

Commodity Exchange and Stock Exchange in Islamic Economy

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Introduction

The main objective of this paper is to review contemporary practices in commodity, currency and corporate stock trading in the light of Islamic economic framework and to suggest bare outlines of the Islamic alternatives in these areas. Trade in commodities, currencies and stocks involves forward and futures contracts. Arbitrage, hedging and speculation are also essential elements of these markets. We shall try to examine these practices to determine their compatibility with the Islamic law. We shall also try to find out the exact point where they deviate from the Islamic framework and suggest some mechanism to perform the same economic function in the Islamic economy. Our main conclusions are summarized below:

First, by and large the trade in spot and forward markets is covered by the Islamic law.

Second, futures trading is alien to the Islamic law as it involves trading without actual transfer of the commodity or stock to the buyer which is explicitly prohibited by the Prophet (SAAS).

Third, speculation by itself is not unlawful in Islam but the Islamic economic framework does not allow professional speculators to thrive.

Fourth, the Islamic condition of transfer of the commodity stock to the buyer is a mechanism to boost the real sector.

Fifth, stability in the foreign exchange market can be achieved by cooperation of the international community. It would necessitate abolition of *al ribā* and scrapping of trade restrictions over borders besides accepting money as a medium of exchange only, rather than a commodity.

Sixth, to discourage negative effects of speculation, information regarding commodities and corporations needs to be widely and freely disseminated. No amount of restrictive regulations can

replace the free flow of information in diffusing the effects of speculation.

Seventh, the unforeseen economic fluctuations in these markets would be partly evened out by minimal speculative activity. But fluctuations caused by exogenous factors like famines, bumper crops, wars and political acts of governments will have to be covered by alternative institutional arrangements. Futures markets are not the answer to these fluctuations. They operate to the benefit of powerful "insiders" or professional speculators and not to the society at large.

General Principles of Market in Islam

In this section we shall discuss the general principles of Islamic business. These principles will serve as the criteria for evaluating contemporary business practices to be discussed in succeeding parts.

1. The market in the Islamic economy operates on the free will of buyers and sellers.¹ All production and consumption decisions are made by individuals and institutions on the basis of their respective judgements. The prices are determined by the free flows of supply and demand except where a seller may be able to fix price on the basis of cost plus mark-up due to imperfect market conditions. In general, the state does not intervene into market operations except where economic justice is at stake or where general public is facing hardship due to natural calamities or because of manipulations of the economically powerful segments of the market.²

2. The Prophet (ṢAAS) forbade certain market practices such as withholding of food items at times of scarcity (*iḥtikār*)³, collusion to bid

¹This is based on injunctions of the Qur'ān and the Sunnah. For example, "O believers, you should not usurp unjustly the wealth of each other, but trade by mutual consent . . ." (al Qur'ān, *Sūrah al Nisā'*(4):29). "Abū Sa'īd al Khuḍrī reported: The Messenger of Allah (ṢAAS) said: The contract of sale becomes (lawful) with the consent (of both the parties)". (Ibn Mājah, *Sunan*, Kitāb al Tijārah, ḥ. 18).

²For general rule in price determination: "Anas Ibn Mfik reported: During the life-time of the Messenger of Allah (ṢAAS) price level went up. They (people) said: Messenger of Allah : Fix prices for us. On this he said: Prices are fixed by Allah . He contracts and expands the sources of livelihood. And I hope to meet my Sustainer in a state that no one may raise a claim of injustice against me in respect of blood or money". (al Tirmidhī, *al Jāmi' al Ṣaḥīh*, Kitāb al Buyū', ḥ. 73). For exception: Ibn Taymīyah, *Public Duties in Islam*, Leicester: The Islamic Foundation, 1982, p. 49.

³For example: "Ma'ammār reported Allah's Messenger as saying: He who hoards is a sinner" (al Muslim, al Saḥīh, Kitāb al Muzāra'ah ḥ. 173)

up prices⁴ (*tanājush*), sale by the town-dwellers on behalf of the farmers⁵ (*bay' al hādir Li al ba'id*), purchase from the farmers at lower prices keeping them ignorant about the market prices⁶ (*bay' talāqī al rukkān*), sale or purchase of an uncertain commodity⁷ (*bay' al gharar*), and sale of something which one does not possess⁸. These are only examples of what the Prophet (ṢAAS) specifically prohibited. These examples suggest that those practices which cause market imperfections by disrupting the natural flows of supply and demand were prohibited by the Prophet (ṢAAS). On the analogy of these instructions we can infer the general principle that those practices which interfere in the free operation of the competitive market do not conform to the Islamic framework.

Another implication of the above examples is that the economic power should not be allowed to interfere in the market process. The economically powerful segment of the society has a tendency to interfere in the supply and demand flows to their selfish interest. Therefore, the general rule is that competition is encouraged and monopoly is discouraged in the Islamic framework.

3. In barter trade, if the same commodity is being exchanged, then the quantity should be equal and the exchange should be simultaneous.⁹ Such exchanges were made in the days of the Prophet (ṢAAS) in unequal quantities with differences. By making the quantities equal, the premium for quality has been disallowed except that both the qualities are converted into money and exchanged at market prices.¹⁰ By prohibiting deferred deliveries, the tendency to charge a price for the time a delivery is postponed has been disallowed. However, if the commodities being exchanged are different, then the quantities can vary, but the deliveries have to be spot and simultaneous. These restrictions were levied by the Prophet (ṢAAS), to forestall the entry of *ribā* through the back-door. On the analogy of this general principle the Islamic economy prohibits all those transactions which involve *ribā* in any disguised form.

4. Any business transaction in which a price is charged for time is not allowed because it is a form of *ribā*. During the days of the Prophet the

⁴See for example, Muslim, *ibid*, Kitāb al -Buyū' h. 13

⁵*ibid*

⁶*ibid*

⁷See Abū Dawūd, *Sunan*, Kitāb al Buyū' , h. 25.

⁸Ibn 'Abbās reported Allah's Messenger (ṢAAS) as saying: He who buys foodgrains should not sell it until he has taken possession of it" (Muslim, *op. cit.*, Kitāb al Buyū'; h. 33 ff.)

⁹Ubadāh b. al Ṣāmit said: I heard Allah's Messenger (ṢAAS) forbidding the sale of gold by gold, silver by silver, wheat by wheat, barley by barley, dates by dates and salt by salt except like for like and equal. He who made an addition or who accepted an addition committed the sin of taking *ribā* . . ." (Muslim, *op. cit.*, al Muzārah, h. 94 ff.)

¹⁰*Ibid*, h. 122-123.

ribā was defined as price for extension in time given by the creditor to the debtor. On this analogy we can say that if a buyer charges a higher price for the credit sale than for the cash sale he is operating with the spirit of a creditor who is charging *ribā* for extension in repayment.¹¹ Some of the juristic decrees which allow these transactions are a source of great confusion and a basis for re-entry of *ribā* in the economy after it has been declared unlawful.

5. Another cardinal principle of Islamic market is that each transaction must involve physical transfer of the commodity or its ownership to the buyer.¹² The seller must also own a commodity or property before he can re-sell it.¹³

Thus, all those transactions in which mere paper transfers are made without any actual delivery of the commodity or stock are not covered by the Islamic law of the market.¹⁴

6. In a sales transaction, the most common form is the spot trade where commodity and price are exchanged simultaneously. But it is also permissible to defer the price (*bay' al mu'ajjal*)¹⁵ or to defer the delivery of the commodity¹⁶ (*bay' al salam* or *bay' al istisna*). But both the commodity and the price cannot be deferred to effect a legally enforceable sale.

7. No such exchange is legally valid which involves payment by one to the other without any consideration or recompense (*iwad*). This is termed as *ribā*.¹⁷

8. Any sales transaction in which the seller makes materially false statements which the buyer believes and acts on, gives the buyer the option to revoke the contract.¹⁸ Thus, all advertising or professional information which

¹¹Kakakhel, Mufti S. Siyahuddin *Bay' Muajjal and Bay' Murābahah* (Credit sale and sale on pre-agreed profit over cost) (Urdu). Paper presented in the seminar on Islamic Financing Techniques organized by I.I.I.E., Islamic University, Islamabad, Dec., 22-24, 1984 (1404 AH).

¹²Ibn 'Umar reported: We used to buy foodgrains during the life-time of Allah's Messenger (ṢAAS). He would then send to us one who commanded us to take them to a place other than the one where we had bought them before we sold it". (Muslim, op. cit., al Buyū' ḥ. 38 ff.)

¹³See n. 8 *supra*

¹⁴Abū Hurayrah is reported to have said to Marwān : Have you made lawful the transactions involving interest? Thereupon Marwān said: I have not done that. Therupon Abū Harayrah said: you have made lawful the transactions with the help of documents only (*Bay' al Sikak*) whereas Allah's Messenger (ṢAAS) forbade the transaction of foodgrains until full possession is taken of them. Marwān then addressed the people and forbade them to enter into such transactions (as are done with the help of documents only). Sulayman said: I saw the sentinels snatching (these documents from the people). (See note 8 *Supra*).

¹⁵Muslim , op.cit, al Muzāra'ah, ḥ. 148.

¹⁶Ibid, h. 152-153.

¹⁷al-Jaziri , A.R., *Kitāb al Fiqh 'alā al Madhāhib al Arba'ah*, Lahore: Ulema Academy 1403/1983 vol. 2, p. 496.

¹⁸Ibid, pp. 339 ff.

has false contents or false appeals is not allowed in the Islamic economy.

9. Profiteering caused by the need of the buyer is not allowed.¹⁹ If a seller charges higher than the market price because of the need of the buyer he is guilty of profiteering and would have to compensate the buyer for such profit.

10. There should be no ambiguity about the price, object of sale, time and place of delivery.²⁰ There are specific rules for options sales all of which give an option to the buyer or seller if there is any ambiguity about the commodity, price, time or place of delivery.²¹

11. All sale transactions should be in absolute terms. A sale transaction which is reversible after the expiry of a certain period is not allowed as it is a contrivance to earn *ribā*.²²

12. Money is not a commodity but a medium of exchange. The *ribā* transactions presume money as a commodity. The person who receives *ribā* charges it as a price of this commodity. All those transactions in which money is treated as a commodity are not treated as valid.²³

Commodity Exchange

The world commodity trade is carried out in organized commodity exchanges located in large cities of America, Europe, Asia and Australia. There are three types of markets in commodity trade: (a) spot, (b) forward, and (c) futures. The spot market operates on the basis of cash-and-carry. From the Islamic point of view this is the normal type of market. Therefore, we shall not make any comment on it except that the spot trade should be carried within the general Islamic framework described above.

1. Forward Market

In the forward market the commodities are sold in the present to be delivered at some future date. The price, quantity, time and place of delivery

¹⁹Ibid, pp. 530 ff.

²⁰Ibid, pp. 307 ff.

²¹Ibid. pp. 348.

²²Ibid. pp. 350 ff.

²³This seems to be one of the implications of the prohibition of *ribā*. Once money is accepted as a commodity like for instance a bag of wheat, then it can be sold on credit and, for a profit, which opens the door for *ribā*.

are settled at the time of contract. Neither money is paid nor the commodity delivered except in certain exchanges where the buyer deposits a margin on due date; the delivery of the commodity is made by the seller and the price is paid by the buyer. In the forward market, price is determined by demand and supply of the commodities for different maturities.

The rationale for the existence of such a market lies in the human desire to hedge against future unforeseen adverse movements in price level or supply position. Moreover, a forward market allows the farmers to plan their production and control their cost. It helps the users of raw materials to budget their future production schedules and make firm commitments about future deliveries. Another justification for the forward market lies in the easy availability of finance from banks against collateral of hedged raw material stocks.

A highly simplified example will illustrate the above argument. Suppose the defense department of a country needs one million uniforms for its army which would require about 6 million meters of cotton cloth. It is not possible for any supplier to provide these uniforms from its ready stock. The supplier approaches the largest textile manufacturer. Looking at his present commitments, the manufacturer would require about 12 months to fabricate and deliver 6 million meters of cloth. In turn, the manufacturer would not be able to deliver the cloth in time, if for certain reasons, the raw cotton goes into short supply after 6 months from now, when he would need it. Therefore, to be on the safe-side he enters into a firm commitment with wholesale dealers of raw cotton to start supplying it after 5 months and continue its supply over a period of the next 6 months. The wholesale dealers enter into agreement with farmers to supply raw cotton at the required future date. The price to the farmers is settled in advance. Looking at their cost and sale price the farmers can decide their acreage for cotton and make efforts to control their expenses.

In this chain, a number of agreements take place. The farmers agree to supply raw cotton to the wholesalers, who agree to supply it to the textile manufacturer. The manufacturer agrees to supply the cloth to the contractor supplier who arranges to stitch uniforms and supply it to the defense department. At each stage the price is settled in advance while the object of sale is not in existence. In each contract the buyer pays a certain percentage of the total purchase price in advance. Under the normal rules a contract which deals in a non-existent commodity is void in the Islamic framework. But looking at the beneficial role of such contracts some exceptions have been made in the law. The contract between the supplier of the uniform and the defense department and between the supplier of uniforms and textile manufacturer are covered by the rule of *bay' al istisnā*. Under *bay' al istithnā* the two parties can agree on the sale of a non-existent product if the supplier

needs time to manufacture it. A certain percentage of the sale price as an advance is also permissible.

The contracts between the textile manufacturer and the wholesaler and between the wholesaler and the farmer are covered by the law of *bay' al-salam*. The *Bay' al-salam* is an exception to the general rule. One of the essential conditions is that the sale price should be paid in advance, in full. In the contemporary situation, if the full price is not paid then some bank guarantee may be substituted to legalize the contract under the Islamic law.

The above example is a very simple illustration of the real-life complex situation. But the essence of the matter is that the Islamic law has provided for such situations which facilitate dealings in varied circumstances. Besides *bay' al-istisna* and *bay' al-salam*, the Islamic law also provides for *bay' al-mua'jjal* and *bay' al-istijrar*. In the former, the delivery is made but the price is deferred. In the latter, the price is paid in advance but the delivery is accepted in installments in the future.

In a pure forward deal in which the two parties agree to transact on a future date at an agreed price, no sales deal takes place. Although in common parlance it is termed as 'sale', in the Islamic law it is merely a promise to sell, rather than an actual sale. Such a promise is not legally enforceable although both parties may honor it morally.

In sum, from an Islamic point of view, there is hardly anything objectionable in the basic operation of the forward market. Individual transactions may have certain elements which need to be modified in the light of the Islamic law.

Before we pass on to the futures market, two more issues need special attention. They are (1) arbitrage and (2) hedging.

2. Arbitrage

Arbitrage is the simultaneous purchase and sale of the same commodity at prices which guarantee an assured profit. The delivery of the commodity and realization of the profit may be made in the future. For example, a wholesale egg dealer in Lahore notes that the price of eggs in Karachi is so high that if he buys eggs in Lahore and ships them to Karachi, he would still make a profit. He would buy eggs in Lahore and would simultaneously sell them to some Karachi merchant. The deal in Lahore would take place in the spot market. The Karachi deal would take place in due course of time when the eggs are delivered at Karachi and the money is received. The arbitrageurs make money out of the small price differentials in two markets. The economic role of the arbitrageurs is that they stabilize the markets in different trading centers.

From the Islamic point of view the arbitrage is lawful. Both of the transactions involve cash delivery and the arbitrageurs' income is justified by the hard work he does in finding an opportunity and in making arrangements to ship the commodities from one place to the other.

Hedging

The stock holders of commodities always fear that an adverse unforeseen movement in the price level may expose them to heavy losses. Therefore, they "hedge" themselves against unforeseen price fluctuations by selling in the forward or futures market, at a price which is acceptable to them. Similarly, those who have to honor commitments at a future date may like to buy now in the forward or the futures market, at an acceptable price. The hedging may reduce their unforeseen profits as against unhedged positions if their speculation does not come true. But they prefer to hedge rather than remain exposed.

The hedging helps the traders to manage their stocks economically. They become aware of the cost of carrying stock in periods of short supply and gains of stock-holding in periods of abundance. They also help in keeping a steady flow of stocks in the market throughout the year.

There is nothing un-Islamic about hedging in the forward market. But hedging in the futures market is not lawful, as shall be argued below.

3. Futures Market

A large quantum of commodity trade is carried out in futures markets. The commodity futures market is a highly competitive market in which the individuals or firms deal in specified commodities for delivery in the future. The commodities futures market differs from forward market. In the former the actual delivery hardly ever takes place. Not more than 1% of the contracts actually mature into physical delivery. The rest of the contracts are purchases and sales in the future by book transfers. In the case of the forward market, physical delivery does take place. The futures market is highly organized. The maturities for different commodities are specified and all prices are quoted for those maturities. The grades of each commodity are also precisely defined. In actual practice, the settlements are made through clearing houses. The dealers pay into or receive from the clearing house without even knowing the name of the other party. In the final analysis, it is a zero-sum game. Losses of the one are gains for the other.

The futures market does not visualize physical delivery of any commodity.

The non-delivery aspect of the market gradually evolved in response to the actions of certain large buyers who would continue buying large quantities of the same maturity. Ultimately, the sellers were “cornered” because of shortage in the actual market. As a redress to this situation, the sellers were allowed to deliver the grade of the commodity, other than the one agreed to. Thus the buyers were pressured to accept unwanted grades. To protect the buyers from this pressure, they were allowed to re-sell the futures contracts without getting delivery. Thus, the forward contract led to manipulations by the buyers, which led to options for the sellers to vary the grade or place of delivery, which led to the buyers not accepting the delivery. Thus, the vicious circle was completed.

The futures market in commodities is designed to keep the prices in the spot market stable. But its real benefit is reaped by hedgers and speculators. The speculators are the professionals who assume the reverse position which the hedgers adopt. For each “short” hedger there is a “long” speculator and vice versa. The speculators facilitate the hedgers to hedge. Thus, they assume the risk which the hedgers want to shed. By small differences in the prices, they make money for themselves.

The development of commodity futures was encouraged by banks and finance houses. On the one hand, they found hedged inventories as excellent lending risks and on the other they encouraged hedgers and speculators to operate in the futures market with borrowed funds. Thus, they could expand credit and find a ready clientele for their business. In futures market one can operate with a small margin, say 10% of the total investment involved. Thus, the gearing ratio is very high. People venture to get into large transactions with small sums.

The Islamic position on futures market is quite clear. To start with, the commodity is non-existent, and then it does not involve physical transfer of commodities and successive sales are made without anyone’s actually owning the commodity. Thus, from the Islamic point of view, all the transactions in this chain are unlawful. The exceptions made in the case of forward market are not operative here since physical transfers are not made by anyone in the whole chain of buyers and sellers.

The rationale of the Islamic law is as follows. In the futures market a number of intermediaries make money without adding any time, place or form utility to the commodity. Thus, some people earn without giving anything in recompense (*‘iwad*). The situation is closely similar to the one in which a person claims *riba* without giving anything in recompense.

It is often argued in the literature on economics that the futures markets are more economical and efficient than the cash market because the former

do not involve any physical transfer or storage costs.²⁴ This argument is relevant in the context of speculators only, who make money economically and efficiently. From the point of view of the economy as a whole, the physical transfer of commodities at each stage involves a lot of human activity. Thus, a number of people get jobs for activities like storage, transport and packaging. They, in fact, add time, place or form utilities as well. Thus, in terms of economic activity, the Islamic insistence on the physical transfer of commodities by each seller has a more encouraging effect as compared to the contemporary futures market which has a restrictive effect on the market. Nevertheless the futures markets have some other problems as well.

First, in these markets small investors hardly ever win.²⁵ The professional speculators and large business firms are able to make money in the final analysis. The small investors lose it and leave the market. Thus, there are two types of speculators in these markets. There are permanent speculators with large stakes, long-standing and wider network. They remain in the market as permanent gainers. And there are temporary speculators who come, gain a little for a while and then ultimately lose and go. Even for genuine commodity investments, small investors can hardly ever make an economical bargain.²⁶

Second, the large firms in the futures market persuade the new-comers to get into losing bargains with the help of their own employees who deal as if they are “independents”. Thus, the unwary new-comers are deprived of their capital.²⁷

Third, the brokers also carry out ‘dual trading’, which means to conduct a business on their own account first, if it is beneficial for them, and then to “fill” the order of the client. No amount of regulation has been able to eradicate this evil.²⁸

Fourth, the futures trading allows the sellers to change the grade and place with concurrent change in the agreed price. Thus, ultimately, everything changes. Even the time is not an exact date, but a month during which it could be any date (in certain commodities, especially metal, the time is specified exactly, anyhow). Thus, the transactions get very close to the *bay' al-gharar*, which has been prohibited by the Prophet (SAAS).

Fifth, despite all the safeguards which the futures commodity exchanges try to provide against manipulations, it is common knowledge that the “insiders” are always able to make use of the information before it becomes public. Fabrication and dissemination of rumors by powerful traders is also carried

²⁴Goss, B.A. & B.S. Yamey, *The Economics of Futures Trading*, p. 18.

²⁵Craig, M., *Successful Investment Strategy*, p. 18.

²⁶Kindleberger, C.P., *A Financial History of Western Europe*, pp. 272-273.

²⁷Craig, M., op. cit., p. 94.

²⁸Hewson, M., “Computerised Futures Trading” in Roberts, G. (ed.) *Guide to world commodity markets*, p. 25.

out to earn “super” profits.

On all these grounds, the Islamic economy does not accept futures trading in commodity exchanges. Before we try to conclude this section, a word seems necessary on “speculation”.

4. Speculation

Speculation is a mental activity in which a person formulates his judgement about the future course of the market. In everyday life, most of us speculate about different economic events. Therefore, in its strictly literal sense, there is “nothing” objectionable about speculation in the Islamic framework.

In fact, no law can be enforced against speculation, as *prima facie*, it involves lawful activities of buying and selling. It is only the intent of the speculator, which becomes manifest later on, that tells speculation from genuine investment. Some writers have suggested that to check speculation the Islamic economy should make it compulsory that people should hold the investment for a specified period before liquidating it. We think it is not only overly restrictive but also unnecessary.

In the Islamic framework, although speculation is not unlawful, yet professional speculators cannot thrive because of the following reasons:

First, each transaction involves physical delivery which is against the very temperament of the speculators.

Second, most of the speculation is made possible by funds borrowed on interest. The Islamic economy does not provide this facility.

Third, in the Islamic economy the liability of the borrower is unlimited. Therefore, the speculators would not be inclined to borrow money for speculation, exposing all their assets to an infinite risk.

Therefore, we believe that the Islamic framework leaves little room for speculators.

5. Unforeseen Fluctuations in the Islamic Economy

The question remains: what is the Islamic solution against the unforeseen fluctuations in the prices and supply levels? In the contemporary world, the speculators in the futures market provide this cushion.

The question needs a close examination. There are two sources of fluctuations: First, those caused by natural calamities and political events;

second, those caused by the manipulations of the speculators themselves. So far as the second source is concerned, it will be at a minimal level in the Islamic economy due to absence of futures market and professional speculators. The protection against the natural calamities and other exogenous factors can be obtained by the following institutional arrangements:

- a) Buffer stocks by governments; and
- b) Farmer's cooperatives, which may absorb the shocks of the individuals.

The farmer's cooperatives could be the primary institutional arrangement to even out unforeseen fluctuations in the market. These cooperatives should hold buffer stocks which may be built up at crop time and released during the year as inventories in the market start dwindling. Thus, they can play a vital role to stabilize prices. The cooperatives would also be instrumental in diluting the economic power of strong individuals who carry large stocks at crop timings and then manipulate prices later on. The cooperatives would not only obviate the need for any speculators (who are alleged to stabilize prices) but would also spread the benefits among all the members of the cooperatives.

Foreign Exchange

There are four types of markets in foreign exchange: a) spot, b) swap, c) forward, and d) futures.

1. Spot Exchange

The spot exchange involves cash delivery of the two currencies. Due to time lag among different currency trading centers in the world, the actual delivery takes place within two days.²⁹ The time lag of two days is considered as spot exchange. The delay of two days exposes the two parties to credit and political risks. The credit risk is that the other party may fail to deposit the sale price or may simply delay it, although there are rules for compensating the other party. The political risk is that during the next two days the government of any one currency may intervene and change the exchange rate or disallow its conversion, or freeze its balances within the national borders.³⁰

²⁹Brown, B., *The Forward Market in Foreign Exchange*, p. 21.

³⁰Ibid.

The Islamic law on currency exchange provides for simultaneous transfer of the two currencies at the prevailing rates.³¹ The Prophet (ṢAAS) did not allow any time lag in the exchange of currencies and the companions of the Prophet (RAA) also insisted on simultaneous exchange, not allowing the delay of even a few minutes. The rationale behind this insistence on simultaneous transfer seems to be in the very nature of money. Money can be used as a medium to earn *ribā*, which is a charge against the time the payment is delayed. If the deferred delivery is allowed, then it is possible that the rate of exchange is affected to carry a charge for the delay, thus opening a door for earning *ribā*.

The contemporary practice of allowing a two-day lag cannot be accepted in the Islamic framework. One alternative could be that the exchange is affected simultaneously by involving correspondent banks or agents at the same station. For example, suppose a bank in Ottawa wants to exchange U.S. dollars for Australian pounds, and the Australian bank is based in Canberra. The Canberra bank may authorize a corresponding bank in Ottawa to carry out the above transaction on its behalf simultaneously or the Canadian bank may authorize a corresponding bank in Canberra to execute the said transaction on its behalf. In brief, some mechanism will have to be devised to execute the transaction simultaneously.

2. Swap Market

In terms of quantum of business, the swap market in foreign exchange is only next to the spot market. In the swap market the dealers conclude two contracts; one spot and the other forward. The spot contract is reversed in the forward contract. For example, a bank may sell U.S. dollars for German marks in the spot market and then reverse the transaction by buying U.S. dollars forward for German marks. The rate differentials in the spot and forward contracts are, in fact, the interest rate differentials on the two currencies during the period of maturity.³² The swap transactions are carried out with the dual purpose of hedging oneself against any unforeseen fluctuations and to avail of the time for which one holds a currency by earning interest on it.

The swap transactions are carried out by large banks and finance houses. Each such institution holds inventories of swap currencies of different maturities ranging from one week to one year. The rate in the swap market changes

³¹“Abu Sa’id al Khudrī reported Allah’s Messenger (ṢAAS) as saying: Do not sell gold for gold, and silver except weight for weight and of the same kind and in equal quantity.” (Muslim, op. cit., al muzāra’ah, h. 99) Also see *al Tirmidhī*, op. cit., Kitāb al Buyū’, j. 24. amd ObmḤam, *al Muḥallā*, Vol. 8, p. 513.

³²Brown B., op. cit., p. 24.

as the maturity date gets nearer. The farther a maturity date, the greater risk and higher the interest rate component in its rate. As a matter of fact, swap market is an arbitrage market where rates differ, not with reference to space, but with reference to time.³³

From the Islāmic point of view, swap transactions are not lawful. They are, in fact, a contrivance to earn interest (*ribā*) on one's currency holdings. The basic concept behind this is that money is a commodity like any other commodity and one must try to sell it on profit or earn its rent. This basic concept is alien to the Islamic framework, which treats money as a medium of exchange rather than a commodity. Therefore, in the Islamic framework, swap transactions will have to be totally banned.

3. Forward Market

The forward market in foreign exchange exists among large banks and finance houses. In a forward contract a bank agrees to sell a currency against another currency at an agreed price but the delivery of both the currencies is made in the future. The price is determined by the supply of and demand for the respective currencies for each maturity. The main objectives of the forward transactions are two-fold. First, each bank with a surplus of funds wants to hedge itself against any future unforeseen fluctuation. Second, each bank wants to invest its surplus balance for the time they are lying idle. While quoting the price for an exchange, the banks carry out mental exercises to take benefit of the interest that they would forego on a currency if they carry out a spot transaction. Thus, the price is determined with reference to the prevailing interest rates.

From the Islamic point of view the forward contracts in foreign exchange are not legally enforceable until the date of their maturity, since neither of the currencies are exchanged until then. At best the two banks "agree" or "promise" to transact an exchange business at a future date. Such an agreement is only morally enforceable. No court in an Islamic state would enforce it. Subject to this, there is nothing in Islam which prohibits this type of business. So far as the element of interest in the quoted rate is concerned, this also cannot be legally disallowed as it is only a mental exercise which cannot be checked by any method.

4. Foreign Exchange Futures

The emergence of futures trading in the foreign exchange is a recent

³³Loosigian, A.M.L. *Foreign Exchange Futures*, p. 59.

phenomenon.³⁴ Traditionally, banks and large finance houses dealt in foreign exchange forward transactions. In the forward market the maturities differ from contract to contract. Often very large sums are involved. The transactions are concluded by actual delivery of the currencies on the maturities. In the futures market in foreign exchange, individuals and multi-national corporations deal in futures trading. Most of the transactions are closed by corresponding reverse transactions. The dealers merely settle the differences in prices without actually taking the delivery of any particular currency. For operations it is quite similar to the commodity futures exchange except that here the option to deliver different “grades” is not available. The settlements are made by a clearing house. The prices in the futures market often remain quite close to the spot market.

There is a strong element of speculation in these markets. The speculators assume reverse positions as compared to the hedgers and assume the risk of the hedgers. The speculators make money by price differentials over different maturities.

The Islamic position on the futures market in foreign exchange is the same as discussed in respect to commodity exchange. As it does not involve simultaneous and actual delivery of the two currencies involved, it is not allowed in Islam. The futures market in foreign exchange does not operate except in the interest of large financiers and firms which like to make extra gains by playing in this market. The small firms often lose to the large ones. The more shrewd insiders are able to manipulate the market in their favor by a number of devices such as spreading false rumors, persuading unwary small investors to make wrong decisions and to make use of the inside information before it is too late.

5. Foreign Exchange Fluctuations in the Islamic Framework

The question remains: what is the Islamic solution to the foreign exchange fluctuations? In the contemporary world, part of the fluctuations are absorbed by the speculators. There are no simple answers to this question, as the trade in foreign exchange involves people of all countries and all beliefs and faiths. A policy adopted by any Islamic state will not bear any fruit until it is accepted by all as rules of the game.

Let us see how fluctuations take place. In an ideal situation the fluctuations in the foreign exchange rates take place in response to changes in demand for and supply of these currencies. If the economic performance of a country improves, its products are in great demand, its currency would also be in

³⁴Ibid.

greater demand. This would push its price in the foreign exchange market. Similarly, if the economic performance of a country goes down, the price of its currency will also fall. These are ideal conditions but in real life the trade flows between different countries are interrupted by a number of artificial measures such as tariffs, trade restrictions, trade quotas, etc. These considerations are, in turn, caused by a host of economic and political factors. Thus, in the real life the exchange rates are influenced by many factors other than the economic performance of an economy. Therefore, the real answer to the question lies in evolving an international mechanism to guarantee free trade. A number of international initiatives in this direction have not borne fruit so far. Therefore, any one Islamic state cannot tackle this question.

However, another challenge before Islamic financial institutions is quite real. The need to deal in forward or futures transactions arises, partly, from the desire of these banks to invest their surplus funds over short periods of time. In an interest-ridden world it is quite simple. But in the Islamic framework, there does not exist any mechanism to deploy the surplus funds profitably over short periods of time. A satisfactory answer to this challenge will lead to a real break-through in the Islamic finance.

6. Stock Exchange

Stock exchange is a market where securities and shares are bought and sold. The stock exchange is a natural corollary of the principle of limited liability. The limited liability theory restricts the liability of each holder of shares to his own holdings and does not extend to his personal fortunes. Since the liability of the shareholders is limited, the individual shareholder should be free to sell his shareholdings any time he wants. This has led to the evolution of transfer of instruments and devices in the absence of which a shareholder would not be able to redeem his money immediately at his will. At more deeper ideological levels, the means to transfer shares have been devised to honor society's acceptance of a paramount role for "capital". Whereas every owner of merchandise must wait for a buyer to sell his stock, the owner of shares can dispose of his holdings almost immediately, even without a genuine buyer. In this way, room for multiple deals in respect to the same shares in a day without physical transfer has been created.

There are a number of useful functions which a stock exchange performs. For example, it provides a ready market for investors to buy and sell their stock-holdings. It pools resources for the corporations and provides them funds readily. Stock exchange disseminates a variety of useful information to prospective buyers and sellers. But stock exchanges have become hotbeds for the growth of speculators. The speculators are not genuine investors. These

people keep an eye on the market trend. They are usually the most well-informed people. Keeping in view the future prospects of the business of various corporations, they speculate a fall or rise in the share prices. Depending on their calculations they buy shares, and subsequently, when price trends favor them, they sell them. In this process they reap a profit margin through price differentials and margins.

Speculators have often been largely responsible for serious financial crises in capitalist economies. The buying and selling sprees based on rumors and mental calculations of the speculators lead to booms and depressions. As a result of these upheavals, the economy gets out of tune. The most glaring example of the crises caused by speculators is that provided by the 1929 AC/1348 AH Wall Street crash which culminated in the Great Depression of the 1930's AC/1350s AH).

Most of the business in the stock exchange is carried out with borrowed funds. Interest-bearing credit for very short periods is available to the speculators who often trade at a much higher scale than their own means.

There are a number of problems in adopting the institution of stock exchange in the Islamic economy as it exists in the contemporary world.

The stock exchange employs a number of business techniques, which are not permissible in Islam. We shall describe only a few by way of illustration:

- a) The stock exchange permits the sale and purchase of shares and securities without physical transfer of these certificates from the seller to the buyer. Thus, one share may be sold a number of times before an actual delivery takes place. The Islamic law does not permit the sale of an article until one has the physical possession of the article.
- b) Another instrument of business is "contango". which is a rate of interest paid by a bank on money borrowed with which to pay for stock which one has bought; the money is borrowed from one account day to the next account day, and the bank is said to "contango" the stock or to carry it over.³⁵

The "contango" is un-Islamic as it is an open transaction in *ribā*.

- c) The stock exchange permits "option" sales. The "option" signifies choice and in stock exchange it means the choice to deal or not to deal in a particular share later on at today's price. The person who exercises the option gives an option money, usually a fraction of the price of each share he wants

³⁵Breman, H.D., *The Stock Exchange*, p. 193.

to buy or sell. The option money is known as **call** money if the person wants to purchase the shares, and **put** money if he wants to sell it.³⁶

A giver of **call** money has the right to purchase shares during the **call** period at today's price; a giver of **put** money has the right to sell, and the giver of **put** and **call** money has the choice either to buy or to sell.

The option sales transaction violates the Islamic law of *bay' al salam* which regulates credit sales involving advance payment of money. One of the conditions of *bay' al salam* is the payment of full price of the product in advance. It is not to be only a small fraction of the total sale price. A deal which involves both a future delivery and a deferred payment of price is not allowed in Islam. The price of the commodity has to be paid in full in advance. It means both the product and the price have not to be non-existent (or undelivered) at the time of the contract. Only one of them could be deferred. In case of option sales in stock exchange both are deferred.

The options contracts bring into the market an additional element of uncertainty, over and above the natural or inherent uncertainty which every trader has to face. This additional uncertainty which is the product of **call** and **put** options increases the risk of both the buyers and the sellers. As a result, both of them become exceedingly keen to pass on their risk to someone else. It starts the chain reaction of transactions allowing speculators to make money from price differentials. The chain reaction tends to destabilize the market. It can be seen intuitively that a market in which everyone is keen to pass on his risk to someone else would generate a temptation for manipulating the market, if necessary by rumors, cooked-up news and whispering campaigns. As a result those who are cleverer than others are able to manipulate the prices in their favor, leaving others cut and dried.

The options market, by cutting down the cost of transactions tempts much more numbers of non-genuine investors than the ordinary stock market. As a result the number of people who tend to live on "unearned income" rises further.

As compared to this, the options regulations (*bay' al khiyār*) in the Islamic market pertain to certain specific situations such as (i) where the commodity is not precisely defined or (ii) where the time or place of delivery are not yet settled or (iii) where the deal is not yet finalized and the buyers and sellers are still at the same place or (iv) where the price is not yet finalized. All these situations where option to rescind an agreement has been allowed tend to minimize the uncertainty from the market place. The objective on the one hand is to remove all causes of dispute and on the other to remove

³⁶Ibid.

all possibilities where a party may agree to a bargain without knowing all the costs, risks and benefits attached to it. These provisions support the free market rule. They do not allow any one party to make money due to ignorance of the other party.

Another point is, that in the option sales, if the giver of **call** or **put** money does not like to proceed further, his advance is forfeited by the taker. This falls under the purview of *bay' al 'urbān*, which has been prohibited by the Prophet (ṢAAS).³⁷

Recently a futures market in the options sales has emerged.³⁸ The futures market in options operates on the same principle as futures market in commodity and foreign exchange. This market is not allowed in the Islamic framework for reasons discussed earlier.

Stock Exchange in the Islamic Economy

The Islamic economy would have the institution of stock exchange which would fit in its overall framework and suit its socio-economic goals. For example, the Islamic economy would attempt to eliminate speculation by non-genuine investors, without abolishing a free-market for shares and certificates. In the following we shall discuss an elementary model of stock exchange in the Islamic economy.

1. Types of Instruments

The stock exchange would deal in equity capital available in the form of *muḍārabah* or *shirkah* certificates. Interest bearing loans and securities do not exist in the Islamic economy. Similarly there would be no preference shares in the Islamic economy as it involves a fixed predetermined guaranteed rate of return which is akin to *ribā* and thus un-Islamic. The stock exchange may, however, deal in *al qarḍ al ḥasan* certificates issued by the government or municipal bodies for social and defense needs. They would be dealt with at *par value* and no profit would be involved in their sale or purchase. It would, in fact, be an ancillary service to the society. In the Islamic economy, if a person wants to disinvest or sell his share, he is not able to do so until he meets his liability towards losses of the organization which may have accrued during the period his capital remained invested. This implies that he should be liable for cumulative past losses as well as current losses in proportion to his capital. This is also a logical necessity of his entitlement to past profits

³⁷Mālik b. Anas, *al Mawaṭṭā*, Kitāb al Buyū', ḥ. 1.

³⁸Cox J. C. & M. Rubinstein, *Options Market*.

(reserves) and current gains. How can this be done? This leads us to the question of intrinsic value of the shares. The intrinsic value of the shares would be determined and announced periodically to inform the prospective buyer of the value of shares arrived at in the light of the past performance of the organization.

Determination of intrinsic value of shares is an involved exercise. The intrinsic value of shares represents the valuation placed on the assets of the organization. It is almost impossible to determine the exact value of assets. A number of factors affect the valuation and make it dependant on the opinion of the valuer. For example, it would make a difference if the assets are valued as a going concern or what the asset would fetch if the firm is wound up. Similarly, the rates of depreciation applied are only an opinion of the management which could be fair or unfair. Some organizations do not like to take credit for the goodwill although it may be justifiable for taking it as an intangible asset.

Despite all these factors, the accounting practices and standards adopted by the Islamic economy would guide the organization in making a fair assessment of the value of their assets. Subject to the limitations stated above, we would depend on intrinsic value of the shares which may be only an approximation and not an exact value.

The intrinsic value of the shares would take into account all the accumulated and current losses as well as current and past profits. And if the business organization is run on the principal of *muḍārabah*, then the reserves would be segregated into two parts: (i) share of investors and (ii) share of *muḍārib*s or workers. The calculations for intrinsic value would include only the former and not the latter. Thus, the formula for the intrinsic value of a share would be:

$$Iv = \frac{Pv + Ri - L}{S}, \text{ where}$$

Iv = Intrinsic value of shares

Pv = Par value of shares

Ri = Profits, reserves, etc. pertaining to the investors' capital, in case of *muḍārabah*)

L = Losses (past and present)

S = No. of shares

What is the function of intrinsic value of the shares if they are to be transacted at the market value? The intrinsic value of shares is intended to provide the prospective investor a fair amount of information about the past performance of the organization by reflecting it in the value of the shares.

This is necessary in the light of the traditions of the Prophet (ﷺ) that the seller must inform the buyer the defects (if any) of the product, so that the buyer is not cheated.³⁹ This is also in line with the Islamic maxim *caveat venditor*, i.e., the seller should make the buyer aware of the product.

In this case the product consists of a portion of the assets of the organization whose value may have grown or eroded due to past operations. So the seller must inform the buyer about the true value of these assets. In sum, the intrinsic value is calculated to dispel the emergence of a false market.

2. Intrinsic Value and the Market Place

The intrinsic value of the share would indicate the value of the shares represented by the assets of the firm. It is calculated after taking into account the past performance of the organization. It does not account for the future prospects of the organization which may be quite divergent from its past. These prospects are usually translated into demand for the shares of an organization. The shares of the organization which has bright prospects may be in great demand. The investors may know the intrinsic value of the shares but may be still willing to pay more because of their speculation for future gain. Similarly a seller may be willing to accept even lower than the intrinsic value of the shares just because he may need money immediately or he is not hopeful about the future of the organization.

Thus, in the Islamic stock exchange the par value and intrinsic value of shares would be quoted but the buyers and sellers would be able to transact at the market price which may be higher or lower than the par and/or the intrinsic value. A fine legal point may be of interest here. In case the business is run on the basis of *mudharabah*, any profit on the sale of shares would also be shared by the outgoing *sāhib al māl* with the *mudaribs* of the business in the proportion agreed to in the original agreement of the business. To stop non-genuine bargains intended to reap gains through price differentials, the actual transfer of shares in the name of buyer from the name of the seller may be made compulsory. In contemporary stock exchanges, most of the non-genuine speculators thrive on interest-bearing credit available in the economy. They over-trade without necessary means and sometimes create hazards for genuine investors as well. In the Islamic economy, interest bearing loans are simply not available. So the probability of emergence of non-genuine investors is quite limited.

3. Working of the Stock Exchange

In the Islamic stock exchange, there would be brokers who would be

³⁹Muslim, Op. cit., *Kitab al 'Imān* ḥ. 186.

agents of the public, and there would be jobbers who would be agents of the business organization. The brokers and jobbers would specialize in the shares of specific organizations. The brokers would physically hold shares which they want to sell (along with the duly verified transfer deeds) and would approach the jobber who deals in the shares of that organization. The jobber would buy those shares only when he has firm orders from other brokers with full particulars of the customers from amongst the public who want to buy those shares. As soon as the deal is completed legal formalities of transferring these shares to the buyer in the books of the organization would be completed. The selling broker would *physically* deliver those shares and the buying jobber would *physically* hand over those shares to the broker who placed the order with him. Thus, no anonymous transactions would be possible.

The price of the shares at the market would be determined by demand and supply. The broker who wants to sell shares would have definite instructions from the holder of shares about the minimum price at which these shares could be sold by him. It is presumed that the holder would be aware of the intrinsic value of those shares and the future prospects of the organization. In other words, it is presumed that a false market for shares does not exist. The jobber on the other hand would quote a price for buying a share in light of the instructions which he has received from the buyer-broker.

In case a jobber has no orders for buying shares, he would not quote any rate for buying. Similarly if he does not have any share to sell he would not quote any price for sale. This is to obviate the chance of unhealthy speculative activity coming through the back door.

The Islamic stock exchange need not devise a mechanism for immediate disposal of shares to honor the desire of the holder to get cash for the shares any time he wants. The holder of shares is, in fact, owner of a part of the assets of the firm. Like any owner of an asset, he must wait for a genuine buyer. This ends the supremacy of "finance" over other factors of production.

Concluding Remarks

There are three main differences between the Islamic market framework and the contemporary capitalist framework. First, in the Islamic framework, interest is prohibited while the capitalist markets deal in it freely. The prohibition of interest makes a sea-change in the entire gamut of economic relationships. It removes the restrictive role of interest from the expansion and operation of the market. It eliminates the possibility of making money without working or providing a service in recompense.

Second, the delivery of the object of trade with each sales transaction

is another characteristic feature of the Islamic market framework. This condition makes the existence of speculators difficult and operation of futures market an impossibility.

Third, the Islamic law treats money as a medium of exchange and not a commodity. It forecloses all possibilities of earning *ribā* through foreign exchange transactions.

These basic characteristics lead to the emergence of an entirely different financial and commercial pattern. The Islamic pattern not only stimulates trade and employment but also dilutes the intensity of unforeseen fluctuations in prices and supply levels. At a time when the world is constantly worried about the stability of its financial and economic structure, it is time to consider the Islamic framework seriously. It contains an answer to most of our existing economic ills.

BIBLIOGRAPHY

ARABIC SOURCES

1. Al Qur'ān.
2. Ibn Taymiyah, Taqiy, *al Dīn al Ḥisbah fī al Islam* (al Ḥisbah in Islam), al Madinah al Munawwarah : al Jāmi'ah al Islāmīyah, n.d. III pp.
3. Al Jazīrī, 'Abd al Raḥmān *Kitāb al Fiqh* (Urdu translation; A Rehman Tahir Surti) vols. II & III 1973, Lahore: Department of Awqāf, Govt. of the Punjab.
4. Mālik b. Anas, *al Muṭṭa'*, Egypt: Maṭba'ah Muṣṭafa al Bābī al Ḥalabī 1371/1951.
5. Al Nisapuri, Muslim b. al Hajjāj b. Muslim, *Al Jāmi' al Ṣaḥīḥ*, Beirut: al Maktab al Tijārī li al Tibā'ah wa al Nashr wa al Tawzī, 1334 A.H./1915 A.C..
6. Sābiq, al Syed, *Fiqh al Sunnah*, Beirut: Dār al Fikr, 1397 A.H./1977 A.C..
7. Al Sajistānī, Sulaymān b. Ash'ath b. Abī Dawūd, *Sunan*: Multan : Nashar al-Sunnah, 1399 A.H./1978 A.C.
8. Al Tirmidhī, Muhammad b. 'Īsa, *Al Jāmi' al Ṣaḥīḥ*, Cairo: Maṭba'ah Muṣṭafa al Bābī al Ḥalabī 1356 A.H./1937 A.C.
9. Yahya b. 'Umar, *Aḥkām al Sūq*: Tunis: al Sharikah al Tūnisīyah li al Tawzī 1395 A.H./1975 A.C.

OTHER SOURCES

10. Armstrong, F.E., *The Work of the Stock Exchange*, London: Pitmans, 1957. II. Berman H.D., *The Stock Exchange*, London: Pitmans, 1971.
11. Berman H.D. *The Stock Exchange*, London: Pitmans, 1971.
12. Brown, Brendon, *A Theory of Hedge Investment*, London: Macmillan Press, 1982, 216 pp.
13. Brown, Brendon, *The Forward Market in Foreign Exchange*, New York: St. Martin's Press, 1983, 150 pp.
14. Chilver, Joseph, *Investment: A Student Centred Approach*, London: Macmillan, 1982, 216 pp.
15. "Commodity Trade, International", *Encyclopaedia Britannica*, 15th Ed. Vol. 4, pp. 994-997.

16. Cootner, P.H. "Speculation, Hedging and Arbitrage", *International Encyclopaedia of the Social Sciences*, Vol. 15, 16, 17.
17. Cox, J.C., & M. Rubinstein, *Options Market*, New Jersey: Prentice-Hall, 1985, 500 pp.
18. Craig, Malcom, *Successful Investment Strategy*, Cambridge: Woodhead-Faulkner, 1984, 143 pp.
19. Eiteman, W.J. Dice, A.C., Eiteman, D.K. *The Stock Market*, New York: McGraw-Hill Book Co., 1966.
20. Ferris, Paul, *The City*, London: Penguin, 1968, 220 pp.
21. "Foreign Exchange Markets" *Encyclopedia Britannica*, Vol. 7, 15th Edition, pp. 24-27.
22. "Futures", *Encyclopedia Britannica*, Vol. 7, 15th Edition, pp. 816-818.
23. Galbraith, J.K., *The Great Crash 1929*, London: Andre Deutsch, 1973, pp. 212.
24. Gibb, A.R. (ed), *Shorter Encyclopedia of Islam*, London: E.J. Brill.
25. Goss, B.A. & B.S. Yamey, *The Economics of Futures Trading*, London: Macmillan Press, 1978, 238 pp.
26. Greenwald, D. (ed), *Encyclopedia of Economics*, New York: McGraw-Hill Book Co., 1982.
27. Heffening, "Tijarat", *Urdu Encyclopedia of Islam*, Lahore: Punjab University, 1962, Vol. 6, pp. 134-146.
28. Hewson, M. "Computerised Futures Trading", in Roberts, G. (ed), *Guide to World Commodity Markets*, London: Kogan Page, 1985, pp. 25-27.
29. Ibn Taymiyah, *Public Duties in Islam*, Leicester: The Islamic Foundation, 1983.
30. Johns, Paul D. "Commodity Exchange" in *Encyclopedia of Economics*, (ed: Douglas Greewald). McGraw-Hill Co., 1982, pp. 153-158.
31. Kindleberger, C.P., *A Financial History of Western Europe*, London: George Allen & Unwin, 1984, pp. 525.
32. Kroll, S. & Irwin Shishko, *The Commodity Futures Market*, New York: Harper & Row, 1973, 370 pp.
33. Loosigian, Allan M.L., *Foreign Exchange Futures*, Illinois: Dow Jones-Irwin, 1981, 317 pp.
34. Meier, Henry B., (ed.) *The Swiss Equity Market*, Cambridge: Woodhead-Faulkner in association with Handels Bank NW, Zurich, 1985, 210 pp.
35. Newman, A.C. "An Introduction to Options" in Roberts, G. (ed) *Guide to World Commodity Markets*, London: Kogan Page, 1985, pp. 32-34.
36. Pither, R.F., *Evitt's Manual of Foreign Exchange*, London: Pitman Publishing, 1971, pp. 264.
37. Rebell, A.L., G. Gordon & K.B. Platnick, *Financial Futures and Investment Strategy*, Homewood, Illinois: Dow Jones-Irwin, 1984, pp. 274.
38. Rix, M.S. *Stock Exchange Economics*, Cambridge: M.I.T., 1954.
39. Roberts, Gerald (ed.), *Guide to World Commodity Markets*, London: Kogan Page, 1985, pp. 409
40. "Securities Trading", *Encyclopedia Britannica*, Vol. 16, 15th Ed., pp. 447-453.
41. Schacht, J., "Bay", *The Encyclopedia of Islam*, Leiden: E.J. Brill, 1979, Vol. Id, pp. IIII-III3.
42. Stainer, Robin, "Commodity Agreements", in Roberts, G. (ed.), *Guide to World Commodity Markets*, London: Kogan Page, 1985, pp. 17-24.
43. Winfield, R.G. & S.J. Curry, *Success in Investment*, London: John Murray, 1981, pp. 365.