DERIVATIVES AND ISLAMIC FINANCE

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The conventional options, swaps and futures stem from debts and involve sale and purchase of debts/liabilities. As a group, products such as interest-rate swaps, stock options and futures, currency futures etc are called derivatives i.e. instruments derived from the expected future performance of the respective underlying assets. These are very complex and risky contracts having present market value of trillions of dollars over the world. According to an article published in the Economist, some $ 128 trillion of over the counter derivatives were outstanding in June 2002, a 28% increase over a year earlier[1]. It has been observed, however, that global financial market is becoming increasingly fragile as more and more derivatives and 'hedging' instruments emerge.

Just to introduce the terms to common readers, an option to buy a commodity is known as 'call option' while the option to sell a commodity is known as a 'put option'. An option has a nominal size, this being the amount of underlying asset that the option holder may buy or sell at the strike price, the price at which the holder may buy or sell the underlying asset upon exercise of the option. If the price moves favorably, the option is exercised and the commodity is bought/sold at the agreed price. If the price moves unfavorably, the buyer of the option simply abandons it. Thus an option contract confers the right but not the obligation to enter into an underlying contract of exchange at or before a specified future date (the expiry date). The buyer of that option pays a price (the premium) to the seller (the writer) of the option.

We can explain the options trading with help of an example. A call option purchase at a price of say Rs 5 on bond or stock 'A' provides a right to Mr. M to purchase the stock at price of Rs 50 three months from now. If as per his expectations the price of 'A' increases to Rs 60 on the maturity date, then the buyer of the call has a net gain of Rs 5 (on an investment of Rs 5). This is what the seller or the writer of the call would lose. But if the price of the stock falls below Rs 50 on the maturity date, say to Rs 40, the buyer would allow the option to expire without exercising it since he can buy from the market at a lower price. His loss would amount to Rs 5 or hundred percent with the call. This Rs 5 would be what the seller of the call would gain on zero investment. In the game, the buyer and seller 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.

The institutions dealing in derivates and hedge funds claim that diversity of hedging products protect their clients against market volatility and provide a larger spectrum of risk management to the benefit of the society. But, actually volatility is caused by their activities when they trade in derivatives as a part of rip-off factor and the clients are sold nothing for something – protection against a danger that never needed to exist in the first place. They may produce huge profits for financial institutions at the cost of others. But these profits are not necessarily indicative of productive efforts. Mr. Warren Buffet, Chairman Berkshire Hathaway says: Derivatives are financial weapons of mass destruction mainly due to opaque pricing and accounting policies in swaps, options and other complex products whose prices are not listed on exchanges; Credit derivatives and total return swaps that are agreements to guarantee counterparty against default or bankruptcy merit special concern."[2]

The macro-economic arguments for their existence are also not convincing – they are for minimizing risks which do not need to exist as described earlier. The global foreign exchange market as at present is more or less an unproductive pursuit in that it exists because of an unnecessary monetary expansion. It would be better to structure the financial system such that it does not suffer from continuing volatility. What we are seeing in the Western world is the emergence of financial products that are a symptom of a system that has gone wrong. For a more efficient economy, we must promote systems in which people work in productive pursuits rather than unproductive ones. Change the system to relate it with real sector activities and all those clever dealers who earn huge profits out of thin air could become doctors, industrialists, business people and teachers instead! As such, Islamic financiers who look at the products of this system as a paradigm seem to be at mistake. [3]

Study of the behaviour of the Derivatives market reveals that it has the potential to cause a serious breakdown in the financial system. The degrees of leverage that are afforded by option contracts can be so high that large unpredictable market moves in underlying prices may one day lead to the insolvency of a major financial institution. Liabilities cannot be perfectly hedged even if that is the intention, and some traders deliberately do not hedge their option portfolios because such action would limit the potential for high returns. The case of Long Term Capital Management in the United States, rescued by a Federal Reserve bail out in 1998, demonstrates the degree of risk that can be incurred. The question is whether the central bank or other authorities would be able to move quickly enough, or in large enough measure, to prevent failings.

For example, Collateralized Debt Obligations (CDOs) are sophisticated type of derivatives and clever way of exploiting anomalies in credit ratings. A number of loans or debt securities payable by various companies are put into a pool, and new securities are issued which pay out according to the pool's collective performance. The new securities are divided into three (or more) levels of risk. The lowest, equity tranche, takes the first loss if any companies in the pool default. If enough losses eat that up, the next, mezzanine level suffers. The most protected level, the senior tranche, should still be safe, unless the collective pool has severe losses. It takes only a couple of defaults in a pool of 100 companies to destroy the equity tranche. Downgrades of investment-grade corporate bonds in America were a record 22% in 2002, according to Moody's and it recorded bond defaults of $ 160 billion worldwide. The equity and mezzanine tranches of many CDOs have suffered severe losses; some have been wiped out. Even senior tranches, usually rated AAA, have been downgraded because losses may yet reach them[4]. Thus, the whole concept of CDOs as in vogue refers to absolute risk and exploitation.

According to the concept of Option (*khiyar*) as we find in Shariah literature, the informationally disadvantaged party at the time of entering into the contract has the option to cancel the contract within a specified period. A person has also the right to undo his purchase if the seller specifically allows as part of the terms of the sale. All such forms of option are in the nature of rights embedded in a contract. In the term *khiyar* as used in Fiqh books we do not see any analogy that would lead us to acceptance of the structure of modern option contracts. These are independent financial contracts traded for a price that do not have any clear-cut parallel in the classical Islamic theory of contracts. *Khiyar* relates to a *halal* contract of exchange that has already taken place, whilst a modern option relates to an exchange that is yet to take place. In the case of *khiyar*, the exchange of one or both counter values is effected immediately while in the case of the modern option contract, future delivery applies to both the payment and the underlying asset. In addition, uncertainty as to the materialization of the exchange exists with the modern option contract but not in *khiyar*. A resolution of the Islamic Fiqh Academy of the OIC asserts, "Option contracts as currently applied in the world financial markets are a new type of contracts which do not come under any of Shariah denominated 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."[5]

Most of the derivatives incorporate *gharar*[6] (absolute risk), gambling and interest and support speculative activities. Islamic legal rules, particularly the ban on *Gharar* and on the sale of debt for debt, do not allow transactions devoid of real/productive activities. Derivatives involving such financial contracts which themselves are prohibited in Shariah (Riba based bonds & forward foreign exchange where mutual exchange is not simultaneous, for example) are clearly un-acceptable according to the Shariah principles. In case the underlying assets are equities and commodities it would be seen whether or not Riba and Gharar are involved. Experts are of the view that even in case of acceptable forms of underlying assets, a key valuation element in arriving at the fair value of an option contract remains the rate of interest. The Black-Scholes formula proposes that since an option can be perfectly hedged through constant trading in the underlying asset, the option position should be riskless and hence earn the buyer the risk free rate of interest on the premium that was paid for it. (In reality, constant trading of the underlying asset to achieve the perfect hedge is unattainable, and so option prices behave in ways that are not entirely predicted by Black-Scholes.) For the unhedged option, the contract becomes one of pure uncertainty. Neither party knows whether the option would be exercised, as it is dependent upon the condition of the market at a future date.

According to some writers 'Arbun'[7] can become a basis for developing some kinds of Shariah compliant options – contract by which one party buys the right to purchase from the other party specified goods for a specified price on a certain date[8]. 'Arbun' is a void contract according to a Hadith and the three schools of Islamic law. Only *Hanabalah* uphold 'Arbun' with the condition imposed by some of them that time should be stipulated for the option. The OIC Fiqh Academy has also endorsed 'Arbun' but only if time limit is specified. Even if 'Arbun' is accepted as valid transaction, most of the derivatives current in the market would still be unacceptable from Shariah angle due to involvement to Gharar and Riba. A Call Option can be considered near to *Bai al Arbun* 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 the buyer loses the option premium even if the option is exercised and the contract is confirmed. In case of Bai al-Arbun, however, the option premium is adjusted in sale price when the contract is confirmed. However, this subject of derivatives needs extensive research.

Samuel L. Hayes, after detailed discussion on derivatives concludes, "There are no effective derivates of Islamic debt contracts which replicate conventional risk-hedging and leveraging contracts such as swaps, futures, and options. Similarly, in the equity security sector, there are no risk-hedging or leveraging contracts in Islamic finance truly comparable to available conventional derivatives….. With respect to commodities and other goods, the *Salam*[9] contract is an imperfect Islamic substitute for a conventional forward contract. The related *Istisna*[10] contract for goods being manufactured for a buyer provides another partial Islamic proxy for a forward contract. It is also possible to construct an Islamic contract which partially replicates a conventional futures contract, via back-to-back *Salam* contracts".[11]

Notes and References:

[*] The writer is Senior Joint Director, Islamic Banking Department, State Bank of Pakistan Karachi.

[1] The Economist, London, March 15, 2003

[2] Buffet, Warren, The Economist, March 15, 2003

[3] El-Gamal, Mahmoud Amin, Professor at Rice University, Houston, TX ; E Mail: elgamal@rice.edu http : // www.ruf.rice.edu/~ elgamal

[4] The Economist;

[5] OIC Fiqh Academy, Seventh session; 9-14 May, 1992

[6] *Gharar*: It means any element of uncertainty in any business or contract about the subject of contract or its price, or mere speculative risk. It leads to undue loss to a party and unjustified enrichment of other, which is prohibited.

[7] *Arbun:* Down payment; a nonrefundable deposit paid by a buyer retaining a right to confirm or cancel the sale.

[8] Vogel, E. Frank & Samuel L. Hayes, 1998; P.156

[9] Bai′ Salam is a contract in which advance payment is made for goods to be delivered later on. The seller undertakes to supply some specific goods to the buyer at a future date in exchange of an advance price fully paid at the time of contract. The objects of this sale are goods and cannot be gold, silver or currencies because these are regarded as monetary values exchange of which is covered under rules of Bai al Sarf where exchange needs to be simultaneous.

10 Istisna′a is a contractual agreement for manufacturing goods and commodities, allowing cash payment in advance and future delivery or a future payment and future delivery. It can be used for providing the facility of financing the manufacture or construction of houses, plants, projects, and building of bridges, roads and highways.

[11] Vogel, E. Frank & Samuel L. Hayes, 1998, Pp. 219-232