with the recent supply side success of Islamic banking in attracting massive investible funds, merely through profit-sharing schemes. As it appears, the modern debt system is mainly a reflection of demand side preferences rather than a means to accommodate the supply side taste for 'safe' returns.

Insight from Riskless Neo-Classical Theory

Our viewpoint that the debt system emerges mainly as a derivative of informational inefficiency within dynamic short-term perspective, is brought to a sharper focus through the neo-classical perfect foresight models. In principle, nothing prevents the competitive long-term zero profit equilibrium from being an Islamic *riba*-free equilibrium. The *mudarabah* firm is indeed a logical possibility that suits the long-term theoretical structure where total output is exhaustively shared between labour and capital resources in a direct profit-sharing contract. Weitzman (1984) acknowledges such a point, remarking, "The long-term allocation pattern towards which the economy tends... is independent of the compensation system," (p.96). However the Islamic *mudarabah* firm is empirically irrelevant to the Western developed economies. It is, thus the structural 'conservatism' of positive economics that precludes such a logical possibility at the theoretical long-term equilibrium(5).

But the crucial issue relates to the rise of pure profits in the short run to a profit- maximizing entrepreneur. This has been one of the most controversial issues in the literature; see Siddiqi (1971). The critical questions are: Why should the competitive short-term allocation pattern be dependant on the fixed interest/wage compensation system? Why should owners of productive resources (capital/labour) sell their services to a third profiteering party? If the short-term perfect foresight condition applies to all economic agents, then why should owners of productive resources be content with marginal productivity rewards which secure maximum profit to the entrepreneur? Why shouldn't they continue, as in the long-term, combining their productive services directly in a *mudarabah* share system?.

The problem is that if all agents simultaneously hold the same perfect foresight about future profits, then the ideal model cannot justify the role of the entrepreneur!. In fact this has been the central query that led Knight (1921) to develop his approach of economic uncertainty(6). However, Knight provided an unmeasurable brand of uncertainty that cannot be easily absorbed within the neoclassical models. Alternatively, to preserve the internal consistency of the neoclassical models it is essential to allow for a group-specific informational structure.

This necessitates that owners of productive resources only possess perfect foresight regarding the market wage and interest rates. But they must not possess any such foresight about future profits. The latter must be confined to the group of entrepreneurs alone. Thus, the typical entrepreneur will be capitalizing on a relative *ex-ante* informational advantage, which is the only scarce economic resource that he exploits.

In this sense, a possible long-term *riba*--free equilibrium has been disturbed by the entrepreneurial intervention to account for the fixed 'interest' compensation system. Ambitious profiteering entrepreneurs, generally, wish to borrow rather than share lucrative profit prospects with others.

Notes

1) The very concept of 'risk-premium' embodies the sense of compensation for risk-taking. For example the expected rate of return of a common stock is given by the equation of the security market line, as the sum of a risk-free rate and a risk-premium, compensating (financial) investors for taking the risk associated with the investment, Haugen (1988; p.167). But the question is this: If it makes no difference for real investors which kind of asset to issue, then, why should they be keen to compensate financial investors for taking the risk associated with equity shares? In our present context the difference:

$$\pi = m_b - r > 0$$

does act as a 'risk-premium' to financial investors, though it is originally a reflection of real investors attitude towards risk.

2) **Roll** (1977).
3) **Schumpeter** (1961), p. 64; **Siddiqi** (197l), pp. 25-33.
4) **Siddiqi** (1971), p. 33. Also, see **Schumpeter** (1961), p. 33.

5) A fundamental methodological point in positive economics is that the ideal types cannot be visualized independently of their empirical counterparts. Although they may not be descriptively accurate, yet they must be analytically relevent to the empirical phenomena. Friedman (1966). This explains why economists do not bother to workout implications for logical structures consistent with the ideal types, but having no relevence to the observed socio-economic structure: e.g. the Islamic *mudarabah* firm. The latter is in fact a logical possibility consistent with the zero-profit long-term equilibrium in a perfectly competitive market, where capital and labour resources exhaust the total output. It is also logically consistent with the ideal condition of perfect future foresight in the short-term. Such possibilities are ignored simply due to the structural conservatism of positive economics.

6) The problem still remains if the risk element is introduced into the classical perfect foresight models, where the assumption of a profit-maximizing entrepreneur is replaced by one of expected utility maximization in the Neuman-Morgenstern sense[*]. In the latter case the entrepreneur is clearly defined as risk-averse, but he still enjoys a relative informational advantage in terms of the probabilistic distribution of future profit. In this case the information factor provides the only possible justification for the emergence of profit to the entrepreneur, since the latter is assumed risk-averse.

[*] Such an approach is demonstrated in Henderson and Quandt (1984).

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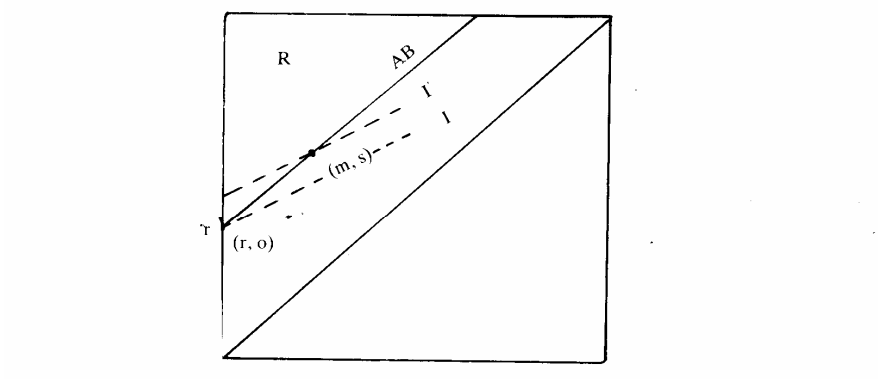
Appendix (A)

Proof of Lemma (p.18)

We may take any line AB within the upper triangle of the ISB parallel to its main diagonal as in the figure below.



Then the lemma simply asserts that: if (m, s) is any point along line AB, then the rationality axiom leads to the strict preference :

$$(m, s) \rightarrow (r, o)$$

where (r, o) is the risk-free asset placed at the end of line AB.

Proof

Assuming linear (m-s) indifference curves, the proof is straight forward*. The rationality axiom (pp. 9-10), precludes the existence of any (m-s) indifference curve which is either

i) steeper than line AB, or
ii) identical to line AB

As a result the preference relations
i) (r, o) $\rightarrow$ (m, s), or
ii) (r, o) $\leftarrow$ (m, s) (for indifference)

are correspondingly precluded, implying that the only possibility is the Strict relation:

iii) (m, s) $\rightarrow$ (r, o), which obeys the axiom; (see the figure)

* This is also true for convex indifference curves.

Appendix (B)

Given a fixed investible fund, F. for any arbitrary financial investor, and the i.i.d. assumption about the net return per unit dollar investment, X,, with E (X_i)=m and Var (X_i)=s^2, the following lemma and corollary can be established.

Lemma

The most efficient allocation is the one where the fixed investible fund, F, is evenly allocated over the full range of the n real investments.

Corollary: Any allocation {F_i} that does not cover the full range of real investments (i.e. where F, = 0 for some i), is less efficient.

Proof

For any arbitrary allocation {F_i} of the fixed investible fund, F, there is a set of net random returns { X, F, of the F, dollars supplied to the real investors (i=1, 2, .., n). Thus. the fund, F, yields a total random return:

$\sum_{i=1}^{n} X_i F_i$ from the n real investments to be distributed between the n real investors and the arbitrary financial investor

Then, the following results can be verified:

i) Any allocation {F_i} yields the same expected return i.e

$$E\left(\sum_{i=1}^{n} X_i F_i\right) = m\sum_{i=1}^{n} F_i = mF$$

ii) The variance of any arbitrary allocation {F} is given by:

$$Var\left(\sum_{i=1}^{n} X_i F_i\right) = \sum_{j=1}^{n}\sum_{j=1}^{n} F_i F_j \, cov(X_i, X_2)$$

$$= \sigma^2 \sum_{i=1}^{v} F_i^2$$

Since cov (X_i, X_i) = o $\quad i \neq j$ (due to independence)
= σ^2 $\quad i = j$ (as given)

iii) The even allocation F_i = (1/n) F = $\bar{F}$ (i = 1, 2, ..., n), yields the variance:

$$Var\left(\sum_{i=1}^{n} X_i \bar{F}\right) = \bar{F}^2 \sum_{i=1}^{n} Var(X_i)$$

$$= n\bar{F}^2\sigma^2$$

iv) Then taking the difference between the variance of any arbitrary allocation as in (ii), and that of the even allocation in (iii), we find:

$$\begin{aligned} \mathrm{Var}\left(\sum_{i=1}^{n} X_i F_i\right) &= \mathrm{Var}(\bar{F}\sum_{i=1}^{n} X_i) \\ &= \sigma^2 \sum_{i=1}^{n} (F_i - \bar{F})^2 > 0 \end{aligned}$$

Hence, the full range *even* allocation achieves highest efficiency in the sense of minimal variance. Any other allocation $\{F_i\}$, including cases where F_i=o for some i, are therefore less efficient.

10

Speculative Activities, Efficiency and Normative Stock Exchange

Amir Kia

- **Introduction**
- **A Careful Review of Tag el-Din (1996)**
- **Asset Pricing Model, Measurement of Fundamental Price and Bubbles**
- **Empirical Methodology and Results**
- **Concluding Remarks and Policy Recommendations**

I. Introduction

A drastic fall in stock prices, when not justified by fundamentals, concerns monetary policy makers because it can create a sudden need to add liquidity to the financial system. This need for liquidity can complicate policy makers' efforts to pursue other objectives, especially if it conflicts with a need for anti-inflationary policy. Furthermore, price movements that exceed what can be justified by changes of fundamentals have the potential to result in resource misallocation. Therefore, any event which could influence stock prices without affecting fundamentals is a concern of monetary policy makers.

Furthermore, instability in equity markets can undermine the stability of financial institutions that are directly or indirectly exposed to equity markets. Modest movements and/or movements in stock prices which last only for a very short period of time (one or two days) do little if any harm to financial markets, but larger and lasting movements in stock values have a disproportionately greater potential to do harm to the financial system or do real economic damage.

Moreover, the increasing integration of capital markets has made institutions in the financial sector more interdependent and has brought to force the issue of systemic risk. Furthermore, in a zero-interest rate environment the success of the central bank policy is highly related to healthy, stable and efficient stock markets. Consequently, the main and the most important task of the central bank and/or government is to ensure healthy, stable and efficient stock markets. This requires the elimination of or at least the reduction in excessive speculation activities in the stock markets. Such an action will guarantee a stock price which fully and correctly incorporates all available information.

However, because uncertainty is a fact of life there is not any kind of price except a speculative one. A successful investor is a speculator while a speculator is merely an investor who has lost his money (**Samuelson**, 1972). To **Keynes** (1976), speculative markets are mere casinos where the wealth is transferred from unlucky to lucky and from slow to quick individuals. "It is usually agreed that casinos should, in the public interest, be inaccessible and expensive. And perhaps the same is true of stock exchanges.", (**Keynes**, 1976,

p. 159). Consequently, **Keynes** (1976, p. 160) suggests "The introduction of a substantial government transfer tax on all transactions might prove the most serviceable reform available, with a view to mitigating the predominance of speculation over enterprise in the United States."

In a recent paper, **Tag el-Din** (1996) discusses the traditional concept of market efficiency in light of the theories of Keynes-Hicks-Samuelson. He proposes three conditions and asserts that under these conditions both operational efficiency and informational efficiency can be achieved. The purpose of this study is to (i) carefully review Tag el-Din's paper, (ii) provide empirical evidence in light of our review and (iii) propose some policy recommendations based on the overall results.

This study finds that excessive speculative activities do create wasteful information from the efficiency point of view. Consequently, the empirical evidence in this paper confirms **Tag el-Din's** view that a highly regulatory normative stock exchange is needed in a competitive market in order to achieve an efficient stock market. This paper also shows that the application of Islamic law automatically guarantees stable and efficient stock markets. The next section provides comments on **Tag el-Din** (1996) and will follow with a section on theoretical analysis of asset pricing and speculative bubbles. Section IV is devoted to the empirical methodology and results, and the final section provides some concluding remarks as well as some policy recommendations.

II. A Careful Review of Tag el-Din (1996)

The paper addresses the theoretical issues in the process of setting up an Islamic stock exchange. Given the Islamic law, a comprehensive definition of corporations and corporate shares is given. Furthermore, the Islamically accepted companies are explained and classified into financial (or properties), works, credit and *Mudaraba* companies(1).

(1) Briefly, a financial company is defined when two or more partners come together in a joint contract to contribute specific shares of capital for trade purposes. A work company exists when two or more skilled workers combine their efforts to offer their services at market price to the public. A credit company is defined when partners carry out trade using the capital of an inactive partner. The Mudaraba company is defined when one party puts up capital and another party puts up entrepreneurship and/or labor on trade on a predetermined profit-sharing basis. A financial loss will be borne by the owner of capital.

II.1 *Market Efficiency and Random Walk*

If stock prices follow a random walk process then the returns are white noise. Namely, they cannot be forecasted, and markets are efficient. Tag el-Din states that, even if stock prices behave as a random walk, due to the existence of excessive trading (excessive speculative activities) by massive naïve investors who overreact mostly to irrelevant information, and undetectable churning (i.e., the repetitive buying and selling of securities when such activity has a minimal effect on the market, but generates additional commissions to a stockbroker), the market price can not reflect all available information. Namely, efficiency cannot be achieved in the current stock exchange markets. Furthermore, to cover the huge cost of brokerage houses, brokers and investment analysts fuel up the exchange velocity through undetectable churning which victimizes naïve investors(2).

Speculators and churning create as much noise in the observed prices that they could not reflect all available information. These two factors also create a high velocity of circulation for outstanding shares. This high velocity results in inefficient managerial decisions since shareholders of a given corporation cannot exercise their legal right of closely cross-checking the performance of inefficient management. Namely, under the above circumstances if a share of a corporation has a high price, it is not due to the high profitability of the corporation as a result of high performance of the managers, but it may be only due to a speculative bubble in the share price. In sum, there are two factors behind the inefficiency of current conventional stock exchange markets: destabilizing excess speculative activities and non-ethical practice.

In this regard Tag el-Din suggests a highly regulatory normative stock exchange within two alternative organizational models:

(a) To encourage the utilization of the services of various professional equity-risk ratings. Namely, in order for shares of a company to be listed on an organized stock exchange, the company must hire professional services to measure the risk contained in its shares and make such information accessible to shareholders. Such information should be available daily. Furthermore, there should be restrictions on two groups of participants: large number of individual shareholders, and investors with large available funds, like mutual fund companies, security dealers, etc.

(2) It should be mentioned that there seems to be some confusion in Tag el-Din (1996) between Eugene F. Fama and Paul H. Cootner when he discusses random walk. In fact, the article quoted in the reference of Tag el-Din's paper should be Fama's (1965) and not Cootner's.

Then, with professionally determined prices as benchmark, competition among participants determines the final equilibrium prices. It is also suggested that the large mass of ignorant investors be only allowed to transact equities through the easy entry and exit from an open-ended intermediary. In this way, according to Tag el-Din, mass-psychology cannot influence stock prices, since the large ignorant masses are already held back from the valuation prices in stock exchanges.

(b) In a less restrictive way, it was suggested that the current open system be maintained, but with the provision that all registered companies have to hire the services of trustworthy professionals to produce and publicize estimates of companies' shares.

However, the implication of the organizational models, introduced by Tag el-Din (1996), may create two inefficiency problems as follows:

(a) In both organizational models, the transaction costs of listing a share would be so high that small firms would simply not be able to finance their investments by equities. These investors will probably resort to debt financing. And if debt markets are not developed and small firms cannot use a black market to finance their capital they will simply be eliminated from the market. One may argue that small-cap companies can sell their shares in over-the-counter markets. However, in Tag el-Din's organizational model settings, where listed stocks bear relatively little risk, the stocks available over-the-counter markets are considered relatively very high risk.

Consequently, investors will demand high-risk premiums that impose further restrictions on small-cap companies to finance their investment by equities. It should be noted that even in non-Islamic countries where developed debt markets exist, small-cap companies' issued bonds, under Tag el-Din's organizational model settings, would have to pay high coupons in order to compete with large-cap companies' issued bonds in debt markets. Furthermore, because of the risk associated with small-cap companies' debt, small-cap issued bonds would be sold at low prices.

(b) Since investors with large available funds, like mutual fund companies, security dealers, etc., are not allowed, according to the first organizational model, to allocate the society savings to equity markets, a further inefficiency would be created. Namely, the funds of ultimate savers will not be allocated to equity markets.

II.2 *Stock Market Efficiency and Preemptive Right*

It is widely believed among Muslims that the implementation of Islamic law (*shariah*) should result in a higher efficiency, both operational and informational. Common stocks (ordinary shares) are permitted in an Islamic economy while preferred shares are considered like interest-bearing bonds and are not allowed. However, according to Tag el-Din, it was suggested by Al-Khayat that a clause of "preemptive right (*shuf'a*)", which would give existing shareholders priority over potential shareholders whenever new shares are issued, is to be adopted. Tag el-Din argues that the option of preemptive right will reduce significantly the velocity of shares circulation, thus deviating from the the pure model of free exchange on which the traditional stock exchange is based. However, he suggests that preemptive right can be adopted in the case of new issues in equity financing with the option that shareholders are free to adopt it or waive it. It should be noted that, as it was also mentioned by Tag el-Din (1996), there is no direct reference to preemptive right in *The Holy Qur-an* and this right is based on the Prophet's tradition.

Two important points should be made. (i) The tradition of s*huf'a* is related to undivided plots and not shares or stocks which are completely different from a piece of land. Consequently, the application of preemptive right to stocks may not be relevant. (ii) The preemptive right on stocks, if adopted by shareholders, will reduce liquidity of the shares and, consequently, shareholders will demand high liquidity premiums. Furthermore, since firms cannot list their new shares on stock exchanges, the application of preemptive right on stock exchanges would create another difficulty for companies to finance their investments by issuing equities. This completely contradicts the spirit of this Islamic law since, in fact, the immediate implication of preemptive right is that God wants to remove difficulties from our affairs. For instance, indirect references to preemptive right in *The Holy Qur-an* can be seen in Ch. 2, Verse 185 ("… God intends every facility for you; He does not want to put you to difficulties. …") and Verse 220 ("… if God had wished, He could have put you into difficulties …"). Consequently, if the application of preemptive right for shares causes any difficulty in equity financing for firms, it creates inefficiencies and, therefore, should not be applied to equity financing.

II.3 *Uncertainty on Stock Prices and Gharar*

Gharar in an Islamic sense means "uncertainty about any one of the objects of exchange; either amount of *price* to be paid for a specific commodity, or nature of *commodity* to be bought at a given price." (**Tag el-Din**, 1996, p. 36). In general, transactions are *accepted* from an Islamic point of view if the

qualities and flaws of the commodity (including stocks) transacted were known to the buyer(s) and seller(s). Furthermore, the true price of the commodity should be declared by transacting participants, (**Al-Ghazzali**, 1992, pp. 350-354). For example, if the purchaser, based on the knowledge of some information, believes the share is undervalued, then he/she should provide the information to the seller(s), otherwise, some kind of gambling or *gharar* has occurred.

To avoid *gharar* in stock exchanges, and based on the above Islamic fact, Tag el-Din (1996, p. 36) asserts that two main conditions should be satisfied: *First: Making accessible all relevant information and financial indicators for the use of participants in the stock exchange. Second: Participants must acquire (or somehow seek the service of) the analytical ability to carefully process such information to obtain consistent estimates for the true expected exchange values of the shares.*

However, as also mentioned by Tag el-Din, only one of the conditions in contemporary stock exchanges is known. The second condition, which, in our view, by no means should be related to the Islamic *shariah* (law), imposes a specific discriminatory condition for the investors, i.e., only those who have acquired the analytical ability or can purchase such services, in order to estimate the *true* expected exchange values of the shares, are allowed to purchase/sell shares. In fact, if one carefully looks at the above-mentioned Islamic conditions for an *acceptable* transaction, he/she will realize that the second condition, suggested by Tag el-Din, is redundant, since if a participant has any information which can be used to assess the price, he/she should declare it. Namely, the implementation of the Islamic law automatically guarantees true efficiency in the market without imposition of Tag el-Din's second condition.

It should, of course, be mentioned that, according to the Islamic law, it is highly recommended to have knowledge of the rules and regulations of the market as well as the knowledge of the market mechanism before engaging in any transaction, (**Al-Ghazzali**, 1992, p. 328). This Islamic recommendation enhances efficiency instead of imposing any restriction on investors as it speeds up the transaction process. Moreover, it should be further emphasized that many well-informed investors, like financial institutions, large investment firms, etc., because of the scale of their investment, can and do employ highly skilled finance-oriented econometricians to provide a consistent estimate of future prices of stocks. However, since none of these highly skilled specialists could claim to provide a consistent estimate of the *true* expected exchange

values of shares, these investors can end up with a low-performed portfolio and in some cases incur a complete loss as a result of a poor investment strategy.

Furthermore, as history proves many financial intermediaries who used a consistent estimate of the future prices of shares, held as collateral in their lending process, found those loans were "bad", since the value of the collateral was not what they had estimated. In many cases, they went bankrupt. A recent example is the situation of Japanese banks which was a cause for a recession in Japan and the Asian crisis. In fact, it should be noted that using the same technique of estimation and the same information, investors usually come up with different opinions about the expected prices and so get involved in speculative trades among themselves. Consequently, these issues further verify our view that Tag el-Din's second condition may be too restrictive. Therefore, it definitely does not comply at all with the Islamic Law.

In an Islamic system, transactions in stock markets occur, not because of different opinions about the future prices of the shares being transacted (excessive-speculative activities), but because of the investors' utility maximization process. In this way, since markets are more often in equilibrium there is no room for excessive speculative activities.

Tag el-Din (1996, p. 38) states that "the criterion of market efficiency in a genuine Islamic perspective does not rely on the speed of liquid capital's flow from *less* profitable projects to *more* profitable ones." The reason, according to Tag el-Din, is that most socially profitable projects in the short-run are less profitable or are not profitable at all. Therefore, "… the purely profit-oriented concept of market efficiency cannot be defended on social grounds due to the adverse consequences it may have on the real investment motive over the long term, and the strong temptation it provides for making high profit in the short-run - or indeed the very short run.". Hence, he suggests a new condition to be added to the previously stated conditions, i.e., "socio-ethical investment motives". As it was carefully mentioned by Tag el-Din, the second condition as well as the extra "socio-ethical investment motives" condition would control the velocity of shares' circulation.

Furthermore, two important points should be mentioned:

(i) It is well known that the value of a common share does not depend on the holding period. Namely, for both short and long horizon investments, the price of a share depends on the expected, discounted present value of its real dividend stream, conditioned on current related available information on the share. Consequently, if the first condition introduced by Tag el-Din is met, the

market price, in the absence of excess speculative activities (bubbles) should incorporate all future stream of income. In such a situation, prices of those projects that have a stable expected future stream of income should be higher than otherwise. Consequently, even investors with short-term investment horizon can make profits by keeping in their portfolios the shares issued to finance the most socially desirable projects.

(ii) There are, of course, public projects/investments that do not produce any financial profits, e.g., building public hospitals, parks, roads, etc. These investment projects are not, in general, financed by issuing equities. They are financed by issuing debt or tax revenues in a nonIslamic system of government and by tax revenues as well as *zakat* funds in an Islamic system of government.

In sum, Tag el-Din (1996) provides convincing arguments against growing excessive speculative activities and inefficiency created by these activities in stock markets. He discusses a need for an optimum (maximum) level of speculative activities which is needed for liquidity and efficiency in stock markets. However, he questions whether or not it is possible to determine such a level of speculative activity. Consequently, Tag el-Din successfully stresses the need for a normative Islamic stock exchange to cope with wasteful excess speculative activities which have caused and will cause many financial crises, e.g., the October 1987 stock crisis and the current Asian crisis (the latter example is mine).

Tag el-Din (1996) provides two organizational models to cope with the ever-growing speculative problems. However, I raised the possibilities that these models may create other kinds of inefficiency. Tag el-Din's paper should be a good and basic start for future research in this area. I will extend Tag el-Din's study in this paper by testing, using Canadian stock data, the following hypotheses: excessive speculative activities destabilize stock markets and these activities do create wasteful information from an efficiency point of view.

III. Asset Pricing Model, Measurement of Fundamental Price and Bubbles

In an exchange-economy asset-pricing model, Lucas (1978) finds that the equilibrium price of an asset is the expected, discounted, present value of its real dividend stream, conditional on current information. A close approximation of the model, which has been used extensively in the literature, is

$$P_t = (1+r)^{-1} E(P_{t+1} + D_{t+1}), \qquad (1)$$

where P_t is the real stock price at time t, D_{t+1} is the real dividend paid to the shareholders between t and t+1, $0<(1+r)^{-1}<1$ is the discount factor and E denotes the mathematical expectation operator for information at time t. If the transversality condition $\lim_{n\to\infty}(1+r)^{-n} E_t(P_{t+n})=0$ holds, then the unique solution to Equation (1) is $P_t = PF_t$, where PF_t (the real fundamental value of the stock price at time t) is

$$PF_t = \sum_{i=1}^{\infty}(1+r)^{-i} E\ (D_{t+i}). \qquad (2)$$

Future dividends are not observable. One way to express the fundamental price in terms of observable dividends is to make an assumption about the stochastic process for dividends. Following Van Norden and Schaller (1996), we assume the log dividends are a random walk with constant drift. This leads to a simple solution in which the fundamental price is a multiple of current dividends, i.e., $PF_t = \alpha D_t$.[3] Under the hypothesis that the actual price corresponds to the fundamental price in **Lucas** (1978) model, α is equal to the mathematical expectation of P_t/D_t (**Van Norden** and **Schaller**, 1996).

However, if the transversality condition is not satisfied, then $P_t = PF_t$ is not the unique solution to Equation (1). One solution, from potentially infinite solutions, is given by:

$$P_t = PF_t + B_t , \qquad (3)$$

where B_t is the bubble term which must satisfy

$$B_t = (1+r)^{-1}E_t(B_{t+1}). \qquad (4)$$

If market and fundamental values diverge, but beyond some range the differences are eliminated by speculative forces, then stock prices will revert to their mean. This implies that the stock returns must be negatively serially correlated at some frequencies if erroneous market moves are eventually corrected[4]. This kind of negative serial correlation is not a cogent refutation of

(3) For example, Cutler, et al. (1991) assume the fundamental price is a constant proportion of real dividends in their estimation.

(4) There is extensive empirical literature on mean reverting equity rate of return. The results of these studies are mixed and mostly depend on the investment horizon, see, among many, Poterba and Summers (1988), Kim, et al. (1991), Cutler et al. (1991), Coggin (1998), and the literature quoted in these studies.

a random walk process in price levels. However, it indicates that the price level will perform a *Brownian*-like vibration around the fundamental value and there will be an ergodic probability, i.e.,

$$\text{Prob. } \{P_{t+1} \leq X | P_t\} = \Pi_\tau(X, P_t), \text{ and } \lim_{t \to \infty} \Pi_\tau(X, P_t) = \Pi_\tau(X),$$

which means the probability of $P_{t+1} \leq X$ is independent of P_t, where X is a constant value, (Samuelson, 1972)(5).

It should, of course, be noted that stochastic speculative bubbles could create deviations between market prices and fundamental values without negative serial correlation in returns. However, in the presence of any limits on valuation error set by speculators or real investment opportunities, such bubbles could not exist and speculative activities are not destabilizing. Then, one would expect the bubbles on average to be zero. However, if there are noise traders among speculators who dominate the market, then bubbles exist in the price.(6) Then we can say that (a) prices are dominated by irrational destabilizing noise traders (De Bondt and Thaler, 1989), and (b) excessive speculative activities by irrational noise traders deviate stock markets from fundamental values.

Let us write Equation (4) as $E(B_{t+1}) = (1+r)(B_t)$. By orthogonal decomposition we can write $B_{t+1} = E(B_{t+1}) + b_{t+1}$, where b_{t+1} is the forecast error at time t+1 which has a zero mean. Equation (4) will be

$$B_{t+1} = (1+r)(B_t) + b_{t+1} \qquad (5)$$

Let B_0 be the initial bubble. Using Equation (5) we can write

(5) Suppose Pt follows a random walk process, where Pt- Pt-1=et and et is the disturbance term which has an identical and independent normal distribution with zero mean and unit variance. Suppose we view et as the sum of m independent Gaussian variables each being identically, independently and normally distributed with zero mean and variance 1/m. In addition, the process between m variable is defined at the noninteger dates $\{t,1/m\}_{t=0}^{\infty}$ and retains the property for both integer and noninteger dates that Ps - Pt is normally distributed with zero mean and variance s - t and Ps - Pt is independent of any change over any other nonoverlapping interval. This process as $m \to \infty$ is a continuous-time process known as standard Brownian motion. For more on Brownian motion, see Hamilton (1994).

(6) Noise traders are investors whose demands for securities are not the result of maximizing a conventional utility function using rational expectations of return distribution. Consequently, their demands for securities are exogenous, Cutler, et al. (1991).

$$B_1 = (1+r)(B_0) + b_1 \qquad (5.1)$$
$$B_2 = (1+r)(B_1) + b_2 \qquad (5.2)$$
$$\vdots \qquad\qquad \vdots$$
$$B_n = (1+r)(B_{n-1}) + b_n \qquad (5.n)$$

Let us substitute (5.1) for B_1 into (5.2) and the resulting equation for B_2 into (5.3) and continue this process repeatedly. We will have

$$B_n = (1+r)^n(B_0) + (1+r)^{n-1}(b_1) + (1+r)^{n-2}(b_2) + \ldots + b_n \qquad (6)$$

Since the mean of the innovation b_t is zero, the expected value of B_n, if the initial bubble exists, will be $E(B_n) = (1+r)^n(B_0) \neq 0$, and explosive when $n \to \infty$. This result has an important implication for our empirical test in the following section.

IV. Empirical Methodology and Results

As previously mentioned in this paper, one of the important issues, in support of a Normative-Islamic Stock Exchange, raised by Tag el-Din (1996) is that excess speculative activities do not add any information to stock markets. Consequently, stock prices generated by excessive speculative activities do not correctly reflect all available information. We will use Toronto Stock Exchange monthly data on the TSE 300 Composite Index (TSE, hereafter) for the period of 1957:1-1998:6 to test the empirical validity of the above two issues(7). Our first task is to investigate whether bubbly and fundamental prices are on average the same. If so, then we need to verify whether these bubbles add any information to the market determined stock prices.

(a) *Are Bubbles on Average Zero?*

Let us define $S_t = 100*(B_t/P_t)$ as a measure for excess speculative activities (bubbles) at time t. It was shown in the previous section that if bubbles exist, they must be expected to grow at the real rate of return, and will be explosive (as the number of observations approaches infinity); therefore, variable S_t will have a non-zero and large mean. Furthermore, the rejection of the hypothesis that no bubble exists is also the rejection of rational markets (**Flood** and **Hodrick**, 1990).

(7) The source of data is CANSIM data base. The TSE 300 Composite Index (B4237) and stock dividend yields (B4245) are at the closing of the last day of the month and are calculated by taking the indicated dividend to be paid per share of stock over the next 12 months and dividing it by the current price of the stock. The CANSIM number of the monthly consumer price index is P100,000.

Table 1 reports the summary of statistics[8]. See also **figures 1** and **2** for the evolution of market and fundamental values as well as bubbles. As we can see the mean of bubbles is -6.49%[9]. However, because the bubble variable is not stationary (see the unit-root results in **Table 2**), we cannot use the t-test (a parametric test) to verify whether the mean of the bubbles is statistically different from zero. Furthermore, the mean of bubbles approaches to its true value as the number of observations becomes infinity large, and the distribution of $((E(B_t) - B_t) / \sqrt{n}) = (((1+ r)^n B_0 - B_t) / \sqrt{n})$ approaches quickly to the normal, but the variance of the estimator, i.e., $E(\sum_{i=1}^{n}(1+r)^i b_i)^2$, may explode quite fast as $n \to \infty$. Thus, no matter how large the sample is the standard central limit theorem may not apply. In fact, when the Lilliefors (1967) non-parametric normality T_1 test was used, it was found $T_1=4.25 > 0.0397$ (critical value) rejects the null of normality. See Conover (1980) for a simplified version of this test which was used in this paper.

To cope with this problem let us take the expectation of bubble B_t in Equation (3) to get

$$E(B_t) = E(P_t) - E(PF_t). \qquad (7)$$

We know $E(B_t) = 0$ implies that $E(P_t) = E(PF_t)$. Consequently, to test if bubbles are, on average, zero we can test the following hypothesis:

$$E(P_t) = E(PF_t) \qquad (8)$$

The null hypothesis (8) intuitively indicates that the unconditional mean of real speculative or "bubbly" prices is equal to the unconditional mean of real fundamental values. In other words, Equation (8) means that the real stock price, on average, is equal to its real fundamental component. Moreover, the overall implication of Equation (8) is that the speculative price, on average, reverts to its expected fundamental component.

(8) Following our analysis in the previous section we estimated the fundamental price variable PFt to be 377.523413386*dt/CPIt where 377.523413386 is the sample mean of monthly price-dividend ratio, dt is the monthly dividend per share paid to the shareholder between t-1 and t and CPIt is the Consumer Price Index.

(9) This result is not of course surprising, as by definition the bubbles, on average, are negative.

To test the null hypothesis (8) since both variables are non-stationary, we will use a non-parametric Mann-Whitney test to verify if the mean of P_t (=37.37) is statistically equal to the mean of PF_t (=38.16).

The Mann-Whitney U test is calculated to be 121,319. Since the U value is less than its critical value (=124,002, at 5%), we can not (with a p-value of 0.7224) reject the null hypothesis (8). Namely, we can not reject the null hypothesis of equality of the unconditional mean of stock prices and their fundamental values. This result also implies that market and fundamental values are, on average, the same and the differences, if they divert, are eliminated by speculative forces. Namely, speculative forces are not destabilizing. Now we need to test whether the excess speculative activities (measured by the bubbles in prices) add any information to stock prices.

(b) *Excessive Speculative Activities Do Not Add any Information to Stock Markets*

To test the above hypothesis we examine whether the changes in proportion deviation between actual prices and fundamental values, i.e., the changes in $S_t(= 100*(B_t/P_t))$ have any forecasting power for stock returns. We will estimate the following equation for one-month investment horizon and test the hypothesis $ß=0$.

$$NR_t = \alpha + ß\ (S_{t-1} - S_{t-2}) + u_t, \qquad (9)$$

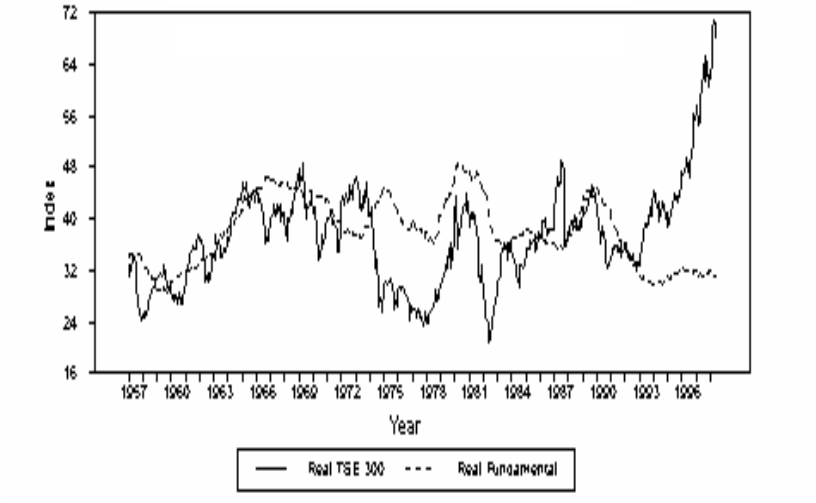


Fig. (1). Real TSE 300 and Real Fundamental TSE 300

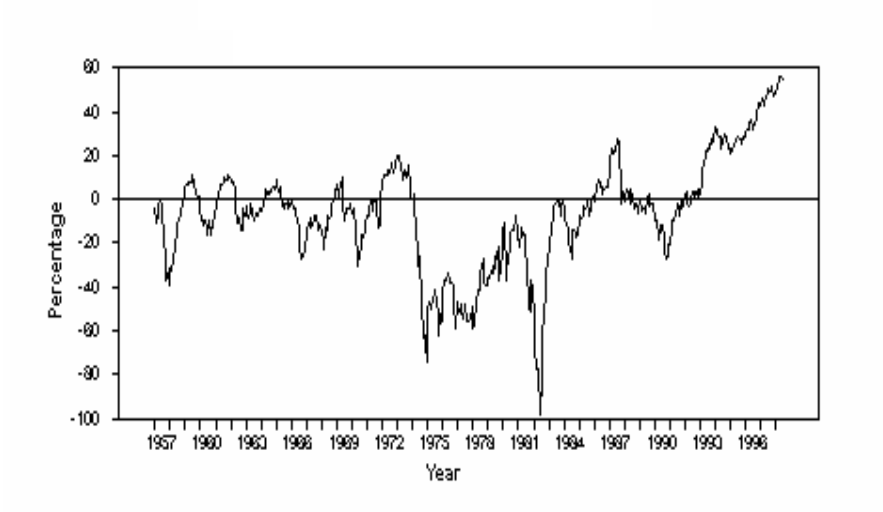


Fig. (2). Proportional Speculative Deviation

Table (1).* Summary of Statistics: 1957 (Jan.) - 1998 (June)

	Mean	Standard Deviation	Minimum	Maximum
Real TSE	37.37	8.05	20.83	70.78
Real Fundamental	38.16	5.25	28.62	48.52
Bubbles	-6.49	25.12	-98.51	56.27
One-month TSE Rate of Return	0.89	4.34	-22.43	17.72
One-month Real TSE Rate of Return	0.52	4.38	-22.80	17.42

* The real TSE is the TSE deflated by monthly Consumer Price Index (CPI). We estimated the real fundamental price variable PF_t to be $377.523413386*d_t/CPI_t$, where 377.523413386 is the sample mean of monthly price-dividend ratio and d_t is the monthly dividend per share paid to the shareholders between t-1 and t. The bubble (the percentage of price) is $100*(B_t/P_t)$, one-month TSE rate of return is $100*[(P_t / P_{t-1}- 1) + (d_t / P_{t-1})]$ and one-month real TSE rate of return is $100*[(P_t / P_{t-1}- 1) + (d_t / P_{t-1}) - (CPI_t / CPI_{t-1} - 1)]$.

Table (2).* Stationary Tests: 1957 (Jan.) - 1998 (June)
(Absolute Value)

	Real TSE Index	Real Fundamental	Bubbles	Bubbles: Changes	Monthly Rate of Return
Augmented Dickey-Fuller τ-Stat.	1.72	0.99	2.65	8.61[a]	9.00[a]
Phillips-Perron Z-Stat.	1.48	1.37	2.45	20.48[a]	20.70[a]

* All tests include constant and trend. The critical value for Augmented Dickey-Fuller τ test (lag-length = 5) and for Phillips-Perron non-parametric Z test (window size = 4) is 3.42 at 5% and 3.98 at 1%. The number of observations is 498.
a=Significant at 1%.
b=Significant at 5%.

where α similar to ß is a constant parameter and NR_t is the nominal one-month stock rate of return at time t, defined as

$$NR_t = 100*[(P_t/P_{t-1} - 1) + (d_t/P_{t-1})]. \qquad (10)$$

and d_t is the monthly dividend paid to the shareholders between t-1 and t. The disturbance term u_t is assumed to be independent, identical and normally distributed with a zero mean. Both variables NR_t and $(S_t - S_{t-1})$ are stationary (see the unit-root-test results in Table 2). It should be noted that Equation (9) is a modified version of the one used by Cutler, *et al.* (1991). However, since they estimated a non-stationary variable on a stationary variable, their estimation result may be spurious. That is, the dependent variable in Cutler, *et al.* is a premium, i.e., a stationary variable, while their explanatory variable is the log of dividend yield ratio, i.e., a non-stationary variable(10).

Noting that

$$S_{t-1} - S_{t-2} = 100*\{(B_{t-1}/P_{t-1}) - (B_{t-2}/P_{t-2})\} = 100*\{((P_{t-1} - PF_{t-1})/P_{t-1}) - ((P_{t-2} - PF_{t-2})/P_{t-2})\}$$
$$= 100*\{(1 - PF_{t-1}/P_{t-1}) - (1 - PF_{t-2}/P_{t-2})\} = 100*(- PF_{t-1}/P_{t-1} + PF_{t-2}/P_{t-2})$$
$$= - 377.523413386 *100(d_{t-1}/P_{t-1} - d_{t-2}/P_{t-2}),$$

the interpretation of ß (if positive) in Equation (9) is that for a one percent rise in the dividend yield ratio, the nominal rate will fall by 377.52ß. For

(10) The premium in Cutler, et al. (1991) is the difference between nominal rate of return and short-term interest rate. I found, for their sample period, the estimated Augmented Dickey-Fuller τ-statistics for the premium is –3.91 and the Phillips-Perron Z statistics is –10.95, where both tests accept the null of stationarity for the premium. Furthermore, the estimated Augmented Dickey-Fuller τ-statistics for the log of dividend-yield ratio is –2.04 and the Phillips-Perron Z statistics is –2.19, where both tests reject the null of stationarity for this variable.

example, when a stock price falls faster than its dividend, the dividend yield increases. Then, according to one version of the efficient markets hypothesis, a lower stock price relative to dividends means lower future expected dividends and earnings/returns. Consequently, accepting the null hypothesis of ß=0 may be regarded as bubbly prices do not correctly reflect all available information.

To capture the impact of seasonality I included in Equation (9) eleven monthly dummy variables as well as dummy variables to capture time trend, the October 87 stock market crisis and the Asian crisis. The final equation that was estimated is

$$NR_t = \alpha + ß\,(S_{t-1} - S_{t-2}) + \Theta\, Oct87_t + \Gamma_i \sum_{i=1}^{11} Mit + \Phi\, AS97_t + \delta\, Trend + u_t, \quad (11)$$

where Θ, Γ_i's (for all i = 1, 2, …, 11), Φ and δ are constant coefficients. Oct87 is a dummy variable used to capture the impact of the October 1987 stock market crisis. It is equal to one in October 1987 and zero otherwise. M_{it} is a monthly dummy variable which is equal to one if, e.g., i is January, and zero otherwise. AS97 is a dummy variable which is equal to one for the period October-November 1997, and is zero otherwise[(11)]. Trend is a linear time trend.

The estimation technique is the least squared and to cope with the autocorrelation and heteroskedasticity, similar to Cutler, *et al.*, I corrected the standard errors using Newey-West (1987) standard errors. In the first round of estimation I found, except the estimated coefficient of December seasonal dummy variable and October 1987 dummy variable, none of the estimated coefficient of dummy variables is statistically significant. I, therefore, dropped the insignificant dummy variables from the regression. The final estimation result is the following:

$$NR_t = 0.83 + 0.05\,(S_{t-1} - S_{t-2}) - 23.14\, Oct87_t + 1.41\, M_{Deci} \quad (12)$$
t-statistics (4.20) (1.50) (-5.51) (2.06),

(11) The TSE 300 Composite Index hit a record high on October 7, 1997, just 10 days before the crisis. Up to January 12, 1998 the index fell 13.45%. However, the index hit a record high on March 9, 1998 and by the end of March 1998 it hit 10 record highs. Consequently, if the Asian crisis had any impact on Canadian stock markets, the impact would have been completely dissipated by the end of February 1998. However, from the end of September 1997 till the end of November 1997 the TSE 300 Composite Index fell by 7.79% and rebounded after. This implies that for our monthly observations the appropriate dummy variable, which may reflect the Asian Crisis, is a variable that is one for the October-November period and zero, otherwise.

RBAR-squared = 0.07 DW = 1.91
Significance level: Godfrey = 0.28, White = 0.73, ARCH = 0.00, RESET = 0.32

where Godfrey is Godfrey's (1978) test for five-order serial correlation, White is the general White's (1980) test for heteroskedasticity, ARCH is a test for five-order conditional heteroskedasticity (Engle, 1982) and RESET is the Ramsey's (1969) specification test.

As the estimation results indicate, the estimated coefficient of the bubbles has a correct sign, but it is statistically insignificant. Bubbles, therefore, have no forecasting power. Namely, according to our t-statistics, we can not reject the null hypothesis of ß=0. This result is also similar to the result reported for Canada (1968:8-1988:12 period) in Cutler, *et al.* (1991)[(12)]. As it would be expected, the estimated coefficient of October 1987 stock market crisis dummy is negative and statistically significant. The estimated coefficient of December dummy is positive and statistically significant as it reflects the usual high performance of the bank issues in December. Note that the Financial Services Sub-index has a relatively heavy weight in the TSE 300 Index. For example, as in February 1998, the relative weight of this sub-index was 23.22%[(13)].

To investigate a possible parameter instability, I first used Goldfeld and Quandt (1973) test to verify a possible change in regime. I found the maximum value of the log of likelihood for switch is –700.17 in March 1968. Then based on this information a likelihood ratio test (Chi-Squared (5) = 18.42 with Significance Level 0.002) rejects the null hypothesis of no switching. Consequently, I re-estimated Equation (11) on the period 1968: March- 1998: June. The estimation result (not reported, but available upon request) was not materially different from that of Equation (12).

(12) It should be noted that Cutler, et al. (1991) also tested for the forecasting power of bubbles for one-year and four-year holding periods. I also estimated Equation (11) for one-year and four-year investment horizons. These results (not reported, but available upon request) are not materially different from the reported result for one-month holding period.

(13) According to our specification tests the error term does not suffer from autocorrelation, but while White test indicates of no general heteroskedasticity, the ARCH test indicates that the error term suffers from an autoregressive conditional heteroskedasticity. However, as it was mentioned before standard errors are corrected for heteroskedasticity.

I then tested for switching breaks for when the bubbles turn from positive to negative. According to the estimation results (not reported, but available upon request) neither of the variables, except the October 1987 dummy, was statistically significant. Furthermore, I estimated Equation (11) for the real monthly stock return (rather than nominal return) being dependent variable. I could not find any materially different result from that of Equation (12). For the sake of brevity these results are not reported, but are available upon request. The overall conclusion in this section is that, while the average of bubbly prices are equal to the average fundamental values, bubbles (excessive speculative activities) do not add any information to stock markets. Namely, in light of Tag el-Din (1996), the wasteful excess speculative activities (bubbles) do not have any forecasting power. Consequently, a highly regulatory Islamic stock exchange is needed in a competitive market in order to achieve a true efficient stock market.

V. Concluding Remarks and Policy Recommendations

Tag el-Din (1996) provides convincing arguments against growing excessive speculative activities and inefficiency created by these activities in stock markets, and discusses a need for an optimum level of speculative activities which is required for liquidity and efficiency in stock markets. Furthermore, Tag el-Din successfully stresses the need for a normative Islamic stock exchange to cope with wasteful excess speculative activities that have caused and will cause many financial crises. He, consequently, provides two organizational models to cope with ever-growing speculative problems.

In this study I reviewed Tag el-Din's paper and raised the possibilities that his organizational models may create other kinds of inefficiency. Furthermore, using Canadian stock data for the period of 1957:01 to 1998:06, I extended his study by testing whether excessive speculative activities create (a) instability in the stock markets and (b) wasteful information from the efficiency point of view. I found that these activities do not, on average, create instability in the Canadian stock markets, i.e., bubbles created by excessive speculative activities on average burst and do not have any forecasting power. Consequently, the test results in this study led us to confirm Tag el-Din's view that a highly regulatory normative stock exchange is needed in a competitive market in order to achieve an efficient stock market.

In light of the results of this paper and the fact that transactions are *accepted* from an Islamic point of view, if the qualities and flaws of the commodity (including stocks) transacted were known to the buyer(s) and seller(s), I propose the following policy rules:

(a) Under an Islamic framework the central bank and the government should ensure that the investors in stock markets have complete knowledge of the stock market mechanism. This also requires that the central bank and the government facilitate the training of the existing as well as new investors in these markets. Such a policy leads participants in stock markets to have or acquire the knowledge of the market mechanism so that they conduct transparent transactions rather than over or under react to any information.

(b) According to this study's empirical results, the excessive speculative activities do not, on average, create instability at least in the Canadian stock markets. However, it was found that these activities create inefficiency in the stock markets. It should be noted that the former finding might not be true for less-developed stock markets in the world. Consequently, to avoid inefficiency as well as instability in the stock markets I propose the levy of a tax on short-horizon investment returns. Since short-horizon (at least up to a month) investment returns could purely be due to windfall gains and not to real investment opportunities - and in most cases these returns are the result of excessive speculative activities - a 20% *Qur-anic* tax (*The Holy Qur-an*, ch. VIII, Verse 41) may be appropriate.

11

Sharia Compatible Futures(*)

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1. Introduction

A conventional futures contract involves commitment to deliver, or to take delivery of a specified quantity of some asset or commodity at a particular future date and at a price determined at the time of contracting. This description also fits a forward contract. Futures contracts are distinguished from forward contracts in that, futures contracts are standardized, regulated and traded in an organized exchange with a special institutional setup. They also can be liquidated and so, they acquire all the features of a liquid financial asset.

The suggested Sharia Compatible Futures (SCF) are contracts designed to achieve the objectives of the conventional futures contract and to be in conformity with Islamic transaction restrictions, which means that the essence as well as the object of the contract must satisfy the Sharia code. This implies prohibition of interest futures. Currency futures must observe the Islamic restrictions of currency transactions, and the institutional setting must enforce Islamic ethics and must devise a means to prevent gambling in the Islamic futures market.

2. The Economic Functions of Futures Market

a) **Hedging**

Hedging is defined as an insurance activity aimed to protect an asset from adverse change, which can be an unexpected and undesirable change in the value of an asset, at the lowest cost.

Hedgers who have preexisting exposure can use futures transactions as a substitute for the cash market. So, hedging is considered the prime social rationale for future trading. Over the last decades, the world economy has witnessed structural shifts and fundamental changes such as:

- the adoption of the floating rate of exchange system and the monetary policy's target, change from interest rate to money supply.
- the increase in world trade and globalization of commerce, which increases the exposure of firms to various financial risks.

The above fundamental changes cause dramatic increases in the volatility of interest rates, exchange rates, equity and commodity prices which in turn necessitate risk management industry.

Since the beginning of the 70's, financial risk management has become a tool essential to the survival of all businesses, including firms, industrial corporations, banking institutions.

The survey of the Group of Thirty (1993) showed that 82 percent of the private sector nonfinancial corporations used derivatives to hedge the risk they are facing, and 84 percent of financial institutions used derivatives to hedge risk, arising from new finance.

b) **Price Discovery**

Futures markets provide a mechanism for the market agent to form expectations about future spot prices. As futures prices change continuously, they cannot always equal the subsequently observed spot price, but futures prices could be an estimate of the expected future spot price. If the futures price is an unbaised estimate of the future spot price, we would expect futures prices changes to equal zero-average in the long run. Imperical studies such as Rockwell (1967), Dusak (1973), Raynauld and Tessier (1984), Boxter et al (1985), Ehrhard et al (1987), Kolb (1992), and Deaves and Krinsky (1995), indicated that the rejection of equality of futures price with the expected future spot price is not strong, which means that the futures price may be the best readily available estimate of future spot price.

As an example of price discovery and its benefits, consider an oil producer who is trying to decide whether to reopen a marginally profitable oil well. His decision will depend on the oil price. However, the oil producer must make the decision today and the oil will not be ready for the market until after around 12 months. While the oil price, 12 months from now, cannot be known with certainty, the price quoted in the futures market for oil futures that expires in 12 months, can be a very useful estimate of the futures price. If the futures price of the oil is high enough to justify operating the oil well again, the oil producer can assume that he can obtain the futures price for the oil when it becomes available in 12 months. Here the oil producer has used the futures market as a vehicle of price discovery. Thus, economic agents can use future market estimates of futures cash prices to guide their consumption or production decisions, and this reduces the uncertainty and increases the rational for their decision.

c) Cash Price Stability

Despite the allegations that futures trading makes prices for the underlying good more volatile, the price discovery function of the futures markets tends to stabilize cash market prices by reducing its volatility. This is confirmed by the studies on the effect of futures trading on cash markets. Comparing the volatility of the cash market before and after the introduction of futures trading, Moriarty and Tosini (1988), Froewiss (1978), Taylor and Leuthold (1974) and Powers (1970), found that futures trading did not increase cash prices but it stabilized them. Figlewski (1981) found that futures trading accompanied an increase in the mortgage market volatility, but Working (1960) found that cash prices volatility declined after futures trading began. We can conclude that the weight of evidence seems to suggest that futures trading does not increase the volatility of the cash market and does not destabilize it.

3. Understanding Risks

The essence of business is risk taking. Any commercial process involves a series of functions with different levels of risk; there is no risk-free enterprise.

An essential function of management is to identify the principal risks to which the business is exposed, to understand the level of risk that the corporate culture is willing to bear, and to decide and regularly review the nature and extent of risks the business is prepared to take. The attitude of the corporate toward risk can be risk-averse or risk – oriented, but must be pinned down to a clear strategy. Identification of risk is a prerequisite to the development of a clear strategy and this is a prerequisite for the successful management of the level of risk inherent in its activities (Crawford and Sen, 1996).

Primary Risks

There are risks that must unavoidably be accepted as part of the decision to enter a particular type of business. To hedge these risks would be the same as deciding to go out of business. For the corn trader who buys corn at harvest time, stores it and sells it later, the variation in the price of corn during the course of the year constitutes a primary risk, which cannot be avoided without eliminating the potential profit from the business as well. But for the corn distributor the price risk is no longer an avoidable primary risk and could be hedged away, but he has a different primary risk. As he is involved in the cost of creating a network of stores for distribution, he unavoidably faces the risk that the stores may fail to be profitable.

Nevertheless primary risks could be moderated. For example, the corn trader could sell part of his corn forward. By doing that he has not hedged away

his entire primary risk, but has mitigated the effect of a disastrous fall in market price.

The thing which must be realized about primary risks is that for most business enterprises, primary risks constitute a complex package of risks and cannot be easily isolated. This package is constantly changing as the managers shift strategies and tactics, trying to take advantage of a competitive business environment.

Secondary Risks

There are risks that come with a business along with the package of primary risks. These risks can be eliminated or hedged through financial derivatives or other instruments or contracts, and this would enable the business to improve its flexibility in managing the primary risks.

Business Risks

There are several types of risk which can be encountered when a company is conducting business, among them are:

a- Market risk:
This arises when market factors such as changes in exchange rates, interest rates, equity prices and commodities prices, cause a change in the price of goods or services offered by the business.

b- Credit risk:
This occurs when the other party defaults on a contract. Assessing the potential cost of replacing a transaction at some future date is difficult, but past experience can be used to estimate it.

c- Operational risk:
This is the risk of running a business. It may occur for the following reasons among others: inadequate systems, insufficient management control, insufficient human control, management failure, and criminal acts.

Legal Risk

This occurs when a company encounters the risk of punitive legal action due to default on a contract. This risk can arise from insufficient documentation, insufficient capacity, uncertain legality and unenforceability following bankruptcy or insolvency.

Liquidity Risk

This occurs when a company's cash-flow position does not enable it to meet payment obligations on the due date.

The Rationale for Not Hedging Risk

After identifying the types and sources of risks, and understanding the level of risk that the corporate culture is willing to bear, the company may decide, in its risk management plan, not to moderate the primary risks and/or not to hedge the secondary risk.

The company's justification for its decision might be as follows:

- The risks involved in using financial derivatives to manage the perceived existing business risks are greater than the original exposure.
- It is not cost effective, since the cost of managing the risk is greater than any financial loss which the original risk can reasonably be expected to incur.

The Rationale for Hedging Risk

Evaluating risk is a dynamic process. The package of core risks is continuously changing so every risk in the package must be continuously and rigourously tested, before deciding whether to eliminate, hedge or accept it as part of the core risk of the business. The process of analyzing and identifying the core risk package can be done through the top-down method, in which the senior management decides on the core risk package and communicates this throughout the firm, and the bottom-up method where a lower level in the organization identifies the potential risk, and communicate that to the top management.

Having identified the core risk package and decided that risks must be hedged, financial derivatives are the most well-known products for hedging as they curtail risk by providing financial coverage to ensure that any exposure can be confined and managed.

Developing a strategic approach to manage the core risks can add considerable value to a company for the following reasons: (Brivs et al., 1998).

a- Risk management tends to stabilize cash-flow. With a stable cash-flow, a company may trade at a premium relative to their more volatile peers. Hedging avoids company earnings surprises and reduces the likelihood of bankruptcy or failure.

b- Hedging tends to enable companies to avoid deferring investment when cash-flows fall and to have long-term investment strategies. This inevitably boosts the value of the company.

c- Hedging tends to unbundle risks. Companies can eliminate the secondary risks and focus on primary risks which they have the market capacity to handle.

d- Hedging tends to reduce the volatility of cash flows. This will improve the credit rating of the company and increase its debt capacity.

e- Hedging policies extend benefits to different groups, such as creditors who fear default. It improves employment prospects and conditions for employees and assures customers who are interested in stable product prices.

Hedging through Derivatives

Derivatives are widely used to hedge a variety of risks. The Group of Thirty (1993) reported in its survey of the private-sector nonfinancial corporations using over the counter instruments (OTC) that 87 percent of them used interest rate swaps, 64 percent used currency swaps, 78 percent used forward foreign exchange contracts, 40 percent used interest rate options and 31 percent used currency options. In response to how they hedge the risks they face, 82 percent indicated they used OTC derivatives to hedge risks arising from new finance, 33 percent to hedge exposure from foreign currency transactions, 69 percent to hedge foreign exchange transaction exposures, 78 percent to manage or modify the characteristics of their existing assets and liabilities. For financial institutions, 92 percent of the respondents used interest rate swaps, 69 percent used forward foreign exchange contracts, 69 percent used interest rate options, 46 percent used currency swaps, and 23 percent used currency options. Derivatives were used by 84 percent of the responding financial institutions to hedge risk arising from new financing, 46 percent to hedge foreign currency transaction exposures, 39 percent to hedge transaction exposures, and 39 percent to offset option positions embodied in the institutions' assets and liabilities.

4. Review of Commentators on Futures

Forwards contracting has existed for many centuries. However futures markets as they now exist, are a fairly recent development. The goal of greater economic efficiency is the driving force behind their development. Futures markets perform important economic functions: they reallocate risk among

those who choose to trade futures contracts, they aggregate and disseminate information about the future course of prices in spot markets to any individual who elects to observe the current futures price, and they stabilize future cash prices.

Since the institutional setting of futures markets are developed in the market mechanism of the capitalist system, which in some of its values and ethics contradict the Islamic norms and values, we cannot expect the futures markets institutional setting to be in full compliance with the Islamic transaction regulation.

Since futures markets functions are legitimate and very essential to the market mechanism in the Islamic system, a reengineering process must be taken to bring the futures markets institutional setting to conformity with Islamic transaction restrictions.

Futures contract was discussed by many commentators such as Khan (1995), Chapra (1992), Khan (1988), Mahmassani (1983), Muhiaddin (1995), Sulayman (1982) and Majma'al Fiqh al-Islami (1989). All the above reject the futures contract, but Kamali (1996) as well as Azzam Azzam, who was quoted by Kamali, do accept futures trading and they call for a fresh response formulated in the light of the operative procedures of futures markets.

The rejections of the futures contract were based on the following grounds:

a- Short selling in futures trading is contrary to Shariah ruling on the item of sale; that the item must exist and be owned by the seller at the time of the contract.

b- Reverse trading in futures markets is contrary to the Shariah ruling that the purchaser may not sell the goods purchased until they are in his possession.

c- In the futures contract, a sale is concluded in which the delivery of goods and its counter value are postponed. This is one form of debt clearing sale (*bay - al - dayn bi aldayn*) which the general consensus is said to have materialized on its prohibition.

Response to the above objections will be addressed in the following sections in the process of developing the proposal for the Sharia Compatible Futures (SCF).

5. Shariah Position on Hedging

In the previous section, it was concluded that the volatility of prices has become a fact of life, and risk management is a prerequisite for businesses to survive as such, and since the maintenance and protection of wealth is a Shariah maxim, then, not taking measures to protect wealth from certain or near certain risks is violating logic as well as Shariah teachings. According to Shatbi "the likelihood of an act or a thing has the same status as the thing or act itself", quoted by Hassan (1420 H.). Thus, near certain risks can take the status (*Hukm*) of certain risks. Not protecting wealth from these risks can be considered squandering of wealth, which is prohibited in the Quran.

As risks are undesirable and unpleasant events, they can be considered as damage i.e. (*darar*) which must be avoided according to the Shariah maxim "Damage is to be undone" (Majallah Art. 19). So business must not be neutral in facing risks (*darar*), instead they must take all measures to avoid or eliminate it.

If risks cannot be eliminated, they must be reduced through risk management, and this will be done according to the following Islamic legal maxims: "Severe damage (*darar*) is made to disappear by lighter damage" (ibid Art. 26), "The smaller of two harms (*darar*) is chosen" (ibid Art. 28)., "Damage (*darar*) is to be avoided as far as possible" (ibid Art. 30).. From above, we can say that Shariah obliges businesses to take measures to hedge undesirable risks and that hedging can be considered a prime Shariah rationale for use of Islamic forwards or futures contracts.

Sharia Compatible Hedging Contract (SCHC) (Islamic Forward)

SCHC is a binding promise from the buyer to buy and from the seller to sell a generic good of specific quantity on a specific date in the future at an agreed upon price. On maturity, the buyer has to pay the pre-agreed price and the seller has to deliver the asset at the settlement place. In essence it is a forward purchase of a generically described good at an agreed upon price, time and place of delivery.

As the purpose of this contract is to protect the assets against unexpected and undesirable change, the following conditions must be satisfied:

a- Both the asset and its counter value must exchange hands on maturity only.

b- The counter value can be usufruct or matured debt on the day of the settlement.

c- The asset must be generic and not specific.

d- Specifications and attributes, which may affect the price of the asset, must be known and agreed upon.

e- Quantity of the asset and its counter value must be known and agreed upon.

f- It is not necessary for the seller to be the producer of the asset (in the case of an agricultural commodity), and for the asset to be in his possession when he makes the deal.

g- The asset and its counter value must be free of any (*riba*) attributes.

Salam and SCHC

Salam contract is a forward purchase of generically described goods for full advance payment (Vogels and Hayes, 1998, p. 145). Jurists agree that the purpose of *Salam* sale is to provide finance to the seller and to provide a well rewarded investment opportunity to the buyer (Ibn Qudamah, 4/321; Ibn Taymiyyah, 1398 H., 13/97; Ibn al Humam, 1317 H., 9/382). That is why most of them stipulate a full advance payment for the goods for the validity of *Salam*. This condition cannot be valid for (SCHC) i.e., Islamic Forwards, for the following reasons:

a- Since the purpose of the SCHC is the protection of the assets' value and not investment or finance, the stipulation of full advance payment is not justified.

b- If the buyer cannot be the investor, and/or the seller does not want finance from the buyer, hedging cannot be achieved through Salam, but it can be through SCHC, which is a binding contract by the seller and the buyer to exchange the agreed upon asset and the counter value on the specific date in the future.

SCHC and the Debt Clearance Sale

One of the forms of sale debt by debt (*bay' al-dayn-bi-dayn*) is to conclude a sale where an asset and its counter value are postponed. Ibn Al-Qayyim al-Jawziyyah named it *ibtia'-al-dayn-bi-al-dayn*, and he considered it the only prohibited form of sale of debt (Ibn Al Qayyim, 1973, 1/340-341).

General consensus is said to have materialized on the prohibition of sale of debt by debt (Ibn Qudamah, Vol. 4, p. 53, Ibn Taymiyyah, 1949, p. 235), but jurists disagree on the definition of this transaction and the various forms it can take. Legal schools have recorded divergent rulings, which mean that the claim

of consensus is unfounded. Ibn Al-Qayyim justified the prohibition of the above form of sale of debt by debt, on the grounds that the purpose of the sale contract is possession. Debt sale does not fulfill this purpose, so it is a useless obligation for both parties. Al-Dari (1990) (Al-Darir 1990, p. 334) refutes this claim on the basis that in this transaction even though the exchange of goods and price is postponed, the buyer becomes owner of the goods and the seller becomes owner of the price. Even though in the Hedging Contract, both the asset and its counter value will be delivered on the agreed upon date in the future, it cannot be considered useless, since the hedging contract achieves the goal of protecting and maintaining the assets of counter parties, which satisfies the Shariah maxim of preserving wealth.

The Justification for Postponement

The major difference between the conventional sale and the hedging contract is the delivery postponment of the asset and its counter value in the hedging contract. The postponment can be justified on the following grounds:

a- In an analogical base with the *Salam* contract, Malikis permits postponement of the counter value for three days and for more than three days in some cases (al Hattab, n.d., 4/516).

b- In a leasing contract, it is permitted to delay the payment of the rent even though the usufruct cannot be delivered at once at the beginning of the contract, so we have postponement of the rent and the usufruct. According to Al-Kasani, if there is a condition in the lease contract, that the rent will be paid at the end of the lease, this condition is permitted (al Kasani, 1910, 4/341).

c- In an *Istisna* contract, one party buys goods that the other party undertake to manufacture, and to deliver in the future. The *Hanafi* school permitted the postponement of the price of these goods. In this transaction, both the goods and the counter value are postponed.

d- Based on the principle of the freedom of contractual stipulation, Ibn Taymiyyah concluded that the agreed upon stipulations between parties are binding to them (Ibn Taymiyyah, 1398, 3/239). In hedging contracts, counter parties can stipulate the postponement of both the asset and its counter value. This condition is valid, since it is a prerequisite to fulfill the hedging purpose.

e- Some jurists forego the full advance payment condition in a *Salam* contract if it is concluded as a sale contract (al Shirazi, 1976, 1/392).

f- According to Al-Masri (1999), if the goods and their counter value are delivered on a specific date in the future, there will be no risk, i.e. or if the goods or their value are postponed, *Gharar* will be the same. This *Gharar* is not prohibited.

g- Supply contracts, where the goods and their counter value are postponed, are permitted by Zarqa (1999, p. 487), Abu Sulayman (1994,), Al-Masri (1999, p. 12) and *Islamic Fiqh Academy* (1999).

h- According to Sallami (2000), it is permitted to postpone the two counter values in a sales contract if the intention of the two parties is to deliver and take delivery of the asset, and not for speculative purpose).

Short Selling Objections

Since the SCHC is a forwards contract in which delivery of goods and its counter value are postponed, the goods may not exist or be owned by the seller at the time of the conclusion of the contract, and this is not permitted according to San'ani (1353 H.), Ibn Qudama (W.D) and Ibn Humam (1317 H., 3/17, 4/155, 6/336). However *Hanafis* have ruled that it is the effectiveness of the sale that is a condition of validity and not the seller's ownership of the item that is the subject of the sale (al Kasani, 1353 H, 5/146).

Most jurists hold that the ownership condition for the validity of sale contract applies only to the sale of specified objects and not to fungible goods, which can be substituted and replaced (al-Baghawi, 1974, 8/140-141; al Khattabi, 1949, 5/143).

Ibn Taymiyyah (1398, 20/529) and Al-Baji (1332 H., 1/399) recorded that the ownership condition which is stipulated for the validity of a sale contract, is meant to prohibit the sale of an item which is not present and the seller cannot deliver, so the emphasis is not on ownership or possession, but rather on the seller's effective control and ability to deliver.

Thus the hedging Contract must apply only to fungible goods which are likely to exist at the time of delivery.

The Drawbacks of SCHC

In the hedging contract, like any other forward contract calling for delivery of goods at a future time for payment to be made upon delivery, the agreement is based on terms which are mutually beneficial, but with time, conditions may change, and hedging may have the following drawbacks:

a- Credit risks: In SCHC, both parties must trust each other to complete the contract as promised. A cost-of-carry model can be used to decide on the price of the goods on the delivery date, which is acceptable to both parties. But as the market changes, the market price on the delivery date may be higher than the agreed upon price, and the seller will be tempted to default on the hedging contract obligation. Also, if the market price of the goods is lower than the agreed upon price, the buyer will be tempted to default and buy the goods on the open market at the spot price. This gives rise to credit risk in the hedging contract.

b- Matching Problems: In SCHC, there is a difficulty in finding the right trading partner, as one party may wish to sell 10 tons of sugar for delivery in 6 months, but it might be difficult to find some one willing to contract now for the delivery of sugar in six months time and for the whole 10 tons.

c- Contracts liquidation problems: The SCHC is a binding agreement for both parties. So if market changes and make the contract undesirable to complete and deliver, then the parties have no choice but to make the delivery, even though it is suboptimal for one of them.

The above drawbacks of the SCHC are expected to limit the use of this contract to parties that know and trust each other to honor their commitments, and to big companies and big transactions where the counter parties credit record can be easily verified and their needs easily identified.

The Sharia Compatible Future (SCF)

SCHC can be modified to avoid the above-mentioned drawbacks. This can be done when the assets or the commodity subject to trade, become standardized contracts and are permitted to be traded on an organized exchange only, and the transaction and the contract are regulated at different levels by different institutions to ensure propriety and the fairness of the transaction, as well as to protect the integrity and the commitment of the counterparties.

The institutional setting of SCF is an integral part of the standardized hedging contract which will be used in this transaction. Thus, it must be in conformity with the Shariah code of transaction. The above contract involves a commitment to sell or buy a specified quantity of an asset or commodity at a particular future date at a price determined at the time of contracting, given that the asset or commodity must be permitted to be transacted according to Shariah. The institutional setting of conventional futures can be utilized and modified to conform to the institutional setting of Shariah Compatible Futures.

The Institutional Setting for Islamic Futures

The exchange in which the Islamic futures will be traded must be organized along the lines of a conventional exchange. It can be a voluntary non-profit association of its members. This will stimulate cross-subsidizing of the exchange's products, according to Chambers and Carter (1990), and reduce the average cost of these products.

Exchange members must have a right to trade on the exchange and to have a voice in the exchange's operations. They must also serve on the committees which regulate the exchange's operations, rules, audit functions, public relations, and the legal and ethical conduct of its members. The administrative officers of the exchange should manage the ordinary operation of the exchange and report to the membership, (Kolb, 1996).

Trading of SCF must take place only through the exchange during official trading hours in the designated trading areas, usually called the “pit”, in an “open outcry system”, where a trader must make any offer to buy or sell to all other traders present in the pit.

The trader, who is a member of the exchange can trade for his own account or he could be a broker acting on behalf of his own firm or on behalf of a client outside the exchange.

Standardized Contract Terms

To achieve their objectives, SCFs must be standardized. Thus, Islamic futures contracts must be highly uniform, with well-specified commitments for carefully described goods to be delivered at a certain time and in a certain manner. So, the SCF contract must specify the quantity and the quality of the good that can be delivered and specify the delivery date and method for closing the contract.

In a wheat contract for example, the quantity could be 5000 bushels per contract, the quality could be No. 2 Soft Red, No. 2 Hard Red Winter, No. 2 Dark Northern Spring, or No. 1 Northern Spring. The expiration of the contract could be July, September, December, March, or May. The place of delivery could be a specific warehouse approved by the exchange.

For closing, the buyer transmits payment to the seller, and the seller delivers a warehouse receipt to the buyer. The holder of a warehouse receipt has title to the wheat in the warehouse. Delivery can occur on the business day of the delivery date.

To prevent gambling activity and limit unproductive speculation, the SCF contract can stipulate the minimum price fluctuation or "tick size" and specify a daily price limit, which restricts the price movement on a single day. The daily price limit can be expanded over successive days when a commodity enters a particularly volatile period such as war. For the delivery date, this limit will not be in effect, as supply and demand will govern this limit.

Standardizing the SCF contract eliminates the problem of finding the right trading partner in SCHC, i.e. Islamic forwards, as all participants in the market know exactly what is being offered for sale as well as the terms of the transaction. This help to reduce the uncertainty of the transaction, i.e. *gharar*, and promote liquidity of Islamic futures contracts.

The Clearinghouse

To manage the credit risk in SCF contracts, the Islamic futures exchange must be closely associated with a particular clearinghouse. The clearinghouse, which must be a separate legal entity, guarantees that all of the traders in the Islamic futures market will honor their obligations. The clearinghouse can serve this role when it guarantees the seller's obligations to the buyer and the buyer's obligations to the seller. In this way, the clearinghouse substitutes its own credibility for the promise of each trader in the market.

The clearinghouse must not take any active position in the market, as it cannot initiate any sale or purchase, but instead, it interposes itself between all parties to every transaction after the initial sale is made.

In the SCF market, the number of contracts bought must always equal the number of contracts sold. So, for every party expecting to receive delivery of a commodity, the opposite trading partner must be prepared to make delivery, and the long positions must equal the short positions.

Since the clearinghouse must be a well-capitalized financial institution, its failure to perform on its guarantees to the trading parties would be very unlikely and so, the credit risk in Islamic futures will not be a problem.

In this situation, the clearinghouse performs function of the external party guarantee (or third party guarantee) which is permitted in Shariah.

Margin and Daily Settlement

Margin and daily settlement can be used in addition to the clearinghouse as safeguards for the SCF market.

The prospective trader, before trading Islamic futures contract, must deposit with his broker, funds called the "margin", which serve as a good faith deposit by the trader. Their main purpose is to provide a financial safeguard to ensure that traders will perform on their obligations.

There can be different types of margins. The initial margin is the amount a trader must deposit before trading any Islamic futures. The initial margin must not be less than the maximum daily price fluctuation permitted for the contract being traded. Upon the proper completion of all obligations associated with a trader's futures position, the initial margin is returned to the trader.

Daily settlement or marking-to-market procedure must be an integral part of the Islamic futures market, to ensure the stability and the practicality of the system.

Since the initial margin is a small percentage of the value of the contract, and the potential loss could be much larger than the margin deposit, the contract must be settled, or marked-to-market daily, which means that traders realize their paper gain and loss in cash on the result of each day's trading. Any loss will be deducted from the margin. When the margin reaches a certain level, called the "maintenance margin", the trader is required to replenish the margin, bringing it to its initial level. The additional amount the trader must deposit is called the "variation margin". The trader is allowed to withdraw the day's gain when it is above the initial margin.

If the trader suffers a loss and he is unable or refuses to post the required additional margin, the broker is empowered to close the futures position by deducting the loss from the trader's initial margin and returning the balance to the trader. The margin which is received by the broker, must be paid to the clearinghouse which demands margin deposits to cover all futures positions that are carried by the broker.

Closing the SCF Position

There are three ways to close the SCF contracts:

a- Delivery of the commodity: Since the main purpose of the SCF is to hedge against undesirable and unexpected changes in an asset's value, Islamic

futures contracts are written as to call for completion of the futures contract through the physical delivery of a particular good. The contract specifies the time and the location where delivery takes place. The clearinghouse must supervise the arrangements for delivery. It also would pair buyers and sellers for the delivery and identify the two parties to each other. Each of the buyer and the seller will communicate the relevant information concerning the delivery process to the opposite trading partner and to the clearinghouse. The position is closed when the buyer receives the commodity and the seller receives the payment.

b- Cash settlement: For many commodities, the delivery process can be quite cumbersome. The buyer may find that it is convenient for him to receive the market value of the commodity and buy it from the market, and the seller may like to distribute his commodity through his established channels and pay the market value of the commodity. In this case, the counterparties may agree to settle the transaction in cash, so the seller will pay the buyer the agreed upon value of the commodity through the clearinghouse, and will close his position.

One way to justify the cash settlement is to consider it as a new transaction. The seller will buy back the commodity at the market price and pay the difference. This is known as "*iqalah*" and is Shariah permitted. According to Ibn Rushid, if the seller asks the buyer to revoke the sale and receive ten dinars cash or defer payment, it is permitted; if the new price is higher or lower than the sale price, then this will be considered a new contract (Ibn Rushd, 1416 H., 2/193).

For the permissibility of a cash settlement and on an analogical base to the *Salam* contract, al-Subky stated that, if the Salam contract matures and the seller wants to settle it in cash, by giving the market price to the buyer and ask him to buy the commodity for himself, this will not be permitted. But if the seller asks him to buy it for him, and possess it as proxy for him, and then possess it for himself as a buyer, his sale and possession of the commodity as proxy for the *Salam* seller is permitted, but he cannot sell it to himself. However, the *Hanafi* jurists permit it (Ibn al Humam, 1317 H., 5/346-347).

In a SCF contract, al-Subky's reservation will not apply since the seller's broker will be his proxy who will receive the cash settlement and buys the commodity from the spot market and deliver it to the buyer.

c- Reversing trade: If delivery becomes undesirable for a trader, he may liquidate the SCF by entering a reversing trade prior to the time of

delivery. For an Islamic futures contract, the trader, whether the buyer or seller, may ask his broker to transfer his obligations (*ihalah*) in the contract to the other trader, who must be willing to take on the same contract with its obligations and terms. As all Islamic futures contracts must be standardized, and there is no direct contact between traders, and transactions are concluded through the exchange brokers who may be agents for many buyers and sellers at the same time, the broker may find a substitute who will buy the contract at its market value.

But in a reversing trade, the buyer will sell the commodity before he owns or possesses it, and make the sale invalid according to Ibn Qudama, Ibn Humam and al-Sanaani. This objection is raised also in the case of short selling in the previous section.

Since most jurists conclude that the possession and ownership conditions for the validity of a sale contract apply only to the sale of specified objects and not to fungible goods, and as Ibn Taymiyyah and Al-Baji's emphasis is not on the ownership or possession but rather on the seller's effective control and ability to deliver the goods as conditions for the sale contract validity, Islamic futures reversing trade can be valid, since the subject of sale in the Islamic futures contracts is fungible goods and the institutional setting in Islamic futures market, which was discussed earlier, may give the seller effective control and ability to deliver the goods.

6. The Regulation of the Sharia Compatible Futures (SCF)

Though Islamic futures are engineered to overcome the drawbacks of the SCHC, such as credit risks, matching problems and liquidity problems, the institutional setting is the essential part of the Islamic futures system. Successful setting, organization and regulation for the institutions in the SCF market, ensure its ability to achieve its objectives. The aims of the SCF regulations are:

a- To ensure that contracts as well as operations of the SCF market do not violate the Shariah restrictions on transactions such as interest rate, gambling and exurbanite *Gharar*, and the commodity subject to trade must not be prohibited such as pork, wine, weapons, etc.

b- To ensure that the rules that govern the conduct of all parties in the SCF market, including brokers, exchange members, clearinghouse members as well as traders, are designed to be in conformity with Islamic norms and create a smoothly functioning market in which traders can feel confident

that their orders will be executed properly and at a fair price. Thus, all fraud, dishonesty, dishonorable conduct, and defaulting on contract obligations are prohibited.

c- To provide a market place in which the economic functions of the futures market can be fulfilled; thus any practice that interferes with the process of price discovery or the efficient transfer of unwanted risk which make the SCF market performs poorly, must be prevented.

The fulfillment of the above aims is the responsibility of all SCF market institutions which include the broker, the exchange, the clearinghouse, and the regulatory authority. All measures must be taken by them to ensure that the Islamic futures market can achieve its economic functions. We can say that there are three regulators for the SCF market:

a) **The Broker**

The broker represents his client at the exchange and clearinghouse. As he is in the best position to know about his activities, the broker has the duty to remain informed about his clients conduct and to ensure that his client's activities are in compliance with the rules and the regulation of the exchange, clearinghouse and regulatory authority. The broker is responsible for knowing the customer's position and intentions and for ensuring that the customer does not violate the Islamic code or Islamic norms and does not disturb or jeopardize the Islamic futures system.

b) **The exchange and clearinghouse**

The exchange as well as the clearinghouse have duties to control the conduct of exchange and clearinghouse members. Thus they must formulate and enforce rules for trading on the exchange. These rules must be designed to fulfill the aims of the regulation, i.e. to ensure the conformity of market conduct with the Shariah code and to create a smooth functioning market.

More specifically the exchange rules must ensure the following:

1. Prohibit ficticious trading (trading that merely gives the appearance of trading without actually changing ownership), as it is prohibited by Shariah.
2. Prohibit circulating rumors to influence price as it violates Islamic ethics.
3. Prohibit disclosure of the customer's order, as this violates his right to privacy.

4. Prohibit taking the opposite side of the customer's order, as this disturbs the price mechanism in the Islamic futures market.
5. Prohibit the making of false statements to the exchange, as this violates Islamic norms.
6. Prohibit prearranged trading, where two participants consult in advance and agree to make a certain trade at a given price, as prearranged trade is non-competitive and can be abusive and violates the "outcry" rule of the exchange.
7. Prohibit front running, as this gives the broker an unfair advantage. Front running occurs when a customer gives his broker a very large order to sell and the broker knows that this will depress the Islamic Futures price. If the front running broker would sell his asset first and then the customer's order, he would be taking an unfair advantage.
8. Put position limits for the commodity, which means no single trader is allowed to hold more than a certain number of contracts in that commodity, as this limits the influence of a single trader on the market and prevents the trader from controlling the Islamic futures price.
9. Put daily price limits and margin requirements.
10. Design the contract to be used in the Islamic futures market

All these rules must be subject to review by the regulatory authority.

c) The Regulatory Authority

The responsibilities of the Regulatory Authority, which ensure achieving the aims of regulation, include the following:

1- Approval of any new contract. Before trading, the exchange must submit the newly designed contract to the regulatory authority for approval. The regulatory authority is responsible for determining whether trading in such a contact is beneficial to the public interest. To receive approval, the contract must not violate the Islamic Shariah restrictions on transaction, and/or Islamic norms, and the contract must show promise of serving an economic purpose, such as making for fairer pricing of the commodity in some way or in making hedging possible.

2- Regulation of Islamic futures market trading rules, including the daily permitted maximum fluctuation, certain features of the delivery process, and minimum price fluctuations.

3- Review of complaints of membership exclusion or any other unfair treatment by the exchange.

4. The regulatory authority has the emergency power to intervene in the conduct of the market, when it believes manipulation is present.

5- The regulatory authority has the power to require competency verification of the brokers and commodity traders, to ensure their ability to conduct trade on the exchange.

Future Pricing

The 'Cost-of-carry model' is used to price futures. It defines the price relationship between the spot price of an asset and the future price that precludes arbitrage. In a perfect futures market for a commodity, the carrying charge reflects the cost of carrying the commodity from one time or one place to another. This cost falls into four basic categories: storage costs, insurance costs, transportation costs and financing costs. These costs determine the pricing relationship between spot and futures prices as well as the relationship among prices of futures contracts of different maturities. According to cost-of-carry model, the futures price must be less than or equal to the spot price of the asset plus the carrying charges necessary to carry the spot asset forward to delivery. So to prevent cash-and-carry arbitrage the following rule must hold:

$$F_{o,t} \leq S_o (1+C)$$

and to prevent reverse cash-and carry arbitrage this rule must hold.

$$F_{o,t} \geq S_o (1+C)$$

where:

$F_{o,t}$ = the future price of an asset at t = 0 for delivery at time t.
S_o = the spot price at t = 0.
C = cost of carry, expressed as a fraction of the spot price.

In the case of an imperfect futures market, other costs must be added to the carrying charge, such as transaction costs (T), for the model to remain valid:

$$F_{o,t} \leq S_o (1+T) (1+C)$$

The future price must be less than or equal to the spot price (S_o) of the asset plus the carrying costs necessary to carry the spot asset forward to delivery plus the transaction cost (T).

The above model is used also for stock futures, but the equation for the price of the stock futures must be adjusted to include the dividends that would be received between the present and the expiration of the futures, as the chance to receive dividends lowers the cost of carrying the stocks. So we have:

$$F_{o,t} = S_o(1+C) - \sum_{i=1}^{N} D_i(1+r_i)$$

where:

D_i = the i dividend.

r_i = the interest earned on carrying the ith dividend from its time of receipt until the futures expiration at time t.

$F_{o,t}$, S_o, C were defined above.

In swap pricing, swap prices may be affected by a number of factors such as:

1. The creditworthiness of the potential swap partner, because in the case of counter parties' defaults, the dealer must either absorb the loss or institute a lawsuit to seek recovery on the defaulted obligation.
2. The availability of additional counter parties, as the swap dealer will be very concerned about how the risk involved in a prospective swap can be offset by participating in after swaps.

7. Conclusion

Futures can be beneficial to Islamic finance if modified to become Sharia compatible. The economic efficiency is the prime goal of Sharia compatible futures. Futures markets, as they reallocate risk among those who choose to take it, aggregate and disseminate information about the future course of the prices in spot market and stabilize future cash prices. However, they can be a destabilizing factor if they are misused. This can happen if they are used as a gambling device, through speculation, which is considered an unproductive activity by Islamic economists. An integral part of the permissibility of Sharia compatible futures is its institutional setting, as it will insure that all transactions in their markets will be in conformity with Sharia.

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Monetary Management in an Islamic Economy(*)

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I. Introduction

The Islamic economic system is based on a collection of rules which affect economic behavior and outcomes. The primary source of these rules is the *Shari'ah*, customarily translated as "the Law". In addition, there are institutions and rules which are the results of decisions taken by legitimate authorities in pursuit of economic policies to further the aims of an Islamic society. The adoption of these sets of economic rules and institutions are expected to lead to a dynamic and growing economy, without which the higher objectives of Islam cannot be achieved. Muslims consider an economy to be "healthy" when its rules, institutions, organizations, and operations, as well as the behavior of the individual and society, are in conformity with the *Shari'ah* (Al-Sadr 1979).

The role of money and monetary management in an Islamic economy must necessarily fit into the framework of the overall economic system defined by Islam.(1) While the fundamental sources of Islam - the Qur'an and the Sunnah - do not provide any direct or detailed guidance on the management of money, they are unequivocal in their condemnation of interest (riba). As such, financial and monetary relations in an Islamic system have to be organized and conducted in a manner which precludes the use of interest in any form(2). It is this restriction that makes monetary management in an Islamic system differ in a very basic and important way from that in a conventional capitalist system.

The purpose of this paper is to describe a financial system that would be consistent with the precepts of Islam, with a view to deriving the appropriate framework for the conduct of monetary and financial policies. Central to this analysis will obviously be the exclusion of interest from financial transactions. In Section II the reasons for the prohibition of interest are discussed. The Islamic financial system is described in Section III, focusing on the banking system, as well as the primary, secondary, and money markets. Section IV

(1) For a description of the principal elements of the Islamic economic system, see **Khan** and **Mirakhor** (1993).

(2) There has been some controversy in the past on whether *riba* refers to interest or usury or whether a distinction can be made between real and nominal interest rates, with *riba* only referring to the former. However, by now there is broad consensus that *riba* covers all forms of interest.

covers monetary policy and central banking in an Islamic economy. Section V concludes by outlining the role of the state in monetary management, and discussing some of the problems that need to be resolved for an Islamic financial system to develop and flourish.

II. The Prohibition of Interest

The prohibition of interest in Islam is not based on economic theory but on fundamental religious sources which view the charging of interest as an act of injustice. However, concerted attempts have been made to explain the law and rationalize its application. Early Muslim scholars considered money as a medium of exchange, a standard of value, and a unit of account but rejected its function as a store of value for which money could be sought as an end in itself. Money was considered as an "intermediary" among assets and a "mirror", which, just like a ruler or a judge, passes judgment on and reflects the value of other commodities. Thus, hoarding money was considered an act of injustice because it was "exactly like imprisoning a ruler where his ruling cannot be reached." Lending with interest was prohibited because "whoever uses money in *riba* practices becomes ungrateful and unjust" since money is "not created to be sought for itself but for other objects." And since "hoarding money is injustice, it is meaningless to sell money for money except to take money as an end in itself which is injustice (AI-Ghazali 1955).

Recent Muslim scholars, however, place the major emphasis of their explanation of the prohibition on the lack of a satisfactory theory of interest(3). They see modern theories of interest as attempts to rationalize the existence of an institution which has become deeply entrenched in modern economies. To the argument that interest is a reward for savings, they respond that such payments could only be rationalized, from an economic standpoint, if savings were used for investment to create an additional capital and wealth. But the answer to the question of whether there is an increment of wealth corresponding to the savings of the individual seldom depends on what he does with the money he saves by refraining from consumption. He may hoard it or use it to buy a financial asset without there being an increment of capital wealth created as a result of his saving. When an individual saves, his saving gives rise to creation of an asset or a debt. But, as a rule, he has no power to decide which it will be. According to these scholars, in the absence of simultaneous increment of new investment, either a debt is created or an asset will change hands, but there will be no increment to wealth. Hence, the mere act of abstention from consumption should not entitle anyone to a reward.

(3) See, for example, **Abu Saud** (1980), **Uzair** (1982), **Siddiqi** (1982, 1983). **Chapra** (1985). and **Ahmad** (1987).

To the argument that interest is justified as productivity of capital. Muslim scholars respond that although the marginal productivity of capital may enter as one factor into the determination of the rate of interest, interest per se has no necessary relation with capital productivity. Interest, they argue, is paid on money, not on capital, and has to be paid irrespective of capital productivity. In distinguishing between interest as a charge for the use of money and a yield from the investment of capital, it is argued that it is an error of modern theory to treat interest as the price of, or return for, capital. Money is not capital, not even representative capital. It is only "potential capital" which requires the service of the entrepreneur to transform the potentiality into actuality; the lender has nothing to do with the conversion of money into capital and with using it productively.

To the argument that interest arises as an inevitable consequence of the difference between the value of capital goods today and their value in the future, Muslim scholars respond that this only explains its inevitability and not its rightness. It explains why borrowers are willing to pay interest and why lenders are able to exact it. While they do not deny the difference of valuation between present and future goods, they argue that a theory of interest based upon this notion is abstract to the point of unrealism. The so-called "pure rate of interest," resulting from the time factor in valuation may never enter into the calculation of the suppliers of funds and it seldom, if ever, is paid as such. The reason for its unrealism is that when forced into a position of identifying the "pure rate of interest" the theorists always refer to the rates of return on "riskless assets", such as those paid on government securities or the rate of return on debentures of highly successful corporations. This, they argue, is a rate on debt and not on capital assets. In the case of most successful companies' debentures, such rates are determined on the basis of long-term success of these businesses, and if these corporations face difficulties and their profits decline, the "pure rate" ceases to exist, because their debentures are no longer considered "riskless." Hence, the "pure rate of interest" is only a theoretical construct and does not exist in reality as a return to capital assets. What is referred to as a "pure rate" is a return on debt, and its existence is contingent upon past and current profits. Even if the basis for time preference is the difference between the value of commodities this year and the next, Muslim scholars argue, it seems more reasonable to allow next year's economic conditions to determine the extent of the reward.

In summary, Muslim scholars maintain that when a person loans money, the funds are either used to create a debt or an asset (i.e. through investment). In the first case, there is no justifiable reason why the lender should receive a return. Nor is there a justification, whether from the point of view of the smooth functioning of the economy, nor from the point of view of any tenable scheme

of social justice, for the state to attempt to enforce the unconditional promise of interest payment regardless of the use made of the borrowed money.

If, on the other hand, the money is used to create additional capital wealth, the question is raised as to why should the lender be entitled to only a small fraction (represented by the interest rate) of the exchange value of the utilities created from the use made of his loaned-out money. Justice demands that he should be remunerated to the extent of the involvement of his financial capital in creating the incremental wealth.

It is important to note that Islam has no objection to profit as a return to entrepreneurial effort and to financial capital; in fact. such profit is encouraged. Only the identification of money with capital and the justice of interest as reward for the mere act of refraining from present consumption is denied by the Muslim scholars. An amount of money advanced for the purpose of trade and production can be contracted to receive a share of the profit, because its supplier becomes part-owner of capital, sharing in the risks of the enterprise and is thus entitled to receive a share of the profits of the firm. He is a partner in the enterprise and not a creditor. There is all the difference between an ordinary shareholder-who is one of the proprietors of the enterprise, liable for its debts to the extent of his investment receiving a dividend only when a profit is earned-and a creditor who is a debenture holder, lending money without the risk of owning and operating capital goods and claiming interest irrespective of the profit or less position of the enterprise. The creditor runs a risk, but this risk is not related to the profit of the enterprise but rather to the solvency of the borrower.

Islam permits a wide freedom in establishing contracts, assuming that the terms of the contract are not in violation of the *Shari'ah*, and approves any agreement based on the consent of the parties involved, so long as the shares of each are contingent upon uncertain gains. This aspect of the arrangement is crucial, since the *Shari'ah* condemns even a guarantee by the working partner merely to restore the invested capital intact, not only because it removes the element of uncertainty needed to legitimize the bargain for possible profits, but also because the lender will not be remunerated to the extent of the productivity of his financial capital in the resulting profit. This is considered an injustice. If capital wealth created is have a higher value a year hence, then the lender (as a partner in the enterprise) should be rewarded for the contributions his financial capital has made in creating the additional wealth.

In forbidding interest and encouraging the earning of profit, Islam recognizes that interest arises from a loan of money, while profit arises from an investment of financial capital combined with entrepreneurial effort. Lending

per se does not necessarily imply investment of additional capital, either simultaneously or subsequently. Not does it, by and of itself, create an asset unless the borrower invests it successfully. In this case the lender is entitled to a reward, but if, and only if, he has shared in the uncertainty of profit and loss of the enterprise.

An alternative explanation of the law prohibiting interest and a justification of its application is based on Islam's position on individual property rights and obligations and its conception of economic justice.(4) Islam recognizes two types of individual claims to property: (a) the property that is a result of the combination of individuals' creative labor and natural resources; and (b) property whose title has been transferred by its owner as a result of exchange, remittance of rights to other's in the owners property, outright grants by the owner to those in need, and, finally, inheritance.

Money represents the monetized claim of its owner to property rights created by assets that were obtained either through (a) or (b). Lending money, in effect, is a transfer of this right and all that can be claimed in return is its equivalent and no more. Interest on money represents an unjustified creation of instantaneous property rights: unjustified because interest is a property right claimed outside the legitimate framework of individual property rights recognized by Islam; and instantaneous because as soon as the contract for lending upon interest is concluded, a right to the borrower's property is created for the lender.

It is clear that money lent is used either productively in the sense that it creates additional wealth, or unproductively, in the sense that it does not lead to the creation of incremental wealth by the borrower. In the latter case, since no additional wealth, property, or asset is created by the borrower, the money lent cannot claim additional property rights since none are created. In the former case, that is, when it is used in combination with the creative labor of the entrepreneur to create additional wealth. it can also not claim any right to the incrementally-created wealth because the lender, when loaning his money, does not bargain for a portion of this incremental wealth but for a fixed return, irrespective of the outcome of the enterprise; he in fact transfers the right to his property to the borrower.

On the other hand, when the financial capital of the lender is used in partnership with the creative labor of the entrepreneur, the lender's right to his property is not transferred and remains intact, thus making him a co-owner of the enterprise, and his money, which represents past productive labor, has a claim and a right in the product it helps create. Again, investment with risk is

(4) See **Khan** and **Mirakhor** (1993)

consistent with Islamic principles, while lending without risk of principal and return is not.

III. The Islamic Financial System(5)

To accord with the restriction against interest, and consistent with the encouragement of trade and profits, the *Shari'ah* has developed two forms of business of financial arrangements: *Mudarabah* and *Musharakah*. Under the provisions of *Mudarabah*, surplus funds are made available by a single lender to the entrepreneur to be invested in a productive enterprise in return for a predetermined share of the profits earned. Financial losses are borne exclusively by the lender who does not have a role in the management of the enterprise. The borrower loses only the time and effort invested in the venture. This profit-sharing arrangement, therefore, effectively places human capital on par with financial capital. In *Musharakah*, there is more than a single contributor of funds. All parties invest in varying proportions, have the right to participate in the management of the enterprise, and the profits (or losses) are shared in some relation to their respective capital contributions. This arrangement corresponds closely to an equity market in which shares in a firm can be acquired by the public, banks, and even the government.

In transactions where profit sharing is not applicable other modes of financing can be employed which include the following:(6)

- ***Qard al-Hasanah (beneficence loans)***

These are zero-return loans that Muslims are encouraged to make to those who need them. Financial organizations that provide these loans are permitted to charge the borrower a service charge to cover the administrative costs of handling the loan so long as the charge is not related to the amount or the maturity of the loan.

- ***Bai' Mua`jjal (deferred-payment sales)***

This mode allows the sale of a product on the basis of deferred payment in installments or in a lump-sum payment. The price of the product is agreed on between the buyer and the seller at the time of the sale and cannot include any charges for deferring payments.

(5) For more details, see the papers contained in **Ariff** (1982) and **Khan** and **Mirakhor** (1987).

(6) For a more detailed discussion of the various modes see Council of Islamic Ideology (1980).

· ***Bai' Salam or Bai' Salaf (purchase with deferred delivery)***

In this transaction the buyer pays the seller the full negotiated price of a product that the seller promises to deliver at a future date. This type of transaction is limited to products whose quality and quantity can be fully specified at the time the contract is made, such as agricultural and manufactured products.

· ***Ijara (leasing)***

In this transaction, a person leases a particular product for a specific sum and specific period of time. He can also negotiate for lease-purchase of the product, where each payment includes a portion that goes toward the final purchase and transfer of ownership of the product.

· ***Jo'alah (service charge)***

This is a transaction in which one party undertakes to pay another a specified sum of money as a fee for rendering a specific service in accordance with the terms of the contract negotiated between the two parties. This arrangement facilitates transactions such as consultations, fund placements, and trust activities.

· ***Cost-plus sale***

In this transaction the seller informs the buyer of his cost of acquiring or producing a product and then a profit margin or a mark-up on the cost is negotiated between the buyer and the seller. This method is now very standard in Islamic financial transactions.

The above list is by no means exhaustive. The freedom of contracts under the *Shari'ah* provides the parties with considerable flexibility, making it possible to establish a virtually open-ended variety of forms of financial transactions and instruments. The only constraints are that the contract not include interest and that both parties are fully informed of the details of the contract.

A system that excludes interest raises a number of theoretical and practical questions. One of the most important of these is how banks and financial markets will function. It is to these questions that the paper now turns, dealing first with banks and then with the other financial markets.

(1) Banking system[7]

Banks in the Islamic system, although constrained to carry out their

(7) For more detailed discussions see **Siddiqi** (1983) and **Iqbal** and **Mirakhor** (1987).

operations without the payment or receipt of interest, perform the same essential functions as they do in the conventional system. That is, they act as administrators of the economy's payments system and as financial intermediaries. The need for them in the Islamic system arises precisely for the same reason as that in the traditional interest-based system. Their role in a general sense is the exploitation of the imperfections in the financial markets. These imperfections include imperfect divisibility of financial claims, transactions costs of search, acquisition, and diversification by the surplus and deficit units, and existence of expertise and economies of scale in monitoring transactions. Financial intermediaries in the Islamic system can reasonably be expected to exhibit economies of scale with respect to these costs as their counterparts do in the traditional system. Through their ability to take advantage of these imperfections, they alter yield relationships between surplus and deficit financial units and thus provide lower costs to the deficit units and higher returns to the surplus units than would be possible with direct finance.

Just as in the interest-based system, Islamic financial intermediaries transform the liabilities of business into a variety of obligations to suit the preferences and circumstances of the surplus units. Their liabilities consist of deposits, and their assets consist mainly of primary financial securities in the capital market. These banks have to be concerned, just as their counterparts in the traditional system, with decisions relating to such issues as the nature of their objective functions, portfolio choice among risky assets, liabilities and capital management, reserve management, the interaction between the asset and liability side of their balance sheet, and the management of off-balance sheet items - such as revolving lines of credit, commercial letters of credit, and bankers' acceptances. Moreover, as asset transformers, these institutions become risk evaluators and serve as filters to evaluate signals in a financial environment with limited information. Their deposit liabilities serve as a medium of exchange, and they possess the ability to minimize the cost of transactions that convert current income into an optimal consumption bundle.

One major difference between the two systems is that, due to prohibition against interest and the fact that the banks will have to rely primarily on profit-sharing, Islamic banks will have to offer their asset portfolios of securities in the form of "mutual fund" type packages for sale to the investor-depositors(8). In contrast to this system, the banks in the interest-based system keep title to the portfolios they originate. These assets are funded by banks through issuing deposit contracts, a practice that results in solvency and liquidity risks since their asset portfolios and loans entail risky payoffs and/or costs of liquidation

(8) The portfolios could contain risky open-ended securities (stocks and shares) or closed-end securities (for specified time periods).

prior to maturity, while their deposit contracts are liabilities that are often redeemable instantaneously at par.

In the Islamic system, there will also be greater interdependence and closer relationship between investment and deposit yields, since the banks can primarily accept investment deposits on the basis of profit-sharing and can provide funds to the enterprises on the same basis. Due to the fact that the return to liabilities will be a direct function of the return to asset portfolios and also because assets are created in response to investment opportunities in the real sector, the return to financing is removed from the cost side and relegated to the profit side, thus allowing the rate of return to financing to be determined by productivity in the real sector Thus, in the Islamic system there is a much tighter link between the rates of return in the real and financial sectors than in the capitalist system.

Since the 1980s, a number of economists have been concerned with developing analytical models of banking in an Islamic environment. Basically, these efforts have yielded two complementary models. The first model,[9] relying on the concept of profit-sharing, integrates the assets and liabilities sides of the balance sheet of the bank based on the principle called the *Two-Tier Mudarabah*. This particular model envisages depositors entering into a contract with a banking firm to share the profits accruing to the bank's business. The bank, on its asset side, enters into another contract with an agent-entrepreneur who is seeking investable funds and who agrees to share his profit with the bank in accordance with a predetermined percentage stipulated in the contract. The bank's earnings from all its activities are pooled and are then shared with its depositors and shareholders according to the terms of their respective contracts. Thus, the profit earned by the depositors are a percentage of the total banking profits. According to this model, the banks are allowed to accept demand deposits that earn no profit and may be subjected to a service charge. This model, though requiring that current deposits must be paid on the demand of the depositors, has no specific reserve requirement on the total liabilities of the bank, other than that it be positive. It further stipulates that the bank is obligated to grant very short-term interest-free loans to the extent of a part of the total current deposits (Siddiqi 1982).

The second related model divides the liability side of the bank balance sheet into two windows: one for demand deposits (transactions balances) and the other for investment deposits[10] . The choice of the window would be left to the

(9) See, for example, **Uzair** (1982), **Siddiqi** (1982, 1983), and **Chapra** (1985).

(10) This model is due to **Khan** (1986), see also **Khan** and **Mirakhor** (1989) and **Mirakhor** and **Zaidi** (1991).

depositors. This model requires banks to maintain 100 percent reserves against demand deposits, but stipulates no reserve requirement for the second window. This is based on the presumption that the money deposited as demand deposits are placed as Amana (safe keeping) and must be backed by 100 percent reserves, because these balances belonging to the depositors do not carry with them the innate right for the bank to use them as the basis for money creation through the fractional reserves process(11). Money deposited in investment accounts, on the other hand, is placed with the depositor's full knowledge that his deposits will be invested in risk-bearing projects, and therefore no guarantee of value or return is justified. In this model, too, the depositors may be charged a service fee for the provision of the safekeeping services performed by the bank. Provisions of interest-free loans to those who may need them, according to this model, will have to be limited to the funds deposited in such accounts by the depositors who may consider that the banks may be better equipped for this purpose. No portion of the deposits in investment accounts will be required to be used for this purpose.

The second model corresponds closely to the understanding that the early Muslims had of banking and investment practices, which by the mid-eighth century A.D. had developed a variety of credit institutions and instruments such as checks (*Ruq'a*), document of debt transfer (*Hawala*), and bills of exchange (*Suftaja*). Banking services, including currency exchange transactions, were performed by the merchant bankers, and investment activities through profit-sharing were accomplished through direct finance. As it was understood by Muslim scholars and merchant bankers alike, a contract based on Islamic Law severely prohibited the use to which "the depository could put the deposited property" (Udovitch 1975, 19). This is contrary to the concept of deposits in the West, "where the depository not only kept the goods but also had a right to use them for a variety of commercial purposes" (Udovitch 1975, 19). The explanation of the position of the Islamic practices is straightforward. As mentioned earlier, the Islamic conception of property rights imposes severe restrictions on the use of someone's property placed in another's safe keeping. The notion of property rights is crucial to an understanding of the economic system of Islam and many of its rules of economic behavior can be explained in light of this notion. In fact the strong position that the early Muslim scholars took on such questions as the stability of the value of the currency, stability of prices, and debasement of

(11) The economic rationale for the 100 percent reserve requirement is contained in **Khan** (1986). Briefly, to minimize the possibility of banking crises and to protect the payments mechanism, there should be full backing of bank liabilities that have fixed nominal values, i.e., demand deposits. The value of investment deposits. on the other hand, would be directly linked to the value of the bank's assets, and a reserve requirement would not be necessary.

currency can be explained as a result of their understanding of the Islamic concepts of property rights and of economic justice.(12) Whenever an action leads to the creation of instantaneous property rights claims for some members of the community on the property of the rest, without commensurate additional property being created to legitimize these claims, such actions are prohibited by Islam.

Both models consider the losses incurred as a result of investment activities by the banks as being reflected in the depreciation of the value of the depositor's wealth. However, both models see the probability of losses minimized through diversification of banks' investment portfolios and careful project selection, monitoring, and control. Clearly, the risk to depositors is less in the second model than in the first and is only applicable to investment deposits. But even so, the proponents of the first model have suggested loss-compensating balances built up by the bank out of its earnings in good times and deposit insurance schemes launched in cooperation with the central bank as a means by which such risks can be reduced. Additionally, and perhaps more importantly, what will mitigate against risks in the Islamic system is the fact that banks have direct and indirect control on the behavior of the agent-entrepreneur via explicit and implicit contracts. Banks can exert control through both the formal terms of their contract and, as conventional banks, through an implicit reward-punishment system in the sense of refusing further credit or the blacklisting of the agent-entrepreneur, and to the extent that the reputation of firms and that of its managers are important, they could be a strong deterrent to irresponsible behavior. The nature of the contract permits the banks to focus their attention on the probability of default and expected rate of return, and on the control of the firms in which they invest.

(2) Primary, secondary and money markets

It may be argued that with the division of the liability side of the balance sheet of the banking system into investment and demand deposits, wealth owners would channel only part of their savings into accumulation of physical capital and the remainder would be allocated to the accumulation of idle balances. This argument would require assumptions regarding the responsiveness of wealth owners to the rate of return, as well as an assumption that money and physical capital are viewed as competing assets. Although the first assumption's validity is an empirical question, the second assumption would not be consistent with the Islamic rule against hoarding and accumulation of money (i.e., keeping money idle without corresponding transactions demand for it). Moreover, these balances not only cannot earn any return, and in this sense are barren, but also, if kept for a full year, they become subject to a

(12) See **Chapra** (1985).

compulsory levy of 2.5 percent (*Zakat*), thus imposing relatively high opportunity costs on idle balances. There is, however, a possibility that since the alternative to idle balances is risk-bearing deposits it may make it worthwhile for the depositors to maintain a considerable portion of their savings in the form of either money or demand deposit balances, particularly if the conditions are conducive to the existence of a strong precautionary motive for liquidity purposes. There would therefore be an incentive in an Islamic system to develop short-term financial assets that would as sure the depositors of a sufficient degree of liquidity and security to allow them less reliance on money and demand deposits.

(a) Primary markets

Perhaps the most challenging issue facing the process of the implementation of the Islamic financial system is the development of risk instruments that can provide the investors a sufficient degree of liquidity, security, and profitability to encourage their holding. Proposals along this line rely on the development of instruments corresponding and parallel to the permissible forms of transactions. These include such instruments as *Mudarabah* and *Musharakah* certificates, short-term profit-sharing certificates, and leasing certificates (Al-Jahri 1987). Additionally, proposals have been made for development of specific instruments issued by the central bank as well as by the government, particularly relating to its specific investment projects. Generally, any instrument linked directly to real assets, and whose rate of return is variable and tied to the performance of the asset, is considered acceptable.

Islamic scholars have pointed out the necessity, desirability and permissibility of the existence of a stock market in the financial system of Islam in which the primary capital instruments such as corporate stocks can be transacted(13). The conditions of the operations of these markets in accordance with the rules of Islamic law are much like those that must prevail in markets for goods and services(14). Given that a proper securities underwriting function is performed by some institutions in the system, for example banks, the firm could then directly raise the funds for their investment projects in the stock market which would provide them a second source of funding other than the banks.

A stock market operating strictly in accordance with Islamic rules is envisioned to be one in which the disposition of investable funds is made based on the profit prospects of the enterprises, in which relative profit rates reflect

(13) See **Metwally** (1984).

(14) For a discussion of the rules of market behavior in an Islamic economy see **Khan** and **Mirakhor** (1993).

efficiencies between firms and in which profit rates (as signals coming from the goods market) are not distorted by market imperfections. Such a market might be expected to allocate invest-able funds strictly in accordance with expected investment yields, i.e., resources would be allocated to finance higher return projects. Stock markets would also be capable of improving the allocation of savings by accumulating and disseminating vital information in order to facilitate comparisons of all available opportunities, thus reflecting the general efficiency in resource allocation expected from a system that operates primarily on the basis of the productivity of investment.

(b) Secondary markets

The development of a secondary market is also essential to the development of a primary market(15). All savers, to some degree or another, have a liquidity preference. This liquidity preference although perhaps to a different extent and magnitude, will exist in an Islamic system as in any other system. To the extent that savers can, if necessary, sell securities quickly and at low cost, they will be more willing to devote a higher portion of their savings to long-term instruments than they would otherwise. Since the probability is high that primary securities in the Islamic system would be tied to the projects and management of particular enterprises, there are various risks that must enter into the portfolio decisions of the savers. The risks relating to the earning power of the firm and risk of its default are examples of such risks.

There is another type of risk that is closely tied to the secondary market for a given security issued by firms. If two securities are identical in all respects except that one has a well-organized secondary market while the other does not, an investor in the latter case runs the risk of being able to liquidate his security holdings only at a depressed price, as compared with the prices offered for the security with a market. Moreover, the degree of this marketability risk is directly related to factors such as the extent of the knowledge of the participants as well as the number of traders in the market, which determine the depth and the resilience of the secondary markets.

In an Islamic system, perhaps more than in any other, both the primary and secondary markets require the active support of the government and the central bank, not only in their initial development and promotion, but also in their supervision and control, in order to assure their compliance with the rules of the *Shari'ah*. Particularly in the case of the secondary markets, the traders and the

(15) The major difference between a secondary market and a stock market is that in the former only primary financial instruments rather than claims corresponding to real assets will be trided. of course, to principle an efficient stock market that can handle financial instruments could easily serve as a secondary market as well.

market makers will need the support and supervision of central banks if these markets are to operate efficiently. For secondary markets to be able to transform an asset into a reliable source of cash for an economic unit whenever needed, it must be a dealer market in which there will be a set of position takers who will trade significant amounts of as sets. In the traditional interest-based system, these position takers are financed by borrowings from banks, financial intermediaries, and other private cash sources. Since in the Islamic system refinancing on the basis of debt is not permitted, reliable and adequate sources of funds must be provided by the central bank. Arrangements will need to be made through which the central bank can, at least partially, finance and fully supervise secondary markets.

(c) Money markets

In a traditional interest-based system, the money market becomes a means by which financial institutions can adjust their balance sheet and finance positions in these markets. Short-run cash positions, that exist as a result of imperfect synchronization in the payment period, become the essential requirement for the presence of money markets. A money market, in this case, becomes a source of temporary financing and an abode of excess liquidity in which transactions are mainly portfolio adjustments and no planned or recently-achieved savings need to be involved.

On the one hand, the liabilities that an economic unit emits are closely geared to the characteristics of its investment in an Islamic financial system. On the other hand, the liabilities that financial intermediaries emit are expected to have nearly the same distribution of possible values as the assets they acquire. Hence, given that debt instruments cannot exist, money market activities will have different characteristics than their counterpart in the interest-based system. As stated earlier, the existence of a poor money market combined with a poor structure of financial intermediation leads to a situation where money becomes more important as a repository of wealth than in a situation with more active financial intermediation. The existence of broad, deep, and resilient markets in which financial intermediary assets or liabilities can be negotiated is a necessary ingredient. Additionally, to the extent that money markets help lower the income elasticity of demand for cash and help investment projects to be financed, their importance in the Islamic financial system cannot be overlooked. Even in this system money markets will enable financial units to be safely illiquid, provided they have assets which are eligible for this market. In this system, too, the basic raw material for the money market is the existence of pools of excess liquidity. One principal activity of money markets in this system is expected to be arrangements by which the surplus funds of one financial institution are channeled into profit-sharing projects of another. It is conceivable that some

banks may, at times, have excess funds available but no assets, or at least assets attractive enough in terms of their risk-return characteristics, on which they can take a position. But at the same time, there will be banks with insufficient financial resources to allow them to fund all available opportunities, or with investment opportunities requiring commitments of what the banks may consider excessive funds in order for them to take a position and for which they may prefer risk-sharing with surplus banks. In this case the development of an interbank funds market is clearly necessary. It may also be possible for some banks to refinance a certain position that they have taken by agreeing to share their prospective profits in these positions with other banks in the interbank funds market. Finally, since the investment portfolios of banks will contain equity positions of various maturities corresponding to the gestation periods of the respective projects, it is also possible that a subset of their asset portfolios composed of equity shares can be offered in the money market in exchange for liquidity.

Here too, effective and viable money markets in the Islamic system will require active support and participation by the government and the central bank, particularly in times when investment opportunities and the risk-return composition of projects and shortages of liquidity in the banking system may require a lender of last resort. Such money markets must be flexible enough to handle cash shortage periods for individuals banks based on some form of profit-sharing arrangement. The challenge for money markets, as well as for the secondary markets, in an Islamic financial system is the development of instruments that satisfy liquidity, security and profitability needs of the markets while at the same time assure compliance with the rules of the *Shari'ah*, i.e., provision of uncertain and variable rates of return on instruments with corresponding real asset backing.

IV. Monetary Policy and Central Banking

It is argued that the basic purpose of the state in an Islamic society is the preservation and strengthening of Islam through implementation and observance of the rules of the *Shari'ah* (AI-Sadr 1979). Hence, the role of the state in an Islamic society depends on the extent to which the behavior of individuals within the society correspond to the rules of the *Shari'ah*. At the same time, the preservation and strengthening of Islam requires an expanding economy, since poverty and destitution are considered as the greatest threat to its preservation.

It is a fundamental belief among Muslims that a healthy and growing economy is assured only if individuals and the society operate in accordance with the ordinance of Islam; and that it is the noncompliance with these rules which leads to economic problems. Although the degree of interference of the

state in economic life is determined by compliance of society with these rules, Islam also imposes constraints on the degree to which the Islamic state may set goals and priorities or impose patterns of spending, taxation or other limitations upon the members of the society. Further more, the extent of operations of the economy and its units in compliance with the rules of the *Shari'ah* is a function of the degree of internalization of the value system of Islam and the extent of the existence of institutions which guarantee a smooth functioning of economic behavior in accordance with Islamic rules. Recognition of the importance of the institutional structures that are conducive to rule compliance makes it clear that the state must assume a leadership role in providing the legal-institutional framework in accordance with Islamic expectations in order that the economy can achieve its full potential. The legal and institutional setup which guarantees the structure of property rights and of contracts, for example, is necessary for the encouragement of investment. The understanding and internalization of Islamic rules regarding the rights of the poor in another's wealth, as another example, can reduce the extent of government's welfare role and thus its fiscal burden. In fact, in an Islamic system in which all necessary infrastructures are available and where all individuals have understood and internalized Islamic rules and values and behave accordingly, the role of the state in the economy is one of supervision and no more. But, of course, in the initial phases of implementation of the Islamic system, the state's burden is one of provision of the necessary institutional framework for making the Islamic rules of behavior operational.

The chief role of monetary policy and of central banking in an Islamic system is to take the lead in evolving financial institutions and instruments that facilitate efficient mobilization of savings and allocation of resources consistent with the economic development objectives of the Islamic economy. The central bank, in particular, must initiate and foster the development of primary, secondary, and money markets. Mere adoption of Islamic rules of finance will not necessarily create the impetus for financial and economic development where the shallowness of financial markets and lack of attractive financial instruments have created impediments to the saving-investment nexus and for the process of financial intermediation.

There are reasons to believe that the relationship between financial deepening and real growth of the economy would be strong in an Islamic economy where profit sharing can be expected to have significant positive influence on the saving-investment process. The positive relationship between expansion of financial markets and financial development on the one hand, and between financial development and economic development on the other, necessitates an active participation by the monetary authorities in evolving the financial infrastructure in the economy. For example, monetization of

transactions in rural areas requires a wider geographical and functional penetration of the banking system. Through provision of such facilities and expansion of financial markets the central bank can both lower the cost and increase the availability of credit in the economy. Moreover, the prohibition against interest provides natural opportunities for the integration of financial markets. The monetary authorities, through the central bank, can take steps to foster competition between organized and unorganized markets on the basis of profit-sharing and rates-of-return in order to enhance the process of integration.

The extension and enforcement of Islamic regulations concerning contracts and property rights to financial and capital markets is needed to reduce uncertainties arising from the present structure of rights that tend to discourage private investment. Such actions would include imposition of legal sanctions on irresponsible behavior on the part of agent-entrepreneurs to the extent necessary to reduce moral hazard problems and to encourage lending on the basis of viability and profitability of investment projects rather than solvency, creditworthiness, or collateral strength of entrepreneurs. The reduction of uncertainty in contract and property rights structure is necessary, particularly in the early stages of adoption of the Islamic financial system, because prohibition of interest by itself creates a moral hazard problem embedded in principal-agent type contracts which lead to an increasing cost of monitoring (Khan 1987). Uncertainty in contract and property rights, combined with heavy costs, at least initially, of project appraisal, evaluation and monitoring may lead to a significant reduction in investment. In fact, it can be argued that the risk of adoption of an Islamic financial system, particularly in the initial stages, is not lower savings but lower investment, if the Islamic rules regarding contracts and property rights are not enforced. In the absence of legal protection, risk-averting bankers and savers may simply refuse to provide funds on the basis of profit-sharing arrangements. Alternatively, principals and agents may engage in the type of contrived contractual relationships that maybe Islamic only in appearance. The enforcement of Islamic rules regarding contracts and property rights would increase public confidence in capital markets, financial institutions, and in the process of financial intermediation. It is only then that the banks and other financial institutions can, through their direct involvement in profit-sharing with the real sector, become instruments of industrialization and development. This way the whole investment process would add to efficiency as real entrepreneurs would utilize savings rather than those whose only claim to enterprise is based on the ownership of savings. The increase in efficiency will in turn increase profits and a higher rate of return to savers.

The mobilization and financialization of personal savings and diversification of asset preference of households will require a more variable pattern of financial assets than exist in many Muslim countries today. It should

be a function of the government to initiate and evolve new financial institutions and instruments which could satisfy and further stimulate demand for assets in the economy, and expose investment and savings to the price mechanism via financial intermediation, and thus increase the overall efficiency of the saving-investment process.

Performance of the above functions by the monetary authorities and the central bank should create sufficient inducements for financial and economic development in an Islamic economy. Additionally, however, Muslim scholars have stressed the need for policies to maintain the stability of the value of currency, and envisage an activist role for monetary policy towards this end; as well as in promoting full employment without inflation and achievement of an optimal rate of growth for the Islamic economy (Chapra 1985). They expect that these objectives can be achieved through the instrumentality of the central bank, via the utilization of appropriate monetary and credit policies.

Much of the effectiveness of monetary policy in an Islamic economy will depend on which of the two types of principal models of Islamic banking discussed in Section III will be adopted. Those favoring the adoption of the second model argue that its 100 percent reserve requirement feature would make the system more efficient because: (a) whereas any switch from high-powered money to deposit money and vice versa in the fractional reserve system creates an inherent instability, such a switch in the 100 percent reserve system will only change the composition of money, thus leaving the total supply constant; (b) in a fractional reserve system it is more costly to maintain or to increase the existing stock of real balances as a result of changes in money supply arising from deposit creation or from substituting deposit and cash; and (c) a 100 percent reserve allows the benefits of money creation to accrue to the whole society rather than a segment of it. Additionally, a property rights argument was also advanced, within the context of Islamic framework, in favor of a 100 percent reserve system. It is argued that such a system, by providing a stable financial system, contributes to the stability of the economy as a whole. By eliminating any difference between the monetary base and the money supply, thus making the money multiplier equal to unity, the 100 percent reserve forces the banking system to be fully liquid (Siddiqi 1983). The second model would preclude the central bank from using variation in the reserve ratios as a policy instrument (Khan 1986). The use of the reserve ratios as a policy instrument remains available to the authorities if the first model of Islamic banking is adopted.

The usual regulation, supervision and control functions of the central bank can be expected to be continued in the Islamic system. A further opportunity for enhancement of the control of the banking system is available to the central

bank through its purchase of equity shares of not only the banks but also of other financial institutions. The necessity of the leadership role of the central bank in initiating and evolving primary, secondary and money markets has already been discussed. Through performance of these functions and its lender-of-last-resort role, the central bank can exert greater influence in the financial system. Moreover, opportunities will exist for the central bank to directly invest in the real sector on a profit-sharing basis, as well as to take equity positions in joint ventures along with other banks. The opportunity for the central bank to buy and sell securities in the financial markets may enable it to influence financial resource allocation further if that becomes necessary or desirable.

Furthermore, the suggestion has been made that the central bank can regulate profit-sharing ratios between banks and enterprises on the one hand and the banks and their depositors on the other (Siddiqi 1983). Besides the fact that the adoption of this suggestion may have resource allocation implications, it represents an imposition of unwarranted limitations on the freedom of contract and will have property rights consequences, particularly when it is remembered that according to the rules of the *Shari'ah*, the partners are responsible for losses to the extent of their financial involvement. The problem of inequity is clearly evident if. for example, the profit sharing rules imposed by the central bank require a lower return from profits than from the share in losses.

V. Conclusions

The role of the state in an Islamic economy is first to ensure that everyone has equal access to natural resources and means of livelihood. Second, to ensure that each individual has equal opportunity, including education, skills, and technology, to utilize these resources. Third, to ensure that markets are free to function with only essential supervision. Fourth, to ensure that transfer takes place from those more able to those less able in accordance with the rules of the *Shari'ah*. And, finally, that distributive justice is ensured for the next generation through the implementation of the laws of inheritance. The state is then empowered to design any specific economic policy that is required in order to guarantee the attainment of these objectives. Monetary management and policy in an Islamic economy has to thus be designed with the overall aims of the Islamic society and the duties of the state in mind.

Monetary policy of an Islamic state takes place in a framework in which all conventional tools normally available in a modern economy are at the disposal of the monetary authorities with the exception of the discount rate and other policy tools that involve an interest rate. All other tools, namely open market operations (where equity shares rather than bonds are traded) and credit policies, can be as effective in an Islamic system as they are in the conventional

Western system. Additionally, the authorities in an Islamic system can utilize reserve requirements and profit-sharing ratios to achieve changes in the stocks of money and credit, although there is still some dispute among Muslim scholars on the appropriateness of these particular measures.

The principal goal of monetary policy is to ensure macroeconomic stability, characterized in the main by price-level stability and a viable balance of payments position. The establishment of a stable macroeconomic environment is a prerequisite for increased savings, investment, and foreign capital inflows - all of which are central to the growth process. Basically, without macroeconomic stability economic growth can falter and not be sustained. Furthermore, without broad-based economic growth the basic structural and social transformations which make up the process of Islamic development will not occur, and the other objectives of the Islamic society, such as a more equitable distribution of resources and income, providing useful employment, improving living standards and the quality of life, and the alleviation of poverty, are unlikely to be met.

While an Islamic financial system appears viable in theory, as well as to some extent in practice, significant obstacles and problems remain. Some of these include the following:

· Although it has been relatively easy to create a system in which deposits do not pay interest, serious difficulties have been encountered in introducing true profit- sharing arrangements on the lending side. So far it has not been possible to develop a system of contracts between borrowers and lenders that would keep the costs of monitoring at a reasonable level and eliminate the moral hazard problem when the lender and the investor have asymmetric information on the profitability of the investment. As a result, Islamic banks have relied primarily on mark-up and leasing operations, and most of the lending has been concentrated in short-term trade-related assets.

· Islamic banks are also at a disadvantage when it comes to short-term financial instruments. At present, for example, there is no equivalent of an interbank market in an Islamic system where banks could place overnight funds or borrow to satisfy temporary liquidity needs. There is clearly a pressing need to utilize experts in "financial engineering" to create instruments that would satisfy liquidity requirements and yet be consistent with Islamic rules.

· There is also as yet no acceptable way for governments to finance fiscal deficits other that through money creation, which in turn may be at variance with the objective of macroeconomic stability. While many suggestions have

been made in this area, there remains considerable controversy on how this problem can be resolved.

· Another important issue facing Islamic banks is how to organize their relationships with foreign banks, and more generally, how to conduct international operations. This is, of course, an issue whose solution requires the creation of financial instruments which would be simultaneously consistent with Islamic principles and acceptable to interest-based financial institutions, including foreign banks.

The Islamic monetary system is evolving and solutions to the types of problems listed above will undoubtedly lead to further progress in the development of a full fledged system that can undertake a whole range of operations efficiently and effectively. Clearly this is a long agenda requiring considerable research and experimentation. At present such research is going hand-in-hand with practice, and the end result should be a financial system that would be efficient, and more importantly, support the basic objectives of Islam.

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Access to Finance and Collaterals: Islamic Versus Western Banking*

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Introduction

With the increasing demand for the growth of more labor-intensive activities in developing countries, a great deal of attention is being given to the potential of small scale enterprises as an alternative to larger more capital-intensive firms, However, it has been widely confirmed that, under the present Western Banking system. small manufacturers and farmers, as compared with larger production units, face much greater difficulties in obtaining short term, medium or long term credit through institutional channels, The major constraint to access to finance is the lack of tangible collaterals.

In the long run this banking policy will further widen the already large income gap between upper and lower classes of the society.

By taking intangible assets, such as education, skills, and experience, as collateral as tangible assets, Islamic Banking breaks this discriminative barrier and offers an equal opportunity to all potential producers to improve their well-being and that of the society.

The purpose of this paper is (1) to show, through a simple economic model, the long run impact of Western Banking system on income distribution, and (2) to indicate that, by the nature of its operations, Islamic Banking is more likely to contribute towards the emergence of a just and growth-inducing economic development. In section two we will briefly discuss the lending attitude of Western Banking institutions and its impact on small enterprises/farms. In section three we will present the economic model used to show the long-run impact of such policy on income distribution. Section four will highlight the nature of Islamic Banking, and in section five we will conclude the paper by stating the relevant findings of the study.

Poverty and Access to Finance

It has been widely claimed by development economists that in developing countries, a strong focus on small firms in policy and resource allocation is a priority (World Bank 1980, 1983, 1986, IBRD 1977). However, the lack of special lending institutions adapted to small borrower conditions does not help statements translate into effective actions (Furness 1975, Harlander 1977).

From the viewpoint of financing institutions, small enterprises are less attractive as borrowers than larger ones because of the smaller profit potential for the lenders and the high risk involved through the lack of equity and tangible collaterals.

The profit potential in lending to small scale enterprises is less than in lending to larger ones because of higher lending costs, greater risk, and the fact that small enterprises typically do not make significant use of the other revenue-yielding services offered by financial institutions such as letters of credit, guarantees and so on. Moreover, lending to a large number of heterogeneous and widely dispersed enterprises is intrinsically more demanding of time and effort than dealing with a smaller number of more established and more familiar firms. There are basic problems of contact and communication: in poor countries, many enterprises, especially small firms, are not conveniently accessible. Bank personnel tend to be separated from small entrepreneurs and farmers by differences in language, literacy, and culture. Even without such barriers, the personnel of financial institutions are likely to find new small borrowers unfamiliar with documentation and accounting conventions. Moreover, the small businessman's fear of authority often exacerbates a mutual distrust between him and the banker, making it more difficult to build the bridge between financial needs and access to them.

Concerning the issue of tangible collaterals and their requisite character in access to finance, it has been observed that the existing banking institutions prefer to grant credit facilities to those clients who apart from enjoying a good business reputation are also able to offer sufficient collateral security. This may be in the form of personal property, goods and chattel merchandise, stock-in-trade ... etc. Although this practice seems quite reasonable from the risk point of view, the non-property holders are unjustifiably deprived of obtaining the necessary financial accommodation. The existing practice of demanding collaterals for the purpose of granting financial accommodation stems from the fact that Western Banking institutions are primarily concerned with the profitability rather than the social imperatives. The imposition of tangible collaterals as a necessary condition left small businessmen and farmers trapped in a vicious circle: they cannot get access to finance unless they offer sufficient collaterals, they cannot possess tangible collaterals unless they build a strong productive base, they cannot improve their productive base unless they get access to finance.

This conditional access to finance tends to favor those entrepreneurs/ farmers who are already better-off. The net outcome of such phenomenon would be a further deterioration of the income distribution which would end up highly skewed towards the wealthier portion of the society. We will illustrate this phenomenon with the following model.

Description of the Model

Variables of the model

Y = value of output
C = consumption
S = savings
I = investment
B = borrowed capital
W = value of wealth
E = cumulative effect of initial wealth endowment
R = inequality index

Subscripts t, u, l stand for time, upper class, and lower class respectively.

Specification of the model

$Y_t = a_1 + a_2 I_{t-1}$ (1)
$C_t = c_1 + c_2 Y_t$ (2)
$S_t = Y_t - C_t$ (3)
$I_t = S_t + B_t$ (4)
$B_t = b_1 W_t$ (5)
$W_t = w_1 + w_2 Y_t$ (6)

Equations (1)-(4) are clear by themselves. Equation (5) indicates that access to finance B_t is directly proportional to the amount of wealth processed by the borrower.

In equation (6), the value of output, Y is assumed to contribute linearly to the amount of wealth W. Note that equation (5) is of most interest to our analysis because it reflects the lending attitude of the Western Banking system. That is, access to finance is strictly dependent on tangible assets. Without loss of generality and in order to avoid cumbersome manipulations, the intercepts a_1, c_1, and w_1 will be suppressed throughout the substitution process. Substituting and arranging terms leads to:

$$Y_t = a_2^t (1 - c_2)^t Y_0 + \sum_{i=1}^{t} a_2^i (1 - c_2)^{i-1} b_1 W_{t-i} \qquad (7)$$

We can further isolate the term pertaining to the initial endowment of wealth W_0 and get:

$$Y_t = a_2^t (1-c_2)^t Y_0 + \sum_{i=1}^{t-1^0} a_2^i (1-c_2)^{i-1} b_1 W_{t-i} + a_2^t (1-c_2)^{t-1} b_1 W_0 \qquad (8)$$

The cumulative effect of initial endowment W_0, on output from period 1 to period t is clearly specified as follows:

$$E_t = a_2^t (1-c)_2^{t-1} b_1 W_0 + a_2^{t-1}(1-c_2)^{t-2} b_1 W_0 + .. + a_2 b_1 W_0 \qquad (9)$$

$$E_t = b_1 W_0 a_2 \sum_{i=0}^{t-1} a_2^i (1-c_2)^i \qquad (10)$$

let $A = a_2(1-c_2)$

$$E_t = b_1 W_0 a_2 \sum_{i-0}^{t-1} A^i \qquad (11)$$

using the identity:

$$1 + X + X^2 + ... X^{t-1} = (1-X^t)/(1-X) \qquad \text{for } X \neq 1$$
$$= t \qquad \text{for } X = 1$$

we get:

$$E_t = b_i W_0 a_2 \left[\left(1 - a_2^t (1-c_2)^t\right) / (1 - a_2(1-c_2)) \right] \qquad (12)$$

sine c_2 is the marginal propensity to consume, $(1-c_2)$ is less than one and E_t would depend on the value of a_2:

$$(1) \text{ if } a_2 < 1 \Rightarrow a_2(1-c_2) < 1$$
$$\text{as } t \to \infty, E_t \to (b_1 W_0 a_2)/(1 - a_2(1-c_2))$$

and since b_1, W_0, and a_2 are > 0 by definition, then E_t is > 0

(2) if $a_2 > 1$ we identify two cases:

$$* a_2(1-c_2) > 1 \quad E_t \to \infty \text{ as } t \to \infty$$
$$* a_2(1-c_2) < 1 \quad E_t \to (b_1 W_0 a_2)/(1 - a_2(1-c_2)) > 0 \text{ as } t \to \infty$$

let us now define the index of inequality between the income of the upper class and that of the lower class:

$$R = (b_1 a_2 W_{u0})/(1 - a_2(1-c_{2u}))/(b_1 a_2 W_{10})/(1 - a_2(1-c_{21}))$$
$$= W_{u0} / W_{10} \left[(1 - a_2(1-c_{21}))/(1 - a_2(1-c_{2u})) \right]$$

where W_{u0} and W_{l0} are the initial wealth endowments of the upper and the lower classes respectively, c_{2u} and c_{2l} their respective marginal propensities to consume.

Since c_{2u} is normally less than c_{2l}, we assume

$c_{21} = c_{2u} + h$ with $h > ()$

then by simple substitution we get:

$$R = W_{u0}/W_{10}\left[\left(1 + a_2\ h / \left(1 - a_2\left(1 - c_{2u}\right)\right)\right)\right]$$

Hence, under the Western Banking system, income inequality between the upper and the lower cases would depend, among other things, on (1) the ratio of wealth endowments and (2) the consumption behavior of both classes (through the parameters h and c_{2u}.

The contribution of wealth discrepancy to the income inequality raises the fundamental question of whether intangible assets such as education, experience, and skills are less collateral than tangible assets. The answer depends very much on the banking system prevailing in the society, Islamic versus Western Banking systems.

Islamic Banking and Collaterals

Under the Islamic economic thrust for distributive justice, there is no provision that a financially privileged position could be used to allow continued asymmetric gains. Islamic Banking institutions are obliged to give priority to the needs of society and the common interest over individual profit and private interest. When the primary concern of the banking institution is not the maximization of profitability as such but rather the social imperatives, the tangibility of assets, as a requisite to access to finance loses its importance. Moreover, the granting of credit to an educated, yet financially poor person could be even more beneficial on both social justice and long run growth.

In order to understand the role of intangible assets in access to finance, it is essential to highlight the specific nature of Islamic Banking as opposed to the Western Banking.

Even though Islamic Law does not recognize corporations in the Western sense, companies are based mainly on partnership. The two methods that fully satisfy the requirements of the Islamic Law are *Mudarabah* and *Musharakah* (Khan 1986, Khurshid 1980).

The *Mudarabah* contract is formally a silent partnership with a clear distinction between the capital provider and the entrepreneur who controls the management of the project. The bank provides the entrepreneur with funds to be

invested in a productive economic activity in return for a predetermined share of the profits earned. Financial losses are borne exclusively by the lender. The borrower, as such, loses only the time and effort invested in the venture. This arrangement, therefore, effectively places human capital on par with financial capital.

The *Musharakah* contract is formally a limited partnership, whereby both the bank and the customer provide capital for a specific project. Losses are shared according to capital contribution.

Another form of Islamic Banking is the *Murabaha* contract. Here, the financial institution purchases raw materials, goods or equipment at cost and sells them to the client on cost-plus-negotiated margin basis. Other transactions are rental financing, whereby the bank acquires equipment or buildings and makes them available to the client on a straightforward rental basis. The client, however, has the possibility of acquiring ownership of the rental equipment or buildings by paying installments into a saving account.

The practice of the above operations clearly removes the long-practiced discrimination by the banking institutions against the non-propertied class in matters of financial accommodation. Moreover, the large number of fresh graduates in some Muslim countries (45% in Sudan, 50% in Tunisia and Egypt) who have found themselves deprived of their chances to improve their own well-being and that of the society that invested so much in their education, would further participate in and share the fruits of economic endeavors.

Unlike Western Banks, Islamic Banks are, by the very nature of their operations, directly affected by the performance of their clients' enterprises through the profit loss sharing process. As such, the promotion of these enterprises would be more successful when financial support is accompanied by technical assistance, managerial device, and the search for market outlets. This mutual involvement of Islamic financial institutions and entrepreneurs would enhance not only the operational impact of these institutions but also the integration among all members of the society, rich and poor classes, small and large producers, and rural and urban sectors.

Conclusion

We have tried to link in this paper the issue of income distribution to the nature of operations of the banking institutions. We showed that the common practice of Western Banking Institutions of granting credit facilities to those clients who are able to offer sufficient tangible collateral security, would further deteriorate the already uneven income distribution between upper and lower classes.

Because of the nature of its operations, Islamic Banking does offer a new dimension in lending. Since it is a system based on participatory financing, Islamic Banking would not depend on tangible collaterals as much as Western Banking. Such access to finance, not totally dependent on wealth endowment, would eventually lead to a better distribution of income and a larger improvement of the will-being of those who for none of their fault were endowed with niggardly resources.

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Stability In An Interest-Free Islamic Economy: A Note[*]

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I. Introduction

The strict prohibition of interest on loans constitutes one of the cardinal features of an Islamic economy. This prohibition, naturally, eliminates the loan market,[1] and implies that all business financing must be based on various forms of equity. It follows therefore that the Islamic economy is 'equity-based' in contrast to a capitalistic 'loan-based economy'.[2]

The question of the stability of an interest-free economy has recently engaged the attention of several Muslim economists. The general consensus[3] suggests that elimination of interest, especially when coupled with other institutional features of an Islamic economy, tends to enhance stability. However, a dissenting view has recently been offered by Dr. Naqvi (1981, pp. 127 and 136), who argues that an equity-based economic system is unstable. This note seeks to evaluate Dr. Naqvi's view and identify its inadequacies.

II. Methods of Examining Stability

The stability of any economic system may be evaluated either empirically or analytically. Empirically, the simulation of an econometric model of a given economy has been successfully tried to evaluate stability.[4] The results of such investigations, however, lack the generality of analytical results. Even if one demonstrates that the economy of country X has been - by some criterion - more stable than that of country Y, it need not be true that country X, or other countries following the same system, will be more stable during other periods of time, or under different historical circumstances. Furthermore, this approach

(1) Some interest-free loans would still remain, essentially as a form of charity, and would have to be allocated among the needy by non-price mechanisms (Zarqa 1982, p. 46).

(2) See **Chapra** (1982, p. 152), and **Al-Jarhi** (1981, pp. 8, 46-48).

(3) See **Chapra** (1981a, p. 25), **Ariff** (1981, pp. 13, 299), **Akram Khan** (1982. pp. 238-251) and **Siddiqi** (1983a. pp. 86-88, 111-113). No attempt will be made here to summarize these views.

(4) One pioneering effort is that of **Adelman** and **Adelman** (1959) who used the Klein-Goldberger model to see whether it produces, by simulation, fluctuations similar to those actually observed in the U.S. economy.

cannot be employed in the present case since a full-fledged Islamic economic system does not yet exist.

Analytical methods of examining stability have also been developed by economists and have provided important general results.(5) Such methods have not yet been applied to study an Islamic economy and have in any case their own limitations. One such limitation is the fact that theoretically rigorous conclusions on stability usually require knowledge not only of algebraic signs but also of numerical magnitudes of the relevant economic parameters.(6) More importantly, stability is quite responsive to government action and regulations, hence definitive analysis requires the specification of several institutional details. All things considered, there appears to be room for offering some tentative remarks on the stability of an equity-based Islamic economy.

III. Mainstream Thinking

There are at least four reasons(7) why an interest-free Islamic system may be expected to promote economic stability.

Investment

Many economists seem to agree that debt financing is a major factor destabilising investment in capitalist economies. In the words of Joan Robinson (1977, p. 1331): "When firms can raise outside finance direct from rentiers or through the banks, the system is liable to instability". This point has also been elaborated upon by Minsky (1977, pp. 301-307), whose position may be summurised as follows. Minsky maintains that a modern capitalist economy is based on a pervasive system of short-term financing of long term capital assets. That is, cash flows expected from such assets extended longer than the terms of debt contracted to acquire them. Under such a system of financing, debt is repaid when due by issuance of new debt, i.e. refinancing is an on-going process. When expectations about future cash-flows and interest rates are fulfilled, refinancing is easily achieved, and contractual interest obligations are easily met from cash flows generated by the assets. But if expectations take a

(5) The extensive economic literature on the business cycle is focused on this question. **A** classic example is Samuelson's (1939) analysis of the fluctuations arising out of the interaction of the multiplier and accelerator. New powerful techniques are now available to study analytically the stability of large multi-equation systems: see Murata (1975).

(6) This conclusion is equally true for stability investigations of single markets **as** well as the macro- economy. See, for instance, **Henderson** and **Quandt** (1958, pp. 109-123) and Samuelson (1939).

(7) They are not entirely independent. but it is convenient to separate them under four headings.

wrong turn (either interest rates go up or current cash flows go down) refinancing becomes difficult. Attempts then to acquire cash by selling assets bring asset values to a level below their past prices, or even below their current cost of reproduction. This brings investment to a halt, and brings down income and employment.

In view of the above analysis, one can better appreciate Henry Simon's view that "the danger of economic instability would be minimised if no resort were made to borrowing, particularly short term borrowing, and if all investments were held in the form of equity".(8)

In a similar vein, G.L. Bach (1977, p. 182) has argued regarding the stock market that, ". . . if rising stock prices have been heavily financed by borrowed money, a downturn in the market may precipitate a major collapse in stock prices as lenders call for cash, and may place serious financial pressure on banks and other lenders. A high market based on credit is thus far more vulnerable than a "cash" market, and is more likely to be a cyclically destabilizing force"

Speculation

The speculative demand for money, which is one source of instability in the Keynesian system, would be significantly reduced in an Islamic economy. For, on the one hand, the abolition of interest would do away with speculation on interest-bearing assets. Levying of Zakat, on the other hand, would discourage holding cash balances "in excess of transactions and precautionary needs." (Chapra, 1981b, p.10)(9) Furthermore, the force of Islam's moral injunction against hoarding should not be underrated.

Commodity speculation also would be significantly reduced in an Islamic economy. This is because *some* kinds of speculation are prohibited.(10) Furthermore, interest bearing loans would no longer be available to fuel cumulative speculation. This is quite significant, for speculators would be

(8) **Quoted** in **Chapra** (1981 p. 25).

(9) [edited and corrected by the author Dec.2008]. What discourages hoarding is the fact that *Zakat* rate is higher on monetary assets (unanimously zakatable at 2.5 per cent per annum) as compared to many other assets which are zakatable at rates ranging from zero to 2.5% according to different Islamic juristic opinions. For details see **Al-Qaradawi** (1980, Vol, 1, pp. 446-486).

(10) A brief note on permissible vs. proscribed speculation is given by **Zarqa** (1981). But the range of juristic opinion on speculation is rather wide. M.A. Khan's (1982, pp. 240-242, 247-248), insightful and terse notes probably represent the more restrictive views in that range.

limited to their own funds - no funds would be forthcoming to them on profit-sharing basis, unless the suppliers of such funds themselves wanted to speculate. Under interest financing, in contrast, even non-speculators when assured of a suitable collateral have the incentive to lend money to speculators. This is observed in international and domestic speculative booms.

Corporate Finance

Several of the above views gain further support at the micro level of the firm. It is well established in corporate finance that an increase in debt-financing (as opposed to equity-financing) of a firm increases its risk of insolvency and magnifies the relative fluctuations in its earnings (net of interest).(11) Firms that have higher debt-equity ratio are more likely to face financial collapse during cyclical down-turns because their fixed interest payments must still be met in the short run.(12) All equity-based firms, to be sure, must also generate 'normal' profits for their owners, but need do so over a number of years rather than every single year. The generation of 'normal' profits, in other words, does not impose financial risks on the firm as does the generation of interest payments.

International Finance

If we consider the international economy, it is often observed that "hot money" movements are a destabilizing factor, taking place (among other things)

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(11) One should note a basic mathematical reason why fixed debt repayments must increase *relative fluctuations* in net earnings of a firm. Such fluctuations are commonly measured by the coefficient of variation, defined as the ratio of the standard deviation to the mean. It is a unit-free number that is readily comparable among different distributions.
Let R_t be net earnings in year t for a debt-free firm. Let the mean of R_t for a given number of years be $\bar{R}$, with standard deviation S, and variance $S^2 = VAR(R)$. Let the firm incur a debt whose fixed service charge for each year is c, resulting in a new net earnings stream: $R'_t = R_t - c.$ The subtraction/addition of a constant does not affect the variance of the stream which is still S^2. But the *mean* of the new stream is smaller, $\bar{R}' = (\bar{R} - c) < \bar{R}$, hence the variance-to-mean ratio (VMR) = VAR (R)/$\bar{R}$ must become larger :
[VAR (R)/ ($\bar{R}$ -c)] > [VAR (R)/ $\bar{R}$].
Multiply this inequality throughout by (1/S) > 0, to get the corresponding inequality for the coefficient of variation of the net earnings after debt :
[S/ ($\bar{R}$ -c)] >[S/ ($\bar{R}$)]
Thus , relative fluctuations must become larger after debt.

(12) See **Leibling** (1980, p. 78) and **Chapra** (1981a).

in response to minor changes in interest rate differentials. The same cannot be said about profit rate differentials, as equity participation more often than not entails longer-term commitments that cannot be profitably undone in response to minor or transient changes in rates of profit. Hence, equity financing is intrinsically more stable than one based on interest.

IV. Another View

Dr. Naqvi (1981, p.127) is of the view that a wholly equity-based system "will be highly unstable".(13) This is because equity-financing, in contrast to interest-financing makes the return on investment "a function of business conditions in general and of the efficiency with which the enterprise is being run. Hence an element of uncertainty is introduced into the investor's expectations. Hence, to hedge against the probability of a loss, ways and means must be found, through some kind of deposit insurance scheme, to guarantee ... the normal value of deposits. [Otherwise] ... not only the banking system, but the entire economy will become highly unstable". (Naqvi, p. 136).

We shall take up now the main points in Naqvi's argument. The uncertainties facing any real investment (whether common to all business or specific to the given enterprise) are there regardless of how it is financed.(14) Equity financing does not change the level of uncertainty, it only *redistributes* the consequences of uncertainty over all parties to a business. Debt-financing, in contrast, relieves the financier (misnamed "investor" in the above quotation) from uncertainty by shifting it on to the real investor (equity holder) who then alone bears the entire risk of the enterprise.

If any definite conclusion seems warranted, it would be opposite to Naqvi's. Equity financing, by spreading the same risk over more heads, would promote stability. Each party can absorb its modest share of a loss without significantly upsetting its normal activities or defaulting on its obligations, hence no panic reactions are generated among other business units.

Turning now to deposit insurance, we note that the desirability of some kind of such insurance has been acknowledged; it has in fact been advocated on

(l3) In taking this stand. **Naqvi** is quite explicit that he is not questioning the desirability of eliminating interest, but only calling attention to what he thinks is one potential trouble spot in global equity financing.

(l4) The financial risk of insolvency increases with debt, even though business risk, as expressed by fluctuations in earnings, stays the same. (We are using the terms: risk and uncertainty interchangeably in this paper).

equity and other grounds by some prominent Muslim economists.[15] But deposit insurance has little to do with interest *vs.* equity financing. Rather, it has to do with fractional reserve banking system which always faces the risk of a panicky "run" on the banks - with many depositors asking to exchange their deposits for cash on short notice. In the U.S.A., for instance, the crucial factors that helped reduce the instability of laissez-faire banking and forestall financial panics were: (a) the regulation of activities and stipulation of minimum size for banks; (b) the establishment of a Central Bank with sufficient powers to stem collapse of the banking system; and (c) the government insurance of bank deposits.[16] Before such reforms were introduced, according to Samuelson (1976, p. 292), "the American history of bank failures and losses to depositors used to be a grievous one . . . since establishment of the FDIC (Federal Deposit Insurance Corporation) a bank failure has become a rare . . . event".

Another advantage of interest-financing, noted by Naqvi (1981, p. 136), is that: "the 'shock-absorbing' characteristics of the present limited-liability principle, on which the modern banking system rests, will be lost under the proposed profit-sharing (equity-financing) system. This is a big loss . . .". He adds: "Interest-bearing debentures signify the principle of limited liability, since the holders of debentures are not responsible if a firm goes into liquidation". (p. 111, n. 5).[17]

Naqvi wishes here to assert that debt financing of a business limits the maximum liability of a creditor - in case of default - to the amount of his debt. But what is so unique about this? We know that limited liability to loss is equally present in many forms of equity financing that are permitted in Islam, such as: (i) the limited liability of shareholders in a corporation (limited liability company); (ii) the liability of *Sahib-al-maal* (financier) in the Islamic *mudarabah* is limited to the amount of his financing, unless otherwise stipulated in the contract;[18] finally in partnership (and other unincorporated business) where partners' liability is in principle not limited, it is easy in practice to limit

(15) **Siddiqi** (1983a, p. 24), who also gives reference to several economists sharing the same view. See also **Al-Jarhi** (1981, p. 232) **Chapra** (1982, p. 169-170), and **Siddiqi** (1983b, p. 51).

(16) There is no reason to deny a profit-sharing banking system similar institutional stabilizers.

(17) I presume that Dr. **Naqvi** is *not* referring to "limited liability" in its usual meaning in business law (i.e., the limited liability of stock holders of a corporation). For, in that usual sense, it would be a gross error to claim that modern banking is based on (or that debentures signify) the principle of limited liability.

(18) See, **Al-Khayyat** (1970. Vol. II, pp. 132-133,210). **Al-Masri** (1981, pp. 191-192). For acceptability of corporations by several modern Muslim jurists see **Al-Khayyat** (1970, Vol. II, pp. 153-235).

it. Partners can and very often do agree never to let their potential indebtedness exceed the value of their business assets.

It is thus unrealistic to think that limited liability is unique to interest-financing, or to presume that equity-financing and profit sharing are associated with unbounded liability.

V. Conclusion

It may be hoped that the preceding remarks have suggested that an equity-based (interest-free) Islamic system can contribute appreciably to economic stability, while an interest-based system predisposes the economy to instability.

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15

Relative Stability of Interest-free Economy(*)

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I. Introduction

The hypothesis examined here is that the unstable and cyclical behaviour of investment and therefore the inherently unstable behaviour of an advanced capitalist economy can be explained in terms of the fixity of the fluctuating short-term interest rate. Islamic financial facilities like PLS (i.e. Profit-Loss Sharing), which are relatively more flexible may provide built-in stabilizers to the investment process.

It may be mentioned at the outset that only the relative stability of investment under the two systems of fixed and flexible returns to capital is examined. There are other significant differences between the two systems, for instance, in terms of relative efficiency of the financial sector, effectiveness of monetary policies, resource mobilization, etc., which are not considered here.

II. Investment Theories

The neoclassical micro theory of investment is regarded primarily as the adjustment of actual capital stock to the desired capital stock. However, it is now widely recognized that without postulating some adhoc assumptions regarding adjustment costs, the rate of adjustment (i.e., investment) remains indeterminate [Gould. 1968; Haavelmo, 1960]. Furthermore, neoclassical investment theory tends to neglect the financing conditions in investment decisions. This view is clearly reflected in Miller Modigliani Theorem [Modigliani, 1958,1961]. However, attempts have been made to rehabilitate the role of financing conditions in the Miller-Modigliani framework, primarily by relaxing some of their assumptions [Grossman, 1982; Jensen, 1976].

The neoclassical macro theory of investment is simply an aggregation of typical firms. As such, the theory is not quite equipped in explaining either the instability or the cyclical aggregate behaviour of investment.

Kalecki's theory of investment focuses primarily on the explanation of cyclical aspects of the market economy [Kalecki, 1935, 1968, 1971]. His cyclical mechanism is based on: (i) the self-stimulating effect of investment, and, (ii) the retarding effect due to an increase in capital stock. However, he resorts either to external shocks or to specific values of the parameters in his difference-differential equations to generate business cycles. Frisch has

demonstrated that the validity of Kalecki's results is highly sensitive to the values of the parameters chosen [Frisch, 1935].

Though financial and capital valuation aspects in investment decisions have been considered in earlier works, yet they have been particularly emphasized recently by Gordon, Tobin and Minsky [Gordon, 1962; Tobin, 1982; Minsky, 1982]. Minsky has specifically identified financial and capital valuation aspects to explain the inherent instability of advanced market economies. Since the model put forth here is closely related to Minsky's approach, a brief description is in order.

Minsky has rejected the neoclassical position that capitalist economies are inherently stable and large business fluctuations are produced either by exogenous shocks or by human errors. He asserts that the financial arrangements in advanced capitalist economies are inherently unstable. Since investment is closely related to financing process, therefore, this instability is transmitted into investment.

According to Minsky the fragility of the financial system depends on the relation between contractual commitments (which are essentially interest and the principal on debts), and the cash flows from regular operations (which are essentially profits). With respect to this relation, he classifies business firms into three groups, namely, hedge, speculative and ponzi.

For hedge units, cash flows are expected to exceed payment commitments on out standing debts in every period. For speculative units, cash commitments on debts exceed cash flows from regular operations for only some periods. For ponzi units, cash payments exceed cash flows for almost all near-term periods.

During a prolonged period of tranquility, prices of capital assets tend to rise, and portfolio preferences shift towards more speculative and ponzi financing. This makes the economy very sensitive to interest rate variations. The cost of short-term debt in financial structure increases and the weight of cash in portfolios declines. Falling profits and rising interest turn some hedge units into speculative units and speculative units into ponzi.

When many speculative and ponzi units find it difficult to meet payment commitments with cash flows, they issue more debt. Where it becomes increasingly more difficult to meet payment commitments by emitting more debt, ponzi/speculative units start selling out their assets. However, when many units resort to generate cash by selling out their assets, it causes a fall in asset prices. If the asset prices fall to the level of their cost of production or even below, new investment virtually stops. But, then this very low level of investment exerts pressure on profits to rise and this merry-go- round starts all

over again.

This basic idea of Minsky that "... the relation between cash receipts and payment commitments determines the course of investment and thus employment, output and profits" is retained here [Minsky, 1982, P. XVII]. The only wrinkle added is to interpret the fixity of financing terms, vis-a-vis the uncertainty of profits to be mainly responsible for the gap between cash flows and payment commitments. Under Islamic financing arrangements, payment commitments are made a function of cash-flows. They move together in the same direction. As said above, under traditional financing system, at times, the gap between cash flows and payment commitments becomes so wide that it produces a chaos in the asset market when many units try to sell assets to generate cash in attempts to meet their commitments. This chaos is eased under the relatively more flexible Islamic financing arrangements in which payment commitments are made to move automatically in line with cash-flows and hence provide built-in stability to investment process.

III. The Model

The model presented here consists of two differential equations. One is related to the financing conditions and the other to the investment behaviour. The model is defined in very general terms and studied on the basis of qualitative theory of differential equations. It has close resemblance with the models developed by Albrecht and by TSO [Albercht, 1974; TSO, 1981]. The interaction between cash-flows and cash- commitments is shown to generate unstable cyclical behaviour of investment, which can be dampened by introducing Islamic financial facilities.

(A) Financing Conditions

It is postulated that the proportional change in cash-commitments is a function of the level of investment and the level of existing cash commitments, i.e.,

$$\frac{\dot{C}}{C} = f(I, C) \qquad (1)$$

$$\frac{\partial f}{\partial I} > 0; \frac{\partial f}{\partial C} < 0$$

where C is the level of cash-commitments and I is the level of investment.

The first inequality is positive because an increased investment will lead to increased external financing, and hence, increased cash-commitments. The second inequality is negative because increased cash-commitments will lead to stringent financing conditions, and hence, discourage further cash-

commitments.

(B) Investment Relation

It is postulated that the pace of investment depends on the changes in the valuation of capital assets, i.e.,

$$\frac{\dot{I}}{I} = g(\dot{P}_k)$$

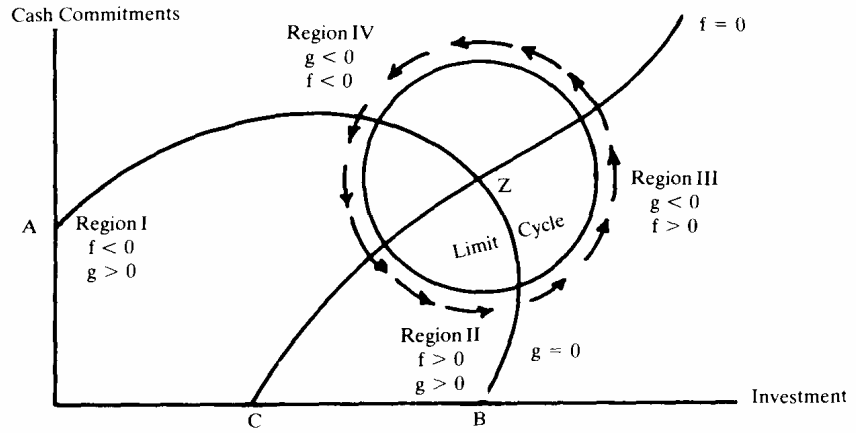
where P_k is the valuation of capital assets. It is further assumed that P_k is a function of payment commitments C and gross profits which are proxied by investment, and therefore,

$$\frac{\dot{I}}{I} = g(I, C) \qquad (2)$$

with $\frac{\partial g}{\partial I} > 0, \frac{\partial g}{\partial C} < 0$

First inequality is positive because a higher amount of investment will lead to a higher amount of profit, therefore more internal funds will be available for investment. Second inequality is negative because an increase in payment-commitments will lead to a squeeze in the availability of internal funds for investment.

The phase diagram corresponding to equations (1) and (2) is presented below:



Under quite plausible assumptions about the functions f and g (which are spelled out in the Appendix) it has been shown that the system of these equations generates limit cycles [Minorosky, 1962]. Further, in this system, the oscillations are not generated by exogenous shocks. They are inherently

produced by the system itself [Andronov, 1966; Minorosky, 1962]. The force behind the generation of these limit cycles is the non-linear interaction between the stimulating effect of profits on investment and the retarding effect of the worsening financing conditions. This cycling mechanism can be seen clearly in the phase diagram.

In Region I, the levels of investment and payment-commitments are low. The low levels of investment can be financed by internal funds and the excess of cash flows over investment expenditures may be used to retire some existing debts. At this low level of investment prospective yields are high, which stimulate investment. This scenario corresponds to the upswing of the business cycle.

In Region II, the general optimism continues, which leads to forecast high yields and adopt high capitalization rates. Therefore, valuation of both the existing and new capital goods tends to rise and hence investment continues to rise. Under these optimistic conditions, bankers willingly provide the necessary external finances to meet the investment plans. However, in general long-term assets are acquired by emitting relatively short-term liabilities. And therefore debt payment commitments rise faster than cash flows.

As the economy moves into Region III, which represents the late stages of the boom, the level of investment becomes so high that it dampens the prospective yields. High levels of cash commitments tend to lower the capitalization factor. Therefore, valuation of existing capital as well as new investment starts to fall. This leads to a fall in profits and cash flows. On the other hand, the payment commitments, at terms corresponding to the past optimism, remain the same. For many operating units it becomes difficult to meet their cash commitments with their cash flows. To meet this gap, they emit more debt. The lender's risk goes up, and therefore the terms of refinancing become more stringent. Gradually the system reaches to a limit when it becomes difficult to borrow from one to repay to the other, and entrepreneurs have to sell their assets to generate cash to meet their payment commitments. When many of them attempt to sell assets in a thin market, asset prices fall and sellers have to accept capital losses. The incidents of foreclosures, bankruptcies, selling of subsidiaries etc., become more frequent. Because of significant fall in asset prices, new investment almost stops. This corresponds to Region IV. Once the economy hits the bottom, the merry-go-round starts again.

To sum up, it is the spread between cash-flows (i.e., profits) and payment-commitments (i.e., interest payments) which is the main source of instability in investment. However, it is also obvious that the real source which generates this gap is the fixity of the dated payment commitments versus the uncertainty of cash flows. If somehow, the uncertainty of cash flows may be linked with the payment commitments, in a way that they move together, this gap can be eliminated to a great extent. More specifically, if the terms of financing are linked with the profit rate, the chaotic conditions which make investment as the most unstable component of GNP, may be avoided. The elimination of asymmetry between the fixity of interest rate and the uncertainty of profit rate, is the essential feature of the Islamic financing system which distinguishes it from the traditional financing system. Islamic financing facilities make the payment commitments a function of cash flows because the financing terms have to adjust according to the changing conditions such that the ratio of cash flows to cash commitments remains relatively stable. This provides a built-in stabilizer to reduce the volatility of investment. In an advanced capitalist economy with a sophisticated financial market, the volatility of investment is largely because of speculation rather than productivity changes. By tieing the financing terms to the performance, Islamic financial facilities strongly discourage the lenders to validate the ponzi financing efforts of the speculative borrowers.

This stabilizing effect of Islamic financing arrangements can be traced more clearly in terms of the above model through the corresponding phase diagram.

Suppose we start in Region I, which characterizes the early stages of the boom, when both C and I are low, $f > 0$, $g < 0$. The low level of investment can be financed by internal funds. Prospective yields are high enough to stimulate further investment.

In Region II, investment continues to rise. Entrepreneurs continue to forecast high prospective yields. Increased investment requires external financing. In an environment when the 'borrowers' know that a part of their risk is shared by the 'lenders,' they will attempt to translate their optimism into accelerated investment, mainly through external financing. However, the 'lenders', knowing that they will have to bear the consequences if the optimism does not materialize, probably will behave more cautiously. Instead of adding fuel to fire, as the lenders do under traditional banking in a euphoric environment of a boom, they will put a safety lid to the animal spirits of the entrepreneurs. Nevertheless both investments and cash commitments will increase, but not as rapidly as in the case when lenders do not share any of the borrower's risk and willingly accept the entrepreneur's optimism.

In Region III, the late stages of the boom, high levels of investment dampen

the forecasts of prospective yields as well as actual yields. However, unlike the fixed interest case, where cash payments remain the same, payment commitments under variable return schemes are adjusted to the decline in cash flows.

Therefore, the need for re-financing the maturing 'debts' will not be at the same scale as it was when payment commitments remained fixed at terms corresponding to the past optimism. Moreover, the terms of refinancing will not be as prohibitively stringent as would have been otherwise when borrowers could not pay their maturing debts. Therefore, investments will not fall as fast as under traditional financing facilities.

Finally, Region IV was characterized by a major restructuring of portfolios in order to generate additional cash to meet the payment commitments. These efforts on a large-scale result in a sharp drop in the valuation of capital assets and a chaos in investment. This chaos is generated because the spread between cash flow and cash commitments is so large that it cannot be bridged by refinancing. However, under Islamic financial arrangements the gap is never so wide as to force many operating units to sell out their assets to meet their commitments which creates a panic in the capital asset market and leads to an abrupt fall in asset prices and hence adversely affects new investment. The flexibility in the Islamic financial arrangements automatically monitors this gap and thus provides a built-in stabilizer to the capital asset market and hence to investment.

Conclusion

We conclude that under the Islamic financial system the amplitude of all phases of the cycle will be smaller. Both the euphorism and the pessimism which are inherent characteristics of an advanced capitalist economy are checked by distributing the uncertainty of profits to both the business and financial community. Though, by accepting extra risk, financial institutions partly play the entrepreneural role (for which they are compensated in lieu of the services of capital provided by them) they still continue to play their major role as financial intermediaries.

It may also be mentioned here that according to the above model, the volatility in investment can be reduced by an extended use of the mortgage loan financing with adjustable interest rates, although, the expost adjustability of interest in mortgage loans is significantly different from the flexibility required by the Islamic modes of financing. An adjustable mortgage loan is primarily a loan that permits adjustment of interest rate. This adjustment must be tied to the movement of an agreed-upon interest index which cannot be manipulated at the discretion of either the lender or the borrower. Since the chosen index reflects

the general business conditions, therefore, it protects the lender and the borrower from the uncertainties which have an across- the-board effect. But the flexibility required in an Islamic financing instrument protects the borrower from the uncertainty related to the performance of that particular investment of borrowed capital This protection is far more comprehensive than the one provided by adjustable mortgage loans and determines other features of the Islamic economic system.

Appendix

In order to generate limit cycles with differential equations (1) and (2), the following assumptions are made:

(i) There exists a lower limit on investment, I_c such that all of it may be financed internally, i.e.,

$$f(I_c,O) = 0 \text{ for } I_c > 0$$

(ii) The impact on payment-commitments due to an increase in investment is larger than the impact on payment-commitments due to the stricter financing conditions because of the increased level of payment-commitments, i.e.,

$$e_{f,I} > - e_{f,C}$$

(iii) $$g(0,0) > 0$$

This simply means that at very low levels of investment, the rate of profit will be high enough to induce some investment which at very low levels of payment-commitments, may be financed by internal funds available for investment.

(iv) There exists an upper limit C_A on payment-commitments beyond which investment is discouraged, i.e.,

$$g(0 ,C_A) = 0$$

(v) There exists an upper limit I_B on investment beyond which additional investment is not coming, i.e.,

$$g(I_B, 0) = 0$$

(vi) $$e_{g,I} < - e_{g,C}$$

This is a plausible assumption because an increase in payment-commitments is due to financing new equipment and therefore the impact of relatively stringent financing condition will be on new investment. On the other hand, a significant part of the increase in profits due to an increase in investment will be absorbed by the existing stock of capital.

(vii) $$I_c > I_B$$

This is obviously true, because I_c represents that lower limit of investment

all of which can be financed internally, whereas I_B is that upper limit of investment beyond which further investment is not coming.

(viii) At z, the intersection of f = 0 and g = 0,

$$I_z \left.\frac{\partial g}{\partial I}\right|_z > -C_z \left.\frac{\partial f}{\partial c}\right|_z$$

This inequality means that the stimulating effect of investment on itself is stronger than the retarding effect of payment commitments on further growth.

Under the above assumptions, and invoking Poincare-Bendixon Theorem, a region can be constructed such that the paths inside the region are limit cycles.

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16

Economic Solutions From Islamic Finance:
Position Statement of the International Association for Islamic Economics
www.iaie.net

- ***Riba*** **and Gambling**
- **Features of Islamic Finance**

The current global financial crisis has called the attention of world leaders and financial decision makers to seriously consider building a new world financial system. We believe that Islamic economics has much to offer for building a more just and stable market system that encourages real wealth creation and contains market fluctuations.

The current crisis stemmed from excessive indebtedness resting on a relatively small base of equity and real wealth, "the inverted debt pyramid". A significant chunk of finance became merely the selling present for future money. Besides, poor regulations have encouraged over indebtedness.

To build a sustainable system, debt must grow in tandem with real (as opposed to financial) wealth; leverage must be capped by productivity potentials. This allows for real wealth to grow without being hurdled with too heavy debt.

Heavy reliance on debt intensifies economic instability, hence human insecurity, and generates significant negative economy-wide externalities, as painfully exemplified by the present crisis. The collapse of financial institutions inflicts harm upon shareholders, employees, and a host of innocent bystanders. Common economic sense suggests discouraging debt financing and encouraging benign alternatives. However, the exact opposite (e.g. preferential tax treatment of personal and corporate debt) is still the rule.

Riba and Gambling

The sale of present for future money is based on Riba or interest on loans, which is condemned and prohibited by all religions. It allows debt to multiply independently of real wealth, by mere passage of time. Obviously, this can make debt grow much faster than real wealth. Any big shock can crash such a system of unsustainable debt.

The two basic implications of the prohibition of Riba are: removal of loans from the arena of business finance and the elimination of debt trading. This must be supplemented by instilling more equitable rules for directing a fair share of financing to the poor.

Financial markets have been riddled with risk trading. When pure risk is traded, transactions become indistinguishable from gambling: zero-sum games that create no value. At the macro level, gambling ends up with a negative-sum result, thanks to moral hazard. If risk is cut off from ownership, owners lose interest in protecting the quality of their assets in exchange for higher returns. In the current crisis, financial institutions were able to shed off the risks of their assets, and thus became increasingly reckless in pursuing other objectives.

Gambling, like interest, increases the divergence of financial commitments from real wealth. As the number of bettors rises, total loss when market turns down multiplies. With fictitious derivatives approaching $600 trillion, losses may be more than enough to wipe out the real wealth of the losers.

Historically, Islamic finance has been functioning as an integral part of market exchange for centuries. Its recent incarnation into modern institutional structure (banks and financial institutions) is only about 30 years old compared with three centuries of conventional finance. Islamic finance has been struggling to prove itself within the mainstream of interest-based finance. In some aspects, it has succeeded; in others it still has a long way to go. The current crisis proves that Islamic finance is much less influenced by a downturn, as it avoids trading in debt and risk .

Features Of Islamic Finance

Business financing can be based on profit or revenue sharing where no debt is created. It can also be based on sale for a deferred price, where debt is integrated with real value creation and cannot grow separately. Such a system is free from inverted debt pyramids. The possibility of sharing losses by depositors motivates them to demand greater transparency. Banks are pressed to exercise extra care in risk monitoring.

Risk is effectively integrated with ownership; legitimate risk taking cannot exceed the value of underlying assets; Again, the system is inherently immune to side bets and derivative bubbles.

Debtors are provided extra time when they become temporarily insolvent, with no increase in the amount of debt. Forbearance has both ethical and economic justification. When markets turn down, decline of collateral value triggers downward spiral as creditors try to protect their positions. However, this would make the market self-destructive, transforming a downturn into a crash. Forbearance relieves debtors, giving them better chances for repayment, while preserving the value of collaterals and preventing market crash.

While, forbearance mitigates the downward pressures on markets, non-interest-based finance mitigates the upward pressures during expansion, as excessive credit extension can turn it into a bubble. Thus, the two principles help contain market fluctuations and maintain reasonable stability, with minimum constraints on growth.

Islamic finance is ultimately governed by ethics and passion for human welfare. Morality is imbedded in the rules, through the prohibition of production and exchange of goods harmful to life and environment. In addition, contracts that do not carefully balance the interests of both parties and those that make pure risk a subject of trade are not permissible.

Islamic banks have shown resilience in the current crisis. Most are at no risk of becoming bankrupt, and continue to be profitable and serve their clients well. Their experiences may provide lessons for conventional banks.

Islamic finance is a viable paradigm that is based on moral values that are more universally shared than the present system and can potentially be more just and efficient. Principles of Islamic finance are justifiable by rational analysis, economic wisdom and viability. We call on world leaders and decision makers to take them to heart in reformulating a new world financial order.

17

G20 declaration: Full text Summit On Financial Markets And The World Economy

- **Root Causes of the Current Crisis**
- **Actions Taken and to Be Taken**
- **Common Principles for Reform of Financial Markets**
- **Tasking of Ministers and Experts**
- **Commitment to an Open Global Economy**
- **Action Plan to Implement Principles for Reform**
- **Strengthening Transparency and Accountability**
- **Enhancing Sound Regulation Regulatory Regimes**
- **Promoting Integrity in Financial Markets**
- **Reinforcing International Cooperation**
- **Reforming International Financial Institutions**
- **G20 Communiqué to Stress Stimulus, Governance**

1. We, the Leaders of the Group of Twenty, held an initial meeting in Washington on November 15, 2008, amid serious challenges to the world economy and financial markets. We are determined to enhance our cooperation and work together to restore global growth and achieve needed reforms in the world's financial systems.

2. Over the past months our countries have taken urgent and exceptional measures to support the global economy and stabilize financial markets. These efforts must continue. At the same time, we must lay the foundation for reform to help to ensure that a global crisis, such as this one, does not happen again. Our work will be guided by a shared belief that market principles, open trade and investment regimes, and effectively regulated financial markets foster the dynamism, innovation, and entrepreneurship that are essential for economic growth, employment, and poverty reduction.

Root Causes of the Current Crisis

3. During a period of strong global growth, growing capital flows, and prolonged stability earlier this decade, market participants sought higher yields without an adequate appreciation of the risks and failed to exercise proper due diligence. At the same time, weak underwriting standards, unsound risk management practices, increasingly complex and opaque financial products, and consequent excessive leverage combined to create vulnerabilities in the system. Policy-makers, regulators and supervisors, in some advanced countries, did not adequately appreciate and address the risks building up in financial markets, keep pace with financial innovation, or take into account the systemic ramifications of domestic regulatory actions.

4. Major underlying factors to the current situation were, among others, inconsistent and insufficiently coordinated macroeconomic policies, inadequate structural reforms, which led to unsustainable global macroeconomic outcomes. These developments, together, contributed to excesses and ultimately resulted in severe market disruption.

Actions Taken and to Be Taken

5. We have taken strong and significant actions to date to stimulate our economies, provide liquidity, strengthen the capital of financial institutions, protect savings and deposits, address regulatory deficiencies, unfreeze credit markets, and are working to ensure that international financial institutions (IFIs) can provide critical support for the global economy.

6. But more needs to be done to stabilize financial markets and support economic growth. Economic momentum is slowing substantially in major economies and the global outlook has weakened. Many emerging market economies, which helped sustain the world economy this decade, are still experiencing good growth but increasingly are being adversely impacted by the worldwide slowdown.

7. Against this background of deteriorating economic conditions worldwide, we agreed that a broader policy response is needed, based on closer macroeconomic cooperation, to restore growth, avoid negative spillovers and support emerging market economies and developing countries. As immediate steps to achieve these objectives, as well as to address longer-term challenges, we will:

- Continue our vigorous efforts and take whatever further actions are necessary to stabilize the financial system.
- Recognize the importance of monetary policy support, as deemed appropriate to domestic conditions.
- Use fiscal measures to stimulate domestic demand to rapid effect, as appropriate, while maintaining a policy framework conducive to fiscal sustainability.
- Help emerging and developing economies gain access to finance in current difficult financial conditions, including through liquidity facilities and program support. We stress the International Monetary Fund's (IMF) important role in crisis response, welcome its new short-term liquidity facility, and urge the ongoing review of its instruments and facilities to ensure flexibility.
- Encourage the World Bank and other multilateral development banks (MDBs) to use their full capacity in support of their development agenda, and we welcome the recent introduction of new facilities by the World Bank in the areas of infrastructure and trade finance.

- Ensure that the IMF, World Bank and other MDBs have sufficient resources to continue playing their role in overcoming the crisis.

Common Principles for Reform of Financial Markets

8. In addition to the actions taken above, we will implement reforms that will strengthen financial markets and regulatory regimes so as to avoid future crises. Regulation is first and foremost the responsibility of national regulators who constitute the first line of defense against market instability. However, our financial markets are global in scope, therefore, intensified international cooperation among regulators and strengthening of international standards, where necessary, and their consistent implementation is necessary to protect against adverse cross-border, regional and global developments affecting international financial stability. Regulators must ensure that their actions support market discipline, avoid potentially adverse impacts on other countries, including regulatory arbitrage, and support competition, dynamism and innovation in the marketplace. Financial institutions must also bear their responsibility for the turmoil and should do their part to overcome it including by recognizing losses, improving disclosure and strengthening their governance and risk management practices.

9. We commit to implementing policies consistent with the following common principles for reform.

- Strengthening Transparency and Accountability: We will strengthen financial market transparency, including by enhancing required disclosure on complex financial products and ensuring complete and accurate disclosure by firms of their financial conditions. Incentives should be aligned to avoid excessive risk-taking.

- Enhancing Sound Regulation: We pledge to strengthen our regulatory regimes, prudential oversight, and risk management, and ensure that all financial markets, products and participants are regulated or subject to oversight, as appropriate to their circumstances. We will exercise strong oversight over credit rating agencies, consistent with the agreed and strengthened international code of conduct. We will also make regulatory regimes more effective over the economic cycle, while ensuring that regulation is efficient, does not stifle innovation, and encourages expanded trade in financial products and services. We commit to transparent assessments of our national regulatory systems.

- Promoting Integrity in Financial Markets: We commit to protect the integrity of the world's financial markets by bolstering investor and

consumer protection, avoiding conflicts of interest, preventing illegal market manipulation, fraudulent activities and abuse, and protecting against illicit finance risks arising from non-cooperative jurisdictions. We will also promote information sharing, including with respect to jurisdictions that have yet to commit to international standards with respect to bank secrecy and transparency.

- Reinforcing International Cooperation: We call upon our national and regional regulators to formulate their regulations and other measures in a consistent manner. Regulators should enhance their coordination and cooperation across all segments of financial markets, including with respect to cross-border capital flows. Regulators and other relevant authorities as a matter of priority should strengthen cooperation on crisis prevention, management, and resolution.

- Reforming International Financial Institutions: We are committed to advancing the reform of the Bretton Woods Institutions so that they can more adequately reflect changing economic weights in the world economy in order to increase their legitimacy and effectiveness. In this respect, emerging and developing economies, including the poorest countries, should have greater voice and representation. The Financial Stability Forum (FSF) must expand urgently to a broader membership of emerging economies, and other major standard setting bodies should promptly review their membership. The IMF, in collaboration with the expanded FSF and other bodies, should work to better identify vulnerabilities, anticipate potential stresses, and act swiftly to play a key role in crisis response.

Tasking of Ministers and Experts

10. We are committed to taking rapid action to implement these principles. We instruct our Finance Ministers, as coordinated by their 2009 G-20 leadership (Brazil, UK, Republic of Korea), to initiate processes and a timeline to do so. An initial list of specific measures is set forth in the attached Action Plan, including high priority actions to be completed prior to March 31, 2009.

In consultation with other economies and existing bodies, drawing upon the recommendations of such eminent independent experts as they may appoint, we request our Finance Ministers to formulate additional recommendations, including in the following specific areas:

- Mitigating against pro-cyclicality in regulatory policy;

- Reviewing and aligning global accounting standards, particularly for complex securities in times of stress;

- Strengthening the resilience and transparency of credit derivatives markets and reducing their systemic risks, including by improving the infrastructure of over-the-counter markets;

- Reviewing compensation practices as they relate to incentives for risk taking and innovation;

- Reviewing the mandates, governance, and resource requirements of the IFIs; and

- Defining the scope of systemically important institutions and determining their appropriate regulation or oversight.

11. In view of the role of the G-20 in financial systems reform, we will meet again by April 30, 2009, to review the implementation of the principles and decisions agreed today.

Commitment to an Open Global Economy

12. We recognize that these reforms will only be successful if grounded in a commitment to free market principles, including the rule of law, respect for private property, open trade and investment, competitive markets, and efficient, effectively regulated financial systems. These principles are essential to economic growth and prosperity and have lifted millions out of poverty, and have significantly raised the global standard of living. Recognizing the necessity to improve financial sector regulation, we must avoid over-regulation that would hamper economic growth and exacerbate the contraction of capital flows, including to developing countries.

13. We underscore the critical importance of rejecting protectionism and not turning inward in times of financial uncertainty. In this regard, within the next 12 months, we will refrain from raising new barriers to investment or to trade in goods and services, imposing new export restrictions, or implementing World Trade Organization (WTO) inconsistent measures to stimulate exports. Further, we shall strive to reach agreement this year on modalities that leads to a successful conclusion to the WTO's Doha Development Agenda with an ambitious and balanced outcome. We instruct our Trade Ministers to achieve this objective and stand ready to assist directly, as necessary. We also agree that our countries have the largest stake in the global trading system and therefore

each must make the positive contributions necessary to achieve such an outcome.

14. We are mindful of the impact of the current crisis on developing countries, particularly the most vulnerable. We reaffirm the importance of the Millennium Development Goals, the development assistance commitments we have made, and urge both developed and emerging economies to undertake commitments consistent with their capacities and roles in the global economy. In this regard, we reaffirm the development principles agreed at the 2002 United Nations Conference on Financing for Development in Monterrey, Mexico, which emphasized country ownership and mobilizing all sources of financing for development.

15. We remain committed to addressing other critical challenges such as energy security and climate change, food security, the rule of law, and the fight against terrorism, poverty and disease.

16. As we move forward, we are confident that through continued partnership, cooperation, and multilateralism, we will overcome the challenges before us and restore stability and prosperity to the world economy.

Action Plan to Implement Principles for Reform

This Action Plan sets forth a comprehensive work plan to implement the five agreed principles for reform. Our finance ministers will work to ensure that the taskings set forth in this Action Plan are fully and vigorously implemented. They are responsible for the development and implementation of these recommendations drawing on the ongoing work of relevant bodies, including the International Monetary Fund (IMF), an expanded Financial Stability Forum (FSF), and standard setting bodies.

Strengthening Transparency and Accountability

Immediate Actions by 31 March 2009

- The key global accounting standards bodies should work to enhance guidance for valuation of securities, also taking into account the valuation of complex, illiquid products, especially during times of stress.

- Accounting standard setters should significantly advance their work to address weaknesses in accounting and disclosure standards for off-balance sheet vehicles.

- Regulators and accounting standard setters should enhance the required disclosure of complex financial instruments by firms to market participants.

- With a view toward promoting financial stability, the governance of the international accounting standard setting body should be further enhanced, including by undertaking a review of its membership, in particular in order to ensure transparency, accountability, and an appropriate relationship between this independent body and the relevant authorities.

- Private sector bodies that have already developed best practices for private pools of capital and/or hedge funds should bring forward proposals for a set of unified best practices. Finance Ministers should assess the adequacy of these proposals, drawing upon the analysis of regulators, the expanded FSF, and other relevant bodies.

Medium-term actions

- The key global accounting standards bodies should work intensively toward the objective of creating a single high-quality global standard.

- Regulators, supervisors, and accounting standard setters, as appropriate, should work with each other and the private sector on an ongoing basis to ensure consistent application and enforcement of high-quality accounting standards.

- Financial institutions should provide enhanced risk disclosures in their reporting and disclose all losses on an ongoing basis, consistent with international best practice, as appropriate. Regulators should work to ensure that a financial institution' financial statements include a complete, accurate, and timely picture of the firm's activities (including off-balance sheet activities) and are reported on a consistent and regular basis.

Enhancing Sound Regulation Regulatory Regimes

Immediate Actions by 31 March, 2009

- The IMF, expanded FSF, and other regulators and bodies should develop recommendations to mitigate pro-cyclicality, including the review of how valuation and leverage, bank capital, executive compensation, and provisioning practices may exacerbate cyclical trends.

Medium-term actions

- To the extent countries or regions have not already done so, each country or region pledges to review and report on the structure and principles of its regulatory system to ensure it is compatible with a modern and increasingly globalized financial system. To this end, all G-20 members commit to undertake a Financial Sector Assessment Program (FSAP) report and support the transparent assessments of countries' national regulatory systems.

- The appropriate bodies should review the differentiated nature of regulation in the banking, securities, and insurance sectors and provide a report outlining the issue and making recommendations on needed improvements. A review of the scope of financial regulation, with a special emphasis on institutions, instruments, and markets that are currently unregulated, along with ensuring that all systemically-important institutions are appropriately regulated, should also be undertaken.

- National and regional authorities should review resolution regimes and bankruptcy laws in light of recent experience to ensure that they permit an orderly wind-down of large complex cross-border financial institutions.

- Definitions of capital should be harmonized in order to achieve consistent measures of capital and capital adequacy.

Prudential Oversight Immediate Actions by 31 March, 2009

- Regulators should take steps to ensure that credit rating agencies meet the highest standards of the international organization of securities regulators and that they avoid conflicts of interest, provide greater disclosure to investors and to issuers, and differentiate ratings for complex products. This will help ensure that credit rating agencies have the right incentives and appropriate oversight to enable them to perform their important role in providing unbiased information and assessments to markets.

- The international organization of securities regulators should review credit rating agencies' adoption of the standards and mechanisms for monitoring compliance.

- Authorities should ensure that financial institutions maintain adequate capital in amounts necessary to sustain confidence. International standard setters should set out strengthened capital requirements for banks' structured credit and securitization activities.

- Supervisors and regulators, building on the imminent launch of central counterparty services for credit default swaps (CDS) in some countries, should: speed efforts to reduce the systemic risks of CDS and over-the-counter (OTC) derivatives transactions; insist that market participants support exchange traded or electronic trading platforms for CDS contracts; expand OTC derivatives market transparency; and ensure that the infrastructure for OTC derivatives can support growing volumes.

Medium-term actions

- Credit Ratings Agencies that provide public ratings should be registered.
- Supervisors and central banks should develop robust and internationally consistent approaches for liquidity supervision of, and central bank liquidity operations for, cross-border banks.

Risk Management Immediate Actions by 31 March, 2009

- Regulators should develop enhanced guidance to strengthen banks' risk management practices, in line with international best practices, and should encourage financial firms to reexamine their internal controls and implement strengthened policies for sound risk management.

- Regulators should develop and implement procedures to ensure that financial firms implement policies to better manage liquidity risk, including by creating strong liquidity cushions.

- Supervisors should ensure that financial firms develop processes that provide for timely and comprehensive measurement of risk concentrations and large counterparty risk positions across products and geographies.

- Firms should reassess their risk management models to guard against stress and report to supervisors on their efforts.

- The Basel Committee should study the need for and help develop firms' new stress testing models, as appropriate.

- Financial institutions should have clear internal incentives to promote stability, and action needs to be taken, through voluntary effort or regulatory action, to avoid compensation schemes which reward excessive short-term returns or risk taking.

- Banks should exercise effective risk management and due diligence over structured products and securitization.

Medium-term actions

- International standard setting bodies, working with a broad range of economies and other appropriate bodies, should ensure that regulatory policy makers are aware and able to respond rapidly to evolution and innovation in financial markets and products.

- Authorities should monitor substantial changes in asset prices and their implications for the macroeconomy and the financial system.

Promoting Integrity in Financial Markets

Immediate Actions by 31 March, 2009

- Our national and regional authorities should work together to enhance regulatory cooperation between jurisdictions on a regional and international level.

- National and regional authorities should work to promote information sharing about domestic and cross-border threats to market stability and ensure that national (or regional, where applicable) legal provisions are adequate to address these threats.

- National and regional authorities should also review business conduct rules to protect markets and investors, especially against market manipulation and fraud and strengthen their cross-border cooperation to protect the international financial system from illicit actors. In case of misconduct, there should be an appropriate sanctions regime.

Medium-term actions

- National and regional authorities should implement national and international measures that protect the global financial system from uncooperative and non-transparent jurisdictions that pose risks of illicit financial activity.

- The Financial Action Task Force should continue its important work against money laundering and terrorist financing, and we support the efforts of the World Bank - UN Stolen Asset Recovery (StAR) Initiative.

- Tax authorities, drawing upon the work of relevant bodies such as the Organization for Economic Cooperation and Development (OECD), should continue efforts to promote tax information exchange. Lack of transparency and a failure to exchange tax information should be vigorously addressed.

Reinforcing International Cooperation

Immediate Actions by 31 March, 2009

- Supervisors should collaborate to establish supervisory colleges for all major cross-border financial institutions, as part of efforts to strengthen the surveillance of cross-border firms. Major global banks should meet regularly with their supervisory college for comprehensive discussions of the firm's activities and assessment of the risks it faces.

- Regulators should take all steps necessary to strengthen cross-border crisis management arrangements, including on cooperation and communication with each other and with appropriate authorities, and develop comprehensive contact lists and conduct simulation exercises, as appropriate.

Medium-term actions

- Authorities, drawing especially on the work of regulators, should collect information on areas where convergence in regulatory practices such as accounting standards, auditing, and deposit insurance is making progress, is in need of accelerated progress, or where there may be potential for progress.

- Authorities should ensure that temporary measures to restore stability and confidence have minimal distortions and are unwound in a timely, well-sequenced and coordinated manner.

Reforming International Financial Institutions

Immediate Actions by 31 March, 2009

- The FSF should expand to a broader membership of emerging economies.

- The IMF, with its focus on surveillance, and the expanded FSF, with its focus on standard setting, should strengthen their collaboration, enhancing efforts to better integrate regulatory and supervisory responses into the macro-prudential policy framework and conduct early warning exercises.

- The IMF, given its universal membership and core macro-financial expertise, should, in close coordination with the FSF and others, take a leading role in drawing lessons from the current crisis, consistent with its mandate.

- We should review the adequacy of the resources of the IMF, the World Bank Group and other multilateral development banks and stand ready to increase them where necessary. The IFIs should also continue to review and adapt their lending instruments to adequately meet their members' needs and revise their lending role in the light of the ongoing financial crisis.

- We should explore ways to restore emerging and developing countries' access to credit and resume private capital flows which are critical for sustainable growth and development, including ongoing infrastructure investment.

- In cases where severe market disruptions have limited access to the necessary financing for counter-cyclical fiscal policies, multilateral development banks must ensure arrangements are in place to support, as needed, those countries with a good track record and sound policies.

Medium-term actions

- We underscored that the Bretton Woods Institutions must be comprehensively reformed so that they can more adequately reflect changing economic weights in the world economy and be more responsive to future challenges. Emerging and developing economies should have greater voice and representation in these institutions.

- The IMF should conduct vigorous and even-handed surveillance reviews of all countries, as well as giving greater attention to their financial sectors and better integrating the reviews with the joint IMF/World Bank financial sector assessment programs. On this basis, the role of the IMF in providing macro-financial policy advice would be strengthened.

- Advanced economies, the IMF, and other international organizations should provide capacity-building programs for emerging market economies and developing countries on the formulation and the implementation of new major regulations, consistent with international standards.

G20 Communiqué to Stress Stimulus, Governance

World leaders gathered in Washington are set to agree Saturday to stimulate the world economy, implement new international regulation of the financial sector and reform global governance, according to a high-ranking source in the French presidency.

The leaders at the G20 meeting in Washington, whose countries make up 85 percent of the world economy, are to issue a five-page final communiqué committing them to these principles and will then review progress on March 31, the source said.

A second G20 summit will be organized between March 31 and April 30 at a location that has not yet been decided.

The communiqué will have "positive messages in three ways: support for the economy, new international regulation and reform of global governance," according to sources quoted by France Press.

"This text has the essential characteristic, for which we fought for a longtime, of trying to be as concrete and as precise as possible," the source said. "Beyond the communiqué of five pages, there is a detailed action plan in which there are a series of measures and regulations that are stressed and ordered with objectives, with a final date of March 31, 2009."

The communiqué will underline the commitment of countries to launch simultaneous efforts, including tax and spending stimulus plans, interest rate reductions and support of the International Monetary Fund and development banks for vulnerable countries.

The message would be "we won't leave any country behind," said the source. "Everyone sees that one of the ways the crisis can develop is the risk of transmission of the crisis by the fall of a country," he said.

The summit comes amid growing evidence that the worst international financial crisis in generations is taking a heavy toll on economies around the world, with EU data on Friday showing the 15-nation eurozone officially in recession.

While the crisis began in the US housing market, it has triggered plunges in global stock markets and mass lay-offs as the financial sector struggles to stay afloat, swamped with subprime mortgages turned sour.

US President George W. Bush told world leaders that there was no quick fix to the financial crisis, scaling back expectations for his emergency meeting.

"This problem did not develop overnight and it will not be solved overnight, but with continued cooperation and determination it will be solved," Bush said.

He laid out five objectives for talks on Saturday.

The focus will be "understanding the causes of the global crisis, reviewing the effectiveness of our responses thus far, (and) identifying principles for reforming our financial and regulatory systems."

Created in 1999, the Group of 20 (G20) countries account for 85 percent of the world economy and about two-thirds of its population.

Its members are the United States, Germany, Japan, France, Italy, Britain and Canada, the European Union, Argentina, Australia, Brazil, China, India, Indonesia, Mexico, Russia, Saudi Arabia, South Africa, South Korea and Turkey. Spain and the Netherlands have also been invited.

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The Global Financial Crisis: Its Causes and Solutions From an Islamic Perspective

Dr. Rafic Yunus Al-Masri

- ***Riba*** **(Interest):**
- **Gambling and *Gharar* (Alea; Risk)**
- **Derivatives**
- **Securitization**
- **Selling of Debts**
- **Creation of Money**
- **Control of Banks**
- **Administrative Corruption**
- **Exaggerating Private Interests**
- **The Role of Scholars and People of the Media**

Riba (Interest):

All religions prohibit *Riba*, but scholars of the capitalist system sanctioned *Riba* or interest and formulated theories to legitimize it. But all that which their theories did was to prove that capital has a return. Such return could be in the form of interest, or in the form of a share in profits or any other form. Islam is of the view that capital can not earn a lump sum or a percentage of the capital as profit, but it may earn a share in the profit. A loan, according to Islam, is given as an act of *birr* (i.e. charity or act of benevolence) as it is interest-free. Not only that, but the borrower might even be released from repayment of the principal he borrowed, either in part or in full. Regarding deferred or installment sale, Islam has permitted the deferred price to be higher than the immediate price and vice versa. Muslim jurists said that time has a share in the price. However, once the deferred price falls due, and the debtor could not repay it, he should not be burdened with any interest for his default. While the majority of jurists permitted an increase in the price for deferment of its payment, some of them permitted its decrease as a result of its premature payment.

What is important is that theories of interest in the capitalist economy succeeded in proving that capital has a return, but they failed in proving that the return could be in the form of interest. This is from a scientific perspective. From a practical perspective, interest has an adverse effect on creating financial cycles and crises. Finally, it should be noticed that Islam does not advocate a zero interest rate, as it is commonly believed. The interest rate could be zero in necessary consumer loans; in financing production, the financing extended is not provided at a zero interest rate, but at a percentage in the profits generated.

In conclusion, we recommend refraining from resorting to *Riba* (interest), for it is prohibited by all heavenly revealed religions and because of the fact that its economic and social impact is disastrous and gives rise to financial crises.

Gambling and *Gharar* (Alea; Risk)

Gambling is also prohibited by all revealed religions. However, the capitalist system considers it legitimate in the form of lotto, competitions, the stock market, and the like. The stock market has won the name of a gambling "casino". Even capitalism has been called the capitalism of the casino and

gambling. Majority of the stock market transactions are based on speculating about prices. Such speculation leads to over estimating or under estimating the prices of shares offered on the stock market compared to their true value. Besides, stock market transactions are not based on the actual exchange of both considerations being the subject of the contract, namely the commodity and the price. They are mere acts of speculation about profit through deferred and future contracts, which involve no delivery of the counterparts of consideration and where accounting is settled according to price differences. Thus a fictitious and speculative economy is created, which is far from real economy. The profit of the small investor would thus depend on sheer luck and not on financial analysis and study of balance sheets; he does not have the capability of undertaking such tasks, and even if he seeks the advice and help of some analysts, they are often irresponsible and might even defraud him without any responsibility for doing so. The big in the stock market deceives the small, drains him out of his savings and cause him to go bankrupt. Thus the stock market is fraught with illegal and unethical transactions, from which the stock market should be ridded in order to become a legitimate market for the liquidation of shares and financing of projects without resort to speculation, betting, *gharar* and deception, which are all unproductive and harmful. At their best, such practices result in making the profit of someone the loss of another.

Derivatives

Derivatives include futures, options and swaps. They constitute transactions conducted in the stock market. They are called derivatives because their value is derived from others. The majority of these transactions are used in price speculations. Some westerners say that they are instruments for total destruction, or time bombs that could go off at any moment. They constitute instruments for gambling and betting. It separates risk from the related asset, thus rendering risk as a commodity that could be traded, a matter which leads to acute fluctuations in the financial markets, creates bubbles, collapses and crises.

What is important here is that risk, in Islam, if associated with capital or work, is permissible and increases the return. However, if risk is made independent of capital or work it is not entitled to have a return.

Taking risk, such as increasing the price in return for time is acceptable as a subordinate thing, but not as an independent thing; a thing in Islam might be permissible as a subordinate thing, but not as an independent thing. We have demonstrated in another place that, time and risk are considered as independent factors of productions. That is why *Riba* charged on loans is prohibited, as well as speculation in the stock market, for *Riba* is trading in independent time and gambling is trading in independent risk.

Securitization

Securitization is representation of assets by tradable financial papers like shares. If we assume that a commodity has been securitized, its financial papers could be exchanged independently of the commodity itself. No doubt that securitization helps increase circulation, but also helps price speculation without delivery or receipt of the commodity which remains in its place, and which might even turn into an imaginary or virtual commodity. Perhaps the origin of securitization was embodied in the shares of capital or stock companies, where shares help to exchange the capital stock of a company without any need to liquidate the company. It also helps realize stability of the capital stock of the company and turn shares into liquid money when needed. However, such shares could be taken as a means for price speculation, where the value of a share becomes different from its true value, which originally represents a common share in the net assets of the company.

What is important here is that exaggerated resort to securitization has no doubt helped separating financial economics from real economics and in its reaching very high prices.

Selling of Debts

The operations of conventional banks are based on trading in debts (loans) and money. The bank borrows at a certain interest rate and lends at a higher interest rate; the difference between the bank's borrowing and lending rates constitutes the bank's profit. Thus, in the capitalist system, interest could be imposed on loans; that who delays in repayment of his dues will be subject to the imposition of a higher interest rate. He would be subject to an interest rate higher than the customary compensatory interest rates. The debt could also be subject to sale to a second, third and fourth person, thus creating many accumulated debts. Not only that, the entire capitalist system is based on mountains (or pyramids) of debts. Should a party in the hierarchy or pyramid fail to repay his obligations, the entire pyramid could collapse and catastrophes and crises could occur.

Debts in Islam are not prohibited, while interest-bearing loans are prohibited. A deferred sale is permissible, although it involves a debt. As we said earlier, it is possible to increase the price in return for a deferred payment because sale is the exchange of two different things, unlike a loan. In other words, sale is based on a commodity, whereas a loan is not. Thus an increase in the price once (at the time of concluding the sale transaction) in return for deferment of the price is permissible, but no increase is permissible in the event of default of the buyer, because the amount reverts in status to that of a loan or an obligation and the status of the amount no longer becomes a sale price. A sale transaction between

a seller and a buyer may involve reduction of the amount to be paid in return for a premature repayment of the amount required as opposed to increase of the amount in return for deferment of repayment. However, should there be a third party (a broker) other than the seller and the buyer, who played the role of the financier, his role would be that of a lender and in this status he would not be allowed to charge any interest on the loans no matter what was their form.

The conclusion is that, among the causes of the current global financial crisis is trading in, and selling of, debts and expansion of debt-based transactions. We should not forget in this context the role of credit cards. If we want to resolve this crisis, we should put an end to trading in debts and loans and persuading people to resort to such trading by using different means.

Regarding trading in currencies, Islam has given some details to the rules governing this subject. If the transaction involves exchanging one currency with another identical currency, then the exchange should be immediate or on the spot without any increase. But if the currencies exchanged involve two different currencies, the exchange should be immediate, but with permission to have the units of one currency exceed the other. That is to say that the exchange could be made with some profit as a result of this immediate transaction, which embodies currency exchange transactions. However, exchanging one currency with another with one consideration being immediate and the other deferred, or both consideration are deferred (*i.e.* the sale of debt for debt – بيع الكالئ بالكالئ), the exchange is not valid from a Shari'ah perspective, for it opens the door for *riba al-nasee'a*(*).

It is to be noted that while it is permissible in loan transactions, it is not permissible in sale transactions. In an interest-free loan, it is permissible for the borrower to give or repay more to the lender as an act of *Ihsān* (doing something good or beautiful to another person), but in a sale transaction, which is based on equity, one of the parties can not get the amount on the spot while the other receives it on a deferred basis, as a spot amount is more valuable than a deferred one and because that party which receives his amount on the spot would have charged *riba* to the other party who would receive his amount on a deferred basis. This is in cases of exchanging a currency by another. However, exchanging money for a commodity, it is permissible in such transaction to involve an excess, deferment, increase of the price in return for payment deferment, as well as discount of the price in return for its immediate payment, as long as the relationship is dual and involves only the seller and buyer.

(*) Excess amount received in return for extending the term of repayment of the principal amount.

Creation of Money

Commercial banks interfere with the State in issuing currency; while the State issues the basic currency, both paper and minted coins, banks create credit banking money or deposit money. Had the commercial banks kept the deposits of depositors without lending them to other customers, there would have been no creation of money. This means that the banks would have maintained full (100%) reserves to cover deposits. But banks hold a partial cash reserve and lend amounts that are in excess of such partial reserve. The banking system could double deposits and banking money and become able to lend amounts that exceed many times its capital and the deposits it receive, thus generating more and more profits and interest. If banks do not observe the technical rules and applicable regulations for extending credit, and if they are not subject to strict control of the central bank, a risk will arise as a result of expanding the process of money and credit creation. In recent years, we found that banks tended to encourage consumption, use of credit cards and extension of personal loans to buy homes, real estate and speculation in bourses. No doubt that such expansion of credit, along with a slackening of control, was among the main reasons for the occurrence of the current global crisis.

Control of Banks

Central banks exercise control over banks through monetary and banking policies, determination of monetary reserves, liquidity ratio, interest rates, guarantees, etc. Should central banks slacken their efforts in exercising control, banks would be able to expand their extension of credit and contravene control rules and regulations. Perhaps this is another cause of the current global crisis.

Administrative Corruption

Administrative corruption could take the form of paying bribes to get loans, or manipulation of the process of valuating guarantees, as well as the form of determining the amounts of loans, the schedule of repayment of their installments and the interest rate to be paid on such loans. This corruption might take other forms and ways; it could be in the form of embezzlement of a bank's funds or extension of loans to some influential people who then might evade repaying them. Thus the volume of doubtful debts would increase, funds of banks would be frozen and these banks might become, as a result of these irregularities, unable to repay customers' deposits and go bankrupt. Thus there is a dire need for internal as well external control to prevent the occurrence of bribery, corruption, embezzlement, theft and the like, especially that when a bank goes bankrupt, it might lead to the bankruptcy of other bank, one after the other.

Exaggerating Private Interests

The capitalist system concentrates on the individual's pursuit of his own self-interest, thus private interests overweight public and benevolent interests. This leads to exaggeration, fanaticism, extremism and the occurrence of illegitimate and unethical violations. Islam does not prevent the pursuit of self-interest; on the contrary, it views this matter as part of a Muslim's economic and financial rationality. That who does not recognize his own interests is considered in Islam a minor or a fool or simple-minded. But should private and public interests conflict with each other, priority should be given to public interests. This means that both individuals and companies should, while pursing their personal interests, give attention to public interests, which could be established in the form of laws and regulations. When individuals work towards realizing their own interests which are consistent with the public interests, or do not conflict with them, this means that there is an invisible hand which would serve public interests. This invisible hand would reconcile these two types of interests, the private and the public. Muslims have, centuries before the coming of Adam Smith, identified this invisible hand. We do not object to profit benefit maximization if done within the boundaries of Shari'ah rules, restrictions and ethics. There is no basis to what some Islamic economists advocate, namely to cancel private or personal interests for the sake of public interests, or to absolutely cancel the principle of profit maximization.

The Role of Scholars and People of the Media

No doubt that scholars and people of the media have a role in monitoring the economic and administrative behavior. But if a man of the media, such as a journalist or otherwise, a bribe openly or in a secretive way, they would tend, by doing so, to conceal or cover up mistakes and irregularities. To keep reticence, mystification and misleading could be practiced as a result of a bribe; they could be practiced as well as a result of ignorance, remissness or fear. Not all scholars and people of the media are able to uncover and identify all mistakes or misbehaviors and expose them to hold the persons responsible for committing them accountable for their action. Some prefer to hold their tongues; others are indifferent; some others stutter or hesitate or say something ambiguous or not understandable, behaviors which delay making things known when needed (to use the expression used by Shari'ah scholars) until the catastrophe occurs. It perhaps seems odd and surprising that people, even in liberal countries, that people are afraid to uncover truths and make them known to the public. No one would venture to criticize something unless he has a big opposition party to lean on for support. Besides, a person's criticism might not be made to uncover truths, but for political purposes. He may delay his criticism for many years until election time so that such criticism would become a false election card

against his political opponent. Hence appropriate procedures should be adopted for the purpose of enjoining what is good and forbidding what is wrong, each within his competence, responsibilities and learning. Each one of us should give the fire alarm before fire eats up and destroys everything, as it would be of little avail to do so after this happens.


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