

ISLAMIC RISK MANAGEMENT: TOWARDS GREATER ETHICS AND EFFICIENCY

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1. Introduction

The *raison d'être* for a financial market is to mobilize funds from savings-surplus units and to allocate the same among savings-deficit ones in the economy. The latter are supposed to use funds primarily for investment in productive assets and add to the wealth of the society. Promotion of efficiency in the mobilization and allocation process is generally accepted as the primary goal of policy makers and regulators of financial markets. When markets are characterized by violent swings in prices, the entire resource generating process may be adversely affected. Present day markets in commodities, currencies, stocks, bonds etc. are indeed characterized by a high degree of volatility. Such risk factors have, in turn, given rise to the need for risk management solutions and products that would enable the market participants to hedge. Such products, known as, derivatives have proliferated in markets where regulators believe that such products help stabilize the markets. These are believed to enhance efficiency by enabling the market participants to get immunized against undesirable risks and to concentrate on the risks that they would like to bear.

Another goal of regulations is to ensure ethics and fairness in the markets. Most regulations result in a move towards greater efficiency and ethics. In many instances, however, a conflict exists between concerns about efficiency and ethics. In such cases regulations involve a trade-off between the two with the balance generally tilting in favor of the former. In an Islamic financial market, by definition, ethical concerns predominate and must be met even at the cost of efficiency. In this paper we argue that there may be no real costs in terms of loss of efficiency in an Islamic financial market. Indeed, efficiency notions often underlie the Islamic norms of financial ethics and it is often the misplaced emphasis on certain dimensions of efficiency which gives rise to an apparent conflict. We examine this hypothesis in the context of the role of derivatives, the so-called risk management products, in an Islamic financial system.

The paper is organized as follows. Section 2 defines the norms of efficiency and financial ethics. Section 3 undertakes a comparison of macro-level benefits and costs associated with hedging with derivatives as risk management products. In section 4, we undertake a comparison of two basis types of derivatives - options and forward with a few Shariah-nominate contracts. Section 5 attempts to develop some Islamic risk management solutions in the framework of al-khiyar. The purpose is to demonstrate that risk-management products can indeed be designed based on the rich classical Islamic theory of contracts and thus, without violating any of the norms of Islamic ethics. Section 6 contains some other examples of risk management from the Islamic theory of contracting beyond the framework of al-khiyar. Section 7 provides a summary and conclusion.

2. Norms of Efficiency and Ethics

2.1 Defining Market Efficiency

The criteria to measure efficiency of the financial markets are well defined in financial literature. Financial market efficiency is measured in terms of efficiency achieved in mobilizing savings from the savings-surplus units in the economy and in allocating these funds among savings-deficit units in the economy.

The notion of allocational efficiency implies that funds are channeled into desirable projects. More funds should flow into projects with higher profitability and lower risk (hence, higher value) and vice versa. This implies that such projects should command a higher price in the market. Prices should reflect intrinsic worth of the projects.

The equality between price and value of a given project would be achieved only when there is informational efficiency. Informational efficiency implies that there are no lags in the dissemination and assimilation of information. Another prerequisite to pricing efficiency is operational efficiency, which implies that transactions should be executed at minimal costs.

Another notion of efficiency is known as full-insurance efficiency. This relates to the ability of the market participants to hedge or transfer whole or part of the various risks to other willing participants.

From the above, it is clear that any move or regulation that increases the availability and accuracy of information, improves information processing by participants, enhances risk management possibilities, reduces transaction costs, simplifies trading system, provides for a better match between the needs of the savers and that of investors, is a step towards improving the overall efficiency of the system.

Efficiency of the financial markets also presupposes that intense competitive pressures prevail that force all participants to react without any lag and that the markets are dominated by rational investors who would not overreact or underreact. An efficient market is also a stable market where violent price swings due to irrational behavior of the participants is ruled out.

2.2 Defining Norms of Islamic Financial Ethics

Islamic scholars have undertaken a thorough examination of relevant verses from the holy Quran and the *Sunnah* and have long established the basic principles, which govern the rights and obligations of participants in the financial markets. We present below some important norms of Islamic ethics as are applicable to financial markets. All these norms may form the basis of regulation and legislation relating to financial markets.

2.2.1. Freedom to Contract

Islam provides a basic freedom to enter into transactions. The holy Quran says: *Allah has made trade lawful*. (2:275). Further, no contract is valid if it involves an element

of coercion for either of the parties. The holy Quran also says: *let there be among you traffic and trade by mutual goodwill* (4:29). However, this basic norm does not imply unbridled freedom to contract and may be sacrificed when there is a trade-off with other norms requiring specific injunctions.

2.2.2. Freedom from Al Riba

All forms of contracts and transactions must be free from *riba*. This implies that there is no reward for time preference and under conditions of zero risk. The question of *riba* has been addressed in a large body of literature and there is a general consensus about the meaning and implications of *riba*.

2.2.3. Freedom from Al Gharar (Excessive Uncertainty)

All forms of contracts and transactions must be free from excessive *gharar*. This implies that contracting under conditions of excessive uncertainty is not permissible. Islamic scholars have identified the conditions and highlighted situations that involve excessive uncertainty and consequently, disallow a contract.

2.2.4. Freedom from Al-Qimar (gambling) and Al-Maysir (Unearned Income)

Contracting under excessive uncertainty or *gharar* is akin to gambling (*al-qimar*). And uninformed speculation in its worst form, is also akin to gambling (*al-qimar*). The holy Quran and the traditions of the holy prophet explicitly prohibit gains made from games of chance which involve unearned income (*al-maysir*).

Here it may be noted that the term speculation has different connotations. It always involves an attempt to predict the future outcome of an event. But the process may or may not be backed by collection, analysis and interpretation of relevant information. The former case is very much in conformity with Islamic rationality. An Islamic economic unit is required to assume risk after making a proper assessment of risk with the help of information. All business decisions involve speculation in this sense. It is only the gross absence of value-relevant information or conditions of excessive uncertainty that makes speculation akin to a game of chance and hence, forbidden.

2.2.5 Freedom from Price Control and Manipulation

Islam envisages a free market where prices are determined by forces of demand and supply. There should be no interference in the price formation process even by the regulators. It may be noted here that while price control and fixation is generally accepted as unIslamic, some scholars, such as, Imam Ibn Taimiya admit of its permissibility. Such permissibility is subject to the condition that price fixation is intended to combat cases of market anomalies caused by impairing the conditions of free competition.

It is a requirement that the forces of demand and supply should be genuine and free from any artificial element. Islam therefore, condemns any attempts to influence prices through creating artificial shortage of supply (*ihthakar*). Similarly, any attempt to bid up the prices by creating artificial demand is considered unethical. Such an action of bidding up the price without an intention to take delivery is termed as *najas* and is not permissible.

2.2.6 Entitlement to Transact at Fair Prices

Prices that are an outcome of free play of forces of demand and supply without any intervention or manipulation are believed to be fair. However, in some instances, pricing is based on a valuation exercise. In such cases the difference between the price at which a transaction is executed and the fair price (as per the opinion of valuation experts) is termed as *ghubn*. The presence of *ghubn* makes a transaction unethical.

2.2.7 Entitlement to Equal, Adequate and Accurate Information

Islam attaches great importance to the role of information in the market. Release of inaccurate information is forbidden. The concealment of vital information (*ghishh*) also violates the norms of Islamic ethics and according to the traditions of the holy prophet, the informationally disadvantaged party at the time of the entering into the contract has the option to annul the contract. The traditions refer to price information in the market as well as other information relevant for valuation of the commodity.

Islamic scholars are of the opinion that a transaction must be free from *jahalah* or misrepresentation to be considered Islamic. The institution of a transparent market is, thus, quite important and transactions should be executed within the market after taking into account all relevant information. It may be noted that the holy traditions that deal with the issue, refer to a commodity transaction. In case of a commodity transaction, the commodity in question is subject to inspection and both the parties can be reasonably sure about the benefits that are going to flow from future possession of the commodity. Unlike a commodity, however, the benefits from a project are in the form of expected cash flows. These expected cash flows are also subject to continuous revision as new events occur. Hence, Islamic ethics requires that all information relevant to expected cash flows and asset valuation should be equally accessible to all investors in the market.

2.2.8. Freedom from Darar (Detriment)

This refers to the possibility of a third party being adversely affected by a contract between two parties. If a contract between two parties executed with their mutual consent is detrimental to the interests of a third party, then it may enjoy certain rights and options. A case in point is the pre-emptive right (*al-shufa*) of a partner in joint ownership.

The list of norms of Islamic ethics stated above is by no means exhaustive. It differs from the norms of mainstream financial ethics significantly - in imposing injunctions against *al-riba*, *al-qimar*, and *al-maysir*.

The next important question is how to prioritize various norms of Islamic financial ethics when there is a possible conflict or trade-off. The Islamic ethico-legal system has a clear scheme of priorities in legislation. Where there is a clear injunction in the holy *Quran*, for example, in the form of prohibition of *riba* and games of chance, these must be observed at all costs. Next in importance are the norms that follow from the *Sunna* or traditions of the holy prophet, and *ijma* or consensus, in that order. For example, the basis of the right of pre-emption (*al-shufa*) and the principle of freedom from *darar* is *Sunna* and

hence, is accorded lower priority than prohibition of *riba*. There may be certain areas however, which are "unrestricted" by *Shariah*. What should be the guiding principle for the regulator in establishing a system of priorities in these areas?

2.2.9 *Maslahah Mursalah (Unrestricted Public Interest)*

The answer to the above may be found in the framework of *maslahah mursalah* or "unrestricted" public interest, which is a valid framework of Islamic legislation. The framework is called "unrestricted" public interest on account of its being undefined by the established rules of *Shariah*. *Maslahah* consists of "considerations which secure a benefit or prevent a harm but are, in the mean time, harmonious with the objectives (*maqasid*) of *Shariah*. These objectives consist of protecting five essential values, namely, religion, life, intellect, lineage and property, which have a much wider scope and meaning. For instance, protecting the right to live includes protecting the means, which facilitate an honorable life, such as, freedom to work and travel. Protection of property requires defending the right of ownership. It also means facilitating fair trade and lawful exchange of goods and services in the community. Any measure which secures these values falls within the scope of *maslahah* and anything which violates them is *mafsadah* (evil), and preventing the latter is also *maslahah*".(1) For example, any attempt to curb monopolistic tendencies or block the free flow of information in the market place is a step to secure a *maslahah*. Further, an act which implies the attaining of a *maslahah* and the warding off a harm should not be forbidden even if it were, from another aspect, to negate a *maslahah* and to bring about a harm, as long as the secured *maslahah* outweighs the harm that results from the act or the *maslahah* that may be negated in consequence of it". (2) Thus, the framework essentially involves a comparison of benefits and costs at a macro-level. And needless to say, this principle of ensuring maximum net social benefits is clearly accorded a lower priority than principles emanating directly from the holy *Quran* and the *Sunna*. Of course, this specific norm ensuring maximum net social benefits is a valid, and at the same time, a dynamic basis of regulation and legislation in the Islamic framework. It is dynamic, because it can meet the challenges of ever-changing circumstances facing a Muslim society. The nature and intensity of factors affecting social benefits and costs are likely to vary across space, and time.

3. *The Maslahah (Mafsadah) of Hedging with Derivatives*

From the above exhaustive discussion on the norms of Islamic financial ethics it is clear that some efficiency notions, such as, informational and pricing efficiency are clearly in conformity with the Islamic and ethical notions relating to adequacy and accuracy of information and fair pricing. As regards full-insurance efficiency or operational efficiency, these can be justified in the Islamic ethical framework in terms of their *maslahah* for the people at large. What then is the *maslahah* underlying the derivative contracts?

Risk management products allow the market participants at a micro-level to avoid undesirable risks. These products make it possible to transfer risks to other participants who would like to bear them. Risk management products or derivatives have proliferated over the last two decades in response to large-scale volatility witnessed in global markets in commodities, currencies, stocks and bonds. The products can often be quite complex, engineered specifically to meet the risk management requirements of a particular market participant. At a basic level, however, these products can be discussed

in the category of options and forward contracts. Often the more complex products include features of these basic contracts.

In a forward contract two parties undertake to complete a transaction at a future date but at a price determined today. The two parties could be a producer who promises to supply the product (underlying asset) and the consumer who needs the product on a future date. If the price of the product is highly volatile, then both are exposed to a risk. The producer is exposed to the risk of a price decline, while the consumer is exposed to the risk of a price increase. Both the parties can now hedge against their respective risks by entering into a forward contract. It may be noted that in the process, they also lose the potential for making a gain due to price change.

There is a second benefit to this. Since both parties have "locked-in" their price/cost, they would be in a much better position to plan their business activities.

Forward contracts, when standardized - standardized with respect to contract size, maturity product quality, place of delivery etc., backed by the intermediation of an organized exchange, are known as futures. Futures are believed to add more to the efficiency of the system by getting rid of the problem of double-coincidence of needs and counterparty default risk. Further, with exchange trading, another problem with forward contracts, that of being possibly locked into unfair price would not exist. This is because each party is a price taker with the futures price being that which prevails in the market at the time of contract initiation.

Another basic derivative product which facilitates risk management is option. While a future contract enables easy hedging by locking in the price at which one could buy or sell, it also implies that one could not benefit from subsequent favorable price movements. Further, futures (and forwards) are unsuited for the management of contingent liabilities or contingent claims. These are liabilities or claims on a business entity that could arise depending on an uncertain outcome. An option contract which provides a right to buy or sell without any obligation can handle such uncertainties.

All exchange-traded options come in two types - call options and put options. A call option entitles the holder the right but not the obligation to buy the underlying asset at a predetermined exercise price at or anytime before maturity. A put option on the other hand entitles the holder the right but not the obligation to sell the underlying asset at a predetermined exercise price at or before maturity. Since options provide the right but impose no obligation, the holder exercises its option, only if it is favorable for him to do so. This absence of obligation to exercise provides increased flexibility and is the key advantage of options over forwards or futures. The buyer of the options pays for this privilege by paying the seller a non-refundable premium. The maximum possible loss to a buyer of an option is therefore limited to the premium he pays. This loss occurs if he chooses not to exercise the option. In most other respects, trading methods, contract specification etc., the exchange trading of options is similar to that of futures.

From the above it is quite clear that options and futures (and forwards) do provide certain benefits to market participants exposed to certain kinds of risky situations. And given the complexity of modern business requiring advance planning, and the many risks arising out of fluctuations in prices and rates in markets for commodities, currencies, and other financial assets, the *maslahah* seems to be real and substantial.

However, as discussed earlier, in forming the basis of a legislation, *maslahah* such as above is to be accorded a lower priority than the Quran, or the Sunnah, or *Ijma*. Among the various norms of ethics mentioned in section 2 above, the ones that are the most important are freedom from *riba*, *gharar* and *qimar* or *maysir*. Prohibition of *riba*, *gharar* and *qimar* are central to Islamic law of contracts in view of the strong Quranic condemnation of these elements. While a small amount of *gharar* is even tolerable, the prohibition is the strongest on the issue of *riba* and *qimar*. If the so-called risk management products are to be admissible in the Islamic framework, they would have to be free from these elements. Clearly, fulfilling certain social needs or providing certain *maslahah* does not, by itself constitute a strong enough ground for permissive legislation.

The most significant objection against futures and options is that these are invariably settled in price differences only and never result in actual delivery of the object of exchange. How does one use derivatives for gambling, or speculation of a variety akin to a game of chance? Let us consider the case of simple options, such as, a call option. For example a call option on stock X provides a right to individual A to purchase the stock at a price of \$50 three months from now. The call itself is purchased at a price of say \$5. If as per his expectations the price of X increases to \$60 on the maturity date, then the buyer of the call has a net gain of \$5 (on an investment of \$5). This is what the seller or the writer of the call would lose. If the buyer would have purchased the stock itself (say at a price of \$50) in stead of the call on the stock in order to benefit from expected price rise, then he would have made a profit of \$10 on an investment of \$50. Thus a call option enables the buyer to magnify his returns if his expectations materialize. Now contrary to his expectations, if the price of the stock falls below \$50 on the maturity date, say to \$40, the buyer would allow the option to expire without exercising it since he can buy from the market at a lower price. His losses would amount to \$5 or hundred percent with the call. This \$5 would be what the seller of the call would gain on zero investment. It may be noted that losses for individual A are also magnified with options (losses would have been \$10 on the investment of \$50 or twenty percent with purchase of the underlying stock). In the game the buyer and seller must have diametrically opposite expectations. The possibility of risk and returns are magnified, the gains of the buyer being equal to the losses of the seller and vice versa. Thus, the purchase and sale of options is a risky zero-sum game. It can be demonstrated in a similar fashion how a buyer or seller in a forward or future can speculate on the direction of prices with no intention of giving or taking delivery of the object of exchange. Invariably, the transactions are reversed on or before the date of maturity and the game boils down to playing in price differences.

The possibility of such gains encourages economic units to speculate on the future direction of the price of the underlying asset. Since prices of such assets fluctuate randomly, gains and losses are random too and the game is reduced to a game of chance. There is a vast body of literature on the forecastability of stock prices, currency exchange rates etc. Prices and rates are volatile and remain unpredictable at least for the large majority of market participants. Needless to say, any attempt to speculate in the hope of the theoretically infinite gains is, in all likelihood, a game of chance for such participants. While the gains, if they materialize, are in the nature of *maysir* or unearned gains, the possibility of equally massive losses do indicate a possibility of default by the loser and hence, *gharar*.

The presence of large scale speculation is tolerated in conventional financial markets on the grounds of providing liquidity and ensuring vibrant and active markets. The speculators are seen to provide for the "other" end of the transaction whenever a hedger wants to hedge. Their presence is seen to improve operational efficiency of the market by bringing down transaction costs. However, in the Islamic framework, the provision of hedging facility is hardly an adequate rationale for tolerating qimar and maysir. The Shariah does not disapprove of hedging, since it brings in some *maslahah*. It is the zero-sum nature of the game that the Shariah finds objectionable, as in it, lie the roots of social disharmony and discord. Clearly, solutions to risk management problem need to be found elsewhere, and not through derivatives trading. Even from a conventional efficiency point of view, large-scale speculation may indeed threaten the stability and allocational efficiency of the system, though this line of argument may not easily find favor due to lack of empirical academic support.

4. Shariah-Nominate Contracts for Hedging

As highlighted above, solutions to risk management have to be found elsewhere. Does the rich literature on Islamic theory of contracting offer any solutions? An ideal beginning point in this search would be to search for parallels of the derivative contracts in the literature. We begin with futures and forwards.

4.1 The Case of Futures (and Forwards)

The unique feature of a future or forward contract is that the settlement of the transaction is entirely deferred to a future date. Since, both the buyer and seller enter into an obligation to deliver the price and object of exchange respectively on a future date, the transaction essentially boils down to exchange of a debt for another debt or *bai-al-dayn-bi-al-dayn* or *bai-al-kali-bi-al-kali*. Such *bai* is expressly forbidden according to almost all Islamic schools of jurisprudence and scholars.

A future contract also clearly violates the Shariah prohibition of sale of the non-existent or sale of what one does not have on grounds of *gharar*. It may be noted here that scholars, on grounds of public necessity, have yielded some flexibility in the matter of *gharar* in settlement of contracts. For generic products, scholars have permitted *salam* sale, that is, sale of what one does not have, but what one is reasonably sure of bringing into existence. Even in this case, the scholars have insisted that one end of the contract must be settled on the spot, that is, the buyer must give delivery of the *thaman* or price at the time of contracting to the seller. It is the seller's obligation that is deferred to a future date.

Hanafi scholars have also permitted several forms of *bai* where settlement from both ends can be deferred to a future date. The first is the case of *bai-istisna* or a contract to manufacture. In this specific case, the buyer and seller-manufacturer are under no constraint to settle the transaction at least from one end at the time of contracting, unlike *salam*. The second is the case of *bai-istijrar*, or repeated purchases from a single seller. Here too, the Hanafi scholars provide much more flexibility, such as, deferment of both payment of price and delivery of object of exchange to a future date and fixation of price on the basis of average market prices etc (3)

It is interesting to note the reasons for such flexibility. Bai-istisna and bai-istijrar, like bai-salam have been permitted on grounds of public need. But the unique characteristic of salam is that it involves a generic fungible commodity which can be easily found in the market place. As such, if deferment of settlement by both the parties is permitted, it can be easily used for large-scale speculation in price differences. (4) Such permissibility in case of bai-istisna or bai-istijrar cannot obviously be abused for speculation in price differences.

It may also be noted that the so-called flexibility is accorded only by the Hanafi scholars on grounds of pressing public need, but only in cases where there is hardly any room for speculation in price differences. The other schools take a stronger position and disallow any kind of deferment by both the parties.

4.2 The Case of Options

Options, as independent financial contracts that are traded for a price, have no clear-cut parallel in the classical Islamic theory of contracting. Some contemporary scholars, such as, Abu Sulayman (5), Kamali (6), who have attempted an evaluation of such contracts, have used a generic term, *al-ikhtiyarat*, a variant of the term *al-khiyar*: which normally is the classical *fiqh* concept for various kinds of embedded options, as mentioned above. Some key issues involved in an evaluation of conventional options are discussed below.

4.2.1. The majority view of *Shariah* scholars is that an option is a promise to sell or purchase a thing at a specific price within a stipulated time and such a promise cannot be the subject matter of a sale or purchase.(7) As the resolution of the Islamic Fiqh Academy, Jeddah asserts "Option contracts as currently applied in the world financial markets are a new type of contracts which do not come under any one of the *Shariah* nominate contracts. Since the subject of the contract is neither a sum of money nor a utility or a financial right which may be waived, the contract is not permissible in *Shariah*."(8) One of the countervalues in the trading of options is a right or a privilege granted to a party in contrast to a tangible object or *maal*. The scope of *maal* also generally includes intangibles, such as, service, and usufruct. As Abu Sulayman observes "the subject matter of option is a right (*haqq*) and a right pure and simple (*al-haqq al-mujarrad*) is neither a tangible commodity nor usufruct; it cannot therefore be a proper subject matter of contract."(9) El Gari (1993) who argued in favor of introducing options trading on other grounds, concurs with this viewpoint. As he writes "the said right does not have a tangible or material quality, but is indeed intangible that may not be sold or bought, considering that it is not a property. It is only similar to a preemptive right (*shofaah*, right of custody and guardianship) all of which, while allowed in *Shariah* are intangible rights that are not allowed to be sold or relinquished against monetary compensation.(10) A few scholars however, would prefer to include any kind of benefit or *manfaa* in the definition of *maal*. Since options involve a benefit (a right without obligation) for the purchaser, trading of such benefit is observed to be permissible. The Islamic Investment Study Group of the Securities Exchange Commission, Malaysia in its report finds call warrants to be acceptable because it "has the characteristics of an asset which satisfies the concept of "*haqq mal*" and "*haqq tamalluq*" which is transferable based on the majority of *fuqahas* views other than *madhhab* Hanafi. Therefore this right can be classified as an asset and can therefore be traded. The famous *fuqaha* can also accept this right as an asset on the basis that CW is something you can possess and benefit from."(11) The views of the modern Shiite scholars too seems to uphold this

view. According to a fatwa of Ayatollah Seestani, one can transfer his rights to any one, either by getting money for it, or for free. (12)

4.2.2. Some scholars have also attempted to justify permissibility to options by drawing a parallel with *bai al-urbun*.

Urbun refers to a sale in which the buyer deposits earnest money with the seller as a part payment of the price in advance but agrees that if he fails to ratify the contract he will forfeit the deposit money which the seller can keep. A call option is similar to *bai al-urbun* in the sense that the seller does not return the premium or advance payment to the buyer in case the latter does not exercise the purchase option and does not confirm the contract. However, in case of a call option, the buyer loses the option premium even if the option is exercised and the contract is confirmed. In case of *bai al-urbun*, however, the option premium is adjusted in sale price when the contract is confirmed. All the schools of *fiqh* except the Hanbali school find *bai al-urbun* unacceptable. These scholars have found the retention of earnest money or premium by the seller akin to misappropriation of the property of others. These scholars have primarily relied on the following simple and straightforward hadith narrated by Ibn Abbas "the prophet (peace be upon him) prohibited the sale of *urbun*" reported in Imam Malik's *Muwatta*.

The followers of Imam Ibn Hanbal however, find this kind of transaction Islamically permissible. Imam Hanbal considered this hadith to be weak and validated *urbun* based on the practice of Caliph Umar. It is reported in *al-Mughni* from Nafi bin al-Harith the Caliph's officer in Mecca that he purchased from Safwan bin Umayya a prison house for four thousand dirhams on condition that if the caliph approved of it the deal would be final, otherwise he (Safwan) would be given four hundred dirhams. Dr Yusuf Al-Qaradawi, a prominent contemporary *Shariah* scholar observes that the ruling (of Ibn Hanbal) is more suitable to our own times and in greater harmony with the spirit of *Shariah*, which seeks to remove hardship and facilitate convenience of the people. (13)

El Gari (1993) argued in favor of transactions in call options using the framework of *bai al-urbun*. (14) According to him, the followers of Ibn Hanbal argue in favor of this type of sale which is one of the antique rules of this particular school of *fiqh*. And given the similarity between *bai al-urbun* and call options, there is no reason why the latter should not be acceptable in the Islamic framework. It may be noted here that any argument on validity of options because of its similarity with *bai al-urbun* is relevant only for call options. As far as a put option is concerned there seems to be little support in its favor. Scholars belonging to the Jaafri School also seem to find *bai al-urbun* permissible. According to Ayatollah Seestani, "this means that after confirming the contract, the buyer pays some deposit to guarantee the sale with a condition that if he changes his mind, the buyer can not ask for repayment of the deposit. This kind of agreement is permissible" (15) However, the Ibadi scholar Muhammad ibn Yusuf ibn Eissa ('attafayyish) in *Sharh Al-Nayl*, mentions the same Hadith of Ibn Abbas on which Sunni jurists rely and favors the prohibition of *bai al-urbun*. (16)

To sum up, the above discussion seems to (a) completely rule out the case of exchange-traded futures; (b) finds some favorable verdict on deferment of obligations by both parties to future under specific conditions that make speculation in price differences impossible; and (c) finds mixed evidence on permissibility of options as independent contracts with the balance tilting in favor of prohibition. The overriding criteria of

permissibility or prohibition seems to be the possibility of speculation on price differences.

So far, we have discussed options as independent contracts. Options can however, be in the nature of embedded features in exchange contracts. The option-like features make risk management possible, and it seems the Islamic theory of contracting does provide for the possibility of options as embedded features in exchange contracts within the framework of *al-khiyar*. We turn to this in the following section.

5. The Framework of Al-Khiyar

The notion of options in the framework of *al-khiyar* in Islamic law is essentially ethical. While options in mainstream finance encompass all kinds of rights without obligations that have financial implications, *al-khiyar* generally refers to a specific type of right of either or both parties to the contract to confirm or rescind the contract. Of the various types of options, some are created by mutual consent of the parties to the contract, while others are in the nature of rights existing for either or both parties because of the very operation of the law. Contrary to conventional thinking, the framework of *al-khiyar* asserts that mutual consent or agreement may not be the most essential element of the Islamic contract. What is of utmost importance, is the equity of a contract and fulfillment of proper and reasonable expectations of the parties to the contract. The parties to the contract must be reasonably certain and informed about the countervalues being exchanged, and the implications or outcomes of contracting. The presence of uncertainty or absence of relevant information is termed as *gharar* and avoidance of excessive *gharar* or uncertainty is an important requirement for a valid contract. A valid contract may still be entered into under conditions of *gharar* relating to the article of exchange, price etc., but with a provision of options for the parties to be affected by the same. The provision of options in the *al-khiyar* framework helps reduce *gharar* and brings it within Islamically acceptable limits. It helps undo any possibility of wrong committed on a party deliberately or unintentionally. Islamic options are also justified on grounds of several larger benefits to the society. Through options, the parties to the contract are granted a 'reassessment' or 'cooling off' period over which they can rationalize their decisions or reverse the same. Thus, the possibility of conflicts between the parties because of their abrupt, irrational and wrong decisions are minimized.

Broadly, the classical *fiqh* literature classifies options into the following categories, though minor variations in the classification scheme have been reported by some scholars: *khiyar al-shart* (option by stipulation); *khiyar al-tayeen* (option of determination or choice); *khiyar al-ayb* (option for defect); *khiyar al-ruyat* (option after inspection); and *khiyar al-majlis* (option of session). Some scholars view *khiyar al-tayeen* only as a specific form of *khiyar al-shart*. Some authors discuss about two other options - *khiyar al-wasf* (option by misrepresentation) and *khiyar al-tadlis* (option by fraud); while others prefer to discuss these under the broad category of *khiyar al-ayb*. Of the various options, the ones that are potentially promising in designing new financial instruments for risk management are *khiyar al-shart* (option by stipulation or option as a condition) and *khiyar al-tayeen*. We seek to demonstrate the possibility of designing risk-management products using these two types of options.

5.1. *Khiyar Al-Shart (Option by Stipulation)*

Khiyar al-shart is an option that is in the nature of a condition stipulated in the contract. It provides a right to either of the parties, or both, or even to a third party to confirm or to cancel the contract within a stipulated time period. In essence, this implies that the concerned party gets some time period for reassessment of the benefits and costs involved, before giving final assent or ratification to the contract. Such option is also termed as *khiyar al-tarawwi* (option of reflection) by some scholars.

The permissibility of such options is inferred directly from the following *hadith* of the holy prophet (peace be upon him) reported by *al-Bukhari* and *Muslim*. When Habban Ibn Munqidh complained to the holy prophet (peace be upon him) that he was the victim of frequent fraud in some earlier transactions, the holy prophet (peace be upon him) is reported to have said "When you conclude a sale you may say that there must be no fraud and you reserve for yourself an option lasting three days." According to another *hadith* reported by *al-Bukhari*, the holy prophet said "the two contracting parties have a right of option as long as they are not separated or the sale was a sale of option". This *hadith*, therefore, proves the basic validity of *khiyar al-shart* (along with *khiyar al-majlis*).

There is a consensus among jurists belonging to all the major schools regarding the permissibility of *khiyar al-shart*. However there is some divergence of opinion among jurists on whether options and other contractual stipulations are valid as a matter of principle, or these are merely tolerated by way of exception. Imam Abu Hanifa and Imam Shafii viewed such option-related stipulations as mere exceptions permissible for a period of three days only while Imam Hanbal did not impose any limit.

As far as the general framework of contractual stipulations and conditions is concerned, Kamali (17) examines in detail the *Shariah* basis of such stipulations. As he notes, while the general Hanafis and Shafii position relating to all contractual stipulations including options is that these should be in harmony with the essence of the contract (such as the seller in a deferred sale seeking a mortgage or a guarantor), the Maliki position is more liberal which validates stipulations even with financial value (such as the buyer stipulating that the goods be transported to certain locality). He quotes extensively from the writings of Hanbali scholars, such as Ibn Taymiyyah and his disciple Ibn Qayyim al-Jawziyya to highlight their liberal views which lay emphasis on the basic freedom of contract and the parties' liberty to make stipulations as they please. He asserts that the *Sunnah* entitles the parties to insert stipulations in contracts so as to meet their legitimate needs and what may be deemed to be of benefit to them.

There is a consensus among jurists that such conditions providing options to either or both the parties are Islamically valid. There is also a general agreement on the question of granting this right to a third party when, for instance, individual A purchases a commodity from individual B subject to the condition of ratification of the purchase by individual C. There is however, some difference regarding the modalities of stipulating the condition providing the option to a third party.

All such contracts involving exchange of countervalues either from one end or both, and which are inherently cancelable at any later date, may contain these options. Deposits and loans (*wadiya* and *aariya*) do not fall under these categories as these are not in the nature of exchange contracts. It may be noted that such contracts always provide the option to the depositor or lender to call back their deposits or loans at any time. Hence,

providing any further option makes no sense. Options are permissible in leasing (*ijara*) and suretyship (*kafala*). In debt transfer (*hawala*), there is a difference of opinion regarding the permissibility of such options. The Hanafis find the same permissible while the Shafiis and Hanbalis do not. In a pledge (*rihn*) contract, the pledgee always holds the right to annul the contract and there is no need for any additional stipulation for him. An option may however, be stipulated for the pledgor. The contracts which cannot contain such options include currency exchange (*bai-sarf*), and advance sale (*bai-salam*). The Malikis however, allow options in *bai-salam* if the period is very limited. (18)

A specific type of *khiyar al shart* discussed by the Hanafis is *khiyar naqd* (money option). As the *Majalla* asserts, "both parties may stipulate that the contract would be confirmed only if the price (*thaman*) is paid at a specific time. In case of non-payment, the contract would stand annulled." (19)

Obaidullah (20) provides extensive details on the fiqh issues involved in *khiyar al-shart* according to various schools of fiqh. What is clear from the discussion undertaken is that the primary considerations underlying the prescriptions of various jurists are: benefit of both the parties to the contract and avoidance of any potential conflict or litigation between them. The following points that are found acceptable by at least some of the four major schools of *fiqh* are worth mentioning. First, options may have maturities of any duration as long as the option period is definite and known at the time of contracting. Second, the buyer can have possession of the goods during the option period. Similarly, the seller can have possession of the contracted price during the option period. Third, the settlement price may differ from the contracted price under certain conditions. As we shall see later, this last feature opens up the possibility of managing risk arising out of price volatility, so common in modern markets.

5.1.2. *Khiyar al-Shart: Cases and Potential Applications*

It would be pertinent to mention at the outset that a complete discussion of risk management possibilities for an Islamic economic unit is beyond the scope of this paper. We only attempt to analyze and demonstrate certain uses and applications of *khiyar al-shart* for managing various risk factors in activities that Islamic banks normally engage in.

5.1.2.1. Under *murabaha* financing an Islamic bank purchases an asset as per the specification of its client from the supplier and resells the same to the client at a higher price, often on a deferred basis. *Murabaha* financing is extensively used by Islamic banks for financing commodity trade and acquisition of long-term assets. The process involves a risk that subsequent to purchase by the Islamic bank from the original supplier, it may not be in the interest of the client any longer to buy the same from the bank. Often this would be so for commodities with volatile prices, where price of the asset declines after the first purchase by the bank. It can be easily shown that management of the above risk is possible in the *khiyar al-shart* framework. In this case, a simple alternative for the Islamic bank would be to retain an option for itself at the time of purchase from the original supplier. Subsequently, if the client buys the same as promised, the option would automatically expire and the earlier contract would become binding. However, if the client fails to honor its commitment, then the Islamic bank would be in a position to exercise its option and rescind the purchase contract. Thus, option enables the Islamic bank to shift the above risk to its original supplier. It is also quite realistic that the Islamic bank may have to forgo a part of its profits since, the original

supplier may charge a higher price in case of the sale with option as compared to a sale without option. This is ethically justifiable since, the original supplier is now exposed to greater risk, and also Islamically valid as long as price is inclusive of the compensation for risk.

5.1.2.2. *Ijara* seems to be a popular mode of financing with Islamic banks for financing of long term assets, such as, land, building, plant and machinery. In case of *ijara* financing some risk factors can be easily shifted or shared with stipulations of options.

A major source of risk for Islamic banks as lessors and their clients as lessees is due to the fixed nature of the rentals. In a dynamic economy rates of returns undergo continuous shifts. If in future, the rates of returns are expected to increase, driving up the cost of funds for the lessor, then the Islamic banks would be clearly at a disadvantage. Similarly if rates are expected to fall, the lessee would be reluctant to go for a fixed commitment of lease rentals. A fixed rent *ijara* can of course be converted into a floating rate *ijara* by entering into several short-term parallel fixed rent *ijara* contracts. To consider a simple two-period case, let us assume that the Islamic bank expects the rentals to increase from 'x' percent during current period to 'x+y' percent during the next period. Instead of committing itself for an *ijara* with two-period maturity at the current 'x' percent and be exposed to risk of loss, it may opt for two one-period *ijara* contracts: the first for *ijara* at 'x' percent beginning from now but with a maturity of one period only; and the second beginning from one period hence, through the second period at 'x+y' percent. The forward commitment to lease involved in such contracting is permissible.

However, in such an arrangement the issue is only partially resolved since the bank would still have to specify the rental (as per its expectations at 'x+y' percent). What if the rates turn out to be different from 'x+y' percent? Another problem could be due to the fact that the expectations of the lessee may be diametrically opposite to that of the lessor (i.e. if the lessee expects rates to go down in the second period) in which case, no contracting is perhaps feasible. A possible solution can however be found in the framework of *khiyar al-shart*. Both the Islamic bank as lessor and its client-lessee may enter into the contract for the second period and stipulate options for either or both of them. The bank may stipulate that if the rate increases beyond 'y' percent or any other definite upper bound, it would have an option to confirm or rescind the contract. Similarly the lessee may stipulate that if the rate decreases beyond 'x' percent or any other definite lower bound, it would have the option. They can stipulate according to the risk they are willing to bear and the way they decide to share risk.

It may be noted that conventional floating rate leases take care of this problem by linking the rentals to a benchmark index such as the LIBOR. The rentals for future are made dependent on the future level of the interest rates as captured in LIBOR. For Islamic scholars not comfortable with use of a benchmark interest rate, such as, LIBOR, this may be substituted with another Islamic benchmark rate. There is however considerable divergence of opinion on this possibility as many Islamic scholars do not seem to be in favor of leaving the rental unknown on grounds of *gharar*.

5.1.2.3. *Ijara* implies higher leverage for the client and increases its financial risk. If the leverage is already too high (as in case of the aviation industry for example), the client may be reluctant to increase its financial risk further. An alternative may be to link the *ijara* rentals to the actual utilization of the object of leasing, (say, flying hours in case of

an aircraft *ijara*). However, this arrangement also exposes the Islamic bank to greater risk as its revenues in the form of *ijara* rentals would now be susceptible to the business risk of its client. Stipulations of *khiyar al-shart* can offer various possibilities of risk sharing between the bank and its client. The bank may for instance, stipulate that rentals would be linked to actual utilization (flying hours) of the object of *ijara* (aircraft) subject to a minimum utilization. In other words, if the actual utilization falls below a lower bound, it would have an option to rescind the contract. A similar option may also be provided for the client.

5.1.2.4. *Khiyar al-shart* may also be useful for managing risk in financial markets, such as, the financial market, characterized by volatile prices. The economic rationale of conventional options is believed to be their potential use as a hedging or risk management device. For instance, an Islamic equity fund plans to buy (sell) financial X after a time period of three months. It may be adversely affected if price moves up (down) during this time period. Conventional funds can hedge against such adverse price movement by purchasing a call (put) with a given exercise price. At the end of three months, even if price moves up (down), the fund is not affected since, it can buy (sell) at the predetermined exercise price. While this is true, the fact remains that this contract may not be admissible in the Islamic framework on various grounds as will be discussed later. Let us now consider an alternative scenario in the *khiyar al-shart* framework. The fund can now enter into a purchase (sale) contract and stipulate a condition of option for itself for a period of three months. The delivery of price (financial X) can now be deferred till expiry of three months. At the end of three months if price of financial X moves up (down) then it can confirm the contract of purchase (sale) at the known contractual price and thus be immune from price risk. However, if the price of financial X moves down (up) then the fund can rescind the contract and purchase (sell) in the market, thereby not losing the profit potential. Thus, the *khiyar al-shart* may provide a benefit for the party holding the option at the cost of the counterparty. However, the disadvantage caused to the counterparty can be compensated in the form of higher contractual price. As would be highlighted later this compensation must form part of the contractual price or *thaman* and cannot be paid separately upfront to the counterparty. It is this feature, that differentiates Islamic options from conventional ones.

5.1.2.5. It is possible that when an Islamic bank or fund wants to sell some financials about which the buyer response is not very encouraging primarily because of lack of adequate value-relevant information about the financials. In the presence of such uncertainty about the future prospects and expected price performance of the financials, the bank may sell the shares along with options for the buyer to rescind the contract in case the expectations do not materialize. A case in point is the recent sale of financials by the Dar Al Maal Al Islamic group. Under the contract the purchaser of financials of Al Faysal Investment Bank Limited (AFIBL) holds an option under which it can sell the financials back to a DMI subsidiary at a specified price at the end of a stipulated time period (end of the year 1998). The option would be canceled if the financials purchased would appreciate by more than twenty per cent for twenty-one consecutive days during the last two years prior to the expiry of the option.⁽²¹⁾

5.1.2.6. In a long-term banking relationships, an Islamic bank is supposed to finance not only the acquisition or leasing of fixed assets, but also the recurring working capital requirements. One alternative for financing working capital, such as, purchase of raw materials and merchandise is through *murabaha*. The Islamic bank in this case would

procure raw materials on a recurring basis and supply the same to the client-company. For sale of each consignment to the client-company, a separate murabaha contract may be entered. Under this arrangement, volatile prices of the raw materials would not constitute a source of risk for the bank, though the client-company would be exposed to such risk as its cash outflows due to raw material purchases would now be volatile. An alternative financing mechanism for repeated purchases from a single supplier in the Islamic framework is known as *bai-istijrar*. The difference between *bai-istijrar* and *bai-salam* relates to whether purchases are made from a single and regular seller or not. In the former case, it is considered as *bai* or *bai-ajil* where payment of price (*thaman*) can be deferred. In the latter case, price (*thaman*) must be paid by the buyer at the time of contracting. With *bai-istijrar*, however, the Islamic bank is exposed to price risk, since the contractual price (*thaman*) is set at the time of entering into the contract or beginning of the financing period. If market price of the commodity to be supplied increases subsequently, then the Islamic bank would clearly be at a disadvantage. While its cash inflows due to sales to the client-company would remain fixed, the outflows in the form of payments to the original supplier would increase. The client company in this case bears no price risk, its outflows being fixed for the entire financing period. However, it may still be at a disadvantage if prices decline subsequently during the financing period, as its outflows would have been smaller under *murabaha*. What is clear, is that in extremely volatile markets, entrepreneurial activity would be badly affected in the absence of any mechanism for the parties to manage their risk.

The admissibility of options in case of *bai-istijrar* follows from its being different from *bai-salam* as discussed above. We may now consider the case of *istijrar* with options for either or both parties. Since the client-bank would take possession of the raw materials and perhaps put the same to use in stages, it would be required to pay the value of the raw materials in case the contract is rescinded eventually. In case the contract is confirmed later, then the settlement price would be same as the contractual price (*thaman*). Since the contract would be rescinded if either of them rescinds even if the other party confirms the same, it is expected that the parties would be able to protect themselves against extreme adverse price movements. For example, if the seller holds the option, then it would not rescind the contract if it expects the contractual price to be higher than value which would perhaps closely approximate the average of daily market prices (assuming that the client-company goes for daily purchases and possession of the raw materials from the Islamic bank).

One can also see a possible scenario where the stipulation of options in the *istijrar* contract is designed to take care of only extreme movements, that is, the options get activated only when the market price pierces a bound. The bank's option would get activated if price pierces an upper bound and the client's option would get activated if the price pierces a lower bound. The contract would thus be a case of *bai* with options for both the buyer and seller which are activated if the market price pierces an upper or lower bound respectively, during the financing period. The option provides a right to a party to fix the sale price at the average of the market prices prevailing during the financing period. Note that average of market price reflects the "normal price" of the commodity. If the options do not get activated or are not exercised, then the price is settled at the predetermined contractual price. Both the client-firm and the bank agree on a public undisputed source of price information and also a sampling interval for observing prices. The average price is calculated from these observations. *Istijrar* with *khiyar al-shart* for both parties, as described above, becomes a complex instrument which has some similarities with certain traditional financial engineering products.

such as, the average price (Asian) option, and barrier options. A very similar financing arranging has already been in use by the Muslim Commercial Bank, Pakistan.⁽²²⁾

5.2. *Khiyar-al-Tayeen (Option of Determination)*

Khiyar al-tayeen is similar to *khiyar al-shart* in many respects.

It implies an option to choose the object of sale from out of multiple varieties of a given article. As in *khiyar al-shart*, such an option may be stipulated in the contract and continue for a specified time period. This option has the benefit of widening the domain of choice for the parties to the contract and may be stipulated and held by the seller or the buyer. For instance, a buyer may purchase one out of three varieties of a commodity of different qualities - excellent, average, and poor, without specifying which particular variety would be purchased (the three varieties would have different prices). The buyer in this case holds an option to determine on or before the maturity of the option period, the object of exchange. Similarly the seller may also stipulate an option for itself.

The option cannot however be exercised by a third party. Some scholars have held the view that such an option can only be stipulated for the buyer. It is the buyer and not the seller who needs to choose what is suitable for him. However, according to others, this option can be given to the seller by analogy to the *khiyar al-shart*, and also to enable him to be more certain about the goods he should sell.

The flexibility offered through this option helps the parties to be more certain and informed about whether the countervalues being exchanged match with their expectations. Thus, the option is meant to reduce *gharar* due to lack of information about the object of exchange. This option is primarily endorsed by the Hanafi scholars. Some Hanafis have observed that a condition of *khiyar al-shart* is indispensable for *khiyar al-tayeen* while others assert that such a condition often takes place, but is not absolutely essential. The Malikis find *khiyar al-tayeen* to be permissible only when it is combined with *khiyar al-shart*. However, the Shafiis and most Hanbalis do not find it permissible, since the exact object of exchange is unspecified at the time of sale and this involves *gharar* or uncertainty for the counterparty. The Hanafi scholars also accord only limited flexibility to such options on grounds of necessity (*darura*) by restricting the choice to not more than three articles.

5.2.1. *Khiyar al-Tayeen: Cases and Potential Applications*

5.2.1.1. *Khiyar al-tayeen* may be stipulated in transactions pertaining to exchange of commodities and hence, may prove useful for Islamic banks in their *Murabaha* transactions. As discussed earlier in section 5.1.2.1 an Islamic bank by stipulating *khiyar al-shart* in its purchase contract with the supplier can easily manage the risk that its client might fail to honor its commitment to purchase the specified article. By combining *khiyar al-shart* with *khiyar al-tayeen* for itself in the purchase contract with its supplier, the Islamic bank can now make an offer of option to its client to choose from among three varieties of the article. This would greatly reduce the risk of default.

5.2.1.2. Similarly *khiyar al-tayeen* may be stipulated in *ijara* contracts. The Islamic bank can now offer multiple *ijara* proposals with varying rental structures with or without the

lessee taking possession of the assets. This would greatly enhance the flexibility to either or both the parties.

5.2.1.3. In portfolio management *khiyar al-tayeen* can offer exciting possibilities. Given the widely varying and dynamic nature of investor needs and their ability to bear risk, Islamic funds can now offer double-option or triple- option portfolios to the investor community. Investors may be offered to subscribe to an equity fund concentrating on a geographic region or market or sector, but with an option to switch between a growth, growth-cum-income, and income portfolio. The option could also be to switch between an actively-managed and a passive portfolio or between funds concentrating on cyclical and defensive industries. An interesting case is of the recently introduced Islamic Multi-investment Fund by Faisal Finance, a subsidiary of the Dar al Maal al Islami Trust. The fund offers two equity choices: emerging markets equity and global equities. It also offers a choice between an aggressive Islamic Market Opportunities Fund and a moderate Trade Finance Portfolio for the less and more risk-averse investors respectively. (23)

6. Some Other Risk Management Possibilities Involving Options

So far we have discussed the notion of options explicitly discussed in the Islamic theory of contracts as *al-khiyar*. Options in mainstream finance however have a more generalized definition and refer to any right without obligation that has a financial implication. These are embedded in complex products of financial engineering and also traded as independent contracts. In this section we examine the compatibility of some specific *Shariah*-based contracts outside the framework of *al-khiyar* with some financial instruments with embedded options (in a conventional sense).

Below we enumerate some specific Islamic contracts containing rights for either of both parties to the contract and demonstrate how these are equivalent to or can be developed into useful financial instruments with embedded options. Some of the rights inherent in the contracts are not termed as options from a strictly *fiqhi* point of view, but nevertheless fall under the definition of options in a conventional sense. The list of such possibilities discussed below is by no means exhaustive.

6.1. *Bai bil-wafa* is a composite contract that combines the features of *bai* (sale) and *rihn* (pledge). Under this contract one party sells an asset to another for a price on condition that the asset would revert back to the seller when he returns the price on a future date. It has the effect of *rihn* (pledge) in that the buyer cannot resell the asset to a third party. This contract is similar to the conventional Repo with the difference that in case of *bai bil-wafa*, the repurchase price is same as the initial sale price. In case of the former, the repurchase price is set higher than the initial price, which reduces the transaction to *riba*-based borrowing. As in case of a Repo, the buyer is free to derive benefits from ownership of the asset. The additional feature with *bai bil-wafa* is that the contract can be revoked by either party any time. Hence, though the rights to revoke are not strictly classified as options from a *fiqhi* point of view, *bai bil-wafa* may be seen as equivalent to a conventional Repo with a call and a put option.

6.2. A variation of *bai bil-wafa* may in fact be found to be quite useful in modern financial markets. The ownership of the asset passes to the buyer during the financing period and hence it can now lease back the asset to the seller. Such a combination of *bai bil-wafa* and *ijara*, termed as *bai bil-istighlal* is not only permissible in the Islamic framework, (24)

but also being extensively used in modern markets for project finance. For example, a liquidity-starved power producer under this arrangement can now receive cash by transferring ownership of some of its assets to the Islamic bank. At the same time its business operations would not be adversely affected, since it would continue to use the assets. The fact that *bai bil-wafa* contains the option for either party to revoke the contract anytime does not pose a problem for the subsequent *ijara* contract since, the *ijara* contract can also contain matching stipulation of options for both parties.

6.3. One common risk factor associated with *ijara* financing for the lessor is the risk of finding an alternative use of the asset, of locating a new client, where the lease period is shorter than the economic life of the asset. There is also the risk of the asset becoming obsolete and the uncertainty about realization of salvage value in the absence of an active secondary market for assets. The risk is higher in case of *ijara* of specialized plant and machinery in the context of project finance. The lessee also faces the risk of identifying an alternative source and supplier for its specialized requirements at the end of the lease period. This risk can be managed by going for *ijara wa-iktina* or hire-purchase, under which the lessee has an option to purchase the equipment at the end of the lease period. The effective reduction of risk for both parties has made this form of financing quite popular among Islamic financial institutions.

6.4. Islamic banks face a major risk in their financing business in the form of risk of default. This risk factor is more severe for Islamic banks as compared to their conventional counterparts, since the penalty in the form of accumulating interest liabilities acts as a deterrent against default in *riba*-based financing. Another significant deterrent is often in the form of convertibility option with the financier. The bank in case of defaults may retain the option of converting its loan to equity.

The convertibility option is also provided in securities which enables the holder of a bond representing debt capital to convert the same into equity. This is considered attractive for an investor who is not too sure of the success of a venture or its ability to generate adequate earnings and pay dividends in the initial years. And after a given time period (after the initial gestation period when the company starts generating profits) the convertibility option gets activated and he has now the option of becoming an equity holder or continue as a lender. Further, in a zero-convertible, there are no interest payments involved before the debt gets converted into equity.

The convertibility option is not alien to the Islamic framework. There are several ways in which the convertibility option can be developed in Islamic finance. First, it may take the form of an option for the debt-provider or owner to be able to convert the debt into equity. This debt may broadly include all kinds receivables arising out of *ijara*, *murabaha* and the like. The Hanafi scholars find such a stipulation providing the option acceptable. As the *Majalla* asserts: what will be received and is owing from the people, and merchandise, and immovable property cannot be the capital of a *mudaraba* but if the capitalist has given a merchandise and says "sell this and work on *mudaraba* terms with the price", and the *mudarb* accepts and takes it, and sells that property and makes capital of the money which is the price, and trades, it is a good *mudaraba*. Likewise, if he says, "take so many piastres which I am owed by such a one and employ it on *mudaraba* terms" and he accepts, it is good.(25) It is reported that some Hanbalis have provided even greater flexibility by saying that an indebted person can collect a debt from himself and do *mudaraba* with it. Given the *fiqhi* basis, the development of convertibility options from debt to equity may perhaps be explored further.

Further, the first part of the above article in *Majalla* indicates a possibility of an option to convert the sale proceeds of an asset into equity. This may follow an *ijara* transaction where at the end of the lease period, the asset instead of reverting back to the lessor, is sold at a price and the proceeds are converted into equity capital of the lessee. In effect, this is equivalent to the lessor stipulating an option (accepted by the lessee) that the leased assets may be converted into equity contribution in the lessee company.

7. Conclusion

When markets are characterized by violent swings in prices, the entire resource generating process may be adversely affected. Present day markets in commodities, currencies, stocks, bonds etc. are indeed characterized by a high degree of volatility. As such, derivative products (options and futures as independent contracts) which enable market participants have become quite common place in global financial markets. In this paper we argue that hedging is quite in conformity with Islamic rationality, but hedging with derivatives is fraught with grave dangers since large-scale speculation is now made possible with derivatives. Whether such speculation brings in some inherent instability to the system is not really the investigated issue in this paper and financial economist would continue to debate on this. In the context of Islamic finance, derivatives (options and futures as independent contracts) are not quite acceptable, since the so-called public benefits or *maslahah* appear to be trivial in view of the strong Quranic condemnation of *al-qimar* and *al-maysir*. The rich Islamic *fiqh* literature on contracts does not quite provide a Shariah-approved contract on which options and futures as independent contracts could be modeled. On the contrary, there seem to be prohibitions on their Shariah-based parallels.

However, this does not imply that the Islamic financial system does not provide for risk management possibilities. Nor does it imply that the Islamic financial system involves a huge loss of efficiency because of its emphasis on ethical norms, such as, prohibition of *riba*, *gharar*, *qimar* and *maysir*. We demonstrate using several contractual mechanisms from the Islamic law of contracts that the Islamic system does provide for risk management solutions. The only difference is that these solutions are ethical too.

8. Notes & References

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19. Al-Marghinani, *al-Hedaya: Sharh Bidayat al-Mubtadi*, translated by C.T. Hamilton, pp 248.
20. Mohammed Obaidullah, Financial Engineering with Islamic Options, *Islamic Economic Studies*, IRTI, IDB, Jeddah, Vol.6, No.2
21. Source: *Annual Report of Dar Al-Maal Al-Islami Trust* (1994), p.31. Since in this case, it is not the seller who undertakes to repurchase the financials, but one of its subsidiaries, the arrangement may need further investigation.
22. There are apparently some minor differences, if one goes by the report published in *New Horizon*, April 1996, p.20. This however, could not be verified from MCB sources.
23. Based on report in *New Horizon*, May 1998, p13
24. *Majallahel Ahkam I Adliya*, Translated by C.R. Tyser, Art. 119 (n.d.)
25. *Majallahel Ahkam I Adliya*, Translated by C.R. Tyser, Art. 233-34 (n.d.)