

## **ISLAMIC QUASI EQUITY (DEBT) INSTRUMENTS AND THE CHALLENGES OF BALANCE SHEET HEDGING: AN EXPLORATORY ANALYSIS**

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*Debt creation by deferred trading is a predominant form of Islamic financing, but sale of debts through conventional procedures is prohibited in Islamic finance. Therefore, due to the existence of the markup price risk, Islamic financial institutions are not able to provide funds for longer-term periods. This paper explores Islamic quasi equity (debt) instruments and argues that such instruments can empower the Islamic financial system to manage important risks and enhance the provision of long-term funds. The premises discussed are based on the sale of debts against real assets, which facilitates embedded options and convertible Islamic financial instruments. It is expected that the premises discussed could be useful in the development of a fully-fledged Islamic financial market.*

### **1. INTRODUCTION**

#### **1.1 Background**

A cursory look at the balance sheets of most conventional financial institutions, competing through their Islamic windows, with the Islamic financial institutions (IFIs) reveals that astonishing amounts of financial figures resulting from derivative transactions are squeezed into the footnotes. These figures reflect that the balance sheet items for the reporting periods were either kept speculative deliberately, or resolving the balance sheet mismatch (establishing and maintaining a hedged balance sheet) was technically or cost-wise not feasible. In either case, a speculative balance sheet position justifies off balance sheet derivative positions to neutralize the downside risk of balance sheet speculation. Thus conventional financial institutions, which are technically capable of using derivatives, can safely speculate on the balance sheet, making risk-free speculative gains. As a result reporting large positive hedge incomes has become a matter of prestige for leading financial institutions.

A hedge is a device, which reduces the uncertainty of future price movements. Such a control of risk is critically important, particularly, for firms that maintain assets in excess of equity. When the Al Barakah Seminars (see, Al Barakah 1997)

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resolved and reaffirmed twice regarding the permissibility of hedging in Islamic finance, these surely referred to genuine hedging used by traders from ancient times by adjusting balance sheet items. On the other hand, when the OIC *Fiqh* Academy (see, OIC-FA 1999) resolved about the prohibition of trading in options, they certainly blocked synthetic hedging through the use of the newly engineered financial derivatives.

Due to the prohibition of off-balance sheet derivative positions, Islamic financial institutions would like it desirable to maintenance a fully hedged balance sheet position. The typical challenge for the Islamic financial institutions in this regard emerges from the fact that profit and loss sharing (PLS) liabilities (*mudarabah* deposits) are completely re-price-able according to market conditions, but assets (*murabahah* debts) are completely non-re-price-able due to restrictions of sale of debt through conventional procedures.

Consequently resource allocation will be distorted in at least two important ways. First, due to the non-re-price-ability of assets (debts), depositors (savers) will receive surprise rates of return increases as a result of a decline in the market markup prices and a rate of return decrease as a result of an increase in market markup prices. Second, to hedge against serious balance sheet mismatches, financial institutions will prefer to offer very short term funds and the much needed long-term funds will be scarce and costly. We argue that with proper exploration of the alternatives available in an Islamic economic framework, such a situation is avoidable. Furthermore, a superior system can be put in place, which can be free from the needs of derivative trading, speculations and the resultant casino economies.

## 1.2 Objectives

The main objectives of this paper are three folds:

1. To present the challenges of balance sheet hedging in perspective of Islamic financial institutions vis-à-vis their conventional competitors,
  2. To explore the means and mechanisms for liquidity enhancement and re-price-ability of Islamic debts by suitable quasi-debt instruments for strengthening balance sheet hedging, and
3. To initiate a thinking process concerning hedging and risk management from an Islamic economic perspective.

The above mentioned two *Fiqh* Resolutions constitute the premises of the paper. Section two discusses the challenges of balance sheet hedging. In section three we discuss the prospects of enhancing the liquidity of Islamic debt instruments through the transformation of these into real assets. Conclusions are given in section four.

## 2. CHALLENGES OF BALANCE SHEET HEDGING

### 2.1 The Markup Price Risk

The risk of changes in the market rate of markup (MRM) is that of paying more profits to future depositors as compared to receiving less income from users of long-term funds, as a result of an increase in the MRM. This can be described with the help of a hypothetical example. Assuming that an Islamic financial institution (IFI) has extended funds to client A, at the rate of 7% mark-up for 8 years, given the MRM as 6%. The principal and mark-up become annuities due. The repayments will start after two years and will be completed by the end of the 8th year. Suppose, soon after extending this facility, the MRM increases to 7%. The IFI extends another funding of the same amount to client B at the rate of 8% mark-up, again for eight years. A portion of the increase in the return will be passed over by the IFI to the depositors. The cash inflow from the annuities due will start only after two years, and will earn only 7%. The raise-adjusted return to be paid to the depositors will be more than 7% and to be given immediately. Thus in general, if the MRM increases, the net *murabahah* income (NMI) will decrease and conversely if the MRM decreases the NMI will increase. So the downside risk is related only to an increase in the MRM.

Since deposits and return on deposits are not guaranteed, the immediate risk is not one of instability of the IFI as the case is with the non-IFIs. It is rather one of meeting the expectations of the depositors quickly, efficiently and without friction. Profit rates to be paid to *mudarabah* depositors by the IFIs will have to respond to the changes in the MRM. However, as profit rates earned on assets reflect the MRM of the previous period, these cannot be raised. In other words, any increase in new earnings of IFIs has to be shared with depositors, but it cannot be re-adjusted on the assets side by re-pricing the receivables at the higher rates. The implication is that in the NMI of the IFI is exposed to the markup price risk.

### 2.2 Challenges

Therefore, the measurement and management of the IFIs' NMI and cash flows are important. Standard tools are also relevant for this purpose. One common and a reliable tool used in this regard is the gap analysis.<sup>1</sup> The technique is used to measure the NMI and its sensitivity with respect to the benchmark. Hedging then targets at ideally making the NMI inelastic with respect to any change in the benchmark, i.e., a target NMI is achieved whatever the market benchmark may be. If such an objective is achieved, an increase in the benchmark will not pose any risks to the target NMI. The cash flows of the FI will remain stable at a planned level and the IFI will be stable.

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<sup>1</sup> See, Koch (1995).

Given a time frame, gap analysis involves determination of benchmark rate sensitive and non-sensitive assets and liabilities and classification of assets and liabilities in terms of their maturity and re-pricing features. Assets or their parts maturing during the time frame or those re-price-able during the period are classified as benchmark rate sensitive and the remaining as non-sensitive. The difference between the dollar value of rate sensitive assets and liabilities is identified as the gap. If the gap is zero, assets are fully hedged against benchmark rate risk. In that case any increase in profits paid to depositors will be exactly matched by an increase in the profits earned on assets. The effect of the benchmark rate increase on the NMI will be zero in dollar terms. If rate sensitive liabilities are larger than the rate sensitive assets, i.e., the gap is positive, an increase in the benchmark rate will lead to a decrease in the NMI. If the rate sensitive assets are larger than the rate sensitive liabilities, more assets will be re-priced at the higher rate than liabilities i.e., the gap is negative, and an increase in the benchmark rate will lead to an increase in the NMI. A zero gap balance sheet strategy provides for hedging and negative or positive gaps are speculative in nature. These relationships are generalized and summarized in Exhibit-1.

**EXHIBIT – 1: BALANCE SHEET GAPS AND ITS EFFECTS ON NMI:  
A GENERAL SUMMARY**

Hedged and Speculative Balance Sheet Gaps	Effects of a change in Benchmark on the NMI	
	Benchmark Increase	Benchmark Decrease
Balance sheet gap = (RSLs-RISLs) - (RSAs-RISAs)		
Hedged balance sheet = (RSLs-RISLs) - (RSAs-RISAs) = 0	None	None
Speculative balance sheet = (RSLs-RISLs) - (RSAs-RISAs) ≠ 0	Depends on the sign	Depends on the sign
Speculative balance sheet = (RSLs-RISLs) - (RSAs-RISAs) > 0	NMI will decrease	NMI will increase
Speculative balance sheet = (RSLs-RISLs) - (RSAs-RISAs) < 0	NMI will increase	NMI will decrease

Notations:

- RSLs: Dollar amount of rate sensitive liabilities.
- RISLs: Dollar amount of rate insensitive liabilities.
- RSAs: Dollar amount of rate sensitive assets.
- RISAs: Dollar amount of rate insensitive assets

Table-1 translates these general relationships into hypothetical cases of IFIs with different rate sensitivities of liabilities and assets. For the sake of comparison, we can visualize three groups of IFIs. First, some IFIs (Islamic mutual funds)

represent the theoretical case of a complete PLS on both sides of the balance sheet. Second, some IFIs use PLS on the liability side and markup-debt on the asset side as a dominant asset. Third, still another group of IFIs may use diverse liability and asset structures. We discuss each of these cases here briefly.

**TABLE – 1**

**EFFECTS OF A 1% CHANGE IN THE MARKUP RATE ON THE  
VALUE OF ASSETS – A SPECIFIC HYPOTHETICAL CASE**

**Table – 1 ( A) Markup rate increase**

	Bank1*		Bank2		Bank3		Bank4		Bank5	
	L	A	L	A	L	A	L	A	L	A
Re-price-able	10	10	10	4	7	4	6	4	5	5
Non-re-price-able	0	0	0	6	3	6	4	6	5	5
L & A Value change due to bench-mark rate increase	0	0	0	-.06	-.03	-.06	-.04	-.06	-.05	-.05
<b>Net value change in assets</b>	<b>0</b>		<b>-.06</b>		<b>-.03</b>		<b>-.02</b>		<b>0</b>	

**Table 1 ( B) Markup rate decrease**

	Bank1*		Bank2		Bank3		Bank4		Bank5	
	L	A	L	A	L	A	L	A	L	A
Re-price-able	10	10	10	4	7	4	6	4	5	5
Non-re-price-able	0	0	0	6	3	6	4	6	5	5
L & A Value change due to bench-mark rate increase	0	0	0	.06	.03	.06	.04	.06	.05	.05
<b>Net value change in assets</b>	<b>0</b>		<b>.06</b>		<b>.03</b>		<b>.02</b>		<b>0</b>	

Notes: \*All liabilities and assets are PLS based only. Re-price-able: PLS plus/or maturing liabilities (L) and assets (A) during the period. Non-re-price-able: Fixed and non-maturing liabilities and assets during the period. Ranking of banks on the basis of quality of assets and risk adjusted NMI after the benchmark change.

**Benchmark Increase**

Bank1	1
Bank5	1
Bank4	2
Bank3	3
Bank2	4

**Benchmark Decrease**

4
4
1
2
3

**Case-1:** The balance sheet of Bank1 in table-1 is an ideal one advocated by the PLS theory of Islamic banking, particularly, the model of Khan (1986). Both sides of the balance sheet are independent of the benchmark. Thus, changes in business prospects will adjust automatically on the two sides of the balance sheet. A business boom will lead to an increase in the earnings of the IFI and the income for the depositors will increase proportionately. A business down turn will have the opposite effect. There may still remain the need for genuine hedging against exchange rate, commodity and equity price risks. For, there is no benchmark to start with; under such a system there will never be a need for hedging against such a risk.

**Case-2:** Bank2 presents the case of an IFI which raises all its liabilities on the basis of the PLS and creates assets using the markup. In this case the benchmark rate plays an important role in determining the markup income. Like case-1, all liabilities of the IFI are re-price-able, but unlike case-1, its dominant assets are not re-price-able. As a result of a business boom, owners of liabilities (depositors) will expect an increase in their earnings and as a result of a business bust they will expect a decline in their earnings. However, the existence of the benchmark relationship creates a friction and slows down the adjustment process. First, let us take the case of a business boom, which causes an increase in the benchmark rate in table-1 (a). As a result, the value of assets in place (markup debts) will reduce. Any payments to depositors will be done after adjusting for this reduction in the asset values. Thus in this case, the IFI will not be able to fully meet the expectations of its depositors. However, during a decline in business and a resultant decline in the benchmark, their relative earnings will increase (unexpectedly) as explained in table-1 (b). In this case, the value of markup-based assets has increased due to a decrease in the benchmark. Depositors of Banks3 and 4 will also face similar situations but with different intensities due to the differences in value gains/losses by their assets in place.

**Case-3:** Bank5 in table-1 represents the case of an IFI, which like case-1 fully avoids the benchmark risk. The difference between this bank and bank1 is that this one does face benchmark rate risks as substantial proportion of its assets are in fact markup-based debts. However, this bank has fully hedged those risks by inducting liabilities of similar nature and same amount. Any increase/decrease in the benchmark rate will have a matching amount of opposite change in the liability values. Hence, any change in the benchmark rate does not effect the value of its assets in place. As a result, the returns earned by its depositors will be in line with their expectations and the actual business prospects and will be free from speculative surprises.

### **2.3 Prospects**

The foregoing analysis shows that Bank1 and Bank5 are more efficient in transmitting the results of business prospects to their depositors. This is so because these banks are better able to control the benchmark rate risk as compared to the

others. It is the most important responsibility of the *mudarib* to translate actual business prospects into profits for its investors by avoiding risks to the value of assets in place. From the perspective of Islamic financing the value of assets can be protected from the benchmark rate risk only on the balance sheet. However, this is not the case with the non-IFI competitors of the IFIs. These competitors can speculate on the balance sheet and cover the speculative risks by suitable hedging through financial derivatives.

If banks 2-4 were representing a non-IFI, competing with an IFI, it would cover the losses by a short hedge<sup>2</sup> through off-balance-sheet derivative transactions. Another challenge faced by the IFI in this competition is the non-existence of suitable Islamic financial instruments to change the liability structure suitably. Under these circumstances, there will always be a tendency among some IFIs to adjust the return on deposits to cover the benchmark rate risks. As a result, the returns on the deposits of such IFIs are likely to remain lower in the longer-run as compared to their IFI and non-IFI competitors. The compulsion of competition with the non-IFIs requires institutional arrangements to structure the balance sheets of IFIs in line with that of Bank1 and Bank5 in table-1. In this regard a number of considerations may be made.

If the practice of the IFIs could confirm to the theoretical ideals that of having 100% PLS on the assets side, all the assets could also be de-linked from the benchmark, making hedging against this specific risk irrelevant. Many mutual funds do indeed work on this basis. However, due to a number of institutional constraints such a possibility does not exist in the short run for the IFIs to pursue. In the longer-run perspective researchers have to undertake studies to make the institutional arrangements available in this regard. It is reported that the concept of universal banking is getting more popularity in a number of countries.<sup>3</sup> Under such a system banks will take equity interests in companies and undertake active business in real estate, securities trading, etc.

Indeed, one of the most important arguments to show the stability of Islamic banking was forwarded by Khan (*ibid*). Essentially, the argument treats the relationship on the liability side of banks (depositor-bank relationship) similar to that of the relationship between the common stockholders with their corporation. The implication of this treatment as Khan enumerated is that the performance of the banks on assets sides will automatically be transmitted to the liability side. In the worst case scenario of a shock to the assets, the liabilities will automatically be revalued and re-priced in exact proportions. Thus Islamic PLS banks will never need to turn to liability management as compared to conventional banks. Conventional banks due to the nature of their fixed liabilities, and the lack of any automatic stabilizer of the asset and liability values, frequently turn to liability

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<sup>2</sup> If assets are more sensitive as compared to liabilities (a common situation in conventional banking and almost rare possibility in Islamic banking), NMI will be at risk due to a decline in the benchmark rate. This situation warrants a **long hedge** by buying financial futures.

<sup>3</sup> See, Al Jarhi (1998).

management to adjust any shocks to the value of their assets. The Islamic banks are thus considered to be a better and stable alternative to conventional banks. Subsequent researches also consider PLS deposits and its implications for the stability of the banking system as the most important and distinct characteristic of the IFIs as compared to conventional banks.

Keeping the existing realities in view including the nature of the IFIs dominant assets, the practices of the IFIs' competitors and the overall mixed environment, it is important to make these assets more re-price-able and liquid. We discuss this subject more formally in section three. It may be mentioned here that leasing contracts can be preferred over installment sale and *istisna'* as leases are relatively re-price-able. However, re-pricing the rent of an asset does not always mean an increase in the rent as assets may depreciate faster than expected. Nevertheless, keeping in view the devastating effect of fixed-rate long-leases particularly, on *awqaf* properties, the duration of the negotiable lease periods needs to be reduced to a certain optimal level. Same is the case with the duration of *istisna'* and installment sale contracts. However, the disadvantage of shortening duration of a contract is the reduction in the maturity of financing by the IFIs which is not consistent with project financing often expected from them. This indeed calls for a systematic incorporation of duration analysis into the asset/liability management of the IFIs.

### 3. ENHANCING THE RE-PRICE-ABILITY AND LIQUIDITY OF ISLAMIC DEBT CERTIFICATES

#### 3.1 Limitations of Islamic Debt Financing

In an Islamic economy debt finance is extended through *istisna'*, installment sale, leasing and *salam* modes of deferred trading by issuing certificates. The limitation of these certificates is that these are not "negotiable" following the conventional procedures. Thus, except for transferring the debt certificates from one obligation to another obligation on the basis of *hawala al dayn* (par value = face value),<sup>4</sup> these certificates face serious liquidity problem. As a result, assets comprising of these certificates cannot be re-priced to adjust to changes in market conditions, particularly, an increase or a decrease in the market markup price, hence exposing investors to serious price risks.

#### 3.2 The Hedging Perspective

We defined the hedge as a device used for reducing the uncertainty regarding future price changes. One important explanation of why the Islamic financial institutions provide very short-term finance is that they have to avoid the serious markup price risk mentioned above. Indeed, financing short period requirements are important for the efficiency of an economy. Also crucial is the provision of

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<sup>4</sup> See, guidelines given in box-1.



finance for long-period needs such as the development of infrastructure projects. The challenge is how to hedge against the markup price risk in a scenario of long-term Islamic debt finance?

Similar challenges are also confronted in conventional financing. The relevant conventional experiences can thus be studied, suitably modified and adapted in an Islamic economy. To provide a hedge on the balance sheet against price risk in long-term finance, three important instruments are utilized in conventional markets. These are convertible bonds, warrants and exchangeable bonds. Convertible bonds and warrants facilitate the conversion of long-term debts into equities by embedded convertibility options. Exchangeable bonds are convertibles into the equity of the issuer as well as a wider spectrum of strategically aligned businesses.

These instruments provide the investor for hedging in two important ways. First, these ensure wide flexibility and hence improve liquidity of assets by enhancing re-price-ability from the perspective of the issuers. Re-price-ability facilitates protection against price risks. Second, investors obtain a hedge when they purchase any of these bonds. If the market price of the issuer's stock rises, the value of the convertible goes up. If the market price of the stock goes down, owners of the convertibles loose nothing as the down sides of these assets are protected debts.<sup>5</sup>

Why this premises is adaptable in Islamic finance? Because, of several reasons we can benefit by adapting the premises of these instruments. First, these contain non-detachable (embedded options), whereas, the OIC *Fiqh* Academy (*op. cit.*) has prohibited detachable options. Embedded options provide some of the useful functions of options without creating derivatives and speculation. Second, these allow conversion of debts into real assets and usufructs. Debts cannot be traded in Islamic finance using the conventional procedures. By developing the idea of converting debts into real assets and usufructs the liquidity of Islamic debt certificates can be enhanced. Third, the genuine hedging and risk management aspects of this exploration can be of immense importance in Islamic finance as several new instruments can be developed.

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<sup>5</sup> Reporting the Judgment against interest by the Federal *Shari'ah* Court of Pakistan, the daily *Business Recorder* (24/12/1999), quoted from the Judgement that "We have an inactive debt market and savings have been repeatedly wiped out as unlike western markets during melting down of stocks, debt markets are not in position to provide the necessary 'hedge' to the investors. The result of this under-developed debt market is the promotion of *Riba* through being channeled into banking system as industries want long-term finance, they have to resort to the banking, which in turn results in promoting *Riba* transactions. If the concept of Islamic debt through *Musharakah* certificates is adopted on urgent basis, lot of equity/funds can be made available through debt markets and in that way reliance on banks can be reduced".

### 3.3 The *Fiqh* Perspective

Is the sale of debts against real assets (*bay' al dayn bil' ayn*) acceptable from the *Fiqh* point of view? One familiar *fiqh* perspective on this can be found in the use of debt as a principal capital of *mudarabah* or *musharakah* contracts. The acceptability of this matter is discussed in the *fiqh* literature in detail. It is reported that the Hanafi scholars have allowed such a use of debt if it is said that “collect such and such debt and do *mudarabah* or *musharakah* with it”<sup>6</sup>. It is reported that some Hanbalis went along and even further by saying that an indebted person can collect a debt from himself and does with it *mudarabah*<sup>7</sup>. Obviously, the flexibility of these scholars is valuable in the present context. Alternatively, it is known that debt cannot be sold for debt, but debt can be treated as a price in a sale transaction.<sup>8</sup>

The question was specifically posed to *Fiqh* scholars by Khan (1994) and was approved. To quote from the observations of a *Fiqh* scholar, namely, Justice Taqi M. Uthmani, “the proposal to give an option to the financier to purchase the common stock on a pre-agreed price is a good proposal to meet the needs of both financial institutions and the corporate bodies, which need finance. There seems to be no objection against this proposal from the *Shari'ah* point of view”. The same subject was included in another paper and discussed among scholars and approved.<sup>9</sup> Permissibility of the subject is also taken for granted by Zarqa (1997).

Thus, the possibility of an exchange of debt against real assets and usufructs can be added to the debt certificates as an embedded option for the settlement of debts.<sup>10</sup> Such an option would not be binding on the financier, but if he/she utilizes it, the user of funds is bound by his promise. Furthermore, embedded options cannot be separated from the underlying assets and cannot be traded as such. An embedded option can be imagined as in the following cases.

### 3.4 Some Examples of Islamic Embedded Options

Installment sale: Suppose a construction firm, Al Shati Apartments Complex (ASAC) plans to start a new apartments complex. Funds are required to acquire land, construction materials, services of designers, contractors etc. The local Islamic bank (LIB) supplies these materials on *murabahah* basis. Suppose, the total debt due including 11% mark-up is SR. 80 million and for convenience is divided into equal amount of smaller certificates known as installment sale debt certificates (ISDCs). The repayment would start after six years and will be completed during

<sup>6</sup> See, Government of Kuwait, *mausu'at al fiqh al Islamiyah*.

<sup>7</sup> *Ibid*.

<sup>8</sup> For a consensus opinion in this regard, see *ibid*, Vol. 21, p 126.

<sup>9</sup> See, Al Omar and Mohammad (1996).

<sup>10</sup> Options are detachable or embedded. Detachable options are separated from the underlying assets and traded as derivative assets for a premium and there is a market for such options. As mentioned above, these are prohibited by the OIC *Fiqh* Academy on the basis that the object of sale (the option) is not a material thing and is not covered by the *Fiqh* definition of Al-Mal.

the subsequent 4 years. The sale contract contained an embedded option that if the LIB may so wish, starting from the fourth year, it will have the right to purchase apartments with part or all of its SR. 80 million receivables.

The promise is a call option on the new assets of ASAC owned by the LIB. The offer has no market price of its own, as it cannot be separated from the initial contract with which it is embedded. Thus it does not create a derivative as such and is not covered by the *Fiqh* position against derivatives. It has the potential to make the debt document liquid, as whosoever will own the ISDCs he/she will be able to buy apartments in ASAC. This will make *hawala al dayn* attractive under the conditions of good performance by ASAC.

Suppose, the construction was planned in six phases; each phase being one year. During the initial four years, the project meets all its targets, which include acquisition of land, approval of layout from the regulatory authorities, laying down the foundations of the project and completion of 60% of actual construction work. Assuming that during the same period, real estate prices appreciated by 6%, hence LIB's receivables depreciated by 6% in real terms. Assuming also that at the start of the 4<sup>th</sup> year the LIB is in need of funds to take up a positive NPV investment opportunity. It decides to assign its SR. 80 million receivables. The real value of these receivables are (80 million minus 6%) SR. 75.2 million in debt terms and SR. 84.8 million in terms of the real assets (80 million plus 6%). The net difference in real terms for the LIB is SR. 9.6 million (SR. 84.8 million minus SR. 75.2 million). In addition, the debt/cash conversion period is reduced which creates value by enhancing the cash flow. Furthermore, the funds are re-deployed into a positive NPV investment opportunity. Therefore, the LIB decides to sell its entitlement of ownership to the apartments instead of merely assigning the debt at its face value. To make the arrangement more equitable for the two parties, the initial offer can contain provisions of sharing the appreciation in the value of the real estate, e.g., by 70% and 30% for the two parties respectively.

**Leasing:** We may take the case of a firm, which is interested, in re-placing its interest-based capital structure with Islamic form of funds. Suppose the outstanding interest-based debt of the Islamizing firm (IF) is SR. 40 million. The IF's current cash flow are sufficient to retire this debt. But if these funds are utilized for retiring the debt, the firm cannot meet other urgent cash requirements for equipment up-grading etc. The current prices of its stock are already depressed, for instance due to the interest-based capital structure and the postponed equipment up-grading. This implies that the IF cannot issue common stock to raise the needed SR. 40 million. It is obvious that if the two depressing factors are removed, the future prices of its stock will substantially appreciate.

With such a background, the IF approaches the LIB for a leasing facility for equipment up-grading. The IF also offers to the LIB that if the LIB so desires, in a specified future date, it may swap its leased asset for the stock of the IF at the price of SR. 14, the current price of the IF's stock being SR. 11. Again the asset can be

represented in convenient amounts of lease certificates (LCs), with an embedded option to convert into *musharakah*, for example. The LIB may find that after removing the two factors which have been depressing the prices of the IF's stocks, these prices are expected to appreciate much above the SR. 14 by the specified date. Even if these prices do not appreciate, the LIB's rental returns are safe and it is not going to lose anything because of the embedded option.

**Declining Participation:** Several recent contributions have developed the concept of declining participation or diminishing *musharakah* in which the project promoter gradually purchases the financier's shares. This arrangement is an innovation and has the potential of meeting several financing requirements,<sup>11</sup> but being new may confront a number of *Fiqh* objections. To overcome such objections it is suggested that the gradual purchase of the financier's shares by the project promoter should be optional not binding. In that case, a joint project will be developed by the project promoter and the financier in which the project promoter will have the first option to buy the shares of the financier on gradual basis using its retained profits. We make two main observations on this arrangement.

First, it is interesting to mention that if such an option is available to the project promoter and if he/she is not utilizing the option and investing in an outside investment opportunity, it will imply that those outside opportunities are superior to his own project. Thus, this will send a strong efficiency signal against such a project promoter. Genuine and efficient project promoters will hence always try to utilize the option instead of investing outside.

Second, as discussed in previous sections, the PLS will eliminate benchmark rate risk. However, it is impossible for financial institutions to acquire permanent stakes in unlimited number of enterprises. Even if they do so, it will drastically reduce their financing potential. Since in the developing Muslim countries stock markets are not available to dispose off such ownership stakes conveniently, declining participation can be an effective alternative in improving the liquidity of the PLS contracts.<sup>12</sup>

**Salam:** Let us take the example of a government, which wants to construct a new toll-road through a private contractor. The contractor will make all arrangements for the road construction on his/her own risks. In return, the contractor will receive all toll-revenues from the road for a period of 15 years. After the completion of these 15 years the toll-road will be transferred to the government. The contract period will be increased if the toll revenues fall short of an amount initially estimated and agreed by the contractor and the government.

The contractor needs to raise finance and decides to issue *Salam* Certificates (SCs.) SCs in this case represent the future commuting rights on the toll-road for a

<sup>11</sup> See, e.g., Khan (1991, 1995), Bendjilali and Khan (1995).

<sup>12</sup> For further discussion of the economics of this point see Khan (1995).

price (toll) to be pre-paid by the commuters and investors. The SCs can be valid forever in the sense that these can be utilized even after the expiry of the concession period of 15 years. Suppose the government protects toll rates on SCs at US dollars 2 for 100 kilometers, whereas, toll rates for cash payment are US dollars 3 for 100 kilometers. The denomination of each SC is US dollars 100, which is the amount of toll for buying 5000 kilometers of commuting rights.

Prior to the operation of the toll-road, the certificates are transferable following the Maliki position.<sup>13</sup> As soon as the road becomes operational control of the object of *Salam* is complete and it can be consumed or sold at the wish of the owner. Suppose toll rate for cash payment at toll checkpoints is capped for five years. After the cap is removed, at the end of the fifth year, these rates may appreciate or depreciate making the market for the SCs more competitive.

Now suppose the possibility of embedding an option with the SCs, which allows for example the holder of the certificates to swap these with revenue sharing certificates (RSCs) of the toll-road project. SC-holders expecting toll increases after the removal of the cap will utilize the option and receive the RSCs.

***Istisna'***: Since in *istisna'* the price and object can both be deferred, it makes this contract unequivocally more flexible as compared to leasing and installment sale. Assume an *istisna'* certificate as discussed by Zarqa (1997) one can explore embedding the following options:

- a) The certificate owner may exchange the certificate for a suitable amount of output of the company.
- b) The certificate owner may exchange the certificate for stocks of its choice in the company.
- c) The certificate owner may exchange the certificate for stocks of its choice in the subsidiaries or peers of the company.
- d) The certificate owner can put back the certificate and rescind from the contract during a specified time period prior to maturity.
- e) The company can call back the certificate during a specified time period prior to maturity.
- f) The certificate owner can do nothing and wait for the maturity of the original contract.

It is obvious that these offers can be added with different combinations. For, example, some certificates may contain all offers simultaneously, others may have the first and fourth offers and so on. The important point to re-emphasize is that there are potential benefits of developing the concept of *bay' al dayn bil 'ayn* as an

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<sup>13</sup> Please see Al-Gari (1997) about the Maliki approval of selling the object of *salam* before its possession and using this as the basis of issuing *salam* certificates.

asset securitization device. Here we explain the rationale of such a suggestion with two specific examples.

1. As a first example, suppose that Toyota cars are manufactured in a Muslim country on the basis of *istisna'*. Let us embed a call option, which allows the supplier to acquire a number of cars manufactured by the plant for the dollar value of its receivables due from the plant. Due to the call option, the supplier is fully hedged against a *force majeure* in exchange controls as recently experienced in Pakistan and Malaysia. As a result of the unforeseen exchange control regulations the supplier cannot receive its remittances in foreign exchange. In such a case, the supplier can utilize the call option and receive cars in lieu of the profit remittances in foreign currency. It is obvious that the call option although fully embedded, provides a complete hedge against such an important risk. Considering two *istisna'* contracts, one with and the other without the call option, in this specific case of political force majeure, the one with the option is indeed more valuable.
2. As a second example, suppose that the National Highways Corporation (NHC) in a Muslim country, which is a listed company takes an *istisna'* finance from an investor (local Islamic bank, LIB) to construct a new motorway. Accordingly, the LIB (through its sub-contractor) constructs the tailor-made motorway for a specified amount of funds, which the NHC will pay in the future. The repayments will be made after 8 years. However, the NHC offers to write in the contract document that if the LIB may so desire, after the second year of the completion of the motorway, it may buy shares of the NHC, for instance at dollars 14 per share with the amount due in obligation on the NHC. The promise is a call option on the NHC owned by the LIB. The offer has no market price of its own, as it cannot be separated from the initial contract with which it is embedded. Thus it does not create a derivative as such and is not covered by the *Fiqh* Academy position.

The arrangement can be refined from many aspects by involving investment bankers, by securitization, by syndication etc. Moreover, there are several strong economic arguments in favor of such financial instruments both from the perspective of the NHC and the LIB. Such arrangements and most arguments would be an extension of the premises of the convertible financial instruments with some suitable modifications.

### 3.5 An Important Generalization

A generalization of the above examples of embedded options can be considered. The list of probable financial instruments emerging as a result is given in box-2. The essence of financial exploration is to create as many alternatives as possible out of an initial situation. Merton (1996) lists eleven practical possibilities of

investing in a single stock index and due to the learning curve effect further suggests five more theoretical possibilities.

The pace of financial exploration in Islamic economics will have to be slow due to *fiqh* compliance, but the potential is not restricted. As an example of such a potential, we can take two cases, representing the possibility of floating income certificates (FICs) and fixed price certificates (FPCs) based on leasing and installment sale or *istisna'* transactions, respectively. In the case of ASAC, we can designate the LIB's assets in terms of FPCs. The value of the certificates can be in any denomination. Leasing-based FICs in fact represent ownership in real assets or usufructs.

In accordance with the standing *fiqh* guidelines for issuance of Islamic financial certificates as given in box-1, and with the *bay' al dayn bil 'ayn* principle, the FICs and FPCs are mutually exchangeable (at their par values = face values). Any discrepancy between the par value and face value shall be adjusted by direct cash payments. For example, an ISDC worth \$ 100 is exchangeable with another ISDC worth \$105 under the condition that the additional \$5 is adjusted by cash payments.

Why would people be interested in such a transaction? Investors would be interested in such an exchange for two reasons; (a) difference in the maturity of the two ISDCs and (b) difference in the expected values of the options embedded with the two. Exhibit-2 summarizes the possibilities of such exchangeability scenarios. These scenarios show the potential of making Islamic financial instruments liquid. In a broader and systematic sense, the FICs and FPCs can represent different pools of assets - installment sale syndication on one hand and leasing syndication on the other.

The involvement of an arranger (an investment bank for example) in the process will help in institutionalizing the issuance of the certificates. The arranger can arrange finance from investors by providing related services for fees and management of admissible guarantees. The relationship is given here. Suppose the client approaches an arranger with complete project proposals, the actual finance required (e.g., under a lease contract) and they agree on the rent payment schedules etc. The arranger approaches the investors and guarantees the repayment with the following three alternative possibilities:

- i) the investors may hold their investment to maturity, or
- ii) the investors may approach the arranger any time after some initial grace period mutually agreed and take re-funds for the outstanding value of the asset and accrued rents ,if any, or
- iii) the arranger may provide re-funds at any time after the grace period for the outstanding value of the asset and accrued rents if any. With this arrangement, the FICs will have at least four variants:
  - a) FICs, hold to maturity without any embedded option

- b) FICs, hold to maturity with an embedded option to convert into shares
- c) FICs, puttables before maturity and
- d) FICs, callable before maturity.

Similarly, installment sale and *istisna'*, each one could have a number of such variants. With the involvement of an arranger and through the process of syndication different variants of certificates become possible. The possibility of an extended use of such arrangements for market risk management is summarized in Exhibit-3 for consideration and discussion of scholars who have better expertise in the *fiqh*. The probable effect of the benchmark rate on each case is also suggested. As the certificates can be in different currencies, the effects of exchange rate changes can also be visualized.



### Box - 1: Guidelines for issuing Islamic financial instruments

The general guidelines for the issuance of Islamic financial instruments may be summarized as in the following.

Instruments should represent share in equity, real assets, usufruct, money or debt or a combination of some or all of these,

- Instruments representing real physical assets and usufructs are negotiable at market price.
- Instruments representing debts and money are subject to their negotiability to the rules of *hawala* and *sarf*,
- Instruments representing a combination of different categories are subject to the rules relating to the dominant category (if debts are relatively larger, to *hawala al dyin*; if currency is larger, to *sarf* and if real/physical assets and usufructs are overwhelming, to selling at market price).

The issuance of Islamic financial instruments based on *mudarabah* or *musharakah* is subject to the following conditions:

- The principal and expected return on investment cannot be guaranteed,
- If the financial instruments were issued for specific purposes or projects, the prospectus should include full disclosure of the nature of the activities, contractual relationships and obligations between the parties involved and the ratio of profit sharing,
- The issuers of financial instruments should keep separate accounts for each project and must declare its profit and loss accounts at the date mentioned in the prospectus and balance sheets.

Holders of Islamic financial instruments are the owners of whatever rights these instruments represent and bearers of all related risks, and

An instrument, the object of which is debt, should not be allowed to earn any return and that its negotiability must be in accordance with the *shari'ah* rules.

*Adopted from: Ahmad, Ausaf and Khan, Tariqullah eds., (1998)*

Based on our above arguments, the following points can be added to these guidelines: (i) *Debt instruments are discountable with real assets and usufructs and, (ii) Debt instruments are mutually exchangeable on the basis of par value = face value rule.*

**Box - 2: Exploring for probable Islamic financial instruments based on embedded options**

**A. Sharing-based Certificates**

1. *Musharakah* certificates (MC1s)
2. *Mudarabah* certificates (MC2s)
3. Revenue sharing certificates (RSCs)
4. Declining Participation certificates (DPCs)

**B. Debt-based Certificates**

1. Leasing certificates (LCs)
2. *Istisna'* debt certificates (IDCs)
3. Installment sale debt certificates (ISDCs)
4. *Salam* certificates (SCs)

**C. Exploring Exchange Options of B Certificates for A Certificates**

1. LCs with an embedded option to convert into ISDCs
2. LCs with an embedded option to convert into DPCs
3. LCs with an embedded option to convert into MC1s
4. LCs with an embedded option to convert into MC2s
5. LCs with an embedded option to convert into RSCs
6. IDCs with an embedded option to convert into LCs
7. IDCs with an embedded option to convert into DPCs
8. IDCs with an embedded option to convert into MC1s
9. IDCs with an embedded option to convert into MC2s
10. IDCs with an embedded option to convert into RSCs
11. ISDCs with an embedded option to convert into LCs
12. ISDCs with an embedded option to convert into DPCs
13. ISDCs with an embedded option to convert into MC1s
14. ISDCs with an embedded option to convert into MC2s
15. ISDCs with an embedded option to convert into RSCs
16. Transferable down payment receipts (TDPRs)
17. SCs with an embedded option to convert into LCs
18. SCs with an embedded option to convert into DPCs
19. SCs with an embedded option to convert into MC1s
20. SCs with an embedded option to convert into MC2s
21. SCs with an embedded option to convert into RSCs



**Exhibit-3: Sale, Leasing and Istisna'-based Certificates and Movements in their value with respect to a change in the benchmark or exchange rate**

	Cases of Certificates (face value is equal to book value)	Currency	Value of certificate if benchmark appreciates	Value of certificate if SR appreciates
Installment Sale	1. Certificate represents fixed <i>murabahah</i> income, is hold to maturity	SR	↓	↑
	2. Certificate represents fixed <i>murabahah</i> income, is hold to maturity with a provision to convert into share of the beneficiary company, premature	SR	↑ moderate	↑
	3. Certificate represents fixed <i>murabahah</i> income hold to maturity with a provision to return back to the administering bank, premature	SR	Stable	↑
Leasing	4. Certificate represents rental income from a long period lease with periodic re-pricing but hold to maturity	SR	Stable	Stable
	5. Certificate represents rental income from a long period lease with periodic re-pricing but hold to maturity with a provision to convert into the shares of the beneficiary company, premature	SR	Stable	Stable
	6. Certificate represents rental income from a long period lease with periodic re-pricing but hold to maturity with a provision to return back to the administering bank, premature	SR	Stable	Stable
Istisna'	7. Case - 1 with an initial registration/confirmation period, delayed payment	SR	*Otherwise as in case 1	↑
	8. Case - 2 with an initial registration/confirmation period, delayed payment	SR	*Otherwise as in case 2	↑
	9. Case - 3 with an initial registration/confirmation period, delayed payment	SR	*Otherwise as in case 3	↑
	10. Case - 4 with an initial registration/confirmation period, delayed payment	SR	* Otherwise as in case 4	↑
	11. Case - 5 with an initial registration/confirmation period, delayed payment	SR	* Otherwise as in case 5	↑
	12. Case - 6 with an initial registration/confirmation period, delayed payment	SR	* otherwise as in case 6	↑

\* Withdraw if benchmark increases before the expiry of the registered period and invest in floating income. <sup>1</sup>Installment sale and Istisna' create fixed income certificates with the difference that in Istisna', for some period payment of the price can be delayed. <sup>2</sup>Leasing create floating income certificates. Similar certificates may also be available in other currencies.

### 3.6 Mitigating Counter Party Risk in *Murabahah*

The premise of the prohibition of *riba* protects the borrower from any injustice. To uphold this premise it is a common concern that the genuine *murabahah* transaction should not be abused; and the bank should not shift its own risk to the client “opening a back door to *riba*”.<sup>14</sup> For making the *murabahah* transaction resistant to such abuses it is often suggested that the contract should not be binding on the client, and that the bank should actually hold the assets before their transfer to the clients.

The AAOIFI (1996) in its *financial accounting standards number 2* and the accompanying notes and explanations has clearly laid down the juridical preferences of the type of options involved in this *murabahah* arrangement. It is clearly shown that including the OIC *Fiqh* Academy, most scholars prefer that in the *murabahah* transaction the orderer client must have an option to rescind from the contract without a cost and the purchase must not be binding on him/her. These standards also let down the accounting process for such an option and its non-utilization by the client.

Nevertheless, the operations of the IFIs overwhelmingly rely on a variant of Arboon. That, to hedge against the clients’ counter party risk, in a *murabahah* transaction, the IFI requires him/her to pay in advance a commitment price for the ordered goods. The commitment price is adjusted in the total price while settling the payments. This makes *murabahah* a binding contract. As a result, the *murabahah* transaction becomes a unique form of a call option. Even if the contract is binding, an unutilized call will burden the bank with the unsold asset as clearly drawn in the accounting standards. In the non-binding scenario the settlement process offered by the accounting rules require the IFI to bear the burden fully if the call is not utilized.

Whereas the call option is useful within the spirit of protecting the right of the client, the burden of its non-utilization needs to be reduced by appropriate institutional processes to clear the unutilized calls. Keeping these points in view, suppose that an agreement between a local Islamic bank (LIB) and a client (the ASAC) is reached for a *murabahah* transaction. LIB receives the Arboon amount (commitment price) from the client and issues the IOU described in Exhibit-4, for brevity called as TDPR - transferable down payment receipt.

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<sup>14</sup> This consideration has been central to the declaration of *murabahah* as practiced by the Pakistani banks as *riba*. See, *Federal Shariat Court ( of Pakistan) Judgement on Interest (Riba)*, IRTI, 1996.

<b>Exhibit – 4: Transferable Down Payment Receipt (TDPR)</b>		<b>IOU</b>
Item:	Construction material (full description)	
Price:	SR 1 million	
Receipt Value:	SR 25,000	
Amount Due:	SR 0.975 million	
Refunds:	Not allowed	
Date of Contract:	1-1-1999	
Date of Final Delivery:	1-4-1999	
<i>Other Conditions:</i>	<i>The holder of this receipt is authorized to receive the goods upon payment of the due amount on or before the delivery date.</i>	

Suppose that after one month of the contract, for some reasons, the ASAC is no more interested in buying the assets. As a result, it will lose SR 25,000 TDPR value and the LIB will lose possible market for the assets. Suppose ASAC finds a second party, which is interested in buying the assets and which pays to ASAC the TDPR value and gets the TDPR (ownership title to the assets). Suppose, after a while, he too loses any interest in the assets and finds another interested person. This third person actually pays the remaining SR 0.975 million to the LIB and takes the delivery of the assets.

It is important to note that the LIB can also buy the materials from the actual seller on the basis of Arboon. Due to its stronger bargaining position, the LIB will be able to pay lesser commitment price to the actual supplier than what it can receive from the client. Hence, the LIB's major role will be that of an Arboon intermediary between the actual buyers and sellers. As such, the LIB can fully hedge its counterparty risks, particularly from the client's side.<sup>15</sup>

Indeed, in its dominant practice, the *murabahah* is a binding contract. This is due to the non-existence of an institutional clearing process of unutilized *murabahah* call options. The robust theory of real options suggests that the existence of options and its clearing process is highly valuable for investment decision making. However, repeated and frequent occurrence of this process may cause hazards for the markets. Therefore, it is expected that such transactions happening in a larger magnitude will be regulated by responsible representative institutions.

<sup>15</sup> See, Obaidullah (1999) for formal discussion of this point.

Suppose, in case of the Islamic banks a *murabahah* Clearing Market (MCM) emerges as a regulator of such transactions. Parties selling on Arboon are required to register the details of their assets with the MCM. Similarly, parties buying on Arboon also register with the MCM. In addition, parties transferring the TDPR are also required to register with the MCM. Suppose that all this information becomes available to interested parties by computers. Naturally, the clearing process will improve the efficiency of the *murabahah*-*arbun* market. Given this institutional arrangement, and provided that the market efficiently values the underlying assets and reveals the information, it is easy to imagine the evolution of a market for the TDPRs. Such a development is expected to provide substantial instruments for risk management within the framework of the various *Fiqh* requirements.

### 3.7 Hedge Devices of Principal Protected Islamic Funds

It is worth noting that the National Commercial Bank of Saudi Arabia, in its highly successful Al-Mamoon “Principal Protected Funds”, formally utilizes the framework of Arboon. The arrangement roughly works in the following manner. 95% of the funds are invested in low risk (low return) but liquid *murabahah* transactions. The remaining funds are used as the sum of Arboon to purchase common stock in a future date with known serial numbers at the present. If the future price of the stock increases as expected by the fund manager, the Arboon is utilized by liquidating the *murabahah* transactions otherwise the Arboon lapses. The cost of the Arboon is covered by the return on the *murabahah* transactions. Thus, the principal of the fund is fully protected. In this way, Arboon is utilized effectively in protecting investors against undesirable down side risks of investing in stocks while at the same time keeping an opportunity for gains from favorable market conditions.<sup>16</sup>

### 3.8 Utilization of Comparative Advantages in Fund Raising

Firms raising funds from the markets are generally rated by the suppliers of funds and by rating agencies. The relative ratings usually differ due to availability of information, geographical and juridical proximity, past performance etc. Thus, some firms are efficient in raising funds from some sources and others in raising funds from other sources. Likewise some may be good in raising funds on floating rates<sup>17</sup> and others in raising them on fixed rates. If the competencies and needs of firms diverge, and if mutual competencies can be benefited from to meet each others need, both parties can benefit in raising cheaper funds.

<sup>16</sup> This write-up is based on a lecture delivered by Dr. Mohammad Ali Al Gari on “Financial Engineering from Islamic Perspective”, IDB, 17-1-2000.

<sup>17</sup> Islamic financing as practiced now does not avoid the benchmark (LIBOR); given that, floating rate is a periodically re-valued rent and fixed rate is the mark-up of *murabahah*. Rents can be re-valued and re-priced but *murabahah* profits which become part of due debt cannot be. The benchmark rate risk is therefore more on fixed rate funding as compared to floating rate funding. Therefore, rents should be lower than mark-up rates. This relative riskyness and differential in rates could be the basis of differences in comparative advantages in raising funds.

A swap (exchange of funds) is a cooperative arrangement. At the present it is one of the most popular methods of raising funds from international markets at lower costs. It is also used for bypassing regulatory imperfections and hedging financial risks. It can equally be utilized under Islamic financing, particularly, under various syndicated facilities. The suggestion can be explained with the help of an example. Suppose the subsidiary of a Turkish Company (TC) is operating in Pakistan and a subsidiary of a Pakistani Company (PC) is operating in Turkey. The rating of the TC is better in Turkey compared to the rating of the PC in Turkey and vice-versa.

But if there is an anomaly in the sense that TC-subsiary needs funds in Pak rupees and the PC-subsiary needs funds in Turkish lira, both will utilize their respective comparative advantages in getting funds and by exchanging (swapping) the funds both can get cheaper funds. The possibility of swapping exists for all sorts of financial instruments and assets and their derivatives.

A numerical example can further clarify the point for simple currency originated differentials in advantages in mobilizing funds. Suppose the TC needs to import rice from Pakistan and the PC needs to import steel from Turkey. Suppose that the dollar value of each transaction is 10 million. The PC can buy rice at 6% markup in dollar terms and the TC can buy the same rice at 7% markup in dollar terms.<sup>18</sup> Similarly, the TC can buy the steel at 6% markup and the PC can buy it at 7% mark up. If the PC can buy rice for the TC and TC can buy steel for the PC, together they can save dollars 0.2 million. The PC will pay the dollar value of the rice and markup in Pakistani rupees and will get the steel at 1% lesser cost. The TC will pay the dollar value of steel in Turkish lira and will get the rice at 1% lesser cost. They raise cheaper finance. In addition, they avoid currency conversion process and the underlying foreign exchange risk. In this example, one company has absolute advantage in getting finance in one currency and the other in another one. Both can gain even if they raise funds on the basis of their comparative advantages. In fact all swap transactions are undertaken on the basis of comparative advantages.

Similarly, we can visualize cost differentials in mobilizing floating rate and fixed rate funds for different fund users. The swap arrangement is so attractive and beneficial for parties that it is one of the most thriving financial innovations. As apparently, there is no Islamic economic problem with the above example cited, it is a potential area for the involvement of the IFIs. The swaps and swaptions (option on a swap) as practiced now involve all sorts of assets including interest-based instruments and options on them. Such instruments are not relevant for the IFIs. However, as shown, the basic mechanism is cooperative not zero-sum-game oriented and can provide for a potential area to develop in Islamic financing. The potential has to be seen in the light of the possibility that affiliated companies of

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<sup>18</sup> Because the PC is rated better in Pakistan in raising mark-up funds in rupees as compared to the TC and vice-versa. If LIBOR is assumed to be 5%, the PC rupee spread is 100bps and TC rupees spread is 200bps; the PC lira spread is 200bps and the TC lira spread is 100bps above LIBOR.



the IFIs can buy on installments at lower mark-up rates and pass on the assets on installments to their clients. Thus raising funds at relatively cheaper rates and increasing their operations at relatively lesser financial risks.

### 3.9 The Expanding Scope of Islamic Futures Contracts

Futures contracts enable their users to lock-in future prices of their own expectations. For example, a wheat grower typically faces price risk (deviation of actual future wheat price from its expected value). A farmer whose wheat will be ready for market in six months time may expect its price to be 200 per bushel; after six months the price may actually turnout to be e.g., 180 or 215 per bushel. In this and similar cases, some investors will have a preference for the benefits accruing from the uncertainty and others will like to avoid the uncertainty. In a case where, the farmer dislikes the uncertainty related to the future prices of wheat, he simply has to find a future buyer on the basis of *salam* who would pay him the 200 per bushel now. If the deal is reached, the farmer has removed the uncertainty by selling the wheat at the price of his own expectation. Removal of the future wheat price risk enables the farmer to project his business forecasts more accurately, particularly, if he had to pay back debts. This process removes uncertainties and ensures proper business planning. By virtue of a numbers of *Fiqh* Resolutions and other conventions the scope of such contracts has widened in Islamic financing. For example:

- a) The OIC *Fiqh* Academy has resolved that in *istisna'* both the price and its object of sale can be delayed.<sup>19</sup> *Istisna'* is the most dynamic mode of Islamic finance. Thus, such delayed payment *istisna'* are expected to increase in volume.
- b) The *Fiqh* Academy has also resolved on the acceptability of Arboon.<sup>20</sup> Since, in Arboon, most part of the price is delayed as well as the object of sale is also delayed, this also falls in the framework of the definition of a forward sale.
- c) Islamic banks are using a special variant of Arboon in which the client pays small part of the price up-front and payment of the price and the object of sale are both delayed,
- d) *Bay' al-tawrid* (continuous supply-purchase relationship with known but deferred price and object of sale) is a popular contract among the Muslims of our time, particularly in public procurements<sup>21</sup> and finally,
- e) Some prominent Islamic banks are already using currency forwards and futures.

This implies that with the passage of time and refinements of Islamic financial instruments and markets forward contracts will assume greater importance under

<sup>19</sup> OIC *Fiqh* Academy (1998), p 144-145.

<sup>20</sup> Ibid, p 165.

<sup>21</sup> See, Homoud (1997).

Islamic financing. If the use of these instruments is increased, some form of regulation will become inevitable, thus paving the way for institutional arrangements. This is expected to increase the role of these contracts for risk management.

#### **4. CONCLUSIONS AND IMPLICATIONS**

The paper posed the challenge of mitigating markup price risk in Islamic financing given the unique circumstances under which Islamic banks operate – prohibition of derivatives, interest-based instruments and sale of debts on one hand and fully re-price-able liabilities (deposits) on the other. The only alternative available at the present to mitigate markup rate risks is to write very short-term contracts. As an alternative, the present paper explored the premises of sale of debts against real assets (*bay' al dayn bil 'ayn*) and concluded that the potential for developing numerous Islamic quasi debt (equity) instruments is there for proper development. Surprisingly, this area has not attracted any research in the past. Compensating for the delay, it is expected that researchers will find this premises of evolving Islamic quasi debt instruments quite appealing. Such works can prove to be useful in pushing the frontiers of Islamic finance further, empowering Islamic institutions to compete in the mixed environment and to provide funds to meet the long-term needs of economies which have decided to avoid interest-based finance. Due to the integrated nature of the Islamic quasi debt instruments with the real markets, such liquid instruments may well be attractive to a wide spectrum of non-Islamic participants too, thus paving the way for the development of fully-fledged Islamic financial markets.

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